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Found in path(s):

```
*/opt/cola/permits/1551849313_1675381051.4035022/0/groovy-testng-3-0-9-sources-1-
jar/org/codehaus/groovy/testng/TestNgRunner.java
*/opt/cola/permits/1551849313_1675381051.4035022/0/groovy-testng-3-0-9-sources-1-
```

jar/org/apache/groovy/plugin/testng/TestNgRunner.java

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org.apache.groovy.plugin.testng.TestNgRunner

Found in path(s):

* /opt/cola/permits/1551849313_1675381051.4035022/0/groovy-testng-3-0-9-sources-1-jar/META-INF/services/org.apache.groovy.plugin.GroovyRunner

1.3 commons-exec 1.0.1

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1.4 groovy-xml 3.0.9

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- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/streamingmarkupsupport/package.html
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/package.html
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/dom/package.html
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/package.html

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- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/markupsupport/StandardControlToUndefined.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/FilteredAttributes.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/XmlParserFactory.groovy
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/streamingmarkupsupport/Builder.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/NodeChild.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/FilteredNodeChildren.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/NamespaceBuilder.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/Attribute.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/org/apache/groovy/xml/tools/DomToGroovy.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/NodeIterator.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/NoChildren.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/markupsupport/StandardXmlAttributeFilter.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/XmlSlurper.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/markupsupport/SurrogateToUndefined.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/StreamingSAXBuilder.groovy
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/DOMBuilder.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/Node.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/FactorySupport.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/markupsupport/SingleQuoteFilter.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/Namespace.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/Attribute.java

- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/SAXBuilder.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/StaxBuilder.groovy
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/NodeChild.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/XmlUtil.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/Attributes.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/NamespaceBuilderSupport.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/XmlNodePrinter.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/NamespaceAwareHashMap.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/XmlSlurperFactory.groovy
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/markupsupport/StandardXmlFilter.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/NodeChildren.java
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- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/GPathResult.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/ReplacementNode.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/streamingmarkupsupport/BaseMarkupBuilder.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/XmlNodePrinter.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/NamespaceAwareHashMap.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/dom/DOMCategory.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/StreamingDOMBuilder.groovy
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/NodeParents.java
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- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/XmlParser.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/NodeIterator.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/XmlParser.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/NodeParents.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/streamingmarkupsupport/StreamingMarkupWriter.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/NodeChildren.java
- * /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/MarkupBuilderHelper.java

* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/GPathResult.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/ReplacementNode.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/MarkupBuilder.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/org/codehaus/groovy/tools/xml/DomToGroovy.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/FilteredNodeChildren.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/Entity.groovy
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/streamingmarkupsupport/AbstractStreamingBuilder.groovy
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/StreamingMarkupBuilder.groovy
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/XmlUtil.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/org/apache/groovy/xml/extensions/XmlExtensions.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/NoChildren.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/slurpersupport/Attributes.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/org/codehaus/groovy/runtime/XmlGroovyMethods.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/util/slurpersupport/Node.java
* /opt/cola/permits/1223666021_1635937383.64/0/groovy-xml-3-0-9-sources-jar/groovy/xml/markupsupport/AllControlToUndefined.java

1.5 groovy-test 3.0.9

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Found in path(s):

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/NotYetImplemented.java

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/lang/GroovyLogTestCase.groovy

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/GroovyShellTestCase.groovy

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/GroovyAssert.java

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/org/apache/groovy/test/transform/NotYetImplementedLegacyASTTransformation.java

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/Demand.groovy

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/JavadocAssertionTestBuilder.groovy

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/GroovyTestSuite.java

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/AllTestSuite.java

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/JavadocAssertionTestSuite.groovy

* /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/org/apache/groovy/test/ScriptTestAdapter.java

- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/GroovyTestCase.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/StringTestUtil.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/AllTestSuite.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/JavadocAssertionTestSuite.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/GroovyLogTestCase.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/Ignore.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/transform/NotYetImplemented.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/MockProxyMetaClass.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/GroovyTestCase.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/StringTestUtil.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/MockFor.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/LooseExpectation.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/StubFor.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/test/GroovyTestSuite.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/StrictExpectation.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/GroovyShellTestCase.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/GroovyAssert.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/util/JavadocAssertionTestBuilder.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/org/codehaus/groovy/runtime/ScriptTestAdapter.java
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/groovy/mock/interceptor/MockInterceptor.groovy
- * /opt/cola/permits/1268276839_1644387313.67/0/groovy-test-3-0-9-sources-jar/org/apache/groovy/test/transform/NotYetImplementedASTTransformation.java

1.6 jackson-datatype-joda 2.14.1

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1.7 joni 2.1.29

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* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Option.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Syntax.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Config.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Token.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/StringType.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Region.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/QuantifierNode.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/exception/ValueException.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ArrayCompiler.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/CTypeNode.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/UnsetAddrList.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ByteCodePrinter.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/Node.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/exception/SyntaxException.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/AnchorType.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Parser.java

* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/OptEnvironment.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Matcher.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/StackMachine.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/CodeRangeBuffer.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/ListNode.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/exception/JOniException.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/OptAnchorInfo.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/EncloseType.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/StackPopLevel.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/OPSize.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ScannerSupport.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/WarnCallback.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/AnchorNode.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ApplyCaseFoldArg.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/StateNode.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/StackType.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/MinMaxLen.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/TargetInfo.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Analyser.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ApplyCaseFold.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ScanEnvironment.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/Traverse.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/AnyCharNode.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/OptExactInfo.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/NodeStatus.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/exception/InternalException.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/NativeMachine.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/BackRefNode.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/CallNode.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/exception/ErrorMessage.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ByteCodeMachine.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Regex.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/TokenType.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Compiler.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/BitSet.java
 * /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/internal/Arguments.java

```

* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/OptMapInfo.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-
jar/org/joni/constants/SyntaxProperties.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/StackEntry.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/CaptureTreeNode.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Search.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/BitStatus.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/CClassNode.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/StringNode.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/MatcherFactory.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/ast/EncloseNode.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/constants/MetaChar.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/Lexer.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-
jar/org/joni/constants/internal/OPCode.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-
jar/org/joni/constants/internal/NodeType.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/NodeOptInfo.java
* /opt/cola/permits/1606864788_1679439951.658974/0/joni-2-1-29-sources-1-jar/org/joni/NameEntry.java

```

1.8 jackson-datatype-guava 2.14.1

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1.9 netty-resolver-dns-classes-macos

4.1.93.Final

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Found in path(s):

```
* /opt/cola/permits/1698848048_1685285724.8163495/0/netty-resolver-dns-classes-macos-4-1-93-final-sources-
jar/io/netty/resolver/dns/macos/package-info.java
* /opt/cola/permits/1698848048_1685285724.8163495/0/netty-resolver-dns-classes-macos-4-1-93-final-sources-
jar/io/netty/resolver/dns/macos/MacOSDnsServerAddressStreamProvider.java
* /opt/cola/permits/1698848048_1685285724.8163495/0/netty-resolver-dns-classes-macos-4-1-93-final-sources-
jar/io/netty/resolver/dns/macos/DnsResolver.java
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Found in path(s):

```
* /opt/cola/permits/1698848048_1685285724.8163495/0/netty-resolver-dns-classes-macos-4-1-93-final-sources-
jar/META-INF/maven/io.netty/netty-resolver-dns-classes-macos/pom.xml
```

1.10 archaius-core 0.6.6

1.11 netty-resolver 4.1.93.Final

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* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/HostsFileEntriesProvider.java
```

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Found in path(s):

```
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/NoopAddressResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/NoopAddressResolverGroup.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/AddressResolverGroup.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
```

jar/io/netty/resolver/NameResolver.java

* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-

jar/io/netty/resolver/package-info.java

* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-

jar/io/netty/resolver/SimpleNameResolver.java

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* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-

jar/io/netty/resolver/RoundRobinInetAddressResolver.java

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Found in path(s):

* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-jar/META-

INF/maven/io.netty/netty-resolver/pom.xml

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 */
```

Found in path(s):

```
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/DefaultAddressResolverGroup.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/InetAddressResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/HostsFileEntriesResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/AbstractAddressResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/DefaultHostsFileEntriesResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/AddressResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/HostsFileParser.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/InetSocketAddressResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/DefaultNameResolver.java
* /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-
jar/io/netty/resolver/CompositeNameResolver.java
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Found in path(s):

- * /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-jar/io/netty/resolver/HostsFileEntries.java
- * /opt/cola/permits/1698848093_1685285744.9963214/0/netty-resolver-4-1-93-final-sources-jar/io/netty/resolver/ResolvedAddressTypes.java

1.12 okhttp 2.7.5

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1.13 Iz4-java 1.8.0

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1.14 openssl 3.0.9

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```

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```
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program `Gnomovision' (a program to direct compilers to make passes
at assemblers) written by James Hacker.
```

<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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Manifest-Version: 1.0

Automatic-Module-Name: com.codahale.metrics

Build-Jdk-Spec: 11

Bundle-Description: Metrics is a Java library which gives you unparalleled insight into what your code does in production. Metrics provides a powerful toolkit of ways to measure the behavior of critical components in your production environment.

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Bundle-ManifestVersion: 2

Bundle-Name: Metrics Core

Bundle-SymbolicName: io.dropwizard.metrics.core

Bundle-Version: 4.2.9

Created-By: Apache Maven Bundle Plugin 5.1.4

Export-Package: com.codahale.metrics;uses:="org.slf4j";version="4.2.9"

Implementation-Title: Metrics Core

Implementation-Version: 4.2.9

Import-Package: org.slf4j;version="[1.6.0,2.0.0)"

Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"

Tool: Bnd-5.1.1.202006162103

Found in path(s):

* /opt/cola/permits/1295050861_1651806904.61/0/metrics-core-4-2-9-jar/META-INF/MANIFEST.MF

1.16 c3p0 0.9.5.4

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1.17 jsr305 3.0.1

1.18 metrics-jmx 4.1.29

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1.19 ant-jsch 1.10.12

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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/PreferredDirectByteBufAllocator.java
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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-
jar/io/netty/channel/unix/IntegerUnixChannelOption.java
* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-
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*/opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-
jar/io/netty/channel/unix/DomainDatagramChannel.java
*/opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-
jar/io/netty/channel/unix/DomainDatagramSocketAddress.java
*/opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-
jar/io/netty/channel/unix/SegmentedDatagramPacket.java
*/opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-
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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/DomainSocketReadMode.java
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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/Errors.java
* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/DomainSocketChannelConfig.java
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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/DatagramSocketAddress.java
* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix_filedescriptor.c
* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/DomainSocketAddress.java
* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix_errors.h
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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/Socket.java
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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix_socket.h
* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/ServerDomainSocketChannel.java
* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/UnixChannel.java

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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/UnixChannelUtil.java

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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/LimitsStaticallyReferencedJniMethods.java

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix_limits.c

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/ErrorsStaticallyReferencedJniMethods.java

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/PeerCredentials.java

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix_limits.h

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/SocketWritableByteChannel.java

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix_util.h

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix_util.c

* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/io/netty/channel/unix/Limits.java

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* /opt/cola/permits/1698847988_1685285741.888796/0/netty-transport-native-unix-common-4-1-93-final-sources-jar/netty_unix.c

1.23 jackson-annotations 2.15.0

1.23.1 Available under license :

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It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has
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1.24 groovy-ant 3.0.9

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- * /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/groovy/ant/antlib.xml
- * /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/antlib.xml
- * /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/package.html

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* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/FileIterator.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/LoggingHelper.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/AntProjectPropertiesDelegate.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/RootLoaderRef.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/CompileTaskSupport.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/groovy/util/FileNameFinder.groovy
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/FileSystemCompilerFacade.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/GenerateStubsTask.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/groovy/util/AntBuilder.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/Groovydoc.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/UberCompileTask.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/Groovyc.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/VerifyClass.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/groovy/ant/FileNameFinder.groovy
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/org/codehaus/groovy/ant/Groovy.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-jar/groovy/ant/AntBuilder.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-

jar/org/codehaus/groovy/ant/FileScanner.java
* /opt/cola/permits/1551849020_1675381023.6764045/0/groovy-ant-3-0-9-sources-2-
jar/org/codehaus/groovy/ant/GroovyTask.java

1.25 jakarta xml bind api 2.3.3

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1.28 commons-pool 2.6.2

1.29 jackson-module-afterburner 2.10.5

1.29.1 Available under license :

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1.30 kerberos 1.19

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cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
lib/libgss/g_acquire_cred.c
lib/libgss/g_canon_name.c
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lib/libgss/gssd_pname_to_uid.c
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lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h

lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/AbstractStringRedisMessage.java

* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/DefaultLastBulkStringRedisContent.java

* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/DefaultBulkStringRedisContent.java

* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/ArrayHeaderRedisMessage.java

* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/IntegerRedisMessage.java

* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/FullBulkStringRedisMessage.java

* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisCodecException.java

* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/package-info.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisEncoder.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisMessage.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisArrayAggregator.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisDecoder.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/ErrorMessage.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/BulkStringRedisContent.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/SimpleStringRedisMessage.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/BulkStringHeaderRedisMessage.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisMessagePool.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisConstants.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisBulkStringAggregator.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/FixedRedisMessagePool.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/ArrayRedisMessage.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/LastBulkStringRedisContent.java
* /opt/cola/permits/1698848044_1685285757.6811302/0/netty-codec-redis-4-1-93-final-sources-jar/io/netty/handler/codec/redis/RedisMessageType.java

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1.34 auto-common 0.10

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* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/BasicAnnotationProcessor.java

* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/AnnotationValues.java

* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/MoreTypes.java

* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/SuperficialValidation.java

* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/Visibility.java

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* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/GeneratedAnnotationSpecs.java

* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/SimpleTypeAnnotationValue.java

* /opt/cola/permits/1275989236_1645584374.25/0/auto-common-0-10-sources-jar/com/google/auto/common/SimpleAnnotationMirror.java

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1.35 guice 4.0

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1.36 jemalloc 5.2.1

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1.37 classmate 1.5.1

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Other developers who have contributed code are:

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1.38 opentest4j 1.2.0

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* /opt/cola/permits/1145468562_1616183623.24/0/opentest4j-1-2-0-sources-1-jar/org/opentest4j/MultipleFailuresError.java
* /opt/cola/permits/1145468562_1616183623.24/0/opentest4j-1-2-0-sources-1-jar/org/opentest4j/AssertionFailedError.java
* /opt/cola/permits/1145468562_1616183623.24/0/opentest4j-1-2-0-sources-1-jar/org/opentest4j/IncompleteExecutionException.java
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* /opt/cola/permits/1145468562_1616183623.24/0/opentest4j-1-2-0-sources-1-jar/org/opentest4j/ValueWrapper.java

1.39 open-csv 5.7.1

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* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/CsvToBean.java

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* <p>A very simple CSV parser released under a commercial-friendly license.

* This just implements splitting a single line into fields.</p>

*

* <p>The purpose of the CSVParser is to take a single string and parse it into

* its elements based on the delimiter, quote and escape characters.</p>

*

* <p>The CSVParser has grown organically based on user requests and does not truly match

* any current requirements (though it can be configured to match or come close). There

* are no plans to change this as it will break existing requirements. Consider using

* the RFC4180Parser for less configurability but closer match to the RFC4180 requirements.</p>

*

* @author Glen Smith

* @author Rainer Pruy

*/

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* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/CSVParser.java

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*/

/**

* A very simple CSV writer released under a commercial-friendly license.

*

* @author Glen Smith

*/

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* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/package-info.java

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* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/AbstractMappingStrategy.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/AbstractFieldMap.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/CsvNumber.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/HeaderIndex.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/ConverterNumber.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/comparator/LiteralComparator.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/RegexToBeanField.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/BeanFieldJoinIntegerIndex.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/PositionToBeanField.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/comparator/package-info.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/FieldMap.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/FieldMapByPosition.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/AbstractFieldMapEntry.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/FieldMapByPositionEntry.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/ComplexFieldMapEntry.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/BeanFieldJoinStringIndex.java

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```
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvBadConverterException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvRequiredFieldEmptyException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/CsvBindByPosition.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/AbstractBeanField.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/ConverterDate.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/CsvToBeanBuilder.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/util/OpencsvUtils.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvMalformedLineException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/ConverterPrimitiveTypes.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/customconverter/package-info.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/CsvCustomBindByName.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/CsvDate.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/customconverter/ConvertFrenchToBoolean.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
```

```
jar/com/opencsv/exceptions/CsvDataTypeMismatchException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/StatefulBeanToCsvBuilder.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/stream/reader/package-info.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/CsvBindByName.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvConstraintViolationException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/package-
info.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvRuntimeException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvMultilineLimitBrokenException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/customconverter/ConvertGermanToBoolean.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/enums/package-
info.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/package-info.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/exceptions/CsvBeanIntrospectionException.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/CsvCustomBindByPosition.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/bean/StatefulBeanToCsv.java
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```
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/CSVParserBuilder.java
```

```
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/ResultSetHelper.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/CSVReaderBuilder.java
* /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-
jar/com/opencsv/ResultSetHelperService.java
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*
```

* @author Glen Smith

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* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-
jar/com/opencv/bean/HeaderColumnNameTranslateMappingStrategy.java
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```
* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-
jar/convertLanguageToBoolean.properties
* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-jar/opencv_pt_BR.properties
* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-jar/opencv.properties
* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-
jar/convertLanguageToBoolean_en.properties
* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-jar/opencv_en.properties
* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-
jar/convertLanguageToBoolean_de.properties
* /opt/cola/permits/1460265720_1667461690.2601388/opencv-5-7-1-sources-jar/opencv_de.properties
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- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/concurrent/ProcessCsvBean.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/CsvConverter.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/util/OrderedObject.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/CsvBindAndSplitByPosition.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/BeanFieldSingleValue.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/BeanFieldSplit.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/CsvBindAndJoinByPosition.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/concurrent/ProcessCsvLine.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/CsvBindAndSplitByName.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/concurrent/IntolerantThreadPoolExecutor.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/concurrent/AccumulateCsvResults.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/FieldMapByNameEntry.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/AbstractCsvConverter.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/FieldMapByName.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/BeanFieldJoin.java
- * /opt/cola/permits/1460265720_1667461690.2601388/0/opencsv-5-7-1-sources-jar/com/opencsv/bean/CsvBindAndJoinByName.java

1.40 swagger-annotations 2.0.7

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* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/media/DiscriminatorMapping.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/Operation.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/callbacks/Callbacks.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/media/Schema.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/links/LinkParameter.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/headers/Header.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/OpenAPIDefinition.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/servers/Servers.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/responses/ApiResponse.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/security/OAuthScope.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/Parameter.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/info/License.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/parameters/RequestBody.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-
jar/io/swagger/v3/oas/annotations/servers/ServerVariable.java
```

* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/tags/Tags.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/links/Link.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/security/OAuthFlows.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/Parameters.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/security/SecurityRequirement.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/media/ExampleObject.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/security/SecuritySchemes.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/ExternalDocumentation.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/security/SecurityScheme.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/info/Contact.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/tags/Tag.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/media/Encoding.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/media/Content.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/extensions/Extensions.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/info/Info.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/servers/Server.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/security/OAuthFlow.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/security/SecurityRequirements.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/Hidden.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/callbacks/Callback.java
* /opt/cola/permits/1618783067_1681509181.9620898/0/swagger-annotations-2-0-7-sources-1-jar/io/swagger/v3/oas/annotations/responses/ApiResponse.java

1.41 netty-codec-xml 4.1.93.Final

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```
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlDecoder.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlDocumentEnd.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlProcessingInstruction.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlNamespace.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlDocumentStart.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlElement.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlEntityReference.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlComment.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlCharacters.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlDTD.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlCdata.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlElementStart.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/XmlSpace.java
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-
jar/io/netty/handler/codec/xml/package-info.java
```

```
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-  
jar/io/netty/handler/codec/xml/XmlAttribute.java  
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-  
jar/io/netty/handler/codec/xml/XmlElementEnd.java  
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-  
jar/io/netty/handler/codec/xml/XmlContent.java
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```
* /opt/cola/permits/1698847989_1685285749.8351583/0/netty-codec-xml-4-1-93-final-sources-jar/META-  
INF/maven/io.netty.netty-codec-xml/pom.xml
```

1.42 commons-codec 1.14

1.42.1 Available under license :

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1.43 log4j2-ecs-layout 1.2.0

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1.44 javax-el 3.0.0

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/nio/NioChannelOption.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/SimpleUserEventChannelHandler.java
```

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```
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/AbstractCoalescingBufferQueue.java
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Found in path(s):

```
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/oio/OioByteStreamChannel.java
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```
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/StacklessClosedChannelException.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/DuplexChannelConfig.java
```

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Found in path(s):

```
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ExtendedClosedChannelException.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/EventLoopTaskQueueFactory.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelHandlerMask.java
```

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```
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/META-
INF/native-image/io.netty.netty-transport/native-image.properties
```

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```

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/META-INF/maven/io.netty/netty-transport/pom.xml

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Found in path(s):

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io.netty/channel/CoalescingBufferQueue.java

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*/

/**

* Handles an I/O event or intercepts an I/O operation, and forwards it to its next handler in

* its { @link ChannelPipeline }.

*

* <h3>Sub-types</h3>

* <p>

* { @link ChannelHandler } itself does not provide many methods, but you usually have to implement one of its subtypes:

*

* { @link ChannelInboundHandler } to handle inbound I/O events, and

* { @link ChannelOutboundHandler } to handle outbound I/O operations.

*

* </p>

* <p>

* Alternatively, the following adapter classes are provided for your convenience:

*

* { @link ChannelInboundHandlerAdapter } to handle inbound I/O events,

* { @link ChannelOutboundHandlerAdapter } to handle outbound I/O operations, and

* { @link ChannelDuplexHandler } to handle both inbound and outbound events

*

* </p>

* <p>

* For more information, please refer to the documentation of each subtype.

* </p>

*

* <h3>The context object</h3>

* <p>

* A { @link ChannelHandler } is provided with a { @link ChannelHandlerContext }

* object. A { @link ChannelHandler } is supposed to interact with the

* { @link ChannelPipeline } it belongs to via a context object. Using the

* context object, the { @link ChannelHandler } can pass events upstream or

* downstream, modify the pipeline dynamically, or store the information

* (using { @link AttributeKey }s) which is specific to the handler.

*

* <h3>State management</h3>

*

* A { @link ChannelHandler } often needs to store some stateful information.

* The simplest and recommended approach is to use member variables:

* <pre>

```
* public interface Message {
```

```
*     // your methods here
```

```
* }
```

```
* 
```

```
* public class DataServerHandler extends { @link SimpleChannelInboundHandler } &lt;Message &gt; {
```

```
* 
```

```
*     <b>private boolean loggedIn;</b>
```

```
* 
```

```
*     { @code @Override }
```

```
*     public void channelRead0({ @link ChannelHandlerContext } ctx, Message message) {
```

```
*         if (message instanceof LoginMessage) {
```

```
*             authenticate((LoginMessage) message);
```

```
*             <b>loggedIn = true;</b>
```

```
*         } else (message instanceof GetDataMessage) {
```

```
*             if (<b>loggedIn</b>) {
```

```

*         ctx.writeAndFlush(fetchSecret((GetDataMessage) message));
*     } else {
*         fail();
*     }
* }
* }
* ...
* }
* </pre>

```

* Because the handler instance has a state variable which is dedicated to one connection, you have to create a new handler instance for each new channel to avoid a race condition where an unauthenticated client can get the confidential information:

```

* <pre>
* // Create a new handler instance per channel.
* // See {@link ChannelInitializer#initChannel(Channel)}.
* public class DataServerInitializer extends {@link ChannelInitializer}&lt;{@link Channel}&gt; {
*     {@code @Override}
*     public void initChannel({@link Channel} channel) {
*         channel.pipeline().addLast("handler", <b>new DataServerHandler()</b>);
*     }
* }
*
* </pre>

```

* <h4>Using {@link AttributeKey}s</h4>

* Although it's recommended to use member variables to store the state of a handler, for some reason you might not want to create many handler instances. In such a case, you can use {@link AttributeKey}s which is provided by

```

* {@link ChannelHandlerContext}:
* <pre>
* public interface Message {
*     // your methods here
* }
*
* {@code @Sharable}
* public class DataServerHandler extends {@link SimpleChannelInboundHandler}&lt;Message&gt; {
*     private final {@link AttributeKey}&lt;{@link Boolean}&gt; auth =
*         {@link AttributeKey#valueOf(String) AttributeKey.valueOf("auth")};
*
*     {@code @Override}
*     public void channelRead({@link ChannelHandlerContext} ctx, Message message) {
*         {@link Attribute}&lt;{@link Boolean}&gt; attr = ctx.attr(auth);
*         if (message instanceof LoginMessage) {
*             authenticate((LoginMessage) o);
*             <b>attr.set(true)</b>;
*         } else (message instanceof GetDataMessage) {

```



```

*     if (<b>Boolean.TRUE.equals(attr.get())</b>) {
*         ctx.writeAndFlush(fetchSecret((GetDataMessage) o));
*     } else {
*         fail();
*     }
* }
* }
* ...
* }
* </pre>

```

* Now that the state of the handler is attached to the { @link ChannelHandlerContext }, you can add the same handler instance to different pipelines:

```

* <pre>
* public class DataServerInitializer extends { @link ChannelInitializer } &lt; { @link Channel } &gt; {
*
*     private static final DataServerHandler <b>SHARED</b> = new DataServerHandler();
*
*     { @code @Override }
*     public void initChannel({ @link Channel } channel) {
*         channel.pipeline().addLast("handler", <b>SHARED</b>);
*     }
* }
* </pre>

```

* <h4>The { @code @Sharable } annotation</h4>

* <p>In the example above which used an { @link AttributeKey }, you might have noticed the { @code @Sharable } annotation.

* <p>If a { @link ChannelHandler } is annotated with the { @code @Sharable } annotation, it means you can create an instance of the handler just once and add it to one or more { @link ChannelPipeline }s multiple times without a race condition.

* <p>If this annotation is not specified, you have to create a new handler instance every time you add it to a pipeline because it has unshared state such as member variables.

* <p>This annotation is provided for documentation purpose, just like the JCIP annotations.

* <h3>Additional resources worth reading</h3>

* <p>Please refer to the { @link ChannelHandler }, and { @link ChannelPipeline } to find out more about inbound and outbound operations, what fundamental differences they have, how they flow in a pipeline, and how to handle the operation in your application.

*/

Found in path(s):

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/ChannelHandler.java

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/MaxMessagesRecvByteBufAllocator.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/DefaultMaxMessagesRecvByteBufAllocator.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/pool/AbstractChannelPoolMap.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/pool/SimpleChannelPool.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/MaxBytesRecvByteBufAllocator.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/pool/AbstractChannelPoolHandler.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/pool/package-info.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/pool/ChannelHealthChecker.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/pool/ChannelPool.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/pool/ChannelPoolMap.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/DefaultMaxBytesRecvByteBufAllocator.java

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/ChannelOutboundHandler.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/AbstractChannel.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/socket/SocketChannel.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/ChannelMetadata.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/ChannelPromise.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/socket/oio/package-info.java

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/local/package-info.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/bootstrap/package-info.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/nio/AbstractNioByteChannel.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/DefaultEventLoop.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/EventLoopGroup.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-

jar/io/netty/channel/local/LocalEventLoopGroup.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/oio/OioEventLoopGroup.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelFlushPromiseNotifier.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/embedded/EmbeddedSocketAddress.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/embedded/package-info.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/SingleThreadEventLoop.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/nio/NioEventLoop.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/DatagramChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/bootstrap/AbstractBootstrap.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/CompleteChannelFuture.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/oio/OioSocketChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/embedded/EmbeddedChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/nio/NioTask.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/oio/OioServerSocketChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/DefaultEventLoopGroup.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/nio/AbstractNioChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelException.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/DefaultFileRegion.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ThreadPerChannelEventLoopGroup.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelOutboundHandlerAdapter.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/DatagramChannelConfig.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/FailedChannelFuture.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/nio/NioDatagramChannelConfig.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/AbstractChannelHandlerContext.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-

jar/io/netty/channel/socket/nio/NioServerSocketChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/embedded/EmbeddedEventLoop.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelDuplexHandler.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/DefaultChannelPipeline.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelInboundHandler.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/nio/ProtocolFamilyConverter.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/local/LocalServerChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/RecvByteBufAllocator.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelInboundHandlerAdapter.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelPromiseNotifier.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
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jar/io/netty/channel/socket/ServerSocketChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/Channel.java
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jar/io/netty/channel/VoidChannelPromise.java
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jar/io/netty/channel/ChannelHandlerContext.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/SucceededChannelFuture.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/ChannelConfig.java
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jar/io/netty/channel/oio/AbstractOioMessageChannel.java
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jar/io/netty/channel/socket/nio/NioSocketChannel.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/FixedRecvByteBufAllocator.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/group/DefaultChannelGroupFuture.java
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jar/io/netty/channel/socket/SocketChannelConfig.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/MultithreadEventLoopGroup.java
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jar/io/netty/channel/ChannelPipeline.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-

jar/io/netty/channel/AdaptiveRecvByteBufAllocator.java
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jar/io/netty/channel/oio/AbstractOioByteChannel.java
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jar/io/netty/bootstrap/ServerBootstrap.java
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jar/io/netty/channel/socket/nio/package-info.java
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jar/io/netty/channel/CombinedChannelDuplexHandler.java
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jar/io/netty/channel/package-info.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/group/ChannelGroupFuture.java
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jar/io/netty/channel/DefaultChannelPromise.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/socket/DefaultServerSocketChannelConfig.java
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jar/io/netty/bootstrap/Bootstrap.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/FileRegion.java
* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/ChannelOutboundInvoker.java

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/SelectStrategy.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/bootstrap/ServerBootstrapConfig.java

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/PreferHeapByteBufAllocator.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/bootstrap/BootstrapConfig.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-

jar/io/netty/channel/ChannelInboundInvoker.java

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* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/PendingWriteQueue.java

* /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/embedded/EmbeddedChannelId.java

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- * /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/socket/ChannelInputShutdownReadComplete.java
- * /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/bootstrap/FailedChannel.java
- * /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/socket/ChannelOutputShutdownEvent.java
- * /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/internal/package-info.java
- * /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/DelegatingChannelPromiseNotifier.java
- * /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/nio/SelectedSelectionKeySetSelector.java
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- * /opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-jar/io/netty/channel/socket/oio/DefaultOioDatagramChannelConfig.java
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 */
```

Found in path(s):

```
*/opt/cola/permits/1698848033_1685285735.7649164/0/netty-transport-4-1-93-final-sources-
jar/io/netty/channel/DefaultChannelHandlerContext.java
```

1.47 wmi4java 1.6.2

1.47.1 Available under license :

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<url><http://www.apache.org/licenses/LICENSE-2.0.txt></url>

Found in path(s):

* /opt/cola/permits/1268277887_1675380984.923864/0/wmi4java-1-6-2-jar/META-INF/maven/com.profesorfalken/WMI4Java/pom.xml

1.48 jackson-module-parameter-names 2.14.1

1.48.1 Available under license :

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Manifest-Version: 1.0

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-SymbolicName: com.fasterxml.jackson.module.jackson-module-parameter-names

Implementation-Vendor-Id: com.fasterxml.jackson.module

Specification-Title: Jackson-module-parameter-names

Bundle-DocURL: <https://github.com/FasterXML/jackson-modules-java8/jackson-module-parameter-names>

Import-Package: com.fasterxml.jackson.annotation;version="[2.14,3)",com.fasterxml.jackson.core;version="[2.14,3)",com.fasterxml.jackson.core.util;version="[2.14,3)",com.fasterxml.jackson.databind;version="[2.14,3)",com.fasterxml.jackson.databind.cfg;version="[2.14,3)",com.fasterxml.jackson.databind.introspect;version="[2.14,3)",com.fasterxml.jackson.databind.module;version="[2.14,3)"

Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"

Export-Package: com.fasterxml.jackson.module.paramnames;version="2.14.1";uses="com.fasterxml.jackson.annotation,com.fasterxml.jackson.core,com.fasterxml.jackson.databind,com.fasterxml.jackson.databind.cfg,com.fasterxml.jackson.databind.introspect,com.fasterxml.jackson.databind.module"

Bundle-Name: Jackson-module-parameter-names

Multi-Release: true

Build-Jdk-Spec: 1.8

Bundle-Description: Add-on module for Jackson (<http://jackson.codehaus.org>) to support introspection of method/constructor parameter names, without having to add explicit property name annotation.

Implementation-Title: Jackson-module-parameter-names

Implementation-Version: 2.14.1

Bundle-ManifestVersion: 2

Specification-Vendor: FasterXML

Bundle-Vendor: FasterXML

Tool: Bnd-6.3.1.202206071316

Implementation-Vendor: FasterXML

Bundle-Version: 2.14.1

X-Compile-Target-JDK: 1.8

X-Compile-Source-JDK: 1.8

Created-By: Apache Maven Bundle Plugin 5.1.8

Specification-Version: 2.14.1

Found in path(s):

* /opt/cola/permits/1491322405_1672923553.639012/0/jackson-module-parameter-names-2-14-1-jar/META-INF/MANIFEST.MF

1.49 netty 4.1.93.Final

1.49.1 Available under license :

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```

Found in path(s):

* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/META-INF/maven/io.netty/netty-common/pom.xml

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```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
```

```
<modelVersion>4.0.0</modelVersion>
```

```
<artifactId>jctools-core</artifactId>
```

```
<groupId>org.jctools</groupId>
```

```
<version>3.1.0</version>
```

```
<name>Java Concurrency Tools Core Library</name>
```

```
<description>Java Concurrency Tools Core Library</description>
```

```
<packaging>bundle</packaging>
```

```
<dependencies>
```

```
<dependency>
```

```
<groupId>org.hamcrest</groupId>
```

```

<artifactId>hamcrest-all</artifactId>
<version>${hamcrest.version}</version>
<scope>test</scope>
</dependency>

<dependency>
<groupId>junit</groupId>
<artifactId>junit</artifactId>
<version>${junit.version}</version>
<scope>test</scope>
</dependency>

<dependency>
<groupId>com.google.guava</groupId>
<artifactId>guava-testlib</artifactId>
<version>${guava-testlib.version}</version>
<scope>test</scope>
</dependency>
</dependencies>
<build>
<plugins>
<plugin>
<groupId>org.apache.maven.plugins</groupId>
<artifactId>maven-surefire-plugin</artifactId>
<version>3.0.0-M3</version>
<configuration>
<includes>
<include>*</include>
</includes>
</configuration>
</plugin>
<plugin>
<groupId>org.apache.felix</groupId>
<artifactId>maven-bundle-plugin</artifactId>
<version>4.2.1</version>
<extensions>>true</extensions>
<configuration>
<instructions>
<Import-Package>sun.misc;resolution:=optional</Import-Package>
</instructions>
</configuration>
</plugin>
<plugin>
<groupId>org.apache.maven.plugins</groupId>
<artifactId>maven-source-plugin</artifactId>
<version>3.2.0</version>
<executions>
<execution>

```

```

    <id>attach-sources</id>
    <phase>verify</phase>
    <goals>
      <goal>jar-no-fork</goal>
    </goals>
  </execution>
</executions>
</plugin>
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-javadoc-plugin</artifactId>
  <version>3.1.1</version>
  <configuration>
    <additionalOptions>
      <additionalOption>-Xdoclint:none</additionalOption>
    </additionalOptions>
    <source>8</source>
  </configuration>
  <executions>
    <execution>
      <id>attach-javadocs</id>
      <goals>
        <goal>jar</goal>
      </goals>
    </execution>
  </executions>
</plugin>
</plugins>
</build>

<distributionManagement>
  <repository>
    <id>bintray-jctools-jctools</id>
    <name>jctools-jctools</name>
    <url>https://api.bintray.com/maven/jctools/jctools/jctools-core/;publish=1</url>
  </repository>
</distributionManagement>

<url>https://github.com/JCTools</url>
<inceptionYear>2013</inceptionYear>

<licenses>
  <license>
    <name>Apache License, Version 2.0</name>
    <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
    <distribution>repo</distribution>
  </license>
</licenses>

```



```
<scm>
<url>https://github.com/JCTools/JCTools</url>
<connection>scm:git:https://github.com/JCTools/JCTools</connection>
<tag>HEAD</tag>
</scm>

<developers>
<developer>
<url>https://github.com/nitsanw</url>
</developer>
<developer>
<url>https://github.com/mjpt777</url>
</developer>
<developer>
<url>https://github.com/RichardWarburton</url>
</developer>
<developer>
<url>https://github.com/kay</url>
</developer>
<developer>
<url>https://github.com/franz1981</url>
</developer>
</developers>

<prerequisites>
<maven>3.5.0</maven>
</prerequisites>

<properties>
<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
<java.version>1.6</java.version>
<java.test.version>1.8</java.test.version>

<maven.compiler.source>${java.version}</maven.compiler.source>
<maven.compiler.target>${java.version}</maven.compiler.target>
<maven.compiler.testSource>${java.test.version}</maven.compiler.testSource>
<maven.compiler.testTarget>${java.test.version}</maven.compiler.testTarget>

<hamcrest.version>1.3</hamcrest.version>
<junit.version>4.12</junit.version>
<guava-testlib.version>21.0</guava-testlib.version>
</properties>
</project>
```

Found in path(s):

* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/META-INF/maven/org.jctools/jctools-core/pom.xml

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Found in path(s):

```
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/logging/CommonsLogger.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/logging/JdkLogger.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
```

jar/io/netty/util/internal/logging/Log4JLogger.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/logging/InternalLogger.java
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* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/ThreadExecutorMap.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/ObjectPool.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/svm/PlatformDependentSubstitution.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/svm/package-info.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/svm/CleanerJava6Substitution.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/svm/PlatformDependent0Substitution.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/Hidden.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/svm/UnsafeRefArrayAccessSubstitution.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-
jar/io/netty/util/internal/ReferenceCountUpdater.java
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```
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/ResourceLeakHint.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/NativeLibraryLoader.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/IntegerHolder.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/InternalThreadLocalMap.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/ThreadDeathWatcher.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/PromiseAggregator.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/AsciiString.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/FastThreadLocal.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/UnpaddedInternalThreadLocalMap.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/PromiseNotifier.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/DomainNameMapping.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/Mapping.java
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```
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/META-INF/native-image/io.netty/netty-common/native-image.properties
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* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/NetUtilInitializations.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/DomainWildcardMappingBuilder.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/NetUtilSubstitutions.java

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* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/DefaultPriorityQueue.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/ThreadProperties.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/PriorityQueueNode.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-

jar/io/netty/util/internal/LongCounter.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/AbstractScheduledEventExecutor.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/DomainMappingBuilder.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/AsyncMapping.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/HashingStrategy.java
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Found in path(s):

* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/UnorderedThreadPoolEventExecutor.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/IntSupplier.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/MacAddressUtil.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/ConstantTimeUtils.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/ResourceLeakTracker.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/PromiseNotificationUtil.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/NativeLibraryUtil.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/ResourceLeakDetectorFactory.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/OrderedEventExecutor.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/OutOfDirectMemoryError.java

* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/BooleanSupplier.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/SocketUtils.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/PromiseCombiner.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/UnaryPromiseNotifier.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/DefaultEventExecutorChooserFactory.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/EventExecutorChooserFactory.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/RejectedExecutionHandlers.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/logging/Log4J2Logger.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/logging/Log4J2LoggerFactory.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/ThrowableUtil.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/UnstableApi.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/RejectedExecutionHandler.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/NonStickyEventExecutorGroup.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/DomainNameMappingBuilder.java

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jar/io/netty/util/internal/Cleaner.java

* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-

jar/io/netty/util/internal/CleanerJava9.java

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jar/io/netty/util/concurrent/EventExecutor.java

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jar/io/netty/util/HashedWheelTimer.java

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jar/io/netty/util/internal/logging/Slf4JLoggerFactory.java

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jar/io/netty/util/concurrent/SucceededFuture.java

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jar/io/netty/util/internal/logging/CommonsLoggerFactory.java

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jar/io/netty/util/AbstractConstant.java

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jar/io/netty/util/internal/SystemPropertyUtil.java

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* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/logging/AbstractInternalLogger.java
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jar/io/netty/util/collection/ByteCollections.java

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io.netty.util.internal.Hidden\$NettyBlockHoundIntegration

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* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/ReferenceCountUtil.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/GenericProgressiveFutureListener.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/logging/package-info.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/Future.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/AbstractEventExecutorGroup.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/AbstractFuture.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/PlatformDependent0.java
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* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/internal/AppendableCharSequence.java
* /opt/cola/permits/1743888310_1689253535.0491397/0/netty-common-4-1-93-final-sources-1-jar/io/netty/util/concurrent/ScheduledFutureTask.java
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jar/io/netty/util/internal/PriorityQueue.java

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jar/io/netty/util/internal/ReflectionUtil.java
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jar/io/netty/util/internal/ObjectCleaner.java
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jar/io/netty/util/internal/logging/LocationAwareSlf4JLogger.java
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jar/io/netty/util/SuppressForbidden.java
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Found in path(s):

* /opt/cola/permits/1606613656_1679417956.422988/0/error-prone-annotations-2-18-0-1-jar/META-INF/maven/com.google.errorprone/error_prone_annotations/pom.xml

1.53 activation 1.1.1

1.53.1 Available under license :

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1.54 javassist 3.24.1-GA

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*/

Found in path(s):

- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/CannotCompileException.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/ClassFilePrinter.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/ClassFile.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/analysis/Analyzer.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/scopedpool/SoftValueHashMap.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/CastExpr.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/scopedpool/ScopedClassPoolFactoryImpl.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/ClassPool.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/CompileError.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/expr/Handler.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/convert/TransformCall.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/stackmap/Tracer.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/JvstTypeChecker.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/analysis/ControlFlow.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/Stmnt.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/convert/TransformAccessArrayField.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/ExceptionsAttribute.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/Translator.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/CodeIterator.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/util/proxy/ProxyFactory.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/CodeConverter.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/AnnotationsAttribute.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/CtNewConstructor.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/convert/TransformNewClass.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/Bytecode.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/scopedpool/ScopedClassPoolRepository.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/Keyword.java
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* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/reflect/CannotReflectException.java
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* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/CtBehavior.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/LineNumberAttribute.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/Visitor.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/InstructionPrinter.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/CodeAttribute.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/SerialVersionUID.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/stackmap/TypeTag.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/ArrayInit.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/analysis/Type.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/expr/Expr.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/runtime/Desc.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/expr/ExprEditor.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/LongVector.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/JvstCodeGen.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/rmi/RemoteRef.java
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 jar/javassist/compiler/SymbolTable.java
 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
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 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/CtNewClass.java
 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
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 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/Pair.java
 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
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 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
 jar/javassist/tools/rmi/StubGenerator.java
 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
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 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/Modifier.java
 * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/runtime/Inner.java

- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/reflect/CannotInvokeException.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/KeywordTable.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/ASTree.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/reflect/CannotCreateException.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/util/proxy/MethodFilter.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/util/proxy/Proxy.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/ConstantAttribute.java
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- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/ExceptionTable.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/Callback.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/util/HotSwapper.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/Descriptor.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/StackMapTable.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/Opcodes.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/ClassMap.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/analysis/MultiArrayType.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/ast/BinExpr.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/rmi/Proxy.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/CtClassType.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/CodeGen.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/reflect/ClassMetaobject.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/util/proxy/ProxyObjectInputStream.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/Javac.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/AnnotationsWriter.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/runtime/DotClass.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/expr/NewExpr.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/AccessFlag.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/expr/ConstructorCall.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/ClassPath.java
- * /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-

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jar/javassist/tools/rmi/ObjectImporter.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/tools/reflect/Sample.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/NotFoundException.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/compiler/NoFieldException.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/convert/TransformFieldAccess.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/bytecode/SourceFileAttribute.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/expr/Cast.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/compiler/Parser.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/compiler/ast/CondExpr.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/tools/framedump.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/CtNewMethod.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/bytecode/ClassFileWriter.java

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Found in path(s):

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* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
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* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/bytecode/annotation/DoubleMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/bytecode/annotation/LongMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/bytecode/annotation/EnumMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-
jar/javassist/bytecode/annotation/MemberValue.java

```

* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/FloatMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/Annotation.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/ShortMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/ArrayMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/StringMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/CharMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/AnnotationMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/ByteMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/ClassMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/BooleanMemberValue.java
* /opt/cola/permits/1136375532_1613752600.16/0/javassist-3-24-1-ga-sources-3-jar/javassist/bytecode/annotation/IntegerMemberValue.java

1.55 zstd 1.9.4

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1.56 failureaccess 1.0.1

1.57 netty-codec-haproxy 4.1.93.Final

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* /opt/cola/permits/1698848072_1685285721.8695002/0/netty-codec-haproxy-4-1-93-final-sources-jar/io/netty/handler/codec/haproxy/HAProxySSLTLV.java
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* /opt/cola/permits/1698848072_1685285721.8695002/0/netty-codec-haproxy-4-1-93-final-sources-jar/META-INF/maven/io.netty/netty-codec-haproxy/pom.xml
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- * /opt/cola/permits/1698848072_1685285721.8695002/0/netty-codec-haproxy-4-1-93-final-sources-jar/io/netty/handler/codec/haproxy/HARProxyProxiedProtocol.java
- * /opt/cola/permits/1698848072_1685285721.8695002/0/netty-codec-haproxy-4-1-93-final-sources-jar/io/netty/handler/codec/haproxy/HARProxyConstants.java
- * /opt/cola/permits/1698848072_1685285721.8695002/0/netty-codec-haproxy-4-1-93-final-sources-jar/io/netty/handler/codec/haproxy/package-info.java
- * /opt/cola/permits/1698848072_1685285721.8695002/0/netty-codec-haproxy-4-1-93-final-sources-jar/io/netty/handler/codec/haproxy/HARProxyMessageDecoder.java
- * /opt/cola/permits/1698848072_1685285721.8695002/0/netty-codec-haproxy-4-1-93-final-sources-jar/io/netty/handler/codec/haproxy/HARProxyProtocolException.java
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1.58 derby 10.14.2.0

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<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us" xml:lang="en-us">
<!--
```

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```
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<head>
<meta content="text/html; charset=utf-8" http-equiv="Content-Type" />
<meta name="copyright" content="(C) Copyright 2005" />
<meta name="DC.rights.owner" content="(C) Copyright 2005" />
<meta content="public" name="security" />
<meta content="index, follow" name="Robots" />
<meta http-equiv="PICS-Label" content="(PICS-1.1 "http://www.icra.org/ratingsv02.html" l gen true r (cz 1 lz 1 nz
1 oz 1 vz 1) "http://www.rsac.org/ratingsv01.html" l gen true r (n 0 s 0 v 0 l 0) "http://www.classify.org/safesurf/" l
gen true r (SS~~000 1))' />
<meta content="reference" name="DC.Type" />
<meta name="DC.Title" content="License" />
<meta name="abstract" content="" />
<meta name="description" content="" />
<meta content="Apache, license" name="DC.subject" />
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<meta content="XHTML" name="DC.Format" />
<meta content="rdevlicense" name="DC.Identifier" />
<meta content="en-us" name="DC.Language" />
<link href="commonltr.css" type="text/css" rel="stylesheet" />
<title>License</title>
</head>
<body id="rdevlicense"><a name="rdevlicense"><!-- --></a>
```

```
<h1 class="topictitle1">License</h1>
```

```
<div><p />
```

```
<div class="section"><h2 class="sectiontitle">The Apache License, Version 2.0</h2>
<pre>
```

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    Version 2.0, January 2004
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</pre>

</div>

</div>

</body>

</html>

4

```
textLjava/lang/String;sqlStateWhenMissing<init>'(Ljava/lang/String;Ljava/lang/String;)VCodeLineNumberTableLocalVariableTablethis=Lorg/apache/derbyTesting/functionTests/tests/lang/Permission;SourceFilePermission.java ;org/apache/derbyTesting/functionTests/tests/lang/Permissionjava/lang/Object()V!Y**+*,#$ %&
```

<?xml version="1.0" encoding="UTF-8"?>

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"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us" xml:lang="en-us">

<!--

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-->

<head>

<meta content="text/html; charset=utf-8" http-equiv="Content-Type" />

<meta name="copyright" content="(C) Copyright 2005" />

<meta name="DC.rights.owner" content="(C) Copyright 2005" />

<meta content="public" name="security" />

```
<meta content="index, follow" name="Robots" />
<meta http-equiv="PICS-Label" content="(PICS-1.1 "http://www.icra.org/ratingsv02.html" l gen true r (cz 1 lz 1 nz
1 oz 1 vz 1) "http://www.rsac.org/ratingsv01.html" l gen true r (n 0 s 0 v 0 l 0) "http://www.classify.org/safesurf/" l
gen true r (SS~~000 1))' />
<meta content="reference" name="DC.Type" />
<meta name="DC.Title" content="License" />
<meta name="abstract" content="" />
<meta name="description" content="" />
<meta content="Apache, license" name="DC.subject" />
<meta content="Apache, license" name="keywords" />
<meta content="XHTML" name="DC.Format" />
<meta content="rreflicense" name="DC.Identifier" />
<meta content="en-us" name="DC.Language" />
<link href="commonltr.css" type="text/css" rel="stylesheet" />
<title>License</title>
</head>
<body id="rreflicense"><a name="rreflicense"><!-- --></a>
```

```
<h1 class="topicTitle1">License</h1>
```

```
<div><p />
```

```
<div class="section"><h2 class="sectionTitle">The Apache License, Version 2.0</h2>
<pre>
```

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</pre>

</div>

</div>

<div />

</body>
</html>
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
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<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us" xml:lang="en-us">
<!--

```

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<meta name="copyright" content="(C) Copyright 2005" />
<meta name="DC.rights.owner" content="(C) Copyright 2005" />
<meta content="public" name="security" />
<meta content="index, follow" name="Robots" />
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<meta content="reference" name="DC.Type" />
<meta name="DC.Title" content="License" />
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<meta content="en-us" name="DC.Language" />
<link href="commonltr.css" type="text/css" rel="stylesheet" />
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</head>
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<h1 class="topictitle1">License</h1>
```

```
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```
<div class="section"><h2 class="sectiontitle">The Apache License, Version 2.0</h2>
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</pre>

</div>

</div>

</body>

</html>

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The levenshtein automata tables (under core/src/java/org/apache/lucene/util/automaton) were automatically generated with the moman/finenight FSA library, created by Jean-Philippe Barrette-LaPierre. This library is available under an MIT license, see <http://sites.google.com/site/rrettesite/moman> and <http://bitbucket.org/jpbarrette/moman/overview/>

The class org.apache.lucene.util.WeakIdentityMap was derived from the Apache CXF project and is Apache License 2.0.

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The snowball stemmers in
analysis/common/src/java/net/sf/snowball
were developed by Martin Porter and Richard Boulton.
The snowball stopword lists in
analysis/common/src/resources/org/apache/lucene/analysis/snowball
were developed by Martin Porter and Richard Boulton.
The full snowball package is available from
<http://snowball.tartarus.org/>

The KStem stemmer in
analysis/common/src/org/apache/lucene/analysis/en
was developed by Bob Krovetz and Sergio Guzman-Lara (CIIR-UMass Amherst)
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The Arabic,Persian,Romanian,Bulgarian, and Hindi analyzers (common) come with a default stopword list that is BSD-licensed created by Jacques Savoy. These files reside in:

analysis/common/src/resources/org/apache/lucene/analysis/ar/stopwords.txt,
analysis/common/src/resources/org/apache/lucene/analysis/fa/stopwords.txt,
analysis/common/src/resources/org/apache/lucene/analysis/ro/stopwords.txt,
analysis/common/src/resources/org/apache/lucene/analysis/bg/stopwords.txt,
analysis/common/src/resources/org/apache/lucene/analysis/hi/stopwords.txt
See <http://members.unine.ch/jacques.savoy/clef/index.html>.

The German, Spanish, Finnish, French, Hungarian, Italian, Portuguese, Russian and Swedish light stemmers (common) are based on BSD-licensed reference implementations created by Jacques Savoy and Ljiljana Dolamic. These files reside in:

analysis/common/src/java/org/apache/lucene/analysis/de/GermanLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/de/GermanMinimalStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/es/SpanishLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/fin/FinnishLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/fr/FrenchLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/fr/FrenchMinimalStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/hu/HungarianLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/it/ItalianLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/pt/PortugueseLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/ru/RussianLightStemmer.java
analysis/common/src/java/org/apache/lucene/analysis/sv/SwedishLightStemmer.java

The Stempel analyzer (stempel) includes BSD-licensed software developed by the Egothor project <http://egothor.sf.net/>, created by Leo Galambos, Martin Kvapil, and Edmond Nolan.

The Polish analyzer (stempel) comes with a default stopword list that is BSD-licensed created by the Carrot2 project. The file resides in `stempel/src/resources/org/apache/lucene/analysis/pl/stopwords.txt`.
See <http://project.carrot2.org/license.html>.

The SmartChineseAnalyzer source code (smartcn) was provided by Xiaoping Gao and copyright 2009 by www.imdict.net.

WordBreakTestUnicode_*.java (under `modules/analysis/common/src/test/`) is derived from Unicode data such as the Unicode Character Database.
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The Morfologik analyzer (morfologik) includes BSD-licensed software developed by Dawid Weiss and Marcin Mikowski (<http://morfologik.blogspot.com/>).

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Morfologic includes data from BSD-licensed dictionary of Polish (SGJP) (<http://sgjp.pl/morfeusz/>)

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=====
Kuromoji Japanese Morphological Analyzer - Apache Lucene Integration
=====

This software includes a binary and/or source version of data from

mecab-ipadic-2.7.0-20070801

which can be obtained from

<http://atilika.com/releases/mecab-ipadic/mecab-ipadic-2.7.0-20070801.tar.gz>

or

<http://jaist.dl.sourceforge.net/project/mecab/mecab-ipadic/2.7.0-20070801/mecab-ipadic-2.7.0-20070801.tar.gz>

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```
<?xml version="1.0" encoding="UTF-8"?>
```

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<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
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"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
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<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us" xml:lang="en-us">
```

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-->

<head>

<meta content="text/html; charset=utf-8" http-equiv="Content-Type" />

<meta name="copyright" content="(C) Copyright 2005" />

<meta name="DC.rights.owner" content="(C) Copyright 2005" />

<meta content="public" name="security" />

<meta content="index, follow" name="Robots" />

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<meta content="reference" name="DC.Type" />

<meta name="DC.Title" content="License" />

<meta content="Apache, license" name="DC.subject" />

<meta content="Apache, license" name="keywords" />

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<meta content="en-us" name="DC.Language" />

<link href="commonltr.css" type="text/css" rel="stylesheet" />

<title>License</title>

</head>

<body id="rtunlicense"><!-- -->

<h1 class="topictitle1">License</h1>

<div>

<div class="section"><h2 class="sectiontitle">The Apache License, Version 2.0</h2>

<pre>

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</pre>

</div>

</div>

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<?xml version="1.0" encoding="UTF-8"?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"

"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us" xml:lang="en-us">

<!--

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<meta content="text/html; charset=utf-8" http-equiv="Content-Type" />
<meta name="copyright" content="(C) Copyright 2005" />
<meta name="DC.rights.owner" content="(C) Copyright 2005" />
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<div class="section"><h2 class="sectiontitle">The Apache License, Version 2.0</h2>
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    Version 2.0, January 2004
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```
</pre>
```

```
</div>
```

```
</div>
```

```
</body>
```

```
</html>
```

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
```

```
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us" xml:lang="en-us">
```

```
<!--
```

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```
-->
```

```
<head>
```

```
<meta content="text/html; charset=utf-8" http-equiv="Content-Type" />
```

```
<meta name="copyright" content="(C) Copyright 2005" />
```

```
<meta name="DC.rights.owner" content="(C) Copyright 2005" />
```

```
<meta content="public" name="security" />
```

```
<meta content="index, follow" name="Robots" />
```

```
<meta http-equiv="PICS-Label" content='(PICS-1.1 "http://www.icra.org/ratingsv02.html" l gen true r (cz 1 lz 1 nz 1 oz 1 vz 1) "http://www.rsac.org/ratingsv01.html" l gen true r (n 0 s 0 v 0 l 0) "http://www.classify.org/safesurf/" l gen true r (SS~000 1))' />
```

```
<meta content="reference" name="DC.Type" />
```

```
<meta name="DC.Title" content="License" />
```

```
<meta content="Apache, license" name="DC.subject" />
```

```
<meta content="Apache, license" name="keywords" />
```

```
<meta content="XHTML" name="DC.Format" />
```

```
<meta content="rtoolslicense" name="DC.Identifier" />
```

```
<meta content="en-us" name="DC.Language" />
```

```
<link href="commonltr.css" type="text/css" rel="stylesheet" />
```

```
<title>License</title>
</head>
<body id="rtoolslicense"><a name="rtoolslicense"><!-- --></a>
```

```
<h1 class="topicitle1">License</h1>
```

```
<div>
<div class="section"><h2 class="sectiontitle">The Apache License, Version 2.0</h2>
<pre>
```

```
        Apache License
        Version 2.0, January 2004
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```

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</pre>

</div>

</div>

<div />

</body>

</html>

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```
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"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en-us" xml:lang="en-us">
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```

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```
-->
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<meta name="abstract" content="" />
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<meta content="Apache, license" name="keywords" />
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<meta content="rseclicense" name="DC.Identifier" />
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<link href="commonltr.css" type="text/css" rel="stylesheet" />
<title>License</title>
</head>
<body id="rseclicense"><a name="rseclicense"><!-- --></a>
```

<h1 class="topictitle1">License</h1>

<div><p />

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<pre>

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</body>

</html>

1.59 ant-antlr 1.10.11

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1.60 kerberos 4.1

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lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
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lib/libgss/g_accept_sec_context.c
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lib/libgss/g_exp_sec_context.c
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lib/libgss/g_init_sec_context.c
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lib/libgss/g_inquire_names.c
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lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
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lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c

lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c

lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in "src/lib/gssapi", including the following files:

lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et

slave/kpropd_rpc.c
slave/kproplog.c

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lib/gssapi/generic/gssapi_err_generic.et

lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c

kprop/kproplog.c

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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in "src/lib/gssapi", including the following files:

- lib/gssapi/generic/gssapi_err_generic.et
- lib/gssapi/mechglue/g_accept_sec_context.c
- lib/gssapi/mechglue/g_acquire_cred.c
- lib/gssapi/mechglue/g_canon_name.c
- lib/gssapi/mechglue/g_compare_name.c
- lib/gssapi/mechglue/g_context_time.c
- lib/gssapi/mechglue/g_delete_sec_context.c
- lib/gssapi/mechglue/g_dsp_name.c
- lib/gssapi/mechglue/g_dsp_status.c
- lib/gssapi/mechglue/g_dup_name.c
- lib/gssapi/mechglue/g_exp_sec_context.c
- lib/gssapi/mechglue/g_export_name.c
- lib/gssapi/mechglue/g_glue.c
- lib/gssapi/mechglue/g_imp_name.c
- lib/gssapi/mechglue/g_imp_sec_context.c
- lib/gssapi/mechglue/g_init_sec_context.c
- lib/gssapi/mechglue/g_initialize.c
- lib/gssapi/mechglue/g_inquire_context.c
- lib/gssapi/mechglue/g_inquire_cred.c
- lib/gssapi/mechglue/g_inquire_names.c
- lib/gssapi/mechglue/g_process_context.c
- lib/gssapi/mechglue/g_rel_buffer.c
- lib/gssapi/mechglue/g_rel_cred.c
- lib/gssapi/mechglue/g_rel_name.c
- lib/gssapi/mechglue/g_rel_oid_set.c
- lib/gssapi/mechglue/g_seal.c
- lib/gssapi/mechglue/g_sign.c
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- lib/gssapi/mechglue/g_userok.c
- lib/gssapi/mechglue/g_utils.c
- lib/gssapi/mechglue/g_verify.c

lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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* Fixed warnings about generated constructors not explicitly initializing all fields (only present with certain compiler settings).
* Added generation of field number constants.

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* Fixed initialization ordering problem in logging code.

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* Small patch improving performance of in Python serialization.

Alexandre Vassalotti <alexandre@peadrop.com>
* Emacs mode for Protocol Buffers (editors/protobuf-mode.el).

Scott Stafford <scott.stafford@gmail.com>
* Added Swap(), SwapElements(), and RemoveLast() to Reflection interface.

Alexander Melnikov <alm@sibmail.ru>
* HPUX support.

Oliver Jowett <oliver.jowett@gmail.com>
* Detect whether zlib is new enough in configure script.
* Fixes for Solaris 10 32/64-bit confusion.

Evan Jones <evanj@mit.edu>
* Optimize Java serialization code when writing a small message to a stream.
* Optimize Java serialization of strings so that UTF-8 encoding happens only once per string per serialization call.
* Clean up some Java warnings.
* Fix bug with permanent callbacks that delete themselves when run.

Michael Kucharski <m.kucharski@gmail.com>
* Added CodedInputStream.getTotalBytesRead().

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* Fixed m4/acx_pthread.m4 problem for some Linux distributions.

William Orr <will@worrbase.com>
* Fixed detection of sched_yield on Solaris.
* Added atomicops for Solaris

Andrew Paprocki <andrew@ishiboo.com>
* Fixed minor IBM xLC compiler build issues
* Added atomicops for AIX (POWER)

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Licensing Information User Manual

MySQL 8.0

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cURL (libcurl)

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  external.c sasutil.c server.c seterror.c dlopen.c
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Facebook Fast Checksum Patch

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Google SMP patch

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Kerberos5

Kerberos5

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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in "src/lib/gssapi", including the following files:

lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c

lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
slave/kpropd_rpc.c
slave/kproplog.c

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# Secondary weight range: 0020..0192 (371)
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MySQL Router 8.0

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Kerberos5

Kerberos5

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lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c

lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
slave/kpropd_rpc.c
slave/kproplog.c

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libevent

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1.64 jackson-dataformat-yaml 2.14.1

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- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/Memory.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/SnappyCompressor.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/Main.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/UnsafeMemory.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/SnappyDecompressor.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/SnappyInternalUtils.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/CorruptionException.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/Snappy.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/SlowMemory.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/SnappyInputStream.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/Crc32C.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/SnappyOutputStream.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/BufferRecycler.java
- * /opt/cola/permits/1722433605_1686901730.8528392/0/snappy-0-3-sources-3-jar/org/iq80/snappy/HadoopSnappyCodec.java

1.66 jsch 0.2.4

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1.67 jopt-simple 5.0.2

1.68 re2j 1.2

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```
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```

```
* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/Pattern.java
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```

```
* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/Regex.java
```

* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/Utils.java
* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/Machine.java
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* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/Compiler.java
* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/PatternSyntaxException.java
* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/MachineInput.java
* /opt/cola/permits/1157317048_1619537047.34/0/re2j-1-2-sources-1-jar/com/google/re2j/Unicode.java

1.69 commons-configuration 1.8

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1.70 metrics-caffeine 4.1.29

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* /opt/cola/permits/1548380653_1675143991.351548/0/metrics-caffeine-4-1-29-sources-1-jar/com/codahale/metrics/caffeine/MetricsStatsCounter.java

1.71 netty-codec-memcache 4.1.93.Final

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\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/io/netty/handler/codec/memcache/LastMemcacheContent.java  
 \* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheResponseDecoder.java  
 \* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheMessage.java  
 \* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/io/netty/handler/codec/memcache/binary/FullBinaryMemcacheRequest.java  
 \* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheResponseEncoder.java  
 \* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheObjectAggregator.java  
 \* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheRequestDecoder.java  
 \* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-

jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheRequest.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/DefaultLastMemcacheContent.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/DefaultFullBinaryMemcacheRequest.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/FullMemcacheMessage.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/AbstractBinaryMemcacheDecoder.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/MemcacheMessage.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheRequestEncoder.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/DefaultBinaryMemcacheResponse.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/AbstractMemcacheObject.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheResponse.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/package-info.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/AbstractBinaryMemcacheMessage.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/AbstractMemcacheObjectEncoder.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/DefaultFullBinaryMemcacheResponse.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheOpcodes.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/AbstractMemcacheObjectDecoder.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/MemcacheContent.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheResponseStatus.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheClientCodec.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/AbstractBinaryMemcacheEncoder.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/AbstractMemcacheObjectAggregator.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/FullBinaryMemcacheResponse.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/DefaultBinaryMemcacheRequest.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-  
jar/io/netty/handler/codec/memcache/binary/BinaryMemcacheServerCodec.java  
\* /opt/cola/permits/1698848016\_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-

```
jar/io/netty/handler/codec/memcache/package-info.java
* /opt/cola/permits/1698848016_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-
jar/io/netty/handler/codec/memcache/DefaultMemcacheContent.java
* /opt/cola/permits/1698848016_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-
jar/io/netty/handler/codec/memcache/MemcacheObject.java
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* /opt/cola/permits/1698848016_1685285748.07515/0/netty-codec-memcache-4-1-93-final-sources-jar/META-
INF/maven/io.netty/netty-codec-memcache/pom.xml
```

## 1.72 jetty-setuid-java 1.0.4

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```
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/SetUIDListener.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/SetUIDServer.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/SetUID.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
```

```
jar/org/eclipse/jetty/setuid/Group.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/RLimit.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/Passwd.java
```

## 1.73 netty-transport-udt 4.1.93.Final

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```
* /opt/cola/permits/1698848079_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-
jar/io/netty/channel/udt/UdtMessage.java
* /opt/cola/permits/1698848079_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-
jar/io/netty/channel/udt/package-info.java
* /opt/cola/permits/1698848079_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-
jar/io/netty/channel/udt/nio/package-info.java
* /opt/cola/permits/1698848079_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-
jar/io/netty/channel/udt/UdtChannelConfig.java
* /opt/cola/permits/1698848079_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-
jar/io/netty/channel/udt/DefaultUdtChannelConfig.java
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\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/UdtChannelOption.java  
\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/DefaultUdtServerChannelConfig.java  
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\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtByteAcceptorChannel.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtMessageAcceptorChannel.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtProvider.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtMessageRendezvousChannel.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtByteConnectorChannel.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtAcceptorChannel.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/UdtChannel.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtByteRendezvousChannel.java

\* /opt/cola/permits/1698848079\_1685285737.3106787/0/netty-transport-udt-4-1-93-final-sources-jar/io/netty/channel/udt/nio/NioUdtMessageConnectorChannel.java

# 1.74 guice 4.0.0

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## 1.75 jcodings 1.0.44

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jar/org/jcodings/transcode/specific/From\_UTF\_32\_Transcoder.java

\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/transcode/Transcoding.java

\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/specific/Windows\_1257Encoding.java

\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/specific/ISO8859\_1Encoding.java

\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/spi/ISO\_8859\_16.java

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jar/org/jcodings/specific/UTF16BEEncoding.java

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jar/org/jcodings/AbstractEncoding.java

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jar/org/jcodings/EncodingDB.java

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jar/org/jcodings/transcode/specific/Eucjp2sjis\_Transcoder.java

\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/exception/EncodingException.java

\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/Ptr.java

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jar/org/jcodings/constants/PosixBracket.java

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\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/specific/EUCJPEncoding.java

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jar/org/jcodings/SingleByteEncoding.java

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jar/org/jcodings/specific/BIG5Encoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/EncodingList.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/specific/Windows\_31JEncoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/transcode/specific/Cp50220\_encoder\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/transcode/specific/Sjis2eucjp\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/unicode/UnicodeProperties.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/exception/JCodingsException.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/specific/ISO8859\_11Encoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/transcode/specific/Iso2022jp\_encoder\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/transcode/specific/To\_UTF\_16\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/specific/KOI8REncoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-  
jar/org/jcodings/specific/ISO8859\_2Encoding.java

\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/ISO8859\_14Encoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/ascii/AsciiTables.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/GBKEncoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/exception/CharacterPropertyException.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/BaseBIG5Encoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/EConvResult.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/USASCIIEncoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/ISO8859\_15Encoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/specific/Cp50220\_decoder\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/specific/Cp50221\_decoder\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/ObjPtr.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/specific/From\_UTF\_16\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/specific/To\_UTF\_32\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/specific/Stateless\_iso2022jp\_to\_eucjp\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/CodeRange.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/Windows\_1251Encoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/UTF32BEEncoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/util/CaseInsensitiveBytesHash.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/specific/To\_UTF\_32LE\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/util/IntHash.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/specific/Windows\_1250Encoding.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/specific/To\_UTF\_32BE\_Transcoder.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/AsciiCompatibility.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/transcode/Buffer.java  
\* /opt/cola/permits/1606863367\_1680067730.5782158/0/jcodings-1-0-44-sources-1-



```

jar/org/jcodings/specific/CP949Encoding.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/specific/UTF32LEEncoding.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-jar/org/jcodings/Config.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/ApplyAllCaseFoldFunction.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/transcode/specific/Iso2022jp_decoder_Transcoder.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/specific/ISO8859_3Encoding.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/CanBeTrailTableEncoding.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/util/ArrayReader.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/specific/ISO8859_5Encoding.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/specific/GB2312Encoding.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/specific/Big5HKSCSEncoding.java
* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/specific/BaseEUCJPEncoding.java
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```

```

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Found in path(s):

```

* /opt/cola/permits/1606863367_1680067730.5782158/0/jcodings-1-0-44-sources-1-
jar/org/jcodings/unicode/FixedWidthUnicodeEncoding.java

```

# 1.76 javassist 3.28.0-GA

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```
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```
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/MemberValueVisitor.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/LongMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/ByteMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/StringMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/Annotation.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/BooleanMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/IntegerMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/DoubleMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/ClassMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/ShortMemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/MemberValue.java
* /opt/cola/permits/1255880306_1642609938.26/0/javassist-3-28-0-ga-sources-
jar/javassist/bytecode/annotation/FloatMemberValue.java
```

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/annotation/AnnotationMemberValue.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/annotation/CharMemberValue.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/annotation/EnumMemberValue.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/annotation/ArrayMemberValue.java

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\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/ArrayInit.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/EnclosingMethodAttribute.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/IntConst.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/convert/TransformBefore.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/StackMap.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/tools/reflect/Sample.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/ClassPoolTail.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/MemberResolver.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/util/proxy/ProxyObject.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/convert/Transformer.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/LineNumberAttribute.java

\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/ClassClassPath.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/Variable.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/Declarator.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/KeywordTable.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtConstructor.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/SyntaxError.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/Javac.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/ByteArrayClassPath.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/ClassFilePrinter.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtClass.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/ClassPool.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/NewExpr.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/util/HotSwapper.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtBehavior.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtMember.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/AssignExpr.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/TokenId.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/CompileError.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/tools/rmi/Proxy.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/AccessorMaker.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/util/proxy/ProxyObjectOutputStream.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/tools/rmi/AppletServer.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/ParameterAnnotationsAttribute.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/analysis/IntQueue.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/analysis/Executor.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/analysis/Frame.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/ClassMap.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CannotCompileException.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtNewWrappedConstructor.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-

jar/javassist/bytecode/stackmap/TypeData.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/util/proxy/SecurityActions.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/bytecode/DuplicateMemberException.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/bytecode/ByteStream.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtNewClass.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/bytecode/analysis/MultiArrayType.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/util/proxy/MethodHandler.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtField.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/bytecode/ConstPool.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/tools/reflect/Metaobject.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/tools/rmi/ObjectNotFoundException.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/scopedpool/SoftValueHashMap.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/expr/Handler.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/bytecode/analysis/MultiType.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/runtime/Cflow.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtNewMethod.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/scopedpool/ScopedClassPoolFactory.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/tools/reflect/CannotCreateException.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/tools/rmi/StubGenerator.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtArray.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/tools/web/Webserver.java  
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jar/javassist/bytecode/SyntheticAttribute.java  
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\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/runtime/DotClass.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
jar/javassist/compiler/ast/InstanceOfExpr.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/runtime/Desc.java  
\* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-  
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- \* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/BinExpr.java
- \* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/bytecode/AttributeInfo.java
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- \* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/compiler/ast/ASTList.java
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- \* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/convert/TransformNewClass.java
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- \* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/CtNewConstructor.java
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- \* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/expr/Cast.java
- \* /opt/cola/permits/1255880306\_1642609938.26/0/javassist-3-28-0-ga-sources-jar/javassist/scopedpool/ScopedClassPool.java
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## 1.78 javax-inject 1

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Version 2.0, January 2004

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## 1.79 kotlin 1.3.70

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```

ore.js", "long.js", "markerFunctions.js", "misc.js", "polyfills.js", "rtti.js", "arrayUtils.kt", "runtime/Enum.kt", "primitiveCompanionObjects.kt", "generated/\_Arrays.kt", "generated/\_Ranges.kt", "kotlin/UByte.kt", "kotlin/UInt.kt", "kotlin/UShort.kt", "Ranges.kt", "collections/Collections.kt", "collections/Maps.kt", "collections/Sets.kt", "text/StringNumberConversions.kt", "kotlin/UnsignedUtils.kt", "collections/Iterables.kt", "collections/Sequences.kt", "util/Preconditions.kt", "generated/\_ArraysJs.kt", "comparisons/Comparisons.kt", "kotlin/Comparator.kt", "util/Standard.kt", "generated/\_ComparisonsJs.kt", "generated/\_Collections.kt", "kotlin/collections.kt", "collections/Iterators.kt", "generated/\_Comparisons.kt", "generated/\_Maps.kt", "generated/\_Sequences.kt", "generated/\_Sets.kt", "generated/\_Strings.kt", "text/Strings.kt", "kotlin/text/string.kt", "kotlin/UByteArray.kt", "kotlin/UIntArray.kt", "kotlin/ULongArray.kt", "kotlin/ULong.kt", "kotlin/UShortArray.kt", 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"org.w3c/org.w3c.dom.mediacapture.kt", "org.w3c/org.w3c.dom.pointerevents.kt", "org.w3c/org.w3c.dom.svg.kt", "org.w3c/org.w3c.files.kt", "org.w3c/org.w3c.notifications.kt", "org.w3c/org.w3c.workers.kt", "org.w3c/org.w3c.xhr.kt", "annotations/Experimental.kt", "annotations/ExperimentalStdlibApi.kt", "annotations/Inference.kt", "annotations/Multiplatform.kt", "annotations/OptIn.kt", "collections/AbstractCollection.kt", "collections/AbstractIterator.kt", "collections/AbstractList.kt", "collections/AbstractMap.kt", "collections/AbstractSet.kt", "collections/ArrayDeque.kt", "collections/Arrays.kt", "collections/IndexedValue.kt", "collections/MapAccessors.kt", "collections/MapWithDefault.kt", "collections/MutableCollections.kt", "collections/ReversedViews.kt", "collections/SequenceBuilder.kt", "collections/SlidingWindow.kt", "collections/UArraySorting.kt", "contracts/ContractBuilder.kt", "coroutines/ContinuationInterceptor.kt", "coroutines/CoroutineContext.kt", "coroutines/CoroutineContextImpl.kt", "coroutines/intrinsics/Intrinsics.kt", "experimental/bitwiseOperations.kt", "experimental/inferenceMarker.kt", "internal/Annotations.kt", "properties/Delegates.kt", "properties/ObservableProperty.kt", "random/Random.kt", "random/URandom.kt", "random/XorWowRandom.kt", "ranges/Ranges.kt", "reflect/KClasses.kt", "reflect/typeOf.kt", "text/Appendable.kt", "text/Char.kt", "text/Indent.kt", "text/Typography.kt", "text/regex/MatchResult.kt", "time/Duration.kt", "time/DurationUnit.kt", "time/ExperimentalTime.kt", "time/TimeSource.kt", "time/TimeSources.kt", "time/measureTime.kt", "util/HashCode.kt", "util/KotlinVersion.kt", "util/Lateinit.kt", "util/Lazy.kt", "util/Numbers.kt", "util/Susp

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end.kt","util/Tuples.kt","kotlin/UIntRange.kt","kotlin/UITerators.kt","kotlin/ULongRange.kt","kotlin/UMath.kt","kotlin/UNumbers.kt","kotlin/UProgressionUtil.kt","kotlin/UStrings.kt","kotlin/annotations/Unsigned.kt","kotlin/MathH.kt","coroutines.kt","CoroutinesLibrary.kt","coroutinesIntrinsics.kt","ContinuationInterceptor.kt","CoroutineContext.kt","CoroutineContextImpl.kt","Coroutines.kt","Intrinsics.kt","SequenceBuilder.kt"),"sourcesContent":["(function (root, factory) {\n if (typeof define === 'function' && define.amd) {\n define('kotlin', ['exports'], factory);\n }\n else if (typeof exports === 'object') {\n factory(module.exports);\n }\n else {\n root.kotlin = {};\n factory(root.kotlin);\n }\n})(this, function (Kotlin) {\n var _ = Kotlin;\n\n insertContent();\n});\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n *\n\nKotlin.isBooleanArray = function (a) {\n return (Array.isArray(a) || a instanceof Int8Array) && a.$type$ === \"BooleanArray\";\n};\n\nKotlin.isByteArray = function (a) {\n return a instanceof Int8Array && a.$type$!== \"BooleanArray\";\n};\n\nKotlin.isShortArray = function (a) {\n return a instanceof Int16Array;\n};\n\nKotlin.isCharArray = function (a) {\n return a instanceof Uint16Array && a.$type$ === \"CharArray\";\n};\n\nKotlin.isIntArray = function (a) {\n return a instanceof Int32Array;\n};\n\nKotlin.isFloatArray = function (a) {\n return a instanceof Float32Array;\n};\n\nKotlin.isDoubleArray = function (a) {\n return a instanceof Float64Array;\n};\n\nKotlin.isLongArray = function (a) {\n return Array.isArray(a) && a.$type$ === \"LongArray\";\n};\n\nKotlin.isArray = function (a) {\n return Array.isArray(a) && !a.$type$;\n};\n\nKotlin.isArrayish = function (a) {\n return Array.isArray(a) || ArrayBuffer.isView(a);\n};\n\nKotlin.arrayToString = function (a) {\n var toString = Kotlin.isCharArray(a) ? String.fromCharCode : Kotlin.toString;\n return \"[\" + Array.prototype.map.call(a, function(e) { return toString(e); }).join(\", \") + \"]\";\n};\n\nKotlin.arrayDeepToString = function (arr) {\n return Kotlin.kotlin.collections.contentDeepToStringImpl(arr);\n};\n\nKotlin.arrayEquals = function (a, b) {\n if (a === b) {\n return true;\n }\n if (!Kotlin.isArrayish(b) || a.length !== b.length) {\n return false;\n }\n for (var i = 0, n = a.length; i < n; i++) {\n if (!Kotlin.equals(a[i], b[i])) {\n return false;\n }\n }\n return true;\n};\n\nKotlin.arrayDeepEquals = function (a, b) {\n return Kotlin.kotlin.collections.contentDeepEqualsImpl(a, b);\n};\n\nKotlin.arrayHashCode = function (arr) {\n var result = 1;\n for (var i = 0, n = arr.length; i < n; i++) {\n result = ((31 * result | 0) + Kotlin.hashCode(arr[i])) | 0;\n }\n return result;\n};\n\nKotlin.arrayDeepHashCode = function (arr) {\n return Kotlin.kotlin.collections.contentDeepHashCodeImpl(arr);\n};\n\nKotlin.primitiveArraySort = function (array) {\n array.sort(Kotlin.doubleCompareTo);\n};\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n *\n\nKotlin.getCallableRef = function(name, f) {\n f.callableName = name;\n return f;\n};\n\nKotlin.getPropertyCallableRef = function(name, paramCount, getter, setter) {\n getter.get = getter;\n getter.set = setter;\n getter.callableName = name;\n return getPropertyRefClass(getter, setter, propertyRefClassMetadataCache[paramCount]);\n};\n\nfunction getPropertyRefClass(obj, setter, cache) {\n obj.$metadata$ = getPropertyRefMetadata(typeof setter === \"function\" ? cache.mutable : cache.immutable);\n obj.constructor = obj;\n return obj;\n}\n\nvar propertyRefClassMetadataCache = [\n {\n mutable: {\n value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KMutableProperty0\n }\n },\n immutable: {\n value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KProperty0\n }\n }\n },\n {\n mutable: {\n value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KMutableProperty1\n }\n },\n immutable: {\n value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KProperty1\n }\n }\n }\n];\n\nfunction getPropertyRefMetadata(cache) {\n if (cache.value === null) {\n cache.value = {\n interfaces: [cache.implementedInterface()],\n baseClass: null,\n functions: {},\n properties: {},\n types: {},\n staticMembers: {}\n };\n }\n return cache.value;\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n *\n\nKotlin.toShort = function (a) {\n return (a & 0xFFFF) << 16 >>

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16;\n};\n\nKotlin.toByte = function (a) {\n return (a & 0xFF) << 24 >> 24;\n};\n\nKotlin.toChar = function (a) {\n
 return a & 0xFFFF;\n};\n\nKotlin.numberToLong = function (a) {\n return a instanceof Kotlin.Long ? a :
Kotlin.Long.fromNumber(a);\n};\n\nKotlin.numberToInt = function (a) {\n return a instanceof Kotlin.Long ?
a.toInt() : Kotlin.doubleToInt(a);\n};\n\nKotlin.numberToShort = function (a) {\n return
Kotlin.toShort(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToByte = function (a) {\n return
Kotlin.toByte(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToDouble = function (a) {\n return
+a;\n};\n\nKotlin.numberToChar = function (a) {\n return
Kotlin.toChar(Kotlin.numberToInt(a));\n};\n\nKotlin.doubleToInt = function(a) {\n if (a > 2147483647) return
2147483647;\n if (a < -2147483648) return -2147483648;\n return a | 0;\n};\n\nKotlin.toBoxedChar = function
(a) {\n if (a == null) return a;\n if (a instanceof Kotlin.BoxedChar) return a;\n return new
Kotlin.BoxedChar(a);\n};\n\nKotlin.unboxChar = function(a) {\n if (a == null) return a;\n return
Kotlin.toChar(a);\n};\n"}\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.equals = function (obj1, obj2) {\n if (obj1 == null) {\n return obj2 ==
null;\n }\n if (obj2 == null) {\n return false;\n }\n if (obj1 !== obj2) {\n return obj2 !== obj2;\n
}\n if (typeof obj1 === "object" && typeof obj1.equals === "function") {\n return obj1.equals(obj2);\n
}\n if (typeof obj1 === "number" && typeof obj2 === "number") {\n return obj1 === obj2 && (obj1 !==
0 || 1 / obj1 === 1 / obj2);\n }\n return obj1 === obj2;\n};\n\nKotlin.hashCode = function (obj) {\n if (obj ==
null) {\n return 0;\n }\n var objType = typeof obj;\n if ("object" === objType) {\n return "function"
=== typeof obj.hashCode ? obj.hashCode() : getObjectHashCode(obj);\n }\n if ("function" === objType) {\n
return getObjectHashCode(obj);\n }\n if ("number" === objType) {\n return
Kotlin.numberHashCode(obj);\n }\n if ("boolean" === objType) {\n return Number(obj)\n }\n var str
= String(obj);\n return getStringHashCode(str);\n};\n\nKotlin.toString = function (o) {\n if (o == null) {\n
return "null";\n }\n else if (Kotlin.isArrayish(o)) {\n return "["+o+"]";\n }\n else {\n return
o.toString();\n }\n};\n\n** @const *\nvar POW_2_32 = 4294967296;\n// TODO: consider switching to Symbol
type once we are on ES6.\n** @const *\nvar OBJECT_HASH_CODE_PROPERTY_NAME =
"KotlinHashCodeValue$";\n\nfunction getObjectHashCode(obj) {\n if
(! (OBJECT_HASH_CODE_PROPERTY_NAME in obj)) {\n var hash = (Math.random() * POW_2_32) | 0; //
Make 32-bit signed integer.\n Object.defineProperty(obj, OBJECT_HASH_CODE_PROPERTY_NAME, {\n
value: hash, enumerable: false });\n }\n return
obj[OBJECT_HASH_CODE_PROPERTY_NAME];\n}\n\nfunction getStringHashCode(str) {\n var hash = 0;\n
for (var i = 0; i < str.length; i++) {\n var code = str.charCodeAt(i);\n hash = (hash * 31 + code) | 0; // Keep
it 32-bit.\n }\n return hash;\n}\n\nKotlin.identityHashCode = getObjectHashCode;\n"}\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by
the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Copyright 2009 The Closure
Library Authors. All Rights Reserved.\n// Licensed under the Apache License, Version 2.0 (the "License");\n//
you may not use this file except in compliance with the License.\n// You may obtain a copy of the License at\n//
http://www.apache.org/licenses/LICENSE-2.0\n// Unless required by applicable law or agreed to in writing,
software\n// distributed under the License is distributed on an "AS-IS" BASIS,\n// WITHOUT WARRANTIES OR
CONDITIONS OF ANY KIND, either express or implied.\n\n**\n * Constructs a 64-bit two's-complement integer,
given its low and high 32-bit\n * values as *signed* integers. See the from* functions below for more\n *
convenient ways of constructing Longs.\n * \n * The internal representation of a long is the two given signed, 32-bit
values.\n * We use 32-bit pieces because these are the size of integers on which\n * Javascript performs bit-
operations. For operations like addition and\n * multiplication, we split each number into 16-bit pieces, which can
easily be\n * multiplied within Javascript's floating-point representation without overflow\n * or change in sign.\n
*\n * In the algorithms below, we frequently reduce the negative case to the\n * positive case by negating the
input(s) and then post-processing the result.\n * Note that we must ALWAYS check specially whether those values
are MIN_VALUE\n * (-2^63) because -MIN_VALUE == MIN_VALUE (since 2^63 cannot be represented as\n * a

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positive number, it overflows back into a negative). Not handling this
recursion.
 * @param {number} low The low (signed) 32 bits of the long.
 * @param {number} high The high (signed) 32 bits of the long.
 * @constructor
 * @final
 * Kotlin.Long = function(low, high) {
 * /**
 * @type {number}
 * @private
 * this.low_ = low | 0; // force into 32 signed bits.
 *
 * /**
 * @type {number}
 * @private
 * this.high_ = high | 0; // force into 32 signed bits.
 * };
 * Kotlin.Long.$metadata$ = {
 * kind: "class",
 * simpleName: "Long",
 * interfaces: []
 * };
 *
 * // NOTE: Common constant values ZERO, ONE, NEG_ONE, etc. are defined below the
 * // from* methods on which they depend.
 *
 * // A cache of the Long representations of small integer values.
 * @type {!Object}
 * @private
 * Kotlin.Long.IntCache_ = {};
 *
 * Returns a Long representing the given (32-bit) integer value.
 * @param {number} value The 32-bit integer in question.
 * @return {!Kotlin.Long} The corresponding Long value.
 *
 * Kotlin.Long.fromInt = function(value) {
 * if (-128 <= value && value < 128) {
 * var cachedObj = Kotlin.Long.IntCache_[value];
 * if (cachedObj) {
 * return cachedObj;
 * }
 * }
 * var obj = new Kotlin.Long(value | 0, value < 0 ? -1 : 0);
 * if (-128 <= value && value < 128) {
 * Kotlin.Long.IntCache_[value] = obj;
 * }
 * return obj;
 * };
 *
 * Converts this number value to `Long`.
 * The fractional part, if any, is rounded down towards zero.
 * Returns zero if this `Double` value is `NaN`, `Long.MIN_VALUE` if it's less than `Long.MIN_VALUE`,
 * `Long.MAX_VALUE` if it's bigger than `Long.MAX_VALUE`.
 * @param {number} value The number in question.
 * @return {!Kotlin.Long} The corresponding Long value.
 *
 * Kotlin.Long.fromNumber = function(value) {
 * if (isNaN(value)) {
 * return Kotlin.Long.ZERO;
 * } else if (value <= -Kotlin.Long.TWO_PWR_63_DBL_) {
 * return Kotlin.Long.MIN_VALUE;
 * } else if (value + 1 >= Kotlin.Long.TWO_PWR_63_DBL_) {
 * return Kotlin.Long.MAX_VALUE;
 * } else if (value < 0) {
 * return Kotlin.Long.fromNumber(-value).negate();
 * } else {
 * return new Kotlin.Long(
 * (value % Kotlin.Long.TWO_PWR_32_DBL_) | 0,
 * (value / Kotlin.Long.TWO_PWR_32_DBL_) | 0);
 * };
 *
 * Returns a Long representing the 64-bit integer that comes by concatenating
 * the given high and low bits. Each is assumed to use 32 bits.
 * @param {number} lowBits The low 32-bits.
 * @param {number} highBits The high 32-bits.
 * @return {!Kotlin.Long} The corresponding Long value.
 *
 * Kotlin.Long.fromBits = function(lowBits, highBits) {
 * return new Kotlin.Long(lowBits, highBits);
 * };
 *
 * Returns a Long representation of the given string, written using the given
 * radix.
 * @param {string} str The textual representation of the Long.
 * @param {number=} opt_radix The radix in which the text is written.
 * @return {!Kotlin.Long} The corresponding Long value.
 *
 * Kotlin.Long.fromString = function(str, opt_radix) {
 * if (str.length == 0) {
 * throw Error('number format error: empty string');
 * }
 * var radix = opt_radix || 10;
 * if (radix < 2 || 36 < radix) {
 * throw Error('radix out of range: ' + radix);
 * }
 * if (str.charAt(0) == '-') {
 * return Kotlin.Long.fromString(str.substring(1), radix).negate();
 * } else if (str.indexOf('-') >= 0) {
 * throw Error('number format error: interior "-" character: ' + str);
 * }
 * // Do several (8) digits each time through the loop, so as to
 * // minimize the calls to the very expensive emulated div.
 * var radixToPower = Kotlin.Long.fromNumber(Math.pow(radix, 8));
 * var result = Kotlin.Long.ZERO;
 * for (var i = 0; i < str.length; i += 8) {
 * var size = Math.min(8, str.length - i);
 * var value = parseInt(str.substring(i, i + size), radix);
 * if (size < 8) {
 * var power = Kotlin.Long.fromNumber(Math.pow(radix, size));
 * result = result.multiply(power).add(Kotlin.Long.fromNumber(value));
 * } else {
 * result = result.multiply(radixToPower);
 * result = result.add(Kotlin.Long.fromNumber(value));
 * }
 * }
 * return result;
 * };
 *
 * // NOTE: the compiler should inline these constant values below and then remove
 * // these variables, so there should be no runtime penalty for these.
 *
 * // Number used repeated below in calculations. This must appear before the
 * // first call to any from* function below.
 * @type {number}
 * @private
 * Kotlin.Long.TWO_PWR_16_DBL_ = 1 << 16;
 *
 * @type {number}
 * @private
 * Kotlin.Long.TWO_PWR_24_DBL_ = 1 << 24;
 *
 * @type {number}
 * @private
 * Kotlin.Long.TWO_PWR_32_DBL_ = Kotlin.Long.TWO_PWR_16_DBL_ *
 * Kotlin.Long.TWO_PWR_16_DBL_;
 *
 * @type {number}
 * @private
 * Kotlin.Long.TWO_PWR_31_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ / 2;
 *
 * @type {number}
 * @private
 * Kotlin.Long.TWO_PWR_48_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ *

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Kotlin.Long.TWO_PWR_16_DBL_;\n\n/**\n * @type {number}\n * @private\n *\nKotlin.Long.TWO_PWR_64_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ *
Kotlin.Long.TWO_PWR_32_DBL_;\n\n/**\n * @type {number}\n * @private\n *\nKotlin.Long.TWO_PWR_63_DBL_ =\n Kotlin.Long.TWO_PWR_64_DBL_ / 2;\n\n/** @type
{!Kotlin.Long} *\nKotlin.Long.ZERO = Kotlin.Long.fromInt(0);\n\n/** @type {!Kotlin.Long}
*\nKotlin.Long.ONE = Kotlin.Long.fromInt(1);\n\n/** @type {!Kotlin.Long} *\nKotlin.Long.NEG_ONE =
Kotlin.Long.fromInt(-1);\n\n/** @type {!Kotlin.Long} *\nKotlin.Long.MAX_VALUE =\n
Kotlin.Long.fromBits(0xFFFFFFFF | 0, 0x7FFFFFFF | 0);\n\n/** @type {!Kotlin.Long}
*\nKotlin.Long.MIN_VALUE = Kotlin.Long.fromBits(0, 0x80000000 | 0);\n\n/**\n * @type {!Kotlin.Long}\n *\n
@private\n *\nKotlin.Long.TWO_PWR_24_ = Kotlin.Long.fromInt(1 << 24);\n\n/** @return {number} The
value, assuming it is a 32-bit integer. *\nKotlin.Long.prototype.toInt = function() {\n return this.low_;\n};\n\n/**
@\n * @return {number} The closest floating-point representation to this value. *\nKotlin.Long.prototype.toNumber =
function() {\n return this.high_ * Kotlin.Long.TWO_PWR_32_DBL_ +\n
this.getLowBitsUnsigned();\n};\n\n/** @return {number} The 32-bit hashCode of this value.
*\nKotlin.Long.prototype.hashCode = function() {\n return this.high_ ^ this.low_;\n};\n\n/**\n * @param
{number=} opt_radix The radix in which the text should be written.\n * @return {string} The textual representation
of this value.\n * @override\n *\nKotlin.Long.prototype.toString = function(opt_radix) {\n var radix = opt_radix ||
10;\n if (radix < 2 || 36 < radix) {\n throw Error('radix out of range: ' + radix);\n }\n\n if (this.isZero()) {\n
return '0';\n }\n\n if (this.isNegative()) {\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n // We need to
change the Long value before it can be negated, so we remove\n // the bottom-most digit in this base and then
recurse to do the rest.\n var radixLong = Kotlin.Long.fromNumber(radix);\n var div = this.div(radixLong);\n
var rem = div.multiply(radixLong).subtract(this);\n return div.toString(radix) + rem.toInt().toString(radix);\n }
else {\n return '-' + this.negate().toString(radix);\n }\n }\n\n // Do several (6) digits each time through the loop,
so as to\n // minimize the calls to the very expensive emulated div.\n var radixToPower =
Kotlin.Long.fromNumber(Math.pow(radix, 6));\n var rem = this;\n var result = '';\n while (true) {\n var
remDiv = rem.div(radixToPower);\n var intVal = rem.subtract(remDiv.multiply(radixToPower)).toInt();\n var
digits = intVal.toString(radix);\n rem = remDiv;\n if (rem.isZero()) {\n return digits + result;\n } else {\n
while (digits.length < 6) {\n digits = '0' + digits;\n }\n result = '' + digits + result;\n }\n }\n};\n\n/**
@\n * @return {number} The high 32-bits as a signed value. *\nKotlin.Long.prototype.getHighBits = function() {\n
return this.high_;\n};\n\n/** @return {number} The low 32-bits as a signed value.
*\nKotlin.Long.prototype.getLowBits = function() {\n return this.low_;\n};\n\n/** @return {number} The low
32-bits as an unsigned value. *\nKotlin.Long.prototype.getLowBitsUnsigned = function() {\n return (this.low_ >=
0) ?\n this.low_ : Kotlin.Long.TWO_PWR_32_DBL_ + this.low_;\n};\n\n/**\n * @return {number} Returns
the number of bits needed to represent the absolute\n * value of this Long.\n
*\nKotlin.Long.prototype.getNumBitsAbs = function() {\n if (this.isNegative()) {\n if
(this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return 64;\n } else {\n return
this.negate().getNumBitsAbs();\n }\n } else {\n var val = this.high_ != 0 ? this.high_ : this.low_;\n for (var bit
= 31; bit > 0; bit--) {\n if ((val & (1 << bit)) != 0) {\n break;\n }\n }\n return this.high_ != 0 ? bit + 33
:\n bit + 1;\n }\n};\n\n/** @return {boolean} Whether this value is zero. *\nKotlin.Long.prototype.isZero =
function() {\n return this.high_ == 0 && this.low_ == 0;\n};\n\n/** @return {boolean} Whether this value is
negative. *\nKotlin.Long.prototype.isNegative = function() {\n return this.high_ < 0;\n};\n\n/** @return
{boolean} Whether this value is odd. *\nKotlin.Long.prototype.isOdd = function() {\n return (this.low_ & 1) ==
1;\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this
Long equals the other.\n *\nKotlin.Long.prototype.equalsLong = function(other) {\n return (this.high_ ==
other.high_) && (this.low_ == other.low_);\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare
against.\n * @return {boolean} Whether this Long does not equal the other.\n
*\nKotlin.Long.prototype.notEqualsLong = function(other) {\n return (this.high_ != other.high_) || (this.low_ !=
other.low_);\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean}

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Whether this Long is less than the other.\n *\nKotlin.Long.prototype.lessThan = function(other) {\n return
this.compare(other) < 0;\n};\n\n\n**\n * @param {Kotlin.Long} other Long to compare against.\n * @return
{boolean} Whether this Long is less than or equal to the other.\n *\nKotlin.Long.prototype.lessThanOrEqual =
function(other) {\n return this.compare(other) <= 0;\n};\n\n\n**\n * @param {Kotlin.Long} other Long to
compare against.\n * @return {boolean} Whether this Long is greater than the other.\n
*\nKotlin.Long.prototype.greaterThan = function(other) {\n return this.compare(other) > 0;\n};\n\n\n**\n *
@param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is greater than or
equal to the other.\n *\nKotlin.Long.prototype.greaterThanOrEqual = function(other) {\n return
this.compare(other) >= 0;\n};\n\n\n**\n * Compares this Long with the given one.\n * @param {Kotlin.Long}
other Long to compare against.\n * @return {number} 0 if they are the same, 1 if the this is greater, and -1\n * if
the given one is greater.\n *\nKotlin.Long.prototype.compare = function(other) {\n if (this.equalsLong(other)) {\n
return 0;\n }\n\n var thisNeg = this.isNegative();\n var otherNeg = other.isNegative();\n if (thisNeg &&
!otherNeg) {\n return -1;\n }\n if (!thisNeg && otherNeg) {\n return 1;\n }\n\n // at this point, the signs are the
same, so subtraction will not overflow\n if (this.subtract(other).isNegative()) {\n return -1;\n } else {\n return
1;\n }\n};\n\n\n**\n * @return {!Kotlin.Long} The negation of this value. *\nKotlin.Long.prototype.negate =
function() {\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.MIN_VALUE;\n } else
{\n return this.not().add(Kotlin.Long.ONE);\n }\n};\n\n\n**\n * Returns the sum of this and the given Long.\n *
@param {Kotlin.Long} other Long to add to this one.\n * @return {!Kotlin.Long} The sum of this and the given
Long.\n *\nKotlin.Long.prototype.add = function(other) {\n // Divide each number into 4 chunks of 16 bits, and
then sum the chunks.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 = this.low_
>>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ & 0xFFFF;\n
var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00
+= a00 + b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 + b16;\n c32 += c16 >>> 16;\n c16 &=
0xFFFF;\n c32 += a32 + b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 + b48;\n c48 &=
0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n**\n * Returns the
difference of this and the given Long.\n * @param {Kotlin.Long} other Long to subtract from this.\n * @return
{!Kotlin.Long} The difference of this and the given Long.\n *\nKotlin.Long.prototype.subtract = function(other)
{\n return this.add(other.negate());\n};\n\n\n**\n * Returns the product of this and the given long.\n * @param
{Kotlin.Long} other Long to multiply with this.\n * @return {!Kotlin.Long} The product of this and the other.\n
*\nKotlin.Long.prototype.multiply = function(other) {\n if (this.isZero()) {\n return Kotlin.Long.ZERO;\n } else
if (other.isZero()) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n
return other.isOdd() ? Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return this.isOdd() ? Kotlin.Long.MIN_VALUE :
Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n if (other.isNegative()) {\n return
this.negate().multiply(other.negate());\n } else {\n return this.negate().multiply(other).negate();\n }\n } else if
(other.isNegative()) {\n return this.multiply(other.negate()).negate();\n }\n\n // If both longs are small, use float
multiplication\n if (this.lessThan(Kotlin.Long.TWO_PWR_24_) &&\n
other.lessThan(Kotlin.Long.TWO_PWR_24_)) {\n return Kotlin.Long.fromNumber(this.toNumber() *
other.toNumber());\n }\n\n // Divide each long into 4 chunks of 16 bits, and then add up 4x4 products.\n // We can
skip products that would overflow.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 =
this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ &
0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00
= 0;\n c00 += a00 * b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 * b00;\n c32 += c16 >>> 16;\n
c16 &= 0xFFFF;\n c16 += a00 * b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 * b00;\n c48 +=
c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a16 * b16;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a00 *
b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 * b00 + a32 * b16 + a16 * b32 + a00 * b48;\n c48
&= 0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n**\n * Returns this
Long divided by the given one.\n * @param {Kotlin.Long} other Long by which to divide.\n * @return

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{!Kotlin.Long} This Long divided by the given one.\n *\nKotlin.Long.prototype.div = function(other) {\n if
(other.isZero()) {\n throw Error('division by zero');\n } else if (this.isZero()) {\n return Kotlin.Long.ZERO;\n
}\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n if (other.equalsLong(Kotlin.Long.ONE) |\n
other.equalsLong(Kotlin.Long.NEG_ONE)) {\n return Kotlin.Long.MIN_VALUE; // recall that -MIN_VALUE
== MIN_VALUE\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ONE;\n
} else {\n // At this point, we have |other| >= 2, so |this/other| < |MIN_VALUE|.\n var halfThis =
this.shiftRight(1);\n var approx = halfThis.div(other).shiftLeft(1);\n if
(approx.equalsLong(Kotlin.Long.ZERO)) {\n return other.isNegative() ? Kotlin.Long.ONE :
Kotlin.Long.NEG_ONE;\n } else {\n var rem = this.subtract(other.multiply(approx));\n var result =
approx.add(rem.div(other));\n return result;\n }\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n
if (other.isNegative()) {\n return this.negate().div(other.negate());\n } else {\n return
this.negate().div(other.negate());\n }\n } else if (other.isNegative()) {\n return
this.div(other.negate()).negate();\n }\n\n // Repeat the following until the remainder is less than other: find a\n //
floating-point that approximates remainder / other *from below*, add this\n // into the result, and subtract it from
the remainder. It is critical that\n // the approximate value is less than or equal to the real value so that the\n //
remainder never becomes negative.\n var res = Kotlin.Long.ZERO;\n var rem = this;\n while
(rem.greaterThanOrEqual(other)) {\n // Approximate the result of division. This may be a little greater or\n //
smaller than the actual value.\n var approx = Math.max(1, Math.floor(rem.toNumber() / other.toNumber()));\n\n
// We will tweak the approximate result by changing it in the 48-th digit or\n // the smallest non-fractional digit,
whichever is larger.\n var log2 = Math.ceil(Math.log(approx) / Math.LN2);\n var delta = (log2 <= 48) ? 1 :
Math.pow(2, log2 - 48);\n // Decrease the approximation until it is smaller than the remainder. Note\n // that if
it is too large, the product overflows and is negative.\n var approxRes = Kotlin.Long.fromNumber(approx);\n
var approxRem = approxRes.multiply(other);\n while (approxRem.isNegative() || approxRem.greaterThan(rem))
{\n approx -= delta;\n approxRes = Kotlin.Long.fromNumber(approx);\n approxRem =
approxRes.multiply(other);\n }\n\n // We know the answer can't be zero... and actually, zero would cause\n //
infinite recursion since we would make no progress.\n if (approxRes.isZero()) {\n approxRes =
Kotlin.Long.ONE;\n }\n\n res = res.add(approxRes);\n rem = rem.subtract(approxRem);\n }\n return
res;\n};\n\n/**\n * Returns this Long modulo the given one.\n * @param {Kotlin.Long} other Long by which to
mod.\n * @return {!Kotlin.Long} This Long modulo the given one.\n */\nKotlin.Long.prototype.modulo =
function(other) {\n return this.subtract(this.div(other).multiply(other));\n};\n\n/**\n * @return {!Kotlin.Long} The
bitwise-NOT of this value.\n */\nKotlin.Long.prototype.not = function() {\n return Kotlin.Long.fromBits(~this.low_,
~this.high_);\n};\n\n/**\n * Returns the bitwise-AND of this Long and the given one.\n * @param {Kotlin.Long}
other The Long with which to AND.\n * @return {!Kotlin.Long} The bitwise-AND of this and the other.\n
*/\nKotlin.Long.prototype.and = function(other) {\n return Kotlin.Long.fromBits(this.low_ & other.low_,\n
this.high_ & other.high_);\n};\n\n/**\n * Returns the bitwise-OR of this Long and the given one.\n *
@param {Kotlin.Long} other The Long with which to OR.\n * @return {!Kotlin.Long} The bitwise-OR of this and
the other.\n */\nKotlin.Long.prototype.or = function(other) {\n return Kotlin.Long.fromBits(this.low_ |
other.low_,\n this.high_ | other.high_);\n};\n\n/**\n * Returns the bitwise-XOR of this Long
and the given one.\n * @param {Kotlin.Long} other The Long with which to XOR.\n * @return {!Kotlin.Long}
The bitwise-XOR of this and the other.\n */\nKotlin.Long.prototype.xor = function(other) {\n return
Kotlin.Long.fromBits(this.low_ ^ other.low_,\n this.high_ ^ other.high_);\n};\n\n/**\n * Returns this Long with bits shifted to the left by the given amount.\n * @param {number} numBits The number of
bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the left by the given amount.\n
*/\nKotlin.Long.prototype.shiftLeft = function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n return
this;\n } else {\n var low = this.low_;\n if (numBits < 32) {\n var high = this.high_;\n return
Kotlin.Long.fromBits(\n low << numBits,\n (high << numBits) | (low >>> (32 - numBits)));\n } else
{\n return Kotlin.Long.fromBits(0, low << (numBits - 32));\n }\n }\n};\n\n/**\n * Returns this Long with

```



```

bits shifted to the right by the given amount.
 * @param {number} numBits The number of bits by which to shift.
 * @return {!Kotlin.Long} This shifted to the right by the given amount.
^
Kotlin.Long.prototype.shiftRight =
function(numBits) {
 numBits &= 63;
 if (numBits == 0) {
 return this;
 } else {
 var high = this.high_;
 if (numBits < 32) {
 var low = this.low_;
 return Kotlin.Long.fromBits(
 (low >>> numBits) | (high
<< (32 - numBits)),
 high >> numBits);
 } else {
 return Kotlin.Long.fromBits(
 high >>
(numBits - 32),
 high >= 0 ? 0 : -1);
 }
 }
};

Returns this Long with bits shifted to the right
by the given amount, with zeros placed into the new leading bits.
 * @param {number} numBits The number
of bits by which to shift.
 * @return {!Kotlin.Long} This shifted to the right by the given amount, with
zeros placed into the new leading bits.
^
Kotlin.Long.prototype.shiftRightUnsigned = function(numBits) {
 numBits
&= 63;
 if (numBits == 0) {
 return this;
 } else {
 var high = this.high_;
 if (numBits < 32) {
 var
low = this.low_;
 return Kotlin.Long.fromBits(
 (low >>> numBits) | (high << (32 - numBits)),
 high >>> numBits);
 } else if (numBits == 32) {
 return Kotlin.Long.fromBits(high, 0);
 } else {
 return Kotlin.Long.fromBits(high >>> (numBits - 32), 0);
 }
 }
};

// Support for
Kotlin
Kotlin.Long.prototype.equals = function (other) {
 return other instanceof Kotlin.Long &&
this.equalsLong(other);
};

Kotlin.Long.prototype.compareTo_11rb$ =
Kotlin.Long.prototype.compare;

Kotlin.Long.prototype.inc = function() {
 return
this.add(Kotlin.Long.ONE);
};

Kotlin.Long.prototype.dec = function() {
 return
this.add(Kotlin.Long.NEG_ONE);
};

Kotlin.Long.prototype.valueOf = function() {
 return
this.toNumber();
};

Kotlin.Long.prototype.unaryPlus = function() {
 return
this;
};

Kotlin.Long.prototype.unaryMinus = Kotlin.Long.prototype.negate;

Kotlin.Long.prototype.inv =
Kotlin.Long.prototype.not;

Kotlin.Long.prototype.rangeTo = function (other) {
 return new
Kotlin.kotlin.ranges.LongRange(this, other);
};

/*
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Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.
^
 * @param {string} id
 * @param {Object} declaration
^
Kotlin.defineModule = function (id, declaration) {
};

Kotlin.defineInlineFunction = function(tag, fun) {
 return fun;
};

Kotlin.wrapFunction = function(fun) {
 var f = function() {
 f = fun();
 return
f.apply(this, arguments);
 };
 return function() {
 return f.apply(this, arguments);
 };
};

Kotlin.isTypeOf = function(type) {
 return function (object) {
 return typeof object === type;
 };
};

Kotlin.isInstanceOf = function (klass) {
 return function (object) {
 return Kotlin.isType(object,
klass);
 };
};

Kotlin.orNull = function (fn) {
 return function (object) {
 return object == null ||
fn(object);
 };
};

Kotlin.andPredicate = function (a, b) {
 return function (object) {
 return a(object)
&& b(object);
 };
};

Kotlin.kotlinModuleMetadata = function (abiVersion, moduleName, data)
{
};

Kotlin.suspendCall = function(value) {
 return value;
};

Kotlin.coroutineResult = function(qualifier)
{
 throwMarkerError();
};

Kotlin.coroutineController = function(qualifier) {
 throwMarkerError();
};

Kotlin.coroutineReceiver = function(qualifier) {
 throwMarkerError();
};

Kotlin.setCoroutineResult = function(value, qualifier) {
 throwMarkerError();
};

Kotlin.getReifiedTypeParameterKType = function(typeParameter) {
 throwMarkerError();
};

function throwMarkerError() {
 throw new Error(
 "This marker function
should never be called. " +
 "Looks like compiler did not eliminate it properly. " +
 "Please, report
an issue if you caught this exception.");
}

Kotlin.getFunctionById = function(id, defaultValue) {
 return
function() {
 return defaultValue;
 };
};

/*
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Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.
^
Kotlin.compareTo = function (a, b) {
 var typeA = typeof a;
 if
(typeA === "number") {
 if (typeof b === "number") {
 return Kotlin.doubleCompareTo(a, b);
 }
 return Kotlin.primitiveCompareTo(a, b);
 }
 if (typeA === "string" || typeA === "boolean") {
 return Kotlin.primitiveCompareTo(a, b);
 }
 return
a.compareTo_11rb$(b);
};

Kotlin.primitiveCompareTo = function (a, b) {
 return a < b ? -1 : a > b ? 1 :
0;
};

Kotlin.doubleCompareTo = function (a, b) {
 if (a < b) return -1;
 if (a > b) return 1;
 if (a ===

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b) {\n if (a !== 0) return 0;\n\n var ia = 1 / a;\n return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n }\n\nreturn a !== a ? (b !== b ? 0 : 1) : -1;\n};\n\nKotlin.charInc = function (value) {\n return\nKotlin.toChar(value+1);\n};\n\nKotlin.charDec = function (value) {\n return Kotlin.toChar(value-\n1);\n};\n\nKotlin.imul = Math.imul || imul;\n\nKotlin.imulEmulated = imul;\n\nfunction imul(a, b) {\n return ((a &\n0xffff0000) * (b & 0xffff) + (a & 0xffff) * (b | 0)) | 0;\n}\n\n(function() {\n var buf = new ArrayBuffer(8);\n var\nbufFloat64 = new Float64Array(buf);\n var bufFloat32 = new Float32Array(buf);\n var bufInt32 = new\nInt32Array(buf);\n var lowIndex = 0;\n var highIndex = 1;\n\n bufFloat64[0] = -1; // bff00000_00000000\n if\n(bufInt32[lowIndex] !== 0) {\n lowIndex = 1;\n highIndex = 0;\n }\n\n Kotlin.doubleToBits =\nfunction(value) {\n return Kotlin.doubleToRawBits(isNaN(value) ? NaN : value);\n };\n\nKotlin.doubleToRawBits = function(value) {\n bufFloat64[0] = value;\n return\nKotlin.Long.fromBits(bufInt32[lowIndex], bufInt32[highIndex]);\n};\n\nKotlin.doubleFromBits =\nfunction(value) {\n bufInt32[lowIndex] = value.low_;\n bufInt32[highIndex] = value.high_;\n return\nbufFloat64[0];\n};\n\nKotlin.floatToBits = function(value) {\n return Kotlin.floatToRawBits(isNaN(value)\n? NaN : value);\n};\n\nKotlin.floatToRawBits = function(value) {\n bufFloat32[0] = value;\n return\nbufInt32[0];\n};\n\nKotlin.floatFromBits = function(value) {\n bufInt32[0] = value;\n return\nbufFloat32[0];\n};\n\n// returns zero value for number with positive sign bit and non-zero value for number\nwith negative sign bit.\nKotlin.doubleSignBit = function(value) {\n bufFloat64[0] = value;\n return\nbufInt32[highIndex] & 0x80000000;\n};\n\nKotlin.numberHashCode = function(obj) {\n if ((obj | 0) ===\nobj) {\n return obj | 0;\n }\n else {\n bufFloat64[0] = obj;\n return (bufInt32[highIndex]\n* 31 | 0) + bufInt32[lowIndex] | 0;\n }\n}\n\nKotlin.ensureNotNull = function(x) {\n return x != null\n? x : Kotlin.throwNPE();\n};\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language\ncontributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\nlicense/LICENSE.txt file.\n */\n\nif (typeof String.prototype.startsWith === "undefined") {\nString.prototype.startsWith = function(searchString, position) {\n position = position || 0;\n return\nthis.lastIndexOf(searchString, position) === position;\n};\n\nif (typeof String.prototype.endsWith ===\n"undefined") {\nString.prototype.endsWith = function(searchString, position) {\n var subjectString =\nthis.toString();\n if (position === undefined || position > subjectString.length) {\n position =\nsubjectString.length;\n }\n position -= searchString.length;\n var lastIndex =\nsubjectString.indexOf(searchString, position);\n return lastIndex !== -1 && lastIndex === position;\n}\n};\n\n// ES6 Math polyfills\n\nif (typeof Math.sign === "undefined") {\nMath.sign = function(x) {\n x = +x;\n // convert to a number\n if (x === 0 || isNaN(x)) {\n return Number(x);\n }\n return x > 0 ? 1 : -\n1;\n};\n\nif (typeof Math.trunc === "undefined") {\nMath.trunc = function(x) {\n if (isNaN(x)) {\nreturn NaN;\n }\n if (x > 0) {\n return Math.floor(x);\n }\n return Math.ceil(x);\n}\n};\n\n(function() {\n var epsilon = 2.220446049250313E-16;\n var taylor_2_bound = Math.sqrt(epsilon);\n var taylor_n_bound = Math.sqrt(taylor_2_bound);\n var upper_taylor_2_bound = 1/taylor_2_bound;\n var\nupper_taylor_n_bound = 1/taylor_n_bound;\n\n if (typeof Math.sinh === "undefined") {\nMath.sinh =\nfunction(x) {\n if (Math.abs(x) < taylor_n_bound) {\n var result = x;\n if (Math.abs(x) >\ntaylor_2_bound) {\n result += (x * x * x) / 6;\n }\n return result;\n } else {\n var y = Math.exp(x);\n var y1 = 1 / y;\n if (!isFinite(y)) return Math.exp(x - Math.LN2);\n if (!isFinite(y1)) return -Math.exp(-x - Math.LN2);\n return (y - y1) / 2;\n }\n};\n\nif (typeof Math.cosh === "undefined") {\nMath.cosh = function(x) {\n var y = Math.exp(x);\n var y1 = 1 / y;\n if (!isFinite(y) || !isFinite(y1)) return Math.exp(Math.abs(x) - Math.LN2);\n return (y\n+ y1) / 2;\n};\n\nif (typeof Math.tanh === "undefined") {\nMath.tanh = function(x){\n if\n(Math.abs(x) < taylor_n_bound) {\n var result = x;\n if (Math.abs(x) > taylor_2_bound) {\n result -= (x * x * x) / 3;\n }\n return result;\n }\n else {\n var a =\nMath.exp(+x), b = Math.exp(-x);\n return a === Infinity ? 1 : b === Infinity ? -1 : (a - b) / (a + b);\n }\n};\n\n// Inverse hyperbolic function implementations derived from boost special math functions,\n// Copyright Eric Ford & Hubert Holin 2001.\n\nif (typeof Math.asinh === "undefined") {\n var asinh =

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Math.min(offset, length);\n } \n function typedArraySlice(begin, end) {\n if (typeof end === "undefined")\n {\n end = this.length;\n }\n begin = normalizeOffset(begin || 0, this.length);\n end =\n Math.max(begin, normalizeOffset(end, this.length));\n return new this.constructor(this.subarray(begin, end));\n }\n\n var arrays = [Int8Array, Int16Array, Uint16Array, Int32Array, Float32Array, Float64Array];\n for (var i =\n 0; i < arrays.length; ++i) {\n var TypedArray = arrays[i];\n if (typeof TypedArray.prototype.fill ===\n "undefined") {\n TypedArray.prototype.fill = Array.prototype.fill;\n }\n if (typeof\n TypedArray.prototype.slice === "undefined") {\n Object.defineProperty(TypedArray.prototype, 'slice', {\n value: typedArraySlice\n });\n }\n }\n\n // Patch apply to work with TypedArrays if needed.\n try {\n (function() {}).apply(null, new Int32Array(0))\n } catch (e) {\n var apply =\n Function.prototype.apply;\n Object.defineProperty(Function.prototype, 'apply', {\n value: function(self,\n array) {\n return apply.call(this, self, [].slice.call(array));\n }\n });\n }\n\n // Patch map to\n work with TypedArrays if needed.\n for (var i = 0; i < arrays.length; ++i) {\n var TypedArray = arrays[i];\n if (typeof TypedArray.prototype.map === "undefined") {\n Object.defineProperty(TypedArray.prototype,\n 'map', {\n value: function(callback, self) {\n return [].slice.call(this).map(callback, self);\n }\n });\n }\n }\n\n // Patch sort to work with TypedArrays if needed.\n // TODO: consider to\n remove following function and replace it with `Kotlin.doubleCompareTo` (see misc.js)\n var\n totalOrderComparator = function (a, b) {\n if (a < b) return -1;\n if (a > b) return 1;\n\n if (a === b) {\n if (a !== 0) return 0;\n var ia = 1 / a;\n return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n }\n\n return a !== a ? (b !== b ? 0 : 1) : -1\n }; \n\n for (var i = 0; i < arrays.length; ++i) {\n var TypedArray =\n arrays[i];\n if (typeof TypedArray.prototype.sort === "undefined") {\n Object.defineProperty(TypedArray.prototype, 'sort', {\n value: function(compareFunction) {\n return Array.prototype.sort.call(this, compareFunction || totalOrderComparator);\n }\n });\n }\n }\n\n } \n\n); \n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use\n of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\nKotlin.Kind = {\n CLASS: "class",\n INTERFACE: "interface",\n OBJECT:\n "object"\n};\n\nKotlin.callGetter = function (thisObject, klass, propertyName) {\n var propertyDescriptor =\n Object.getOwnPropertyDescriptor(klass, propertyName);\n if (propertyDescriptor != null &&\n propertyDescriptor.get != null) {\n return propertyDescriptor.get.call(thisObject);\n }\n\n propertyDescriptor =\n Object.getOwnPropertyDescriptor(thisObject, propertyName);\n if (propertyDescriptor != null && "value" in\n propertyDescriptor) {\n return thisObject[propertyName];\n }\n\n return Kotlin.callGetter(thisObject,\n Object.getPrototypeOf(klass), propertyName);\n};\n\nKotlin.callSetter = function (thisObject, klass, propertyName,\n value) {\n var propertyDescriptor = Object.getOwnPropertyDescriptor(klass, propertyName);\n if\n (propertyDescriptor != null && propertyDescriptor.set != null) {\n propertyDescriptor.set.call(thisObject,\n value);\n return;\n }\n\n propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject,\n propertyName);\n if (propertyDescriptor != null && "value" in propertyDescriptor) {\n thisObject[propertyName] = value;\n return\n }\n\n Kotlin.callSetter(thisObject,\n Object.getPrototypeOf(klass), propertyName, value);\n};\n\nfunction isInheritanceFromInterface(ctor, iface) {\n if\n (ctor === iface) return true;\n\n var metadata = ctor.$metadata$;\n if (metadata != null) {\n var interfaces =\n metadata.interfaces;\n for (var i = 0; i < interfaces.length; i++) {\n if\n (isInheritanceFromInterface(interfaces[i], iface)) {\n return true;\n }\n }\n }\n\n var\n superPrototype = ctor.prototype != null ? Object.getPrototypeOf(ctor.prototype) : null;\n var superConstructor =\n superPrototype != null ? superPrototype.constructor : null;\n return superConstructor != null &&\n isInheritanceFromInterface(superConstructor, iface);\n}\n\n**\n * @param {*} object\n * @param\n {Function|Object} klass\n * @returns {Boolean}\n\nKotlin.isType = function (object, klass) {\n if (klass ===\n Object) {\n switch (typeof object) {\n case "string":\n case "number":\n case\n "boolean":\n case "function":\n return true;\n default:\n return object instanceof\n Object;\n }\n }\n\n if (object == null || klass == null || (typeof object !== 'object' && typeof object !==\n 'function')) {\n return false;\n }\n\n if (typeof klass === "function" && object instanceof klass) {\n

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return true;\n } \n\n var proto = Object.getPrototypeOf(klass);\n var constructor = proto != null ?
proto.constructor : null;\n if (constructor != null && \"$metadata$\" in constructor) {\n var metadata =
constructor.$metadata$;\n if (metadata.kind === Kotlin.Kind.OBJECT) {\n return object === klass;\n
} \n } \n\n var klassMetadata = klass.$metadata$;\n\n // In WebKit (JavaScriptCore) for some interfaces from
DOM typeof returns \"object\", nevertheless they can be used in RHS of instanceof\n if (klassMetadata == null)
{\n return object instanceof klass;\n } \n\n if (klassMetadata.kind === Kotlin.Kind.INTERFACE &&
object.constructor != null) {\n return isInheritanceFromInterface(object.constructor, klass);\n } \n\n return
false;\n};\n\nKotlin.isNumber = function (a) {\n return typeof a == \"number\" || a instanceof
Kotlin.Long;\n};\n\nKotlin.isChar = function (value) {\n return value instanceof
Kotlin.BoxedChar;\n};\n\nKotlin.isComparable = function (value) {\n var type = typeof value;\n\n return type
=== \"string\" ||\n type === \"boolean\" ||\n Kotlin.isNumber(value) ||\n Kotlin.isType(value,
Kotlin.kotlin.Comparable);\n};\n\nKotlin.isCharSequence = function (value) {\n return typeof value === \"string\"
|| Kotlin.isType(value, Kotlin.kotlin.CharSequence);\n};\n\n,null,\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\npublic class Enum<T> : Enum<T>> :
Comparable<Enum<T>> {\n @JsName(\"name$\") private var _name: String = \"\"\n @JsName(\"ordinal$\")
private var _ordinal: Int = 0\n\n val name: String\n get() = _name\n\n val ordinal: Int\n get() =
_ordinal\n\n override fun compareTo(other: Enum<T>) = ordinal.compareTo(other.ordinal)\n\n override fun
equals(other: Any?) = this === other\n\n override fun hashCode(): Int = js(\"Kotlin.identityHashCode\")(this)\n\n
override fun toString() = name\n\n companion object\n\n},null,\"/*\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName(\"ArraysKt\")\n\npackage
kotlin.collections\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\nimport kotlin.random.*\n\nimport
kotlin.ranges.contains\n\nimport kotlin.ranges.reversed\n\n\n/**\n * Returns 1st *element* from the array.\n * \n * If
the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T> Array<out T>.component1(): T
{\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun ByteArray.component1(): Byte {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun ShortArray.component1(): Short {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun IntArray.component1(): Int {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun LongArray.component1(): Long {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun FloatArray.component1(): Float {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DoubleArray.component1(): Double {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n

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*\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component1(): Boolean {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component1(): Char {\n return
get(0)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component2(): T {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component2(): Byte {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component2(): Short {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component2(): Int {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component2(): Long {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component2(): Float {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component2(): Double {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component2(): Boolean {\n return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component2(): Char {\n return
get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component3(): T {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component3(): Byte {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component3(): Short {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component3(): Int {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component3(): Long {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n

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*\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component3(): Float {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component3(): Double {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component3(): Boolean {\n return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component3(): Char {\n return
get(2)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component4(): T {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component4(): Byte {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component4(): Short {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component4(): Int {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component4(): Long {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component4(): Float {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component4(): Double {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component4(): Boolean {\n return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component4(): Char {\n return
get(3)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component5(): T {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component5(): Byte {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component5(): Short {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n

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*\/@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component5(): Int {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\/@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component5(): Long {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\/@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component5(): Float {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\/@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component5(): Double {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\/@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component5(): Boolean {\n return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\/@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component5(): Char {\n return
get(4)\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
<\/@kotlin.internal.OnlyInputTypes T> Array<out T>.contains(element: T): Boolean {\n return indexOf(element)
>= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
ByteArray.contains(element: Byte): Boolean {\n return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\n\npublic operator fun ShortArray.contains(element: Short): Boolean {\n return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
IntArray.contains(element: Int): Boolean {\n return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\n\npublic operator fun LongArray.contains(element: Long): Boolean {\n return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
FloatArray.contains(element: Float): Boolean {\n return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\n\npublic operator fun DoubleArray.contains(element: Double): Boolean {\n return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
BooleanArray.contains(element: Boolean): Boolean {\n return indexOf(element) >= 0\n}\n\n/**\n * Returns
`true` if [element] is found in the array.\n */\n\npublic operator fun CharArray.contains(element: Char): Boolean {\n return
indexOf(element) >= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsExcep] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun <T> Array<out T>.elementAt(index:
Int): T\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsExcep] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n\npublic
expect fun ByteArray.elementAt(index: Int): Byte\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsExcep] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun ShortArray.elementAt(index: Int):
Short\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsExcep] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n\npublic
expect fun IntArray.elementAt(index: Int): Int\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsExcep] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun LongArray.elementAt(index: Int):
Long\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsExcep] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n\npublic
expect fun FloatArray.elementAt(index: Int): Float\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsExcep] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun DoubleArray.elementAt(index: Int):

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Double\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*/\npublic expect fun BooleanArray.elementAt(index: Int): Boolean\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*/\npublic expect fun CharArray.elementAt(index: Int):
Char\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the
[index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Byte): Byte {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Short): Short {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Int): Int {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Long): Long {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Float): Float {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Double): Double {\n return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Boolean): Boolean {\n return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.elementAtOrNull(index: Int): T? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.elementAtOrNull(index: Int): Byte? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an element

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at the given [index] or `null` if the [index] is out of bounds of this array.\n \* \n \* @sample

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samples.collections.Collections.Elements.elementAtOrNull\n *^n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.elementAtOrNull(index: Int): Short? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.elementAtOrNull(index: Int): Int? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an element at
the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.elementAtOrNull(index: Int): Long? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.elementAtOrNull(index: Int): Float? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.elementAtOrNull(index: Int): Double? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.elementAtOrNull(index: Int): Boolean? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.elementAtOrNull(index: Int): Char? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns the first
element matching the given [predicate], or `null` if no such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.find(predicate: (T) -> Boolean): T? {\n
return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no
such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.find(predicate: (Byte) ->
Boolean): Byte? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if no such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.find(predicate: (Short) -> Boolean): Short? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun IntArray.find(predicate: (Int) -> Boolean): Int? {\n return
firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such
element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun LongArray.find(predicate: (Long) ->
Boolean): Long? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if no such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.find(predicate: (Float) -> Boolean): Float? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.find(predicate: (Double) -> Boolean): Double? {\n
return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no
such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.find(predicate:
(Boolean) -> Boolean): Boolean? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element
matching the given [predicate], or `null` if no such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun CharArray.find(predicate: (Char) -> Boolean): Char? {\n return
firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such
element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.findLast(predicate: (T) -> Boolean): T? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no
such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.findLast(predicate: (Byte) -
> Boolean): Byte? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n
*^n@kotlin.internal.InlineOnly\npublic inline fun

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ShortArray.findLast(predicate: (Short) -> Boolean): Short? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.findLast(predicate: (Int) -> Boolean): Int? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.findLast(predicate: (Long) -> Boolean): Long? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.findLast(predicate: (Float) -> Boolean): Float? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.findLast(predicate: (Double) -> Boolean): Double? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.findLast(predicate: (Boolean) -> Boolean): Boolean? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.findLast(predicate: (Char) -> Boolean): Char? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun <T> Array<out T>.first(): T {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun ByteArray.first(): Byte {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun ShortArray.first(): Short {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun IntArray.first(): Int {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun LongArray.first(): Long {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun FloatArray.first(): Float {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun DoubleArray.first(): Double {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun BooleanArray.first(): Boolean {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun CharArray.first(): Char {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Array<out T>.first(predicate: (T) -> Boolean): T {\n for (element in this) if (predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ByteArray.first(predicate: (Byte) -> Boolean): Byte {\n for (element in this) if (predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ShortArray.first(predicate: (Short) -> Boolean): Short {\n for (element in this) if (predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun IntArray.first(predicate: (Int) -> Boolean): Int {\n for (element in this) if (predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the

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predicate.\n}\n\n/\*\*\n \* Returns the first element matching the given [predicate].\n \* @throws  
 [NoSuchElementException] if no such element is found.\n \*/\npublic inline fun LongArray.first(predicate: (Long) -  
 > Boolean): Long {\n for (element in this) if (predicate(element)) return element\n throw  
 NoSuchElementException("Array contains no element matching the predicate.\n")\n}\n\n/\*\*\n \* Returns the first  
 element matching the given [predicate].\n \* @throws [NoSuchElementException] if no such element is found.\n  
 \*/\npublic inline fun FloatArray.first(predicate: (Float) -> Boolean): Float {\n for (element in this) if  
 (predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the  
 predicate.\n")\n}\n\n/\*\*\n \* Returns the first element matching the given [predicate].\n \* @throws  
 [NoSuchElementException] if no such element is found.\n \*/\npublic inline fun DoubleArray.first(predicate:  
 (Double) -> Boolean): Double {\n for (element in this) if (predicate(element)) return element\n throw  
 NoSuchElementException("Array contains no element matching the predicate.\n")\n}\n\n/\*\*\n \* Returns the first  
 element matching the given [predicate].\n \* @throws [NoSuchElementException] if no such element is found.\n  
 \*/\npublic inline fun BooleanArray.first(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if  
 (predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the  
 predicate.\n")\n}\n\n/\*\*\n \* Returns the first element matching the given [predicate].\n \* @throws  
 [NoSuchElementException] if no such element is found.\n \*/\npublic inline fun CharArray.first(predicate: (Char) ->  
 Boolean): Char {\n for (element in this) if (predicate(element)) return element\n throw  
 NoSuchElementException("Array contains no element matching the predicate.\n")\n}\n\n/\*\*\n \* Returns the first  
 element, or `null` if the array is empty.\n \*/\npublic fun <T> Array<out T>.firstOrNull(): T? {\n return if  
 (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns the first element, or `null` if the array is empty.\n \*/\npublic fun  
 ByteArray.firstOrNull(): Byte? {\n return if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns the first element, or  
 `null` if the array is empty.\n \*/\npublic fun ShortArray.firstOrNull(): Short? {\n return if (isEmpty()) null else  
 this[0]\n}\n\n/\*\*\n \* Returns the first element, or `null` if the array is empty.\n \*/\npublic fun IntArray.firstOrNull():  
 Int? {\n return if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns the first element, or `null` if the array is  
 empty.\n \*/\npublic fun LongArray.firstOrNull(): Long? {\n return if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \*  
 Returns the first element, or `null` if the array is empty.\n \*/\npublic fun FloatArray.firstOrNull(): Float? {\n  
 return if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns the first element, or `null` if the array is empty.\n  
 \*/\npublic fun DoubleArray.firstOrNull(): Double? {\n return if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns  
 the first element, or `null` if the array is empty.\n \*/\npublic fun BooleanArray.firstOrNull(): Boolean? {\n return  
 if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns the first element, or `null` if the array is empty.\n \*/\npublic fun  
 CharArray.firstOrNull(): Char? {\n return if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns the first element  
 matching the given [predicate], or `null` if element was not found.\n \*/\npublic inline fun <T> Array<out  
 T>.firstOrNull(predicate: (T) -> Boolean): T? {\n for (element in this) if (predicate(element)) return element\n  
 return null\n}\n\n/\*\*\n \* Returns the first element matching the given [predicate], or `null` if element was not  
 found.\n \*/\npublic inline fun ByteArray.firstOrNull(predicate: (Byte) -> Boolean): Byte? {\n for (element in this)  
 if (predicate(element)) return element\n return null\n}\n\n/\*\*\n \* Returns the first element matching the given  
 [predicate], or `null` if element was not found.\n \*/\npublic inline fun ShortArray.firstOrNull(predicate: (Short) ->  
 Boolean): Short? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/\*\*\n \*  
 Returns the first element matching the given [predicate], or `null` if element  
 was not found.\n \*/\npublic inline fun IntArray.firstOrNull(predicate: (Int) -> Boolean): Int? {\n for (element in this) if  
 (predicate(element)) return  
 element\n return null\n}\n\n/\*\*\n \* Returns the first element matching the given [predicate], or `null` if element  
 was not found.\n \*/\npublic inline fun LongArray.firstOrNull(predicate: (Long) -> Boolean): Long? {\n for  
 (element in this) if (predicate(element)) return element\n return null\n}\n\n/\*\*\n \* Returns the first element  
 matching the given [predicate], or `null` if element was not found.\n \*/\npublic inline fun  
 FloatArray.firstOrNull(predicate: (Float) -> Boolean): Float? {\n for (element in this) if (predicate(element))  
 return element\n return null\n}\n\n/\*\*\n \* Returns the first element matching the given [predicate], or `null` if  
 element was not found.\n \*/\npublic inline fun DoubleArray.firstOrNull(predicate: (Double) -> Boolean): Double?  
 {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/\*\*\n \* Returns the first

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element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun
BooleanArray.firstOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n for (element in this) if
(predicate(element)) return element\n return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n */\npublic inline fun CharArray.firstOrNull(predicate: (Char) ->
Boolean): Char? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n *
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of
bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.getOrNull(index: Int,
defaultValue: (Int) -> T): T {\n return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.getOrNull(index: Int, defaultValue: (Int) -> Byte): Byte {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.getOrNull(index: Int, defaultValue: (Int) -> Short):
Short {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns
an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of
this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.getOrNull(index: Int, defaultValue: (Int) ->
Int): Int {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n *
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of
bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.getOrNull(index: Int,
defaultValue: (Int) -> Long): Long {\n return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.getOrNull(index: Int, defaultValue: (Int) -> Float): Float {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.getOrNull(index: Int, defaultValue: (Int) ->
Double): Double {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n
* Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of
bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.getOrNull(index: Int,
defaultValue: (Int) -> Boolean): Boolean {\n return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.getOrNull(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this array.\n */\npublic fun <T> Array<out T>.getOrNull(index: Int): T? {\n return if
(index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or
`null` if the [index] is out of bounds of this array.\n */\npublic fun ByteArray.getOrNull(index: Int): Byte? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun ShortArray.getOrNull(index: Int):
Short? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun IntArray.getOrNull(index:
Int): Int? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun LongArray.getOrNull(index:
Int): Long? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun
FloatArray.getOrNull(index: Int): Float? {\n return if (index >= 0 && index <= lastIndex) get(index) else
null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n

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*^/npublic fun DoubleArray.getOrNull(index: Int): Double? {^/n return if (index >= 0 && index <= lastIndex)
get(index) else null^n/n/n/**^/n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this array.^/n
*^/npublic fun BooleanArray.getOrNull(index: Int): Boolean? {^/n return if (index >= 0 && index <=
lastIndex) get(index) else null^n/n/n/**^/n * Returns an element at the given [index] or `null` if the [index] is out of
bounds of this array.^/n
*^/npublic fun CharArray.getOrNull(index: Int): Char? {^/n return if (index >= 0 && index
<= lastIndex) get(index) else null^n/n/n/**^/n * Returns first index of [element], or -1 if the array does not contain
element.^/n
*^/npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.indexOf(element: T): Int {^/n if
(element == null) {^/n for (index in indices) {^/n if (this[index] == null) {^/n return index^n
}^/n }^/n } else {^/n for (index in indices) {^/n if (element == this[index]) {^/n return index^n
}^/n }^/n }^/n return -1^n/n/n/**^/n * Returns first index of [element], or -1 if the array does not contain
element.^/n
*^/npublic fun ByteArray.indexOf(element: Byte): Int {^/n for (index in indices) {^/n if (element ==
this[index]) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns first index of [element], or -1 if
the array does not contain element.^/n
*^/npublic fun ShortArray.indexOf(element: Short): Int {^/n for (index in
indices) {^/n if (element == this[index]) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns
first index of [element], or -1 if the array does not contain element.^/n
*^/npublic fun IntArray.indexOf(element: Int):
Int {^/n for (index in indices) {^/n if (element == this[index]) {^/n return index^n }^/n }^/n return -
1^n/n/n/**^/n * Returns first index of [element], or -1 if the array does not contain element.^/n
*^/npublic fun
LongArray.indexOf(element: Long): Int {^/n for (index in indices) {^/n if (element == this[index]) {^/n
return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns first index of [element], or -1 if the array does not
contain element.^/n
*^/npublic fun FloatArray.indexOf(element: Float): Int {^/n for (index in indices) {^/n if
(element == this[index]) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns first index of
[element], or -1 if the array does not contain element.^/n
*^/npublic fun DoubleArray.indexOf(element: Double): Int
{^/n for (index in indices) {^/n if (element == this[index]) {^/n return index^n }^/n }^/n return -
1^n/n/n/**^/n * Returns first index of [element], or -1 if the array does not contain element.^/n
*^/npublic fun
BooleanArray.indexOf(element: Boolean): Int {^/n for (index in indices) {^/n if (element == this[index]) {^/n
return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns first index of [element], or -1 if the array does not
contain element.^/n
*^/npublic fun CharArray.indexOf(element: Char): Int {^/n for (index in indices) {^/n if
(element == this[index]) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.^/n
*^/npublic inline fun <T>
Array<out T>.indexOfFirst(predicate: (T) -> Boolean): Int {^/n for (index in indices) {^/n if
(predicate(this[index])) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.^/n
*^/npublic inline fun
ByteArray.indexOfFirst(predicate: (Byte) -> Boolean): Int {^/n for (index in indices) {^/n if
(predicate(this[index])) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.^/n
*^/npublic inline fun
ShortArray.indexOfFirst(predicate: (Short) -> Boolean): Int {^/n for (index in indices) {^/n if
(predicate(this[index])) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.^/n
*^/npublic inline fun
IntArray.indexOfFirst(predicate: (Int) -> Boolean): Int {^/n for (index in indices) {^/n if (predicate(this[index]))
{^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns index of the first element matching the
given [predicate], or -1 if the array does not contain such element.^/n
*^/npublic inline fun
LongArray.indexOfFirst(predicate: (Long) -> Boolean): Int {^/n for (index in indices) {^/n if
(predicate(this[index])) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.^/n
*^/npublic inline fun
FloatArray.indexOfFirst(predicate: (Float) -> Boolean): Int {^/n for (index in indices) {^/n if
(predicate(this[index])) {^/n return index^n }^/n }^/n return -1^n/n/n/**^/n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.^/n
*^/npublic inline fun
DoubleArray.indexOfFirst(predicate: (Double) -> Boolean): Int {^/n for (index in indices) {^/n if

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(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
BooleanArray.indexOfFirst(predicate: (Boolean) -> Boolean): Int {\n for (index in indices) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
CharArray.indexOfFirst(predicate: (Char) -> Boolean): Int {\n for (index in indices) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T>
Array<out T>.indexOfLast(predicate: (T) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ByteArray.indexOfLast(predicate: (Byte) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfLast(predicate: (Short) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfLast(predicate: (Int) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
LongArray.indexOfLast(predicate: (Long) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
FloatArray.indexOfLast(predicate: (Float) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
DoubleArray.indexOfLast(predicate: (Double) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
BooleanArray.indexOfLast(predicate: (Boolean) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
CharArray.indexOfLast(predicate: (Char) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns the last element.\n */
@throws [NoSuchElementException] if the array is empty.\n */\npublic fun <T> Array<out T>.last(): T {\n if
(isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[lastIndex]\n}\n\n/**\n *
Returns the last element.\n */\n@throws [NoSuchElementException] if the array is empty.\n */\npublic fun
ByteArray.last(): Byte {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n@throws [NoSuchElementException] if the array is
empty.\n */\npublic fun ShortArray.last(): Short {\n if (isEmpty())\n throw NoSuchElementException("Array
is empty.")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n@throws
[NoSuchElementException] if the array is empty.\n */\npublic fun IntArray.last(): Int {\n if (isEmpty())\n
throw NoSuchElementException("Array is empty.")\n return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n */\n@throws [NoSuchElementException] if the array is empty.\n */\npublic fun LongArray.last(): Long {\n
if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[lastIndex]\n}\n\n/**\n *
Returns the last element.\n */\n@throws [NoSuchElementException] if the array is empty.\n */\npublic fun
FloatArray.last(): Float {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n@throws [NoSuchElementException] if the array is

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empty.\n */\npublic fun DoubleArray.last(): Double {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun BooleanArray.last(): Boolean {\n if
(isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun
CharArray.last(): Char {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
this[lastIndex]\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Array<out T>.last(predicate:
(T) -> Boolean): T {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun ByteArray.last(predicate: (Byte) ->
Boolean): Byte {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun ShortArray.last(predicate: (Short) ->
Boolean): Short {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun IntArray.last(predicate: (Int) ->
Boolean): Int {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun LongArray.last(predicate: (Long) ->
Boolean): Long {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun FloatArray.last(predicate: (Float) ->
Boolean): Float {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun DoubleArray.last(predicate:
(Double) -> Boolean): Double {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun BooleanArray.last(predicate:
(Boolean) -> Boolean): Boolean {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun CharArray.last(predicate: (Char) ->
Boolean): Char {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if
(predicate(element)) return element\n }\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain
element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.lastIndexOf(element: T): Int {\n if
(element == null) {\n for (index in indices.reversed()) {\n if (this[index] == null) {\n return
index\n }\n }\n } else {\n for (index in indices.reversed()) {\n if (element == this[index]) {\n
 return index\n }\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the
array does not contain element.\n */\npublic fun ByteArray.lastIndexOf(element: Byte): Int {\n for (index in

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indices.reversed()) {\n if (element == this[index]) {\n return index\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun
ShortArray.lastIndexOf(element: Short): Int {\n for (index in indices.reversed()) {\n if (element ==
this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if
the array does not contain element.\n */\npublic fun IntArray.lastIndexOf(element: Int): Int {\n for (index in
indices.reversed()) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun
LongArray.lastIndexOf(element: Long): Int {\n for (index in indices.reversed()) {\n if (element ==
this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if
the array does not contain element.\n */\npublic fun FloatArray.lastIndexOf(element: Float): Int {\n for (index in
indices.reversed()) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun
DoubleArray.lastIndexOf(element: Double): Int {\n for (index in indices.reversed()) {\n if (element ==
this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if
the array does not contain element.\n */\npublic fun BooleanArray.lastIndexOf(element: Boolean): Int {\n for
(index in indices.reversed()) {\n if (element == this[index]) {\n return index\n }\n }\n return -
1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun
CharArray.lastIndexOf(element: Char): Int {\n for (index in indices.reversed()) {\n if (element == this[index])
{\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns the last element, or `null` if the array is
empty.\n */\npublic fun <T> Array<out T>.lastOrNull(): T? {\n return if (isEmpty()) null else this[size -
1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun ByteArray.lastOrNull():
Byte? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is
empty.\n */\npublic fun ShortArray.lastOrNull(): Short? {\n return if (isEmpty()) null else this[size -
1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun IntArray.lastOrNull(): Int?
{\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is
empty.\n */\npublic fun LongArray.lastOrNull(): Long? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun FloatArray.lastOrNull(): Float? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*/\npublic fun DoubleArray.lastOrNull(): Double? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun BooleanArray.lastOrNull(): Boolean? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*/\npublic fun CharArray.lastOrNull(): Char? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns
the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun <T>
Array<out T>.lastOrNull(predicate: (T) -> Boolean): T? {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun
ByteArray.lastOrNull(predicate: (Byte) -> Boolean): Byte? {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun
ShortArray.lastOrNull(predicate: (Short) -> Boolean): Short? {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun
IntArray.lastOrNull(predicate: (Int) -> Boolean): Int? {\n for (index in this.indices.reversed()) {\n val element
= this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun
LongArray.lastOrNull(predicate: (Long) -> Boolean): Long? {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun

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FloatArray.lastOrNull(predicate: (Float) -> Boolean): Float? {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun
DoubleArray.lastOrNull(predicate: (Double) -> Boolean): Double? {\n for (index in this.indices.reversed()) {\n
val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun
BooleanArray.lastOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n for (index in this.indices.reversed()) {\n
val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns
the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun
CharArray.lastOrNull(predicate: (Char) -> Boolean): Char? {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns a
random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.random(): T {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.random(): Byte {\n return
random(Random)\n}\n\n/**\n * Returns a random element from
this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.random(): Short {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.random(): Int {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.random(): Long {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.random(): Float {\n return
random(Random)\n}\n\n/**\n * Returns a random element from
this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.random(): Double {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.random(): Boolean {\n return
random(Random)\n}\n\n/**\n * Returns a random element
from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.random(): Char {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n\npublic
fun <T> Array<out T>.random(random: Random): T {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n\npublic fun ByteArray.random(random: Random): Byte {\n if
(isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n\npublic fun ShortArray.random(random: Random): Short {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n\n*
\n@SinceKotlin("1.3")\n\npublic fun IntArray.random(random: Random): Int {\n if
(isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of

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randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun LongArray.random(random: Random): Long {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun FloatArray.random(random: Random): Float {\n if
(isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun DoubleArray.random(random: Random): Double {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun BooleanArray.random(random: Random): Boolean {\n
if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun CharArray.random(random: Random): Char {\n if (isEmpty())\n throw NoSuchElementException("Array
is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if
this array is empty.\n */\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Array<out T>.randomOrNull(): T? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.randomOrNull(): Byte? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.randomOrNull(): Short? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.randomOrNull(): Int? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from
this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.randomOrNull(): Long? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.randomOrNull(): Float? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.randomOrNull(): Double? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.randomOrNull(): Boolean? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.randomOrNull(): Char? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T> Array<out T>.randomOrNull(random:
Random): T? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a
random element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun ByteArray.randomOrNull(random: Random):

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Byte? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun ShortArray.randomOrNull(random: Random):
Short? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun IntArray.randomOrNull(random: Random): Int?
{\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element
from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun LongArray.randomOrNull(random: Random):
Long? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun FloatArray.randomOrNull(random: Random):
Float? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun DoubleArray.randomOrNull(random: Random):
Double? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun BooleanArray.randomOrNull(random: Random):
Boolean? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun CharArray.randomOrNull(random: Random):
Char? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns the single
element, or throws an exception if the array is empty or has more than one element.\n */\npublic fun <T> Array<out
T>.single(): T {\n return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 ->
this[0]\n else -> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n *
Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun ByteArray.single(): Byte {\n return when (size) {\n 0 -> throw NoSuchElementException("Array is
empty.")\n 1 -> this[0]\n else -> throw IllegalArgumentException("Array has more than one element.")\n
}\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun ShortArray.single(): Short {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun IntArray.single(): Int {\n
return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -
> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single
element, or throws an exception if the array is empty or has more than one element.\n */\npublic fun
LongArray.single(): Long {\n return when (size) {\n 0 -> throw NoSuchElementException("Array is
empty.")\n 1 -> this[0]\n else -> throw IllegalArgumentException("Array has more than one element.")\n
}\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun FloatArray.single(): Float {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun DoubleArray.single():
Double {\n return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 ->
this[0]\n else -> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n *
Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun BooleanArray.single(): Boolean {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one

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element.}\n } \n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more
than one element.\n */\npublic fun CharArray.single(): Char {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.}\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.}\n } \n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic
inline fun <T> Array<out T>.single(predicate: (T) -> Boolean): T {\n var single: T? = null\n var found = false\n
for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.}\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.}\n\n @Suppress("UNCHECKED_CAST")\n return single as T\n}\n\n/**\n * Returns the single element matching the
given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
ByteArray.single(predicate: (Byte) -> Boolean): Byte {\n var single: Byte? = null\n var found = false\n for
(element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.}\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.}\n\n @Suppress("UNCHECKED_CAST")\n return single as Byte\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
ShortArray.single(predicate: (Short) -> Boolean): Short {\n var single: Short? = null\n var found = false\n for
(element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.}\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.}\n\n @Suppress("UNCHECKED_CAST")\n return single as Short\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
IntArray.single(predicate: (Int) -> Boolean): Int {\n var single: Int? = null\n var found = false\n for (element in
this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array contains more
than one matching element.}\n single = element\n found = true\n }\n }\n if (!found) throw
NoSuchElementException("Array contains no element matching the predicate.}\n\n @Suppress("UNCHECKED_CAST")\n return single as Int\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
LongArray.single(predicate: (Long) -> Boolean): Long {\n var single: Long? = null\n var found = false\n for
(element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.}\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.}\n\n @Suppress("UNCHECKED_CAST")\n return single as Long\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
FloatArray.single(predicate: (Float) -> Boolean): Float {\n var single: Float? = null\n var found = false\n for
(element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.}\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.}\n\n @Suppress("UNCHECKED_CAST")\n return single as Float\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
DoubleArray.single(predicate: (Double) -> Boolean): Double {\n var single: Double? = null\n var found =
false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Array contains more than one matching element.}\n single = element\n
 found = true\n }\n }\n if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.}\n\n @Suppress("UNCHECKED_CAST")\n return single as Double\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n */\npublic inline fun BooleanArray.single(predicate: (Boolean) -> Boolean): Boolean {\n var single:

```

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Boolean? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found)
throw IllegalArgumentException("Array contains more than one matching element.")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException("Array contains no element
matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Boolean\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n */\npublic inline fun CharArray.single(predicate: (Char) -> Boolean): Char? {\n var single:
Char? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found)
throw IllegalArgumentException("Array contains more than one matching element.")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException("Array contains no element
matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as Char\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun <T> Array<out
T>.singleOrNull(): T? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if
the array is empty or has more than one element.\n */\npublic fun ByteArray.singleOrNull(): Byte? {\n return if
(size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one
element.\n */\npublic fun ShortArray.singleOrNull(): Short? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun
IntArray.singleOrNull(): Int? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or
`null` if the array is empty or has more than one element.\n */\npublic fun LongArray.singleOrNull(): Long? {\n
 return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun FloatArray.singleOrNull(): Float? {\n return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun DoubleArray.singleOrNull(): Double? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n */\npublic fun BooleanArray.singleOrNull():
Boolean? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is
empty or has more than one element.\n */\npublic fun CharArray.singleOrNull(): Char? {\n return if (size == 1)
this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not
found or more than one element was found.\n */\npublic inline fun <T> Array<out T>.singleOrNull(predicate: (T) -
> Boolean): T? {\n var single: T? = null\n var found = false\n for (element in this) {\n if
(predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or
`null` if element was not found or more than one element was found.\n */\npublic inline fun
ByteArray.singleOrNull(predicate: (Byte) -> Boolean): Byte? {\n var single: Byte? = null\n var found = false\n
for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n
 found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun ShortArray.singleOrNull(predicate: (Short) -> Boolean): Short? {\n var single: Short? = null\n var
found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single
= element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the
single element matching the given [predicate], or `null` if element was not found or more than one element was
found.\n */\npublic inline fun IntArray.singleOrNull(predicate: (Int) -> Boolean): Int? {\n var single: Int? = null\n
var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n
 single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one
element was found.\n */\npublic inline fun LongArray.singleOrNull(predicate: (Long) -> Boolean): Long? {\n var
single: Long? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if
(found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return
single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or
more than one element was found.\n */\npublic inline fun FloatArray.singleOrNull(predicate: (Float) -> Boolean):

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Float? {
 var single: Float? = null
 var found = false
 for (element in this) {
 if (predicate(element))
 if (found) return null
 single = element
 found = true
 }
 if (!found) return null
 return single
}

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

public inline fun DoubleArray.singleOrNull(predicate: (Double) -> Boolean): Double? {
 var single: Double? = null
 var found = false
 for (element in this) {
 if (predicate(element))
 if (found) return null
 single = element
 found = true
 }
 if (!found) return null
 return single
}

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

public inline fun BooleanArray.singleOrNull(predicate: (Boolean) -> Boolean): Boolean? {
 var single: Boolean? = null
 var found = false
 for (element in this) {
 if (predicate(element))
 if (found) return null
 single = element
 found = true
 }
 if (!found) return null
 return single
}

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

public inline fun CharArray.singleOrNull(predicate: (Char) -> Boolean): Char? {
 var single: Char? = null
 var found = false
 for (element in this) {
 if (predicate(element))
 if (found) return null
 single = element
 found = true
 }
 if (!found) return null
 return single
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun <T> Array<out T>.drop(n: Int): List<T> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun ByteArray.drop(n: Int): List<Byte> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun ShortArray.drop(n: Int): List<Short> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun IntArray.drop(n: Int): List<Int> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun LongArray.drop(n: Int): List<Long> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun FloatArray.drop(n: Int): List<Float> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun DoubleArray.drop(n: Int): List<Double> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws IllegalArgumentException if [n] is negative.

sample
samples.collections.Collections.Transformations.drop

public fun BooleanArray.drop(n: Int): List<Boolean> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return takeLast((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except first [n] elements.

@throws

```

IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun CharArray.drop(n: Int): List<Char> {\n  
require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return takeLast((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun <T> Array<out T>.dropLast(n: Int): List<T>  
{\n require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun ByteArray.dropLast(n: Int): List<Byte> {\n  
require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun ShortArray.dropLast(n: Int): List<Short> {\n  
require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun IntArray.dropLast(n: Int): List<Int> {\n  
require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun LongArray.dropLast(n: Int): List<Long> {\n  
require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun FloatArray.dropLast(n: Int): List<Float> {\n  
require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun DoubleArray.dropLast(n: Int): List<Double>  
{\n require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun BooleanArray.dropLast(n: Int):  
List<Boolean> {\n require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last [n] elements.\n \* \n \* @throws  
IllegalArgumentException if [n] is negative.\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic fun CharArray.dropLast(n: Int): List<Char> {\n  
require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n return take((size -  
n).coerceAtLeast(0))\n}\n\n/\*\*\n \* Returns a list containing all elements except last elements that satisfy the given  
[predicate].\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic inline fun <T>  
Array<out T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n for (index in lastIndex downTo 0) {\n if  
(!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/\*\*\n \* Returns  
a list containing all elements except last elements that satisfy the given [predicate].\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n \*\npublic inline fun ByteArray.dropLastWhile(predicate:  
(Byte) -> Boolean): List<Byte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n  
return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/\*\*\n \* Returns a list containing all elements  
except last elements that satisfy the given [predicate].\n \* \n \* @sample



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samples.collections.Collections.Transformations.drop\n *\npublic inline fun ShortArray.dropLastWhile(predicate:
(Short) -> Boolean): List<Short> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun IntArray.dropLastWhile(predicate:
(Int) -> Boolean): List<Int> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun LongArray.dropLastWhile(predicate:
(Long) -> Boolean): List<Long> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun FloatArray.dropLastWhile(predicate:
(Float) -> Boolean): List<Float> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun DoubleArray.dropLastWhile(predicate:
(Double) -> Boolean): List<Double> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun
BooleanArray.dropLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n } \n } \n return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun
CharArray.dropLastWhile(predicate: (Char) -> Boolean): List<Char> {\n for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun <T> Array<out
T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n var yielding = false\n val list = ArrayList<T>()\n for
(item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n
yielding = true\n } \n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that
satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun
ByteArray.dropWhile(predicate: (Byte) -> Boolean): List<Byte> {\n var yielding = false\n val list =
ArrayList<Byte>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n
list.add(item)\n yielding = true\n } \n return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ShortArray.dropWhile(predicate:
(Short) -> Boolean): List<Short> {\n var yielding = false\n val list = ArrayList<Short>()\n for (item in this)\n
if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding =
true\n } \n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the
given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun
IntArray.dropWhile(predicate: (Int) -> Boolean): List<Int> {\n var yielding = false\n val list =
ArrayList<Int>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n
list.add(item)\n yielding = true\n } \n return list\n}\n\n/**\n * Returns a list containing all elements
except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun LongArray.dropWhile(predicate:
(Long) -> Boolean): List<Long> {\n var yielding = false\n val list = ArrayList<Long>()\n for (item in this)\n

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 if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding =
true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun
FloatArray.dropWhile(predicate: (Float) -> Boolean): List<Float> {\n var yielding = false\n val list =
ArrayList<Float>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item))
{\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic inline fun DoubleArray.dropWhile(predicate:
(Double) -> Boolean): List<Double> {\n var yielding = false\n val list = ArrayList<Double>()\n for (item in
this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n
yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that
satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic
inline fun BooleanArray.dropWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n var yielding = false\n
val list = ArrayList<Boolean>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if
(!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list
containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic inline fun CharArray.dropWhile(predicate:
(Char) -> Boolean): List<Char> {\n var yielding = false\n val list = ArrayList<Char>()\n for (item in this)\n
if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding =
true\n }\n return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n
*/\npublic inline fun <T> Array<out T>.filter(predicate: (T) -> Boolean): List<T> {\n return
filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n */\npublic inline fun ByteArray.filter(predicate: (Byte) -> Boolean): List<Byte> {\n return
filterTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n */\npublic inline fun ShortArray.filter(predicate: (Short) -> Boolean): List<Short> {\n return
filterTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n */\npublic inline fun IntArray.filter(predicate: (Int) -> Boolean): List<Int> {\n return
filterTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n */\npublic inline fun LongArray.filter(predicate: (Long) -> Boolean): List<Long> {\n return
filterTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n */\npublic inline fun FloatArray.filter(predicate: (Float) -> Boolean): List<Float> {\n return
filterTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n */\npublic inline fun DoubleArray.filter(predicate: (Double) -> Boolean): List<Double> {\n return
filterTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n */\npublic inline fun BooleanArray.filter(predicate: (Boolean) -> Boolean): List<Boolean> {\n
return filterTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n */\npublic inline fun CharArray.filter(predicate: (Char) -> Boolean): List<Char> {\n return
filterTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and returns
the result of predicate evaluation on the element.\n */\npublic inline fun <T> Array<out T>.filterIndexed(predicate:
(index: Int, T) -> Boolean): List<T> {\n return filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a
list containing only elements matching the given [predicate].\n * \n * @param [predicate] function that takes the index of
an element and the element itself\n * and returns the result of predicate evaluation on the element.\n */\npublic inline
fun ByteArray.filterIndexed(predicate: (index: Int, Byte) -> Boolean): List<Byte> {\n return
filterIndexedTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n */\npublic inline fun ShortArray.filterIndexed(predicate:
(index: Int, Short) -> Boolean): List<Short> {\n return filterIndexedTo(ArrayList<Short>(), predicate)\n}\n\n/**\n

```

\* Returns a list containing only elements matching the given [predicate].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n\n \* ^\npublic inline fun IntArray.filterIndexed(predicate: (index: Int, Int) -> Boolean): List<Int> {\n return filterIndexedTo(ArrayList<Int>(), predicate)\n}\n\n/\*\*\n \* Returns a list containing only elements matching the given [predicate].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun LongArray.filterIndexed(predicate: (index: Int, Long) -> Boolean): List<Long> {\n return filterIndexedTo(ArrayList<Long>(), predicate)\n}\n\n/\*\*\n \* Returns a list containing only elements matching the given [predicate].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun FloatArray.filterIndexed(predicate: (index: Int, Float) -> Boolean): List<Float> {\n return filterIndexedTo(ArrayList<Float>(), predicate)\n}\n\n/\*\*\n \* Returns a list containing only elements matching the given [predicate].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun DoubleArray.filterIndexed(predicate: (index: Int, Double) -> Boolean): List<Double> {\n return filterIndexedTo(ArrayList<Double>(), predicate)\n}\n\n/\*\*\n \* Returns a list containing only elements matching the given [predicate].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun BooleanArray.filterIndexed(predicate: (index: Int, Boolean) -> Boolean): List<Boolean> {\n return filterIndexedTo(ArrayList<Boolean>(), predicate)\n}\n\n/\*\*\n \* Returns a list containing only elements matching the given [predicate].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun CharArray.filterIndexed(predicate: (index: Int, Char) -> Boolean): List<Char> {\n return filterIndexedTo(ArrayList<Char>(), predicate)\n}\n\n/\*\*\n \* Appends all elements matching the given [predicate] to the given [destination].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/\*\*\n \* Appends all elements matching the given [predicate] to the given [destination].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterIndexedTo(destination: C, predicate: (index: Int, Byte) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/\*\*\n \* Appends all elements matching the given [predicate] to the given [destination].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterIndexedTo(destination: C, predicate: (index: Int, Short) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/\*\*\n \* Appends all elements matching the given [predicate] to the given [destination].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun <C : MutableCollection<in Int>> IntArray.filterIndexedTo(destination: C, predicate: (index: Int, Int) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/\*\*\n \* Appends all elements matching the given [predicate] to the given [destination].\n \* @param [predicate] function that takes the index of an element and the element itself\n \* and returns the result of predicate evaluation on the element.\n \* ^\npublic inline fun <C : MutableCollection<in Long>> LongArray.filterIndexedTo(destination: C, predicate: (index: Int, Long) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/\*\*\n \* Appends all elements matching the given [predicate] to the given [destination].\n \* @param [predicate] function that takes the index of an element and

the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Float>> FloatArray.filterIndexedTo(destination: C, predicate: (index: Int, Float) -> Boolean): C {
 forEachIndexed { index, element ->
 if (predicate(index, element)) destination.add(element)
 }
 return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Double>> DoubleArray.filterIndexedTo(destination: C, predicate: (index: Int, Double) -> Boolean): C {
 forEachIndexed { index, element ->
 if (predicate(index, element)) destination.add(element)
 }
 return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterIndexedTo(destination: C, predicate: (index: Int, Boolean) -> Boolean): C {
 forEachIndexed { index, element ->
 if (predicate(index, element)) destination.add(element)
 }
 return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Char>> CharArray.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {
 forEachIndexed { index, element ->
 if (predicate(index, element)) destination.add(element)
 }
 return destination
}

```

Returns a list containing all elements that are instances of specified type parameter R.

```

public inline fun <reified R> Array<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {
 return filterIsInstanceTo(ArrayList<R>())
}

```

Appends all elements that are instances of specified type parameter R to the given [destination].

```

public inline fun <reified R, C : MutableCollection<in R>> Array<*>.filterIsInstanceTo(destination: C): C {
 for (element in this) if (element is R) destination.add(element)
 return destination
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun <T> Array<out T>.filterNot(predicate: (T) -> Boolean): List<T> {
 return filterNotTo(ArrayList<T>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun ByteArray.filterNot(predicate: (Byte) -> Boolean): List<Byte> {
 return filterNotTo(ArrayList<Byte>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun ShortArray.filterNot(predicate: (Short) -> Boolean): List<Short> {
 return filterNotTo(ArrayList<Short>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun IntArray.filterNot(predicate: (Int) -> Boolean): List<Int> {
 return filterNotTo(ArrayList<Int>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun LongArray.filterNot(predicate: (Long) -> Boolean): List<Long> {
 return filterNotTo(ArrayList<Long>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun FloatArray.filterNot(predicate: (Float) -> Boolean): List<Float> {
 return filterNotTo(ArrayList<Float>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun DoubleArray.filterNot(predicate: (Double) -> Boolean): List<Double> {
 return filterNotTo(ArrayList<Double>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun BooleanArray.filterNot(predicate: (Boolean) -> Boolean): List<Boolean> {
 return filterNotTo(ArrayList<Boolean>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun CharArray.filterNot(predicate: (Char) -> Boolean): List<Char> {
 return filterNotTo(ArrayList<Char>(), predicate)
}

```

Returns a list containing all elements that are not `null`.

```

public fun <T : Any> Array<out T?>.filterNotNull(): List<T> {
 return filterNotNullTo(ArrayList<T>())
}

```

Appends all elements that are not `null` to the given [destination].

```

public fun <C : MutableCollection<in T>, T : Any> Array<out T?>.filterNotNullTo(destination: C): C {
 for (element in this) if (element != null) destination.add(element)
 return destination
}

```

Appends all elements not matching the given [predicate] to the given [destination].

```

public inline fun <T, C : MutableCollection<in T>> Array<out T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {
 for

```



```

all elements matching the given [predicate] to the given [destination].\n */\npublic inline fun <C :
MutableCollection<in Char>> CharArray.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n for
(element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Returns a list
containing elements at indices in the specified [indices] range.\n */\npublic fun <T> Array<out T>.slice(indices:
IntRange): List<T> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start,
indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified
[indices] range.\n */\npublic fun ByteArray.slice(indices: IntRange): List<Byte> {\n if (indices.isEmpty()) return
listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list
containing elements at indices in the specified [indices] range.\n */\npublic fun ShortArray.slice(indices: IntRange):
List<Short> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun IntArray.slice(indices: IntRange): List<Int> {\n if (indices.isEmpty()) return listOf()\n return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun LongArray.slice(indices: IntRange): List<Long> {\n if
(indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun FloatArray.slice(indices: IntRange): List<Float> {\n if (indices.isEmpty()) return listOf()\n return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun DoubleArray.slice(indices: IntRange): List<Double> {\n
if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun BooleanArray.slice(indices: IntRange): List<Boolean> {\n if (indices.isEmpty()) return listOf()\n return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun CharArray.slice(indices: IntRange): List<Char> {\n if
(indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun <T> Array<out
T>.slice(indices: Iterable<Int>): List<T> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0)
return emptyList()\n val list = ArrayList<T>(size)\n for (index in indices) {\n list.add(get(index))\n }\n
return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun
ByteArray.slice(indices: Iterable<Int>): List<Byte> {\n val size = indices.collectionSizeOrDefault(10)\n if (size
== 0) return emptyList()\n val list = ArrayList<Byte>(size)\n for (index in indices) {\n list.add(get(index))\n
}\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun
ShortArray.slice(indices: Iterable<Int>): List<Short> {\n val size = indices.collectionSizeOrDefault(10)\n if
(size == 0) return emptyList()\n val list = ArrayList<Short>(size)\n for (index in indices) {\n
list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\n
public fun IntArray.slice(indices: Iterable<Int>): List<Int> {\n val size =
indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<Int>(size)\n for
(index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun LongArray.slice(indices: Iterable<Int>): List<Long> {\n val size =
indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<Long>(size)\n
for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun FloatArray.slice(indices: Iterable<Int>): List<Float> {\n val size =
indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<Float>(size)\n
for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun DoubleArray.slice(indices: Iterable<Int>): List<Double> {\n val
size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
ArrayList<Double>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n *
Returns a list containing elements at specified [indices].\n */\npublic fun BooleanArray.slice(indices: Iterable<Int>):

```

```

List<Boolean> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<Boolean>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun CharArray.slice(indices: Iterable<Int>): List<Char> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<Char>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun <T> Array<T>.sliceArray(indices: Collection<Int>): Array<T> {\n val result = arrayOfNulls(this, indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun ByteArray.sliceArray(indices: Collection<Int>): ByteArray {\n val result = ByteArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun ShortArray.sliceArray(indices: Collection<Int>): ShortArray {\n val result = ShortArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun IntArray.sliceArray(indices: Collection<Int>): IntArray {\n val result = IntArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun LongArray.sliceArray(indices: Collection<Int>): LongArray {\n val result = LongArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun FloatArray.sliceArray(indices: Collection<Int>): FloatArray {\n val result = FloatArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun DoubleArray.sliceArray(indices: Collection<Int>): DoubleArray {\n val result = DoubleArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun BooleanArray.sliceArray(indices: Collection<Int>): BooleanArray {\n val result = BooleanArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun CharArray.sliceArray(indices: Collection<Int>): CharArray {\n val result = CharArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun <T> Array<T>.sliceArray(indices: IntRange): Array<T> {\n if (indices.isEmpty()) return copyOfRange(0, 0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun ByteArray.sliceArray(indices: IntRange): ByteArray {\n if (indices.isEmpty()) return ByteArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun ShortArray.sliceArray(indices: IntRange): ShortArray {\n if (indices.isEmpty()) return ShortArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun IntArray.sliceArray(indices: IntRange): IntArray {\n if (indices.isEmpty()) return IntArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun LongArray.sliceArray(indices: IntRange): LongArray {\n if (indices.isEmpty()) return LongArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun FloatArray.sliceArray(indices: IntRange): FloatArray {\n if (indices.isEmpty()) return FloatArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun

```

```

DoubleArray.sliceArray(indices: IntRange): DoubleArray {\n if (indices.isEmpty()) return DoubleArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at\n indices in the specified [indices] range.\n */\npublic fun BooleanArray.sliceArray(indices: IntRange): BooleanArray\n {\n if (indices.isEmpty()) return BooleanArray(0)\n return copyOfRange(indices.start, indices.endInclusive +\n 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun\n CharArray.sliceArray(indices: IntRange): CharArray {\n if (indices.isEmpty()) return CharArray(0)\n return\n copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun <T> Array<out T>.take(n: Int): List<T> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=\n size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<T>(n)\n for\n (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns\n a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun ByteArray.take(n: Int): List<Byte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=\n size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Byte>(n)\n for\n (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns\n a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun ShortArray.take(n: Int): List<Short> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=\n size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Short>(n)\n for\n (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns\n a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun IntArray.take(n: Int): List<Int> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=\n size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Int>(n)\n for\n (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns\n a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun LongArray.take(n: Int): List<Long> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=\n size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Long>(n)\n for\n (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns\n a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun FloatArray.take(n: Int): List<Float> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=\n size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Float>(n)\n for\n (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns\n a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun DoubleArray.take(n: Int): List<Double> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=\n size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Double>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample\n samples.collections.Collections.Transformations.take\n */\npublic fun BooleanArray.take(n: Int):\n List<Boolean> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return\n emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list =\n ArrayList<Boolean>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws IllegalArgumentException if

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[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n * \n\npublic fun
CharArray.take(n: Int): List<Char> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if
(n == 0) return emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Char>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgumentOutOfRangeException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun <T> Array<out T>.takeLast(n: Int): List<T>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<T>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun ByteArray.takeLast(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Byte>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun ShortArray.takeLast(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Short>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun IntArray.takeLast(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Int>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun LongArray.takeLast(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Long>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun FloatArray.takeLast(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Float>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun DoubleArray.takeLast(n: Int): List<Double>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<Double>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n * \n\npublic fun BooleanArray.takeLast(n: Int):
List<Boolean> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return
emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list
= ArrayList<Boolean>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n * \n\npublic fun CharArray.takeLast(n: Int):
List<Char> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return

```

```

emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list
= ArrayList<Char>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun <T> Array<out
T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n for (index in lastIndex downTo 0) {\n if
(!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a
list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun ByteArray.takeLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic
inline fun ShortArray.takeLastWhile(predicate: (Short) -> Boolean): List<Short> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun IntArray.takeLastWhile(predicate: (Int)
-> Boolean): List<Int> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return
drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic inline fun
LongArray.takeLastWhile(predicate: (Long) -> Boolean): List<Long> {\n for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns
a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun FloatArray.takeLastWhile(predicate:
(Float) -> Boolean): List<Float> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic
inline fun DoubleArray.takeLastWhile(predicate: (Double) -> Boolean): List<Double> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun
BooleanArray.takeLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun CharArray.takeLastWhile(predicate:
(Char) -> Boolean): List<Char> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing first elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic
inline fun <T> Array<out T>.takeWhile(predicate: (T) -> Boolean): List<T> {\n val list = ArrayList<T>()\n for
(item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n *
Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun ByteArray.takeWhile(predicate: (Byte)
-> Boolean): List<Byte> {\n val list = ArrayList<Byte>()\n for (item in this) {\n if (!predicate(item))\n
break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic inline fun
ShortArray.takeWhile(predicate: (Short) -> Boolean): List<Short> {\n val list = ArrayList<Short>()\n for (item
in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a
list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun IntArray.takeWhile(predicate: (Int) ->
Boolean): List<Int> {\n val list = ArrayList<Int>()\n for (item in this) {\n if (!predicate(item))\n

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break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic inline fun
LongArray.takeWhile(predicate: (Long) -> Boolean): List<Long> {\n val list = ArrayList<Long>()\n for (item
in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a
list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun FloatArray.takeWhile(predicate:
(Float) -> Boolean): List<Float> {\n val list = ArrayList<Float>()\n for (item in this) {\n if
(!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\npublic inline fun DoubleArray.takeWhile(predicate: (Double) -> Boolean): List<Double> {\n val list =
ArrayList<Double>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n
return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun BooleanArray.takeWhile(predicate:
(Boolean) -> Boolean): List<Boolean> {\n val list = ArrayList<Boolean>()\n for (item in this) {\n if
(!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\npublic inline fun CharArray.takeWhile(predicate: (Char) -> Boolean): List<Char> {\n val list =
ArrayList<Char>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n
return list\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun <T> Array<T>.reverse(): Unit {\n
val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in
0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n
reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun ByteArray.reverse():
Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in
0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n
reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun ShortArray.reverse():
Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in
0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n
reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun IntArray.reverse():
Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in
0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n
reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun LongArray.reverse():
Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in
0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n
reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun FloatArray.reverse():
Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in
0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n
reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun
DoubleArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex =
lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n
this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n
*\npublic fun BooleanArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var
reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] =
this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the
array in-place.\n *\npublic fun CharArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0)
return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index]
= this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Returns a list with
elements in reversed order.\n *\npublic fun <T> Array<out T>.reversed(): List<T> {\n if (isEmpty()) return
emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements

```

```

in reversed order.\n */\npublic fun ByteArray.reversed(): List<Byte> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun ShortArray.reversed(): List<Short> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun IntArray.reversed(): List<Int> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun LongArray.reversed(): List<Long> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun FloatArray.reversed(): List<Float> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun DoubleArray.reversed(): List<Double> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun BooleanArray.reversed(): List<Boolean> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun CharArray.reversed(): List<Char> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun <T> Array<T>.reversedArray(): Array<T> {\n if (isEmpty()) return this\n val result = arrayOfNulls(this.size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ByteArray.reversedArray(): ByteArray {\n if (isEmpty()) return this\n val result = ByteArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ShortArray.reversedArray(): ShortArray {\n if (isEmpty()) return this\n val result = ShortArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun IntArray.reversedArray(): IntArray {\n if (isEmpty()) return this\n val result = IntArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun LongArray.reversedArray(): LongArray {\n if (isEmpty()) return this\n val result = LongArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun FloatArray.reversedArray(): FloatArray {\n if (isEmpty()) return this\n val result = FloatArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun DoubleArray.reversedArray(): DoubleArray {\n if (isEmpty()) return this\n val result = DoubleArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun BooleanArray.reversedArray(): BooleanArray {\n if (isEmpty()) return this\n val result = BooleanArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun CharArray.reversedArray(): CharArray {\n if (isEmpty()) return this\n val result = CharArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\nSorts elements in the array in-place according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortBy(crossinline selector: (T) -> R?): Unit {\n if (size > 1) sortBy(compareBy(selector))\n}\n\n/**\n * Sorts elements in the array in-place descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n if (size > 1) sortByDescending(selector)\n}\n\n/**\n * Sorts elements in the array in-place descending according

```

to their natural sort order. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public fun <T : Comparable<T>> Array<out T>.sortDescending(): Unit {
 sortWith(reverseOrder())
}

```

Sorts elements in the array in-place descending according to their natural sort order.

```

public fun ByteArray.sortDescending(): Unit {
 if (size > 1) {
 sort()
 reverse()
 }
}

```

Sorts elements in the array in-place descending according to their natural sort order.

```

public fun ShortArray.sortDescending(): Unit {
 if (size > 1) {
 sort()
 reverse()
 }
}

```

Sorts elements in the array in-place descending according to their natural sort order.

```

public fun IntArray.sortDescending(): Unit {
 if (size > 1) {
 sort()
 reverse()
 }
}

```

Sorts elements in the array in-place descending according to their natural sort order.

```

public fun LongArray.sortDescending(): Unit {
 if (size > 1) {
 sort()
 reverse()
 }
}

```

Sorts elements in the array in-place descending according to their natural sort order.

```

public fun FloatArray.sortDescending(): Unit {
 if (size > 1) {
 sort()
 reverse()
 }
}

```

Sorts elements in the array in-place descending according to their natural sort order.

```

public fun DoubleArray.sortDescending(): Unit {
 if (size > 1) {
 sort()
 reverse()
 }
}

```

Sorts elements in the array in-place descending according to their natural sort order.

```

public fun CharArray.sortDescending(): Unit {
 if (size > 1) {
 sort()
 reverse()
 }
}

```

Returns a list of all elements sorted according to their natural sort order. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public fun <T : Comparable<T>> Array<out T>.sorted(): List<T> {
 return sortedArray().asList()
}

```

Returns a list of all elements sorted according to their natural sort order.

```

public fun ByteArray.sorted(): List<Byte> {
 return toTypedArray().apply { sort() }.asList()
}

```

Returns a list of all elements sorted according to their natural sort order.

```

public fun ShortArray.sorted(): List<Short> {
 return toTypedArray().apply { sort() }.asList()
}

```

Returns a list of all elements sorted according to their natural sort order.

```

public fun IntArray.sorted(): List<Int> {
 return toTypedArray().apply { sort() }.asList()
}

```

Returns a list of all elements sorted according to their natural sort order.

```

public fun LongArray.sorted(): List<Long> {
 return toTypedArray().apply { sort() }.asList()
}

```

Returns a list of all elements sorted according to their natural sort order.

```

public fun FloatArray.sorted(): List<Float> {
 return toTypedArray().apply { sort() }.asList()
}

```

Returns a list of all elements sorted according to their natural sort order.

```

public fun DoubleArray.sorted(): List<Double> {
 return toTypedArray().apply { sort() }.asList()
}

```

Returns a list of all elements sorted according to their natural sort order.

```

public fun CharArray.sorted(): List<Char> {
 return toTypedArray().apply { sort() }.asList()
}

```

Returns an array with all elements of this array sorted according to their natural sort order. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public fun <T : Comparable<T>> Array<T>.sortedArray(): Array<T> {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted according to their natural sort order.

```

public fun ByteArray.sortedArray(): ByteArray {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted according to their natural sort order.

```

public fun ShortArray.sortedArray(): ShortArray {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted according to their natural sort order.

```

public fun IntArray.sortedArray(): IntArray {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted according to their natural sort order.

```

public fun LongArray.sortedArray(): LongArray {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted according to their natural sort order.

```

public fun FloatArray.sortedArray(): FloatArray {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted according to their natural sort order.

```

public fun DoubleArray.sortedArray(): DoubleArray {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted according to their natural sort order.

```

public fun CharArray.sortedArray(): CharArray {
 if (isEmpty()) return this
 return this.copyOf().apply { sort() }
}

```

Returns an array with all elements of this array sorted descending according to their natural sort order. The sort is `_stable_`. It means that equal

elements preserve their order relative to each other after sorting.

```

public fun <T : Comparable<T>>
Array<T>.sortedArrayDescending(): Array<T> {\n if (isEmpty()) return this\n return this.copyOf().apply {
sortWith(reverseOrder()) }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending
according to their natural sort order.\n */\npublic fun ByteArray.sortedArrayDescending(): ByteArray {\n if
(isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted descending according to their natural sort order.\n */\npublic fun
ShortArray.sortedArrayDescending(): ShortArray {\n if (isEmpty()) return this\n return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun IntArray.sortedArrayDescending(): IntArray {\n if (isEmpty()) return
this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this
array sorted descending according to their natural sort order.\n */\npublic fun LongArray.sortedArrayDescending():
LongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun
FloatArray.sortedArrayDescending(): FloatArray {\n if (isEmpty()) return this\n return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun DoubleArray.sortedArrayDescending(): DoubleArray {\n if (isEmpty())
return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted descending according to their natural sort order.\n */\npublic fun
CharArray.sortedArrayDescending(): CharArray {\n if (isEmpty()) return this\n return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Array<out T>.sortedArrayWith(comparator: Comparator<in T>): Array<out T>
{\n if (isEmpty()) return this\n return this.copyOf().apply { sortWith(comparator) }\n}\n\n/**\n * Returns a list
of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n *
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n
*/\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n
return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort
order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
ByteArray.sortedBy(crossinline selector: (Byte) -> R?): List<Byte> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
ShortArray.sortedBy(crossinline selector: (Short) -> R?): List<Short> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
IntArray.sortedBy(crossinline selector: (Int) -> R?): List<Int> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
LongArray.sortedBy(crossinline selector: (Long) -> R?): List<Long> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
FloatArray.sortedBy(crossinline selector: (Float) -> R?): List<Float> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
DoubleArray.sortedBy(crossinline selector: (Double) -> R?): List<Double> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
BooleanArray.sortedBy(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order

```

of the value returned by specified [selector] function.

```

public inline fun <R : Comparable<R>>
CharArray.sortedBy(crossinline selector: (Char) -> R?): List<Char> {
 return
 sortedWith(compareBy(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public inline fun <T, R : Comparable<R>>
Array<out T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> ByteArray.sortedByDescending(crossinline selector: (Byte) -> R?): List<Byte> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> ShortArray.sortedByDescending(crossinline selector: (Short) -> R?): List<Short> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> IntArray.sortedByDescending(crossinline selector: (Int) -> R?): List<Int> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> LongArray.sortedByDescending(crossinline selector: (Long) -> R?): List<Long> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> FloatArray.sortedByDescending(crossinline selector: (Float) -> R?): List<Float> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> DoubleArray.sortedByDescending(crossinline selector: (Double) -> R?): List<Double> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> BooleanArray.sortedByDescending(crossinline selector: (Boolean) -> R?): List<Boolean> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.

```

public inline fun <R :
Comparable<R>> CharArray.sortedByDescending(crossinline selector: (Char) -> R?): List<Char> {
 return
 sortedWith(compareByDescending(selector))
}

```

Returns a list of all elements sorted descending according to their natural sort order. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public fun <T : Comparable<T>> Array<out T>.sortedDescending():
List<T> {
 return sortedWith(reverseOrder())
}

```

Returns a list of all elements sorted descending according to their natural sort order.

```

public fun ByteArray.sortedDescending(): List<Byte> {
 return
 copyOf().apply { sort() }.reversed()
}

```

Returns a list of all elements sorted descending according to their natural sort order.

```

public fun ShortArray.sortedDescending(): List<Short> {
 return
 copyOf().apply { sort() }.reversed()
}

```

Returns a list of all elements sorted descending according to their natural sort order.

```

public fun IntArray.sortedDescending(): List<Int> {
 return
 copyOf().apply { sort() }.reversed()
}

```

Returns a list of all elements sorted descending according to their natural sort order.

```

public fun
LongArray.sortedDescending(): List<Long> {
 return
 copyOf().apply { sort() }.reversed()
}

```

Returns a list of all elements sorted descending according to their natural sort order.

```

public fun
FloatArray.sortedDescending(): List<Float> {
 return
 copyOf().apply { sort() }.reversed()
}

```

Returns a list of all elements sorted descending according to their natural sort order.

```

public fun
DoubleArray.sortedDescending(): List<Double> {
 return
 copyOf().apply { sort() }.reversed()
}

```

Returns a list of all elements sorted descending according to their natural sort order.

```

public fun
CharArray.sortedDescending(): List<Char> {
 return
 copyOf().apply { sort() }.reversed()
}

```

Returns a list of all elements sorted according to the specified [comparator]. The sort is `_stable_`. It means that equal

elements preserve their order relative to each other after sorting.

```

public fun <T> Array<out T>.sortedWith(comparator: Comparator<in T>): List<T> {
 return sortedArrayWith(comparator).asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun ByteArray.sortedWith(comparator: Comparator<in Byte>): List<Byte> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun ShortArray.sortedWith(comparator: Comparator<in Short>): List<Short> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun IntArray.sortedWith(comparator: Comparator<in Int>): List<Int> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun LongArray.sortedWith(comparator: Comparator<in Long>): List<Long> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun FloatArray.sortedWith(comparator: Comparator<in Float>): List<Float> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun DoubleArray.sortedWith(comparator: Comparator<in Double>): List<Double> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun BooleanArray.sortedWith(comparator: Comparator<in Boolean>): List<Boolean> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a list of all elements sorted according to the specified [comparator].

```

public fun CharArray.sortedWith(comparator: Comparator<in Char>): List<Char> {
 return toTypedArray().apply { sortWith(comparator) }.asList()
}

```

\* Returns a [List] that wraps the original array.

```

public expect fun <T> Array<out T>.asList(): List<T>

```

\* Returns a [List] that wraps the original array.

```

public expect fun ByteArray.asList(): List<Byte>

```

\* Returns a [List] that wraps the original array.

```

public expect fun ShortArray.asList(): List<Short>

```

\* Returns a [List] that wraps the original array.

```

public expect fun IntArray.asList(): List<Int>

```

\* Returns a [List] that wraps the original array.

```

public expect fun LongArray.asList(): List<Long>

```

\* Returns a [List] that wraps the original array.

```

public expect fun FloatArray.asList(): List<Float>

```

\* Returns a [List] that wraps the original array.

```

public expect fun DoubleArray.asList(): List<Double>

```

\* Returns a [List] that wraps the original array.

```

public expect fun BooleanArray.asList(): List<Boolean>

```

\* Returns a [List] that wraps the original array.

```

public expect fun CharArray.asList(): List<Char>

```

\* Returns `true` if the two specified arrays are *\*deeply\** equal to one another, i.e. contain the same number of the same elements in the same order.

\* If two corresponding elements are nested arrays, they are also compared deeply.

\* If any of arrays contains itself on any nesting level the behavior is undefined.

\* The elements of other types are compared for equality with the [equals][Any.equals] function.

\* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

```

@SinceKotlin("1.1")
public expect infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean

```

\* Returns a hash code based on the contents of this array as if it is [List].

\* Nested arrays are treated as lists too.

\* If any of arrays contains itself on any nesting level the behavior is undefined.

```

@SinceKotlin("1.1")
public expect fun <T> Array<out T>.contentDeepHashCode(): Int

```

\* Returns a string representation of the contents of this array as if it is a [List].

\* Nested arrays are treated as lists too.

\* If any of arrays contains itself on any nesting level that reference is rendered as `"[...]"` to prevent recursion.

\* @sample samples.collections.Arrays.ContentOperations.contentDeepToString

```

@SinceKotlin("1.1")
public expect fun <T> Array<out T>.contentDeepToString(): String

```

\* Returns `true` if the two specified arrays are *\*structurally\** equal to one another, i.e. contain the same number of the same elements in the same order.

\* The elements are compared for equality with the [equals][Any.equals] function.

\* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

```

@SinceKotlin("1.1")
public expect infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean

```

\* Returns `true` if the two specified arrays are *\*structurally\** equal to one another, i.e. contain the same number of the same elements in the same order.

\* The elements are compared for equality with the



[equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun ByteArray.contentEquals(other: ByteArray): Boolean\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun ShortArray.contentEquals(other: ShortArray): Boolean\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun IntArray.contentEquals(other: IntArray): Boolean\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun LongArray.contentEquals(other: LongArray): Boolean\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun FloatArray.contentEquals(other: FloatArray): Boolean\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n \*/\n@SinceKotlin("1.1")\npublic expect infix fun CharArray.contentEquals(other: CharArray): Boolean\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun <T> Array<out T>.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun ByteArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun ShortArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun IntArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun LongArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun FloatArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun DoubleArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun BooleanArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*/\n@SinceKotlin("1.1")\npublic expect fun CharArray.contentHashCode(): Int\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*/\n@SinceKotlin("1.1")\npublic expect fun <T> Array<out T>.contentToString(): String\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample

samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\npublic expect fun  
 ByteArray.contentToString(): String\n\n/\*\*\n \* Returns a string representation of the contents of the specified array  
 as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.1")\npublic expect fun ShortArray.contentToString(): String\n\n/\*\*\n \* Returns a string  
 representation of the contents of the specified array as if it is [List].\n \* \n \* @sample  
 samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\npublic expect fun  
 IntArray.contentToString(): String\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as  
 if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.1")\npublic expect fun LongArray.contentToString(): String\n\n/\*\*\n \* Returns a string  
 representation of the contents of the specified array as if it is [List].\n \* \n \* @sample  
 samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\npublic expect fun  
 FloatArray.contentToString(): String\n\n/\*\*\n \* Returns a string representation of the contents of the specified array  
 as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.1")\npublic expect fun DoubleArray.contentToString(): String\n\n/\*\*\n \* Returns a string  
 representation of the contents of the specified array as if it is [List].\n \* \n \* @sample  
 samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\npublic expect fun  
 BooleanArray.contentToString(): String\n\n/\*\*\n \* Returns a string representation of the contents of the specified  
 array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.1")\npublic expect fun CharArray.contentToString(): String\n\n/\*\*\n \* Copies this array or  
 its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the  
 [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param  
 destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by  
 default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param  
 endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws  
 IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this  
 array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange  
 doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the  
 [destination] array indices range.\n \* \n \* @return the [destination] array.\n \*^@SinceKotlin("1.3")\npublic  
 expect fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0,  
 endIndex: Int = size): Array<T>\n\n/\*\*\n \* Copies this array or its subrange into the [destination] array and returns  
 that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it  
 overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset  
 the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of  
 the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this  
 array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex]  
 or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws  
 IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified  
 [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the  
 [destination] array.\n \*^@SinceKotlin("1.3")\npublic expect fun ByteArray.copyInto(destination: ByteArray,  
 destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray\n\n/\*\*\n \* Copies this array or its  
 subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the  
 [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param  
 destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by  
 default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param  
 endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws  
 IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this  
 array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange  
 doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the

[destination] array indices range.  
`fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray`  
Copies this array or its subrange into the [destination] array and returns that array.  
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.  
@param destination the array to copy to.  
@param destinationOffset the position in the [destination] array to copy to, 0 by default.  
@param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.  
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.  
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.  
@throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],  
or when that index is out of the [destination] array indices range.  
@return the [destination] array.  
\*  
@SinceKotlin("1.3")  
public expect fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray  
Copies this array or its subrange into the [destination] array and returns that array.  
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.  
@param destination the array to copy to.  
@param destinationOffset the position in the [destination] array to copy to, 0 by default.  
@param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.  
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.  
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.  
@throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],  
or when that index is out of the [destination] array indices range.  
@return the [destination] array.  
\*  
@SinceKotlin("1.3")  
public expect fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray  
Copies this array or its subrange into the [destination] array and returns that array.  
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.  
@param destination the array to copy to.  
@param destinationOffset the position in the [destination] array to copy to, 0 by default.  
@param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.  
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.  
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.  
@throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],  
or when that index is out of the [destination] array indices range.  
@return the [destination] array.  
\*  
@SinceKotlin("1.3")  
public expect fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray  
Copies this array or its subrange into the [destination] array and returns that array.  
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.  
@param destination the array to copy to.  
@param destinationOffset the position in the [destination] array to copy to, 0 by default.  
@param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.  
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.  
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.  
@throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],  
or when that index is out of the [destination] array indices range.  
@return the [destination] array.  
\*  
@SinceKotlin("1.3")  
public expect fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray  
Copies this array or its subrange into the [destination] array and returns that array.  
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.  
@param destination the array to copy to.  
@param destinationOffset the position in the [destination] array to copy to, 0 by default.  
@param startIndex the beginning (inclusive) of the subrange to copy,

0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n

\*\n@SinceKotlin("1.3")\npublic expect fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray\n\n/\*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n \*/\n@SinceKotlin("1.3")\npublic expect fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\n@Suppress("NO\_ACTUAL\_FOR\_EXPECT")\npublic expect fun <T> Array<T>.copyOf(): Array<T>\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun ByteArray.copyOf(): ByteArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun ShortArray.copyOf(): ShortArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun IntArray.copyOf(): IntArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun LongArray.copyOf(): LongArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun FloatArray.copyOf(): FloatArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun DoubleArray.copyOf(): DoubleArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun BooleanArray.copyOf(): BooleanArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n \*/\npublic expect fun CharArray.copyOf(): CharArray\n\n/\*\*\n \* Returns new array which is a copy of the original array, resized to the given [newSize].\n \* \n \* The copy is either truncated or padded at the end with zero values if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* \n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n \*/\npublic expect fun ByteArray.copyOf(newSize: Int): ByteArray\n\n/\*\*\n \* Returns new array which is a copy of the original array, resized to the given [newSize].\n \* \n \* The copy is either truncated or padded at the end with zero values if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* \n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n \*/\npublic expect fun ShortArray.copyOf(newSize: Int): ShortArray\n\n/\*\*\n \* Returns new array which is a copy of the original array, resized to the given [newSize].\n \* \n \* The copy is either truncated or padded at the end with zero values

if necessary.

`Int[] copyOf(int newSize): Int[]`  
- If `[newSize]` is less than the size of the original array, the copy array is truncated to the `[newSize]`.  
- If `[newSize]` is greater than the size of the original array, the extra elements in the copy array are filled with zero values.

`Long[] copyOf(int newSize): Long[]`  
- If `[newSize]` is less than the size of the original array, the copy array is truncated to the `[newSize]`.  
- If `[newSize]` is greater than the size of the original array, the extra elements in the copy array are filled with zero values.

`Float[] copyOf(int newSize): Float[]`  
- If `[newSize]` is less than the size of the original array, the copy array is truncated to the `[newSize]`.  
- If `[newSize]` is greater than the size of the original array, the extra elements in the copy array are filled with zero values.

`Double[] copyOf(int newSize): Double[]`  
- If `[newSize]` is less than the size of the original array, the copy array is truncated to the `[newSize]`.  
- If `[newSize]` is greater than the size of the original array, the extra elements in the copy array are filled with zero values.

`Boolean[] copyOf(int newSize): Boolean[]`  
- If `[newSize]` is less than the size of the original array, the copy array is truncated to the `[newSize]`.  
- If `[newSize]` is greater than the size of the original array, the extra elements in the copy array are filled with `false` values.

`char[] copyOf(int newSize): char[]`  
- If `[newSize]` is less than the size of the original array, the copy array is truncated to the `[newSize]`.  
- If `[newSize]` is greater than the size of the original array, the extra elements in the copy array are filled with `0` values.

`Array<T> copyOf(int newSize): Array<T>`  
Returns a new array which is a copy of the original array, resized to the given `[newSize]`.  
The copy is either truncated or padded at the end with `0` values if necessary.

`Array<T> copyOfRange(int fromIndex, int toIndex): Array<T>`  
Returns a new array which is a copy of the specified range of the original array.  
- `fromIndex` the start of the range (inclusive), must be in `0..array.size - 1`.  
- `toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`.

`Byte[] copyOfRange(int fromIndex, int toIndex): Byte[]`  
Returns a new array which is a copy of the specified range of the original array.  
- `fromIndex` the start of the range (inclusive), must be in `0..array.size - 1`.  
- `toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`.

`Short[] copyOfRange(int fromIndex, int toIndex): Short[]`  
Returns a new array which is a copy of the specified range of the original array.  
- `fromIndex` the start of the range (inclusive), must be in `0..array.size - 1`.  
- `toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`.

the end of the range (exclusive), must be in `fromIndex..array.size`` `*/` `public expect fun`

`IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray` `*/` `*/` `*/` Returns a new array which is a copy of the specified range of the original array. `*/` `*/` `@param fromIndex` the start of the range (inclusive), must be in `0..array.size`` `*/` `@param toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`` `*/` `public expect fun`

`LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray` `*/` `*/` `*/` Returns a new array which is a copy of the specified range of the original array. `*/` `*/` `@param fromIndex` the start of the range (inclusive), must be in `0..array.size`` `*/` `@param toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`` `*/` `public expect fun`

`FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray` `*/` `*/` `*/` Returns a new array which is a copy of the specified range of the original array. `*/` `*/` `@param fromIndex` the start of the range (inclusive), must be in `0..array.size`` `*/` `@param toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`` `*/` `public expect fun`

`DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray` `*/` `*/` `*/` Returns a new array which is a copy of the specified range of the original array. `*/` `*/` `@param fromIndex` the start of the range (inclusive), must be in `0..array.size`` `*/` `@param toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`` `*/` `public expect fun`

`BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray` `*/` `*/` `*/` Returns a new array which is a copy of the specified range of the original array. `*/` `*/` `@param fromIndex` the start of the range (inclusive), must be in `0..array.size`` `*/` `@param toIndex` the end of the range (exclusive), must be in `fromIndex..array.size`` `*/` `public expect fun`

`CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray` `*/` `*/` `*/` Fills this array or its subrange with the specified [element] value. `*/` `*/` `@param fromIndex` the start of the range (inclusive), 0 by default. `*/` `@param toIndex` the end of the range (exclusive), size of this array by default. `*/` `*/` `@throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. `*/` `@throws IllegalArgumentException` if [fromIndex] is greater than [toIndex]. `*/` `@SinceKotlin("1.3")` `public expect fun`

`<T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit` `*/` `*/` `*/` Fills this array or its subrange with the specified [element] value. `*/` `*/` `@param fromIndex` the start of the range (inclusive), 0 by default. `*/` `@param toIndex` the end of the range (exclusive), size of this array by default. `*/` `*/` `@throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. `*/` `@throws IllegalArgumentException` if [fromIndex] is greater than [toIndex]. `*/` `@SinceKotlin("1.3")` `public expect fun`

`ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit` `*/` `*/` `*/` Fills this array or its subrange with the specified [element] value. `*/` `*/` `@param fromIndex` the start of the range (inclusive), 0 by default. `*/` `@param toIndex` the end of the range (exclusive), size of this array by default. `*/` `*/` `@throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. `*/` `@throws IllegalArgumentException` if [fromIndex] is greater than [toIndex]. `*/` `@SinceKotlin("1.3")` `public expect fun`

`ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit` `*/` `*/` `*/` Fills this array or its subrange with the specified [element] value. `*/` `*/` `@param fromIndex` the start of the range (inclusive), 0 by default. `*/` `@param toIndex` the end of the range (exclusive), size of this array by default. `*/` `*/` `@throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. `*/` `@throws IllegalArgumentException` if [fromIndex] is greater than [toIndex]. `*/` `@SinceKotlin("1.3")` `public expect fun`

`IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit` `*/` `*/` `*/` Fills this array or its subrange with the specified [element] value. `*/` `*/` `@param fromIndex` the start of the range (inclusive), 0 by default. `*/` `@param toIndex` the end of the range (exclusive), size of this array by default. `*/` `*/` `@throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. `*/` `@throws IllegalArgumentException` if [fromIndex] is greater than [toIndex]. `*/` `@SinceKotlin("1.3")` `public expect fun`

`LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit` `*/` `*/` `*/` Fills this array or its subrange with the specified [element] value. `*/` `*/` `@param fromIndex` the start of the range (inclusive), 0 by default. `*/` `@param toIndex` the end of the range (exclusive), size of this array by default. `*/` `*/` `@throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. `*/` `@throws IllegalArgumentException` if [fromIndex] is greater than [toIndex]. `*/` `@SinceKotlin("1.3")` `public expect fun`

`FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit` `*/` `*/` `*/` Fills this array or

its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive), 0 by default.\n \* @param toIndex the end of the range (exclusive), size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive), 0 by default.\n \* @param toIndex the end of the range (exclusive), size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive), 0 by default.\n \* @param toIndex the end of the range (exclusive), size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val <T> Array<out T>.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val ByteArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val ShortArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val IntArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val LongArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val FloatArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val DoubleArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val BooleanArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val CharArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isEmpty(): Boolean {\n return size == 0\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isNotEmpty(): Boolean {\n return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isNotEmpty(): Boolean {\n return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isNotEmpty(): Boolean {\n return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isNotEmpty(): Boolean {\n return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isNotEmpty(): Boolean {\n return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not

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empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isNotEmpty(): Boolean {\n return
 !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun DoubleArray.isNotEmpty(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
 empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isNotEmpty(): Boolean {\n return
 !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun CharArray.isNotEmpty(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns the last valid index for the
 array.\n */\npublic val <T> Array<out T>.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index
 for the array.\n */\npublic val ByteArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for
 the array.\n */\npublic val ShortArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the
 array.\n */\npublic val IntArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the
 array.\n */\npublic val LongArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the
 array.\n */\npublic val FloatArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the
 array.\n */\npublic val DoubleArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the
 array.\n */\npublic val BooleanArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the
 array.\n */\npublic val CharArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns an array containing all
 elements of the original array and then the given [element].\n */\n\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun <T> Array<T>.plus(element: T):
 Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n\npublic expect operator fun ByteArray.plus(element: Byte): ByteArray\n\n/**\n * Returns an array containing all
 elements of the original array and then the given [element].\n */\n\npublic expect operator fun
 ShortArray.plus(element: Short): ShortArray\n\n/**\n * Returns an array containing all elements of the original
 array and then the given [element].\n */\n\npublic expect operator fun IntArray.plus(element: Int): IntArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n\npublic expect
 operator fun LongArray.plus(element: Long): LongArray\n\n/**\n * Returns an array containing all elements of the
 original array and then the given [element].\n */\n\npublic expect operator fun FloatArray.plus(element: Float):
 FloatArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n\npublic expect operator fun DoubleArray.plus(element: Double): DoubleArray\n\n/**\n * Returns an array
 containing all elements of the original array and then the given [element].\n */\n\npublic expect operator fun
 BooleanArray.plus(element: Boolean): BooleanArray\n\n/**\n * Returns an array containing all elements of the
 original array and then the given [element].\n */\n\npublic expect operator fun CharArray.plus(element: Char):
 CharArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the
 given [elements] collection.\n */\n\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun <T>
 Array<T>.plus(elements: Collection<T>): Array<T>\n\n/**\n * Returns an array containing all elements of the
 original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator fun
 ByteArray.plus(elements: Collection<Byte>): ByteArray\n\n/**\n * Returns an array containing all elements of the
 original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator fun
 ShortArray.plus(elements: Collection<Short>): ShortArray\n\n/**\n * Returns an array containing all elements of
 the original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator fun
 IntArray.plus(elements: Collection<Int>): IntArray\n\n/**\n * Returns an array containing all elements of the
 original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator fun
 LongArray.plus(elements: Collection<Long>): LongArray\n\n/**\n * Returns an array containing all elements of the
 original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator fun
 FloatArray.plus(elements: Collection<Float>): FloatArray\n\n/**\n * Returns an array containing all elements of the
 original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator fun
 DoubleArray.plus(elements: Collection<Double>): DoubleArray\n\n/**\n * Returns an array containing all elements
 of the original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator fun
 BooleanArray.plus(elements: Collection<Boolean>): BooleanArray\n\n/**\n * Returns an array containing all
 elements of the original array and then all elements of the given [elements] collection.\n */\n\npublic expect operator

```



```

fun CharArray.plus(elements: Collection<Char>): CharArray\n\n/**\n * Returns an array containing all elements of
the original array and then all elements of the given [elements] array.\n
*\n@\n@Suppress("NO_ACTUAL_FOR_EXPECT")\n\npublic expect operator fun <T> Array<T>.plus(elements:
Array<out T>): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] array.\n *\n\npublic expect operator fun ByteArray.plus(elements: ByteArray):
ByteArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the
given [elements] array.\n *\n\npublic expect operator fun ShortArray.plus(elements: ShortArray):
ShortArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the
given [elements] array.\n *\n\npublic expect operator fun IntArray.plus(elements: IntArray): IntArray\n\n/**\n *
Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n
*\n\npublic expect operator fun LongArray.plus(elements: LongArray): LongArray\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] array.\n *\n\npublic expect
operator fun FloatArray.plus(elements: FloatArray): FloatArray\n\n/**\n * Returns an array containing all elements
of the original array and then all elements of the given [elements] array.\n *\n\npublic expect operator fun
DoubleArray.plus(elements: DoubleArray): DoubleArray\n\n/**\n * Returns an array containing all elements of the
original array and then all elements of the given [elements] array.\n *\n\npublic expect operator fun
BooleanArray.plus(elements: BooleanArray): BooleanArray\n\n/**\n * Returns an array containing all elements of
the original array and then all elements of the given [elements] array.\n *\n\npublic expect operator fun
CharArray.plus(elements: CharArray): CharArray\n\n/**\n * Returns an array containing all elements of the original
array and then the given [element].\n *\n@\n@Suppress("NO_ACTUAL_FOR_EXPECT")\n\npublic expect fun <T>
Array<T>.plusElement(element: T): Array<T>\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\n\npublic expect fun IntArray.sort(): Unit\n\n/**\n * Sorts the array
in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n *\n\npublic expect fun LongArray.sort():
Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n *\n\npublic
expect fun ByteArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\n\npublic expect fun ShortArray.sort(): Unit\n\n/**\n * Sorts the
array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n *\n\npublic expect fun
DoubleArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\n\npublic expect fun FloatArray.sort(): Unit\n\n/**\n * Sorts the
array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n *\n\npublic expect fun
CharArray.sort(): Unit\n\n/**\n * Sorts the array in-place according to the natural order of its elements.\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n *
@sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n *\n\npublic expect fun <T> :
Comparable<T>> Array<out T>.sort(): Unit\n\n/**\n * Sorts the array in-place according to the order specified by
the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n *\n\npublic expect fun <T> Array<out T>.sortWith(comparator: Comparator<in T>):
Unit\n\n/**\n * Returns an array of Boolean containing all of the elements of this generic array.\n *\n\npublic fun
Array<out Boolean>.toBooleanArray(): BooleanArray {\n return BooleanArray(size) { index -> this[index]
}\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this generic array.\n *\n\npublic fun
Array<out Byte>.toByteArray(): ByteArray {\n return ByteArray(size) { index -> this[index] }\n}\n\n/**\n *
Returns an array of Char containing all of the elements of this generic array.\n *\n\npublic fun Array<out
Char>.toCharArray(): CharArray {\n return CharArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an
array of Double containing all of the elements of this generic array.\n *\n\npublic fun Array<out
Double>.toDoubleArray(): DoubleArray {\n return DoubleArray(size) { index -> this[index] }\n}\n\n/**\n *
Returns an array of Float containing all of the elements of this generic array.\n *\n\npublic fun Array<out
Float>.toFloatArray(): FloatArray {\n return FloatArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an
array of Int containing all of the elements of this generic array.\n *\n\npublic fun Array<out Int>.toIntArray():
IntArray {\n return IntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Long containing all of

```

the elements of this generic array.

```

public fun Array<out Long>.toLongArray(): LongArray {
 return LongArray(size) { index -> this[index] }
}

```

\* Returns an array of Short containing all of the elements of this generic array.

```

public fun Array<out Short>.toShortArray(): ShortArray {
 return ShortArray(size) { index -> this[index] }
}

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun ByteArray.toTypedArray(): Array<Byte>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun ShortArray.toTypedArray(): Array<Short>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun IntArray.toTypedArray(): Array<Int>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun LongArray.toTypedArray(): Array<Long>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun FloatArray.toTypedArray(): Array<Float>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun DoubleArray.toTypedArray(): Array<Double>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun BooleanArray.toTypedArray(): Array<Boolean>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun CharArray.toTypedArray(): Array<Char>

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitives

```

```

public inline fun <T, K, V>
Array<out T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitives

```

```

public inline fun <K, V>
ByteArray.associate(transform: (Byte) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitives

```

```

public inline fun <K, V>
ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitives

```

```

public inline fun <K, V>
IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitives

```

```

public inline fun <K, V>
LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *\npublic inline fun <K, V>
FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *\npublic inline fun <K, V>
DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *\npublic inline fun <K, V>
BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *\npublic inline fun <K, V>
CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <T, K>
Array<out T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, T>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <K>
ByteArray.associateBy(keySelector: (Byte) -> K): Map<K, Byte> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Byte>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <K>
ShortArray.associateBy(keySelector: (Short) -> K): Map<K, Short> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Short>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <K>
IntArray.associateBy(keySelector: (Int) -> K): Map<K, Int> {\n val capacity =

```

```

mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Int>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
LongArray.associateBy(keySelector: (Long) -> K): Map<K, Long> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Long>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
FloatArray.associateBy(keySelector: (Float) -> K): Map<K, Float> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Float>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
DoubleArray.associateBy(keySelector: (Double) -> K): Map<K, Double> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Double>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
BooleanArray.associateBy(keySelector: (Boolean) -> K): Map<K, Boolean> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Boolean>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
CharArray.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <T, K, V> Array<out T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline

```

```

fun <K, V> ByteArray.associateBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateByTo(LinkedHashMap<K, V>(capacity),
 keySelector, valueTransform)
}

/**
 * Returns a [Map] containing the values provided by [valueTransform]
 * and indexed by [keySelector] functions applied to elements of the given array.
 * If any two elements would have the same key returned by [keySelector]
 * the last one gets added to the map.
 * The returned map preserves the entry iteration order of the original array.
 * @sample
 */
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform

public inline fun <K, V> ShortArray.associateBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateByTo(LinkedHashMap<K, V>(capacity),
 keySelector, valueTransform)
}

/**
 * Returns a [Map] containing the values provided by [valueTransform]
 * and indexed by [keySelector] functions applied to elements of the given array.
 * If any two elements would have the same key returned by [keySelector]
 * the last one gets added to the map.
 * The returned map preserves the entry iteration order of the original array.
 * @sample
 */
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform

public inline fun <K, V> IntArray.associateBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateByTo(LinkedHashMap<K, V>(capacity),
 keySelector, valueTransform)
}

/**
 * Returns a [Map] containing the values provided by [valueTransform]
 * and indexed by [keySelector] functions applied to elements of the given array.
 * If any two elements would have the same key returned by [keySelector]
 * the last one gets added to the map.
 * The returned map preserves the entry iteration order of the original array.
 * @sample
 */
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform

public inline fun <K, V> LongArray.associateBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateByTo(LinkedHashMap<K, V>(capacity),
 keySelector, valueTransform)
}

/**
 * Returns a [Map] containing the values provided by [valueTransform]
 * and indexed by [keySelector] functions applied to elements of the given array.
 * If any two elements would have the same key returned by [keySelector]
 * the last one gets added to the map.
 * The returned map preserves the entry iteration order of the original array.
 * @sample
 */
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform

public inline fun <K, V> FloatArray.associateBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateByTo(LinkedHashMap<K, V>(capacity),
 keySelector, valueTransform)
}

/**
 * Returns a [Map] containing the values provided by [valueTransform]
 * and indexed by [keySelector] functions applied to elements of the given array.
 * If any two elements would have the same key returned by [keySelector]
 * the last one gets added to the map.
 * The returned map preserves the entry iteration order of the original array.
 * @sample
 */
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform

public inline fun <K, V> DoubleArray.associateBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateByTo(LinkedHashMap<K, V>(capacity),
 keySelector, valueTransform)
}

/**
 * Returns a [Map] containing the values provided by [valueTransform]
 * and indexed by [keySelector] functions applied to elements of the given array.
 * If any two elements would have the same key returned by [keySelector]
 * the last one gets added to the map.
 * The returned map preserves the entry iteration order of the original array.
 * @sample
 */
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform

public inline fun <K, V> BooleanArray.associateBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, V> {
 val capacity = mapCapacity(size).coerceAtLeast(16)
 return associateByTo(LinkedHashMap<K, V>(capacity),
 keySelector, valueTransform)
}

/**
 * Returns a [Map] containing the values provided by [valueTransform]
 * and indexed by [keySelector] functions applied to elements of the given array.
 * If any two elements would have the same key returned by [keySelector]
 * the last one gets added to the map.
 * The returned map preserves the entry iteration order of the original array.
 * @sample
 */
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform

```

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> CharArray.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value
pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and
value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last
one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <T, K, M :
MutableMap<in K, in T>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Byte>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Short>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Int>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Long>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Float>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n *\npublic inline fun <K,
M : MutableMap<in K, in Double>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K): M
{\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function applied to each element of the given array\n * and value is the element

```

itself.  
 \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.  
 \* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo  
 public inline fun <K, M : MutableMap<in K, in Boolean>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K): M {  
   for (element in this) {  
     destination.put(keySelector(element), element)  
   }  
   return destination  
 }  
 \* Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function applied to each element of the given array and value is the element itself.  
 \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.  
 \* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo  
 public inline fun <K, M : MutableMap<in K, in Char>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K): M {  
   for (element in this) {  
     destination.put(keySelector(element), element)  
   }  
   return destination  
 }  
 \* Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array.  
 \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.  
 \* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform  
 public inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {  
   for (element in this) {  
     destination.put(keySelector(element), valueTransform(element))  
   }  
   return destination  
 }  
 \* Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array.  
 \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.  
 \* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform  
 public inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {  
   for (element in this) {  
     destination.put(keySelector(element), valueTransform(element))  
   }  
   return destination  
 }  
 \* Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array.  
 \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.  
 \* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform  
 public inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K, valueTransform: (Short) -> V): M {  
   for (element in this) {  
     destination.put(keySelector(element), valueTransform(element))  
   }  
   return destination  
 }  
 \* Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array.  
 \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.  
 \* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform  
 public inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K, valueTransform: (Int) -> V): M {  
   for (element in this) {  
     destination.put(keySelector(element), valueTransform(element))  
   }  
   return destination  
 }  
 \* Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array.  
 \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.  
 \* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform  
 public inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K, valueTransform: (Long) -> V): M {  
   for (element in this) {  
     destination.put(keySelector(element), valueTransform(element))  
   }  
   return destination  
 }  
 \* Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array.  
 \* If any two elements would have the

same key returned by [keySelector] the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform
public inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K, valueTransform: (Float) -> V): M {
 for (element in this) {
 destination.put(keySelector(element), valueTransform(element))
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform
public inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K, valueTransform: (Double) -> V): M {
 for (element in this) {
 destination.put(keySelector(element), valueTransform(element))
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform
public inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): M {
 for (element in this) {
 destination.put(keySelector(element), valueTransform(element))
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform
public inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K, valueTransform: (Char) -> V): M {
 for (element in this) {
 destination.put(keySelector(element), valueTransform(element))
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateTo(destination: M, transform: (Byte) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateTo(destination: M, transform: (Short) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateTo(destination: M, transform: (Int) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and



returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateTo(destination: M, transform: (Long) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateTo(destination: M, transform: (Float) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateTo(destination: M, transform: (Double) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateTo(destination: M, transform: (Boolean) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array. If any of two pairs would have the same key the last one gets added to the map.

```

@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
public inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <T, C : MutableCollection<in T>> Array<out T>.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Byte>> ByteArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Short>> ShortArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Int>> IntArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Long>> LongArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Float>> FloatArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Double>> DoubleArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Boolean>> BooleanArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Char>> CharArray.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
}

```

```

destination\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic fun <T> Array<out T>.toHashSet():
HashSet<T> {\n return toCollection(HashSet<T>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all
elements.\n */\npublic fun ByteArray.toHashSet(): HashSet<Byte> {\n return
toCollection(HashSet<Byte>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic
fun ShortArray.toHashSet(): HashSet<Short> {\n return
toCollection(HashSet<Short>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic
fun IntArray.toHashSet(): HashSet<Int> {\n return toCollection(HashSet<Int>(mapCapacity(size)))\n}\n\n/**\n *
Returns a [HashSet] of all elements.\n */\npublic fun LongArray.toHashSet(): HashSet<Long> {\n return
toCollection(HashSet<Long>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic
fun FloatArray.toHashSet(): HashSet<Float> {\n return
toCollection(HashSet<Float>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic
fun DoubleArray.toHashSet(): HashSet<Double> {\n return
toCollection(HashSet<Double>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic
fun BooleanArray.toHashSet(): HashSet<Boolean> {\n return
toCollection(HashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n
*/\npublic fun CharArray.toHashSet(): HashSet<Char> {\n return
toCollection(HashSet<Char>(mapCapacity(size)))\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun <T> Array<out T>.toList(): List<T> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun ByteArray.toList(): List<Byte> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun ShortArray.toList(): List<Short> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun IntArray.toList(): List<Int> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun LongArray.toList(): List<Long> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun FloatArray.toList(): List<Float> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun DoubleArray.toList(): List<Double> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun BooleanArray.toList(): List<Boolean> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun CharArray.toList(): List<Char> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a [MutableList] filled with all elements
of this array.\n */\npublic fun <T> Array<out T>.toMutableList(): MutableList<T> {\n return
ArrayList(this.asCollection())\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun ByteArray.toMutableList(): MutableList<Byte> {\n val list = ArrayList<Byte>(size)\n for (item
in this) list.add(item)\n return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun ShortArray.toMutableList(): MutableList<Short> {\n val list = ArrayList<Short>(size)\n for (item
in this) list.add(item)\n return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun IntArray.toMutableList(): MutableList<Int> {\n val list = ArrayList<Int>(size)\n for (item in this)
list.add(item)\n return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun LongArray.toMutableList(): MutableList<Long> {\n val list = ArrayList<Long>(size)\n for (item in this)
list.add(item)\n return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun FloatArray.toMutableList(): MutableList<Float> {\n val list = ArrayList<Float>(size)\n for (item in this)
list.add(item)\n return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun DoubleArray.toMutableList(): MutableList<Double> {\n val list = ArrayList<Double>(size)\n for (item in

```

```

this) list.add(item)\n return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n *\npublic fun BooleanArray.toMutableList(): MutableList<Boolean> {\n val list = ArrayList<Boolean>(size)\n for (item in this) list.add(item)\n return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n *\npublic fun CharArray.toMutableList(): MutableList<Char> {\n val list = ArrayList<Char>(size)\n for (item in this) list.add(item)\n return list\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun <T> Array<out T>.toSet(): Set<T> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun ByteArray.toSet(): Set<Byte> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun ShortArray.toSet(): Set<Short> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun IntArray.toSet(): Set<Int> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun LongArray.toSet(): Set<Long> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun FloatArray.toSet(): Set<Float> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun DoubleArray.toSet(): Set<Double> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun BooleanArray.toSet(): Set<Boolean> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun CharArray.toSet(): Set<Char> {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Char>(mapCapacity(size)))\n }\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <T, R> Array<out T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R> ByteArray.flatMap(transform: (Byte) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R> ShortArray.flatMap(transform: (Short) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R> IntArray.flatMap(transform: (Int) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R> LongArray.flatMap(transform:

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(Long) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *
\n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
FloatArray.flatMap(transform: (Float) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
DoubleArray.flatMap(transform: (Double) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
BooleanArray.flatMap(transform: (Boolean) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> CharArray.flatMap(transform:
(Char) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapTo(destination: C,
transform: (T) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n
destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> ByteArray.flatMapTo(destination: C, transform: (Byte) -> Iterable<R>): C
{\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
ShortArray.flatMapTo(destination: C, transform: (Short) -> Iterable<R>): C {\n for (element in this) {\n val
list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> IntArray.flatMapTo(destination: C,
transform: (Int) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n
destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> LongArray.flatMapTo(destination: C, transform: (Long) -> Iterable<R>): C
{\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
FloatArray.flatMapTo(destination: C, transform: (Float) -> Iterable<R>): C {\n for (element in this) {\n val
list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapTo(destination: C,
transform: (Double) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n
destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> BooleanArray.flatMapTo(destination: C, transform: (Boolean) ->
Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n
}\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being
invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> CharArray.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {\n for

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(element in this) {\n val list = transform(element)\n destination.addAll(list)\n } \n return
destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun
<T, K> Array<out T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return
groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups elements of the original
array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where
each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry
iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
ByteArray.groupBy(keySelector: (Byte) -> K): Map<K, List<Byte>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Byte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> ShortArray.groupBy(keySelector: (Short) -> K): Map<K, List<Short>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Short>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
IntArray.groupBy(keySelector: (Int) -> K): Map<K, List<Int>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Int>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> LongArray.groupBy(keySelector: (Long) -> K): Map<K, List<Long>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Long>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
FloatArray.groupBy(keySelector: (Float) -> K): Map<K, List<Float>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Float>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> DoubleArray.groupBy(keySelector: (Double) -> K): Map<K, List<Double>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Double>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
BooleanArray.groupBy(keySelector: (Boolean) -> K): Map<K, List<Boolean>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Boolean>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the

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entry iteration order of the keys produced from the original array.\n \* \n \* @sample

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samples.collections.Collections.Transformations.groupBy\n * \n * \n * public inline fun <K>
CharArray.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied
to each element of the original array\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n * \n * public inline fun <T, K, V>
Array<out T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n * \n * public inline fun <K, V>
ByteArray.groupBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n * \n * public inline fun <K, V>
ShortArray.groupBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n * \n * public inline fun <K, V>
IntArray.groupBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n * \n * public inline fun <K, V>
LongArray.groupBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n * \n * public inline fun <K, V>
FloatArray.groupBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys

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produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
DoubleArray.groupBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, List<V>> {\n
return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
BooleanArray.groupBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, List<V>> {\n
return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n *^\npublic inline fun <K, V>
CharArray.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <T, K, M : MutableMap<in K, MutableList<T>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -
> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key)
{ ArrayList<T>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <K, M : MutableMap<in K, MutableList<Byte>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -
> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key)
{ ArrayList<Byte>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <K, M : MutableMap<in K, MutableList<Short>>> ShortArray.groupByTo(destination: M, keySelector: (Short) -
-> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Short>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic
inline fun <K, M : MutableMap<in K, MutableList<Int>>> IntArray.groupByTo(destination: M,
keySelector: (Int) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Int>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic
inline fun <K, M : MutableMap<in K, MutableList<Long>>> LongArray.groupByTo(destination: M,
keySelector: (Long) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Long>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *

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Groups elements of the original array by the key returned by the given [keySelector] function\n \* applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n \* \n \* @return The [destination] map.\n \* \n \* @sample samples.collections.Collections.Transformations.groupBy\n \* \n \* public inline fun <K, M : MutableMap<in K, MutableList<Float>>> FloatArray.groupByTo(destination: M, keySelector: (Float) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Float>() }\n list.add(element)\n }\n return destination}\n \* \n \* Groups elements of the original array by the key returned by the given [keySelector] function\n \* applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n \* \n \* @return The [destination] map.\n \* \n \* @sample samples.collections.Collections.Transformations.groupBy\n \* \n \* public inline fun <K, M : MutableMap<in K, MutableList<Double>>> DoubleArray.groupByTo(destination: M, keySelector: (Double) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Double>() }\n list.add(element)\n }\n return destination}\n \* \n \* Groups elements of the original array by the key returned by the given [keySelector] function\n \* applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n \* \n \* @return The [destination] map.\n \* \n \* @sample samples.collections.Collections.Transformations.groupBy\n \* \n \* public inline fun <K, M : MutableMap<in K, MutableList<Boolean>>> BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Boolean>() }\n list.add(element)\n }\n return destination}\n \* \n \* Groups elements of the original array by the key returned by the given [keySelector] function\n \* applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n \* \n \* @return The [destination] map.\n \* \n \* @sample samples.collections.Collections.Transformations.groupBy\n \* \n \* public inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Char>() }\n list.add(element)\n }\n return destination}\n \* \n \* Groups values returned by the [valueTransform] function applied to each element of the original array\n \* by the key returned by the given [keySelector] function applied to the element\n \* and puts to the [destination] map each group key associated with a list of corresponding values.\n \* \n \* @return The [destination] map.\n \* \n \* @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n \* \n \* public inline fun <T, K, V, M : MutableMap<in K, MutableList<V>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination}\n \* \n \* Groups values returned by the [valueTransform] function applied to each element of the original array\n \* by the key returned by the given [keySelector] function applied to the element\n \* and puts to the [destination] map each group key associated with a list of corresponding values.\n \* \n \* @return The [destination] map.\n \* \n \* @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n \* \n \* public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination}\n \* \n \* Groups values returned by the [valueTransform] function applied to each element of the original array\n \* by the key returned by the given [keySelector] function applied to the element\n \* and puts to the [destination] map each group key associated with a list of corresponding values.\n \* \n \* @return The [destination] map.\n \* \n \* @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n \* \n \* public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ShortArray.groupByTo(destination: M, keySelector: (Short) -> K, valueTransform: (Short) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination}\n \* \n \* Groups values returned by the [valueTransform] function applied to each element of the original array\n \* by the key returned by the given [keySelector] function applied to the element\n \* and puts to the



```

[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> IntArray.groupByKeyTo(destination: M, keySelector:
(Int) -> K, valueTransform: (Int) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> LongArray.groupByKeyTo(destination: M, keySelector:
(Long) -> K, valueTransform: (Long) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> FloatArray.groupByKeyTo(destination: M, keySelector:
(Float) -> K, valueTransform: (Float) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> DoubleArray.groupByKeyTo(destination: M, keySelector:
(Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n val key =
keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n
list.add(valueTransform(element))\n }\n return destination}\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> BooleanArray.groupByKeyTo(destination: M, keySelector: (Boolean) -> K,
valueTransform: (Boolean) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> CharArray.groupByKeyTo(destination: M, keySelector:
(Char) -> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n}\n\n/**\n * Creates a [Grouping] source from an array to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n * \n\n@SinceKotlin("1.1")\n\npublic inline fun <T, K>
Array<out T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n return object : Grouping<T,
K> {\n override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n override fun
keyOf(element: T): K = keySelector(element)\n }\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element in the original array.\n * \n * @sample

```

```

samples.collections.Collections.Transformations.map\n *^\npublic inline fun <T, R> Array<out T>.map(transform:
(T) -> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R> ByteArray.map(transform: (Byte)
-> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R> ShortArray.map(transform:
(Short) -> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R> IntArray.map(transform: (Int) ->
R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the results
of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R> LongArray.map(transform:
(Long) -> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R> FloatArray.map(transform: (Float)
-> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R> DoubleArray.map(transform:
(Double) -> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R> BooleanArray.map(transform:
(Boolean) -> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list
containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.map\n *^\npublic inline fun <R>
CharArray.map(transform: (Char) -> R): List<R> {\n return mapTo<ArrayList<R>>(size), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element and its index in
the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n *^\npublic inline fun <T, R> Array<out
T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n return mapIndexedTo<ArrayList<R>>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element and its index in the original array.\n * @param [transform] function that takes the index of an element and
the element itself\n * and returns the result of the transform applied to the element.\n *^\npublic inline fun <R>
ByteArray.mapIndexed(transform: (index: Int, Byte) -> R): List<R> {\n return
mapIndexedTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n *^\npublic inline fun <R> ShortArray.mapIndexed(transform: (index: Int, Short) -> R): List<R> {\n
return mapIndexedTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n *^\npublic inline fun <R> IntArray.mapIndexed(transform: (index: Int, Int) -> R): List<R> {\n
return mapIndexedTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n *^\npublic inline fun <R> LongArray.mapIndexed(transform: (index: Int, Long) -> R): List<R> {\n
return mapIndexedTo<ArrayList<R>>(size), transform)\n}\n\n/**\n * Returns a list containing the results of
applying the given [transform] function\n * to each element and its index in the original array.\n * @param

```

[transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R> FloatArray.mapIndexed(transform: (index: Int, Float) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

```

Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R> DoubleArray.mapIndexed(transform: (index: Int, Double) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

```

Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R> BooleanArray.mapIndexed(transform: (index: Int, Boolean) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

```

Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R> CharArray.mapIndexed(transform: (index: Int, Char) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

```

Returns a list containing only the non-null results of applying the given [transform] function to each element and its index in the original array.

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <T, R : Any> Array<out T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {
 return mapIndexedNotNullTo(ArrayList<R>(), transform)
}

```

Applies the given [transform] function to each element and its index in the original array and appends only the non-null results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <T, R : Any, C : MutableCollection<in R>> Array<out T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {
 forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }
 return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>> ByteArray.mapIndexedTo(destination: C, transform: (index: Int, Byte) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>> ShortArray.mapIndexedTo(destination: C, transform: (index: Int, Short) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <R, C : MutableCollection<in R>> IntArray.mapIndexedTo(destination: C, transform: (index: Int, Int) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and

returns the result of the transform applied to the element.

```

*public inline fun <R, C : MutableCollection<in R>>
LongArray.mapIndexedTo(destination: C, transform: (index: Int, Long) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

\* Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

*public inline fun <R, C : MutableCollection<in R>>
FloatArray.mapIndexedTo(destination: C, transform: (index: Int, Float) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

\* Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

*public inline fun <R, C : MutableCollection<in R>>
DoubleArray.mapIndexedTo(destination: C, transform: (index: Int, Double) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

\* Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

*public inline fun <R, C : MutableCollection<in R>>
BooleanArray.mapIndexedTo(destination: C, transform: (index: Int, Boolean) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

\* Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

*public inline fun <R, C : MutableCollection<in R>>
CharArray.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {
 var index = 0
 for (item in this)
 destination.add(transform(index++, item))
 return destination
}

```

\* Returns a list containing only the non-null results of applying the given [transform] function to each element in the original array.

```

*public inline fun <T, R : Any> Array<out T>.mapNotNull(transform: (T) -> R?): List<R> {
 return mapNotNullTo(ArrayList<R>(), transform)
}

```

\* Applies the given [transform] function to each element in the original array and appends only the non-null results to the given [destination].

```

*public inline fun <T, R : Any, C : MutableCollection<in R>> Array<out T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {
 forEach { element -> transform(element)?.let { destination.add(it) }
 return destination
}

```

\* Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

*public inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapTo(destination: C, transform: (T) -> R): C {
 for (item in this)
 destination.add(transform(item))
 return destination
}

```

\* Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

*public inline fun <R, C : MutableCollection<in R>>
ByteArray.mapTo(destination: C, transform: (Byte) -> R): C {
 for (item in this)
 destination.add(transform(item))
 return destination
}

```

\* Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

*public inline fun <R, C : MutableCollection<in R>> ShortArray.mapTo(destination: C, transform: (Short) -> R): C {
 for (item in this)
 destination.add(transform(item))
 return destination
}

```

\* Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

*public inline fun <R, C : MutableCollection<in R>> IntArray.mapTo(destination: C, transform: (Int) -> R): C {
 for (item in this)
 destination.add(transform(item))
 return destination
}

```

\* Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

*public inline fun <R, C : MutableCollection<in R>> LongArray.mapTo(destination: C, transform: (Long) -> R): C {
 for (item in this)
 destination.add(transform(item))
 return destination
}

```

\* Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```

*public inline fun <R, C : MutableCollection<in R>> FloatArray.mapTo(destination: C, transform: (Float) -> R): C {
 for (item in this)
 destination.add(transform(item))
 return destination
}

```

\* Applies the given [transform]

```

function to each element of the original array\n * and appends the results to the given [destination].\n *\npublic
inline fun <R, C : MutableCollection<in R>> DoubleArray.mapTo(destination: C, transform: (Double) -> R): C {\n
 for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given
[transform] function to each element of the original array\n * and appends the results to the given [destination].\n
*\npublic inline fun <R, C : MutableCollection<in R>> BooleanArray.mapTo(destination: C, transform: (Boolean)
-> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies
the given [transform] function to each element of the original array\n * and appends the results to the given
[destination].\n *\npublic inline fun <R, C : MutableCollection<in R>> CharArray.mapTo(destination: C,
transform: (Char) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return
destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an
[IndexValue] containing the index of that element and the element itself.\n *\npublic fun <T> Array<out
T>.withIndex(): Iterable<IndexedValue<T>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a
lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that
element and the element itself.\n *\npublic fun ByteArray.withIndex(): Iterable<IndexedValue<Byte>> {\n return
IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n
* into an [IndexedValue] containing the index of that element and the element itself.\n *\npublic fun
ShortArray.withIndex(): Iterable<IndexedValue<Short>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the
index of that element and the element itself.\n *\npublic fun IntArray.withIndex(): Iterable<IndexedValue<Int>>
{\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the
original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n *\npublic
fun LongArray.withIndex(): Iterable<IndexedValue<Long>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n
* Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the
index of that element and the element itself.\n *\npublic fun FloatArray.withIndex():
Iterable<IndexedValue<Float>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable]
that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
element itself.\n *\npublic fun DoubleArray.withIndex(): Iterable<IndexedValue<Double>> {\n return
IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n
* into an [IndexedValue] containing the index of that element and the element itself.\n *\npublic fun
BooleanArray.withIndex(): Iterable<IndexedValue<Boolean>> {\n return IndexingIterable { iterator()
}\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue]
containing the index of that element and the element itself.\n *\npublic fun CharArray.withIndex():
Iterable<IndexedValue<Char>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic fun <T> Array<out
T>.distinct(): List<T> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct
elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the
source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic
fun ByteArray.distinct(): List<Byte> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic fun ShortArray.distinct():
List<Short> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements
from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic fun
IntArray.distinct(): List<Int> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only
distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were

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in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n
*\npublic fun LongArray.distinct(): List<Long> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a
list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic fun FloatArray.distinct():
List<Float> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements
from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic fun
DoubleArray.distinct(): List<Double> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list
containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic fun BooleanArray.distinct():
List<Boolean> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct
elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the
source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic
fun CharArray.distinct(): List<Char> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing
only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The
elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic inline fun <T, K> Array<out
T>.distinctBy(selector: (T) -> K): List<T> {\n val set = HashSet<K>()\n val list = ArrayList<T>()\n for (e in
this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n *
Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector]
function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n *
@sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic inline fun <K>
ByteArray.distinctBy(selector: (Byte) -> K): List<Byte> {\n val set = HashSet<K>()\n val list =
ArrayList<Byte>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic inline fun <K>
ShortArray.distinctBy(selector: (Short) -> K): List<Short> {\n val set = HashSet<K>()\n val list =
ArrayList<Short>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic inline fun <K>
IntArray.distinctBy(selector: (Int) -> K): List<Int> {\n val set = HashSet<K>()\n val list = ArrayList<Int>()\n
for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n *
Returns a list containing only elements from the given array\n * having distinct keys returned by the given
[selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic inline
fun <K> LongArray.distinctBy(selector: (Long) -> K): List<Long> {\n val set = HashSet<K>()\n val list =
ArrayList<Long>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic inline fun <K>
FloatArray.distinctBy(selector: (Float) -> K): List<Float> {\n val set = HashSet<K>()\n val list =

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ArrayList<Float>() \n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n were in the source array.\n * \n * @sample\n samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\n DoubleArray.distinctBy(selector: (Double) -> K): List<Double> {\n val set = HashSet<K>()\n val list =\n ArrayList<Double>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n were in the source array.\n * \n * @sample\n samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\n BooleanArray.distinctBy(selector: (Boolean) -> K): List<Boolean> {\n val set = HashSet<K>()\n val list =\n ArrayList<Boolean>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n were in the source array.\n * \n * @sample\n samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\n CharArray.distinctBy(selector: (Char) -> K): List<Char> {\n val set = HashSet<K>()\n val list =\n ArrayList<Char>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified\n collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set\n containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun <T>\n Array<out T>.intersect(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified\n collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set\n containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun\n ByteArray.intersect(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified\n collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set\n containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun\n ShortArray.intersect(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this\n array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original\n array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use\n [union].\n */\npublic infix fun\n IntArray.intersect(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this\n array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original\n array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use\n [union].\n */\npublic infix fun\n LongArray.intersect(other: Iterable<Long>): Set<Long> {\n val set =\n this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are\n contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration\n order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these\n collections use [union].\n */\npublic infix fun\n FloatArray.intersect(other: Iterable<Float>): Set<Float> {\n val set =\n this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that\n are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration\n order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these\n collections use [union].\n */\npublic infix fun\n DoubleArray.intersect(other: Iterable<Double>): Set<Double> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all

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elements that are contained by both this array and the specified collection.

`BooleanArray.intersect(other: Iterable<Boolean>): Set<Boolean>` { \n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by both this array and the specified collection.

`CharArray.intersect(other: Iterable<Char>): Set<Char>` { \n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`<T> Array<out T>.subtract(other: Iterable<T>): Set<T>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`ByteArray.subtract(other: Iterable<Byte>): Set<Byte>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`ShortArray.subtract(other: Iterable<Short>): Set<Short>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`IntArray.subtract(other: Iterable<Int>): Set<Int>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`LongArray.subtract(other: Iterable<Long>): Set<Long>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`FloatArray.subtract(other: Iterable<Float>): Set<Float>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`DoubleArray.subtract(other: Iterable<Double>): Set<Double>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`BooleanArray.subtract(other: Iterable<Boolean>): Set<Boolean>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

`CharArray.subtract(other: Iterable<Char>): Set<Char>` { \n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n } \n \* Returns a mutable set containing all distinct elements from the given array.

`<T> Array<out T>.toMutableSet(): MutableSet<T>` { \n val set = LinkedHashSet<T>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n } \n \* Returns a mutable set containing all distinct elements from the given array.

`ByteArray.toMutableSet(): MutableSet<Byte>` { \n val set = LinkedHashSet<Byte>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n } \n \* Returns a mutable set containing all distinct elements from the given array.

`ShortArray.toMutableSet(): MutableSet<Short>` { \n val set = LinkedHashSet<Short>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n } \n \* Returns a mutable set containing all distinct elements from the given array.



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IntArray.toMutableSet(): MutableSet<Int> {\n val set = LinkedHashSet<Int>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n}\n\n/**\n * Returns a mutable set containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
LongArray.toMutableSet(): MutableSet<Long> {\n val set = LinkedHashSet<Long>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n}\n\n/**\n * Returns a mutable set containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
FloatArray.toMutableSet(): MutableSet<Float> {\n val set = LinkedHashSet<Float>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n}\n\n/**\n * Returns a mutable set containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
DoubleArray.toMutableSet(): MutableSet<Double> {\n val set = LinkedHashSet<Double>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n}\n\n/**\n * Returns a mutable set containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\n\n/**\n * Returns a mutable set containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun BooleanArray.toMutableSet(): MutableSet<Boolean> {\n val set = LinkedHashSet<Boolean>(mapCapacity(size))\n for (item in this) set.add(item)\n return set\n}\n\n/**\n * Returns a mutable set containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun <T> Array<out T>.union(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun ByteArray.union(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun ShortArray.union(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun IntArray.union(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun LongArray.union(other: Iterable<Long>): Set<Long> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun FloatArray.union(other: Iterable<Float>): Set<Float> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use

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[intersect].\n *\npublic infix fun DoubleArray.union(other: Iterable<Double>): Set<Double> {\n val set =
this.toMutableSet()\n set.addAll(other)\n return set}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those
elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n *
\n * To get a set containing all elements that are contained in both collections use [intersect].\n *\npublic infix fun
BooleanArray.union(other: Iterable<Boolean>): Set<Boolean> {\n val set = this.toMutableSet()\n
set.addAll(other)\n return set}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n *
\n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other]
collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set
containing all elements that are contained in both collections use [intersect].\n *\npublic infix fun
CharArray.union(other: Iterable<Char>): Set<Char> {\n val set = this.toMutableSet()\n set.addAll(other)\n
return set}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun <T> Array<out T>.all(predicate: (T) ->
Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun ByteArray.all(predicate: (Byte) -> Boolean):
Boolean {\n for (element in this) if (!predicate(element)) return false\n return true}\n\n/**\n * Returns `true`
if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n
*\npublic inline fun ShortArray.all(predicate: (Short) -> Boolean): Boolean {\n for (element in this) if
(!predicate(element)) return false\n return true}\n\n/**\n * Returns `true` if all elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *\npublic inline fun
IntArray.all(predicate: (Int) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n
return true}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun LongArray.all(predicate: (Long) -> Boolean):
Boolean {\n for (element in this) if (!predicate(element)) return false\n return true}\n\n/**\n * Returns `true`
if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n
*\npublic inline fun FloatArray.all(predicate: (Float) -> Boolean): Boolean {\n for (element in this) if
(!predicate(element)) return false\n return true}\n\n/**\n * Returns `true` if all elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *\npublic inline fun
DoubleArray.all(predicate: (Double) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return
false\n return true}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun BooleanArray.all(predicate: (Boolean) ->
Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun CharArray.all(predicate: (Char) -> Boolean):
Boolean {\n for (element in this) if (!predicate(element)) return false\n return true}\n\n/**\n * Returns `true`
if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n *\npublic fun
<T> Array<out T>.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n *\npublic fun ByteArray.any():
Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun ShortArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun IntArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun LongArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *\npublic fun FloatArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample

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samples.collections.Collections.Aggregates.any\n *^\npublic fun DoubleArray.any(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun BooleanArray.any(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun CharArray.any(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun <T> Array<out
T>.any(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ByteArray.any(predicate:
(Byte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ShortArray.any(predicate:
(Short) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun IntArray.any(predicate: (Int) -
> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n *
Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun LongArray.any(predicate:
(Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun FloatArray.any(predicate:
(Float) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun DoubleArray.any(predicate:
(Double) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun BooleanArray.any(predicate:
(Boolean) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun CharArray.any(predicate:
(Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns the number of elements in this array.\n * \n *^\n@kotlin.internal.InlineOnly\npublic inline
fun <T> Array<out T>.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements in this array.\n *
^\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.count(): Int {\n return size\n}\n\n/**\n * Returns the
number of elements in this array.\n * \n *^\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n *^\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements in this array.\n *
^\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.count(): Int {\n return size\n}\n\n/**\n * Returns the
number of elements in this array.\n * \n *^\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n *^\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements in this array.\n *
^\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.count(): Int {\n return size\n}\n\n/**\n * Returns
the number of elements in this array.\n * \n *^\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n *^\npublic inline fun
<T> Array<out T>.count(predicate: (T) -> Boolean): Int {\n var count = 0\n for (element in this) if
(predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n *^\npublic inline fun ByteArray.count(predicate: (Byte) -> Boolean): Int {\n var count = 0\n for

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(element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of elements
matching the given [predicate].\n */\npublic inline fun ShortArray.count(predicate: (Short) -> Boolean): Int {\n var
count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n */\npublic inline fun IntArray.count(predicate: (Int) ->
Boolean): Int {\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun
LongArray.count(predicate: (Long) -> Boolean): Int {\n var count = 0\n for (element in this) if
(predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n */\npublic inline fun FloatArray.count(predicate: (Float) -> Boolean): Int {\n var count = 0\n
for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of
elements matching the given [predicate].\n */\npublic inline fun DoubleArray.count(predicate: (Double) -> Boolean): Int {\n
var count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n */\npublic inline fun BooleanArray.count(predicate: (Boolean)
-> Boolean): Int {\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun
CharArray.count(predicate: (Char) -> Boolean): Int {\n var count = 0\n for (element in this) if
(predicate(element)) ++count\n return count\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right to current accumulator value and each element.\n */\npublic inline fun <T, R>
Array<out T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n var accumulator = initial\n for (element in this)
accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right to current accumulator value and each element.\n
*/\npublic inline fun <R> ByteArray.fold(initial: R, operation: (acc: R, Byte) -> R): R {\n var accumulator =
initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n
* Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator
value and each element.\n */\npublic inline fun <R> ShortArray.fold(initial: R, operation: (acc: R, Short) -> R): R
{\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right
to current accumulator value and each element.\n */\npublic inline fun <R> IntArray.fold(initial: R, operation: (acc:
R, Int) -> R): R {\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator,
element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right to current accumulator value and each element.\n */\npublic inline fun <R>
LongArray.fold(initial: R, operation: (acc: R, Long) -> R): R {\n var accumulator = initial\n for (element in this)
accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right to current accumulator value and each element.\n
*/\npublic inline fun <R> FloatArray.fold(initial: R, operation: (acc: R, Float) -> R): R {\n var accumulator =
initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n
* Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator
value and each element.\n */\npublic inline fun <R> DoubleArray.fold(initial: R, operation: (acc: R, Double) -> R):
R {\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right
to current accumulator value and each element.\n */\npublic inline fun <R> BooleanArray.fold(initial: R, operation:
(acc: R, Boolean) -> R): R {\n var accumulator = initial\n for (element in this) accumulator =
operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
value and applying [operation] from left to right to current accumulator value and each element.\n */\npublic inline
fun <R> CharArray.fold(initial: R, operation: (acc: R, Char) -> R): R {\n var accumulator = initial\n for (element
in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * @param [operation] function that takes the index of an element,

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current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline
fun <T, R> Array<out T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left
to right\n * to current accumulator value and each element with its index in the original array.\n * @param
[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and
calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldIndexed(initial: R, operation:
(index: Int, acc: R, Byte) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this)
accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * @param [operation] function that takes the index of an element,
current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline
fun <R> ShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): R {\n var index = 0\n var
accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n */\npublic inline fun <R> IntArray.foldIndexed(initial: R, operation: (index: Int, acc: R,
Int) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator =
operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its
index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
LongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): R {\n var index = 0\n var
accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n */\npublic inline fun <R> FloatArray.foldIndexed(initial: R, operation: (index: Int, acc: R,
Float) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator =
operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its
index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
DoubleArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): R {\n var index = 0\n var
accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldIndexed(initial: R, operation: (index: Int, acc:
R, Boolean) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator =
operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its
index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n var index = 0\n var
accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left

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to each element and current accumulator value.
*/
public inline fun <T, R> Array<out T>.foldRight(initial: R,
operation: (T, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> ByteArray.foldRight(initial: R, operation: (Byte, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> ShortArray.foldRight(initial: R, operation: (Short, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> IntArray.foldRight(initial: R, operation: (Int, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> LongArray.foldRight(initial: R, operation: (Long, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> FloatArray.foldRight(initial: R, operation: (Float, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> DoubleArray.foldRight(initial: R, operation: (Double, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> BooleanArray.foldRight(initial: R, operation: (Boolean, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.
*/
public inline fun <R> CharArray.foldRight(initial: R, operation: (Char, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
*/
@param [operation] function that takes the index of an element, the element itself
*/
and current accumulator value, and calculates the next accumulator value.
*/
public inline fun <T, R> Array<out T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(index, get(index), accumulator)
 --index
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
*/
@param [operation] function that takes the index of an element, the element itself
*/
and current accumulator value, and calculates the next accumulator value.
*/
public inline fun <R> ByteArray.foldRightIndexed(initial: R, operation: (index: Int, Byte, acc: R) -> R): R {
 var index = lastIndex
 var accumulator = initial
 while (index >= 0) {
 accumulator = operation(index, get(index), accumulator)
 --index
 }
 return accumulator
}
*/
* Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
*/
@param [operation] function that takes the index of an element, the element itself
*/
and current accumulator value, and calculates the next accumulator value.
*/
public inline fun <R> ShortArray.foldRightIndexed(initial: R, operation: (index: Int, Short, acc: R) -> R): R {
 var index = lastIndex

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var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n
--index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
* @param [operation] function that takes the index of an element, the element itself\n * and current accumulator
value, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldRightIndexed(initial: R,
operation: (index: Int, Int, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index
>= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation]
function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> LongArray.foldRightIndexed(initial: R, operation: (index: Int,
Long, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of
an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*/\npublic inline fun <R> FloatArray.foldRightIndexed(initial: R, operation: (index: Int, Float, acc: R) -> R): R {\n
var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index,
get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element with its index in the original array
and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n
* and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
DoubleArray.foldRightIndexed(initial: R, operation: (index: Int, Double, acc: R) -> R): R {\n var index =
lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
value and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
BooleanArray.foldRightIndexed(initial: R, operation: (index: Int, Boolean, acc: R) -> R): R {\n var index =
lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
value and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharArray.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {\n var index = lastIndex\n
var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n
--index\n }\n return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic
inline fun <T> Array<out T>.forEach(action: (T) -> Unit): Unit {\n for (element in this)
action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun
ByteArray.forEach(action: (Byte) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs
the given [action] on each element.\n */\npublic inline fun ShortArray.forEach(action: (Short) -> Unit): Unit {\n
for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline
fun IntArray.forEach(action: (Int) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs
the given [action] on each element.\n */\npublic inline fun LongArray.forEach(action: (Long) -> Unit): Unit {\n
for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline
fun FloatArray.forEach(action: (Float) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element.\n */\npublic inline fun DoubleArray.forEach(action: (Double) ->
Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n

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*public inline fun BooleanArray.forEach(action: (Boolean) -> Unit): Unit {
 for (element in this)
 action(element)
}
* Performs the given [action] on each element.

*public inline fun
CharArray.forEach(action: (Char) -> Unit): Unit {
 for (element in this)
 action(element)
}
* Performs
the given [action] on each element, providing sequential index with the element.
* @param [action] function that
takes the index of an element and the element itself
* and performs the desired action on the element.

*public
inline fun <T> Array<out T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {
 var index = 0
 for (item
in this)
 action(index++, item)
}
* Performs the given [action] on each element, providing sequential index
with the element.
* @param [action] function that takes the index of an element and the element itself
* and
performs the desired action on the element.

*public inline fun ByteArray.forEachIndexed(action: (index: Int,
Byte) -> Unit): Unit {
 var index = 0
 for (item in this)
 action(index++, item)
}
* Performs the given
[action] on each element, providing sequential index with the element.
* @param [action] function that takes the
index of an element and the element itself
* and performs the desired action on the element.

*public inline fun ShortArray.forEachIndexed(action: (index: Int, Short) -> Unit): Unit {
 var index = 0
 for (item in this)
 action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with
the element.
* @param [action] function that takes the index of an element and the element itself
* and performs
the desired action on the element.

*public inline fun IntArray.forEachIndexed(action: (index: Int, Int) -> Unit):
Unit {
 var index = 0
 for (item in this)
 action(index++, item)
}
* Performs the given [action] on
each element, providing sequential index with the element.
* @param [action] function that takes the index of an
element and the element itself
* and performs the desired action on the element.

*public inline fun
LongArray.forEachIndexed(action: (index: Int, Long) -> Unit): Unit {
 var index = 0
 for (item in this)
 action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with
the element.
* @param [action] function that takes the index of an element and the element itself
* and performs
the desired action on the element.

*public inline fun FloatArray.forEachIndexed(action: (index: Int, Float) ->
Unit): Unit {
 var index = 0
 for (item in this)
 action(index++, item)
}
* Performs the given [action]
on each element, providing sequential index with the element.
* @param [action] function that takes the index of
an element and the element itself
* and performs the desired action on the element.

*public inline fun
DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit): Unit {
 var index = 0
 for (item in this)
 action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with
the element.
* @param [action] function that takes the index of an element and the element itself
* and performs
the desired action on the element.

*public inline fun BooleanArray.forEachIndexed(action: (index: Int,
Boolean) -> Unit): Unit {
 var index = 0
 for (item in this)
 action(index++, item)
}
* Performs the
given [action] on each element, providing sequential index with the element.
* @param [action] function that
takes the index of an element and the element itself
* and performs the desired action on the element.

*public
inline fun CharArray.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {
 var index = 0
 for (item in
this)
 action(index++, item)
}
* Returns the largest element or `null` if there are no elements.
* `null` * If
any of elements is `NaN` returns `NaN`.

*public fun Array<out Double>.max():
Double? {
 if (isEmpty()) return null
 var max = this[0]
 if (max.isNaN()) return max
 for (i in
1..lastIndex) {
 val e = this[i]
 if (e.isNaN()) return e
 if (max < e) max = e
 }
 return
max
}
* Returns the largest element or `null` if there are no elements.
* `null` * If any of elements is `NaN`
returns `NaN`.

*public fun Array<out Float>.max(): Float? {
 if (isEmpty()) return
null
 var max = this[0]
 if (max.isNaN()) return max
 for (i in 1..lastIndex) {
 val e = this[i]
 if
(e.isNaN()) return e
 if (max < e) max = e
 }
 return max
}
* Returns the largest element or
`null` if there are no elements.

*public fun <T : Comparable<T>> Array<out T>.max(): T? {
 if (isEmpty())
return null
 var max = this[0]
 for (i in 1..lastIndex) {
 val e = this[i]
 if (max < e) max = e
 }
return max
}
* Returns the largest element or `null` if there are no elements.

*public fun
ByteArray.max(): Byte? {
 if (isEmpty()) return null
 var max = this[0]
 for (i in 1..lastIndex) {
 val e
= this[i]
 if (max < e) max = e
 }
 return max
}
* Returns the largest element or `null` if there
are no elements.

*public fun ShortArray.max(): Short? {
 if (isEmpty()) return null
 var max = this[0]
}

```



```

for (i in 1..lastIndex) {
 val e = this[i]
 if (max < e) max = e
}
return max
}

Returns the largest element or `null` if there are no elements.

public fun IntArray.max(): Int? {
 if (isEmpty()) return null
 var max = this[0]
 for (i in 1..lastIndex) {
 val e = this[i]
 if (max < e) max = e
 }
 return max
}

Returns the largest element or `null` if there are no elements.

public fun LongArray.max(): Long? {
 if (isEmpty()) return null
 var max = this[0]
 for (i in 1..lastIndex) {
 val e = this[i]
 if (max < e) max = e
 }
 return max
}

Returns the largest element or `null` if there are no elements.

public fun FloatArray.max(): Float? {
 if (isEmpty()) return null
 var max = this[0]
 if (max.isNaN()) return max
 for (i in 1..lastIndex) {
 val e = this[i]
 if (e.isNaN()) return e
 if (max < e) max = e
 }
 return max
}

Returns the largest element or `null` if there are no elements.

public fun DoubleArray.max(): Double? {
 if (isEmpty()) return null
 var max = this[0]
 if (max.isNaN()) return max
 for (i in 1..lastIndex) {
 val e = this[i]
 if (e.isNaN()) return e
 if (max < e) max = e
 }
 return max
}

Returns the largest element or `null` if there are no elements.

public fun CharArray.max(): Char? {
 if (isEmpty()) return null
 var max = this[0]
 for (i in 1..lastIndex) {
 val e = this[i]
 if (max < e) max = e
 }
 return max
}

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.maxBy

public inline fun <T, R : Comparable<R>> Array<out T>.maxBy(selector: (T) -> R): T? {
 if (isEmpty()) return null
 var maxElem = this[0]
 val lastIndex = this.lastIndex
 if (lastIndex == 0) return maxElem
 var maxValue = selector(maxElem)
 for (i in 1..lastIndex) {
 val e = this[i]
 val v = selector(e)
 if (maxValue < v) {
 maxElem = e
 maxValue = v
 }
 }
 return maxElem
}

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.maxBy

public inline fun <R : Comparable<R>> ByteArray.maxBy(selector: (Byte) -> R): Byte? {
 if (isEmpty()) return null
 var maxElem = this[0]
 val lastIndex = this.lastIndex
 if (lastIndex == 0) return maxElem
 var maxValue = selector(maxElem)
 for (i in 1..lastIndex) {
 val e = this[i]
 val v = selector(e)
 if (maxValue < v) {
 maxElem = e
 maxValue = v
 }
 }
 return maxElem
}

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.maxBy

public inline fun <R : Comparable<R>> ShortArray.maxBy(selector: (Short) -> R): Short? {
 if (isEmpty()) return null
 var maxElem = this[0]
 val lastIndex = this.lastIndex
 if (lastIndex == 0) return maxElem
 var maxValue = selector(maxElem)
 for (i in 1..lastIndex) {
 val e = this[i]
 val v = selector(e)
 if (maxValue < v) {
 maxElem = e
 maxValue = v
 }
 }
 return maxElem
}

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.maxBy

public inline fun <R : Comparable<R>> IntArray.maxBy(selector: (Int) -> R): Int? {
 if (isEmpty()) return null
 var maxElem = this[0]
 val lastIndex = this.lastIndex
 if (lastIndex == 0) return maxElem
 var maxValue = selector(maxElem)
 for (i in 1..lastIndex) {
 val e = this[i]
 val v = selector(e)
 if (maxValue < v) {
 maxElem = e
 maxValue = v
 }
 }
 return maxElem
}

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.maxBy

public inline fun <R : Comparable<R>> LongArray.maxBy(selector: (Long) -> R): Long? {
 if (isEmpty()) return null
 var maxElem = this[0]
 val lastIndex = this.lastIndex
 if (lastIndex == 0) return maxElem
 var maxValue = selector(maxElem)
 for (i in 1..lastIndex) {
 val e = this[i]
 val v = selector(e)
 if (maxValue < v) {
 maxElem = e
 maxValue = v
 }
 }
 return maxElem
}

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

@sample
samples.collections.Collections.Aggregates.maxBy

public inline fun <R : Comparable<R>> FloatArray.maxBy(selector: (Float) -> R): Float? {
 if (isEmpty()) return null
 var maxElem = this[0]
 val

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lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i
in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n
 maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <R : Comparable<R>>
DoubleArray.maxBy(selector: (Double) -> R): Double? {\n if (isEmpty()) return null\n var maxElem = this[0]\n
val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for
(i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n
 maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest
value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <R : Comparable<R>>
BooleanArray.maxBy(selector: (Boolean) -> R): Boolean? {\n if (isEmpty()) return null\n var maxElem =
this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v)
{\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <R : Comparable<R>>
CharArray.maxBy(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val
lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i
in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n
 maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element having the largest value
according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun <T> Array<out
T>.maxWith(comparator: Comparator<in T>): T? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in
1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return
max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null`
if there are no elements.\n */\npublic fun ByteArray.maxWith(comparator: Comparator<in Byte>): Byte? {\n if
(isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
ShortArray.maxWith(comparator: Comparator<in Short>): Short? {\n if (isEmpty()) return null\n var max =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n
return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun IntArray.maxWith(comparator: Comparator<in Int>): Int? {\n
if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
LongArray.maxWith(comparator: Comparator<in Long>): Long? {\n if (isEmpty()) return null\n var max =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n
return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun FloatArray.maxWith(comparator: Comparator<in Float>): Float?
{\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
DoubleArray.maxWith(comparator: Comparator<in Double>): Double? {\n if (isEmpty()) return null\n var max =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n
return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun BooleanArray.maxWith(comparator: Comparator<in Boolean>):
Boolean? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n

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if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
CharArray.maxWith(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var max =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n
return max\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements
is `NaN` returns `NaN`.\n */\n@SinceKotlin("1.1")\npublic fun Array<out Double>.min(): Double? {\n if
(isEmpty()) return null\n var min = this[0]\n if (min.isNaN()) return min\n for (i in 1..lastIndex) {\n val e =
this[i]\n if (e.isNaN()) return e\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the
smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/\n@SinceKotlin("1.1")\npublic fun Array<out Float>.min(): Float? {\n if (isEmpty()) return null\n var min =
this[0]\n if (min.isNaN()) return min\n for (i in 1..lastIndex) {\n val e = this[i]\n if (e.isNaN()) return e\n
 if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no
elements.\n */\npublic fun <T : Comparable<T>> Array<out T>.min(): T? {\n if (isEmpty()) return null\n var
min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\npublic fun ByteArray.min():
Byte? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no
elements.\n */\npublic fun ShortArray.min(): Short? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in
1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest
element or `null` if there are no elements.\n */\npublic fun IntArray.min(): Int? {\n if (isEmpty()) return null\n
var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\npublic fun LongArray.min():
Long? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no
elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\npublic fun FloatArray.min(): Float? {\n if
(isEmpty()) return null\n var min = this[0]\n if (min.isNaN()) return min\n for (i in 1..lastIndex) {\n val e =
this[i]\n if (e.isNaN()) return e\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the
smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\npublic
fun DoubleArray.min(): Double? {\n if (isEmpty()) return null\n var min = this[0]\n if (min.isNaN()) return
min\n for (i in 1..lastIndex) {\n val e = this[i]\n if (e.isNaN()) return e\n if (min > e) min = e\n }\n
return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\npublic fun
CharArray.min(): Char? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e
= this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the first element yielding the smallest
value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <T, R : Comparable<R>> Array<out
T>.minBy(selector: (T) -> R): T? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex =
this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
ByteArray.minBy(selector: (Byte) -> R): Byte? {\n if (isEmpty()) return null\n var minElem = this[0]\n val
lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
ShortArray.minBy(selector: (Short) -> R): Short? {\n if (isEmpty()) return null\n var minElem = this[0]\n val

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lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
IntArray.minBy(selector: (Int) -> R): Int? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex
= this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
LongArray.minBy(selector: (Long) -> R): Long? {\n if (isEmpty()) return null\n var minElem = this[0]\n val
lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
FloatArray.minBy(selector: (Float) -> R): Float? {\n if (isEmpty()) return null\n var minElem = this[0]\n val
lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
DoubleArray.minBy(selector: (Double) -> R): Double? {\n if (isEmpty()) return null\n var minElem = this[0]\n
val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i
in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
BooleanArray.minBy(selector: (Boolean) -> R): Boolean? {\n if (isEmpty()) return null\n var minElem =
this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
{\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
CharArray.minBy(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var minElem = this[0]\n val
lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element having the smallest value
according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun <T> Array<out
T>.minWith(comparator: Comparator<in T>): T? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in
1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return
min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or
`null` if there are no elements.\n */\npublic fun ByteArray.minWith(comparator: Comparator<in Byte>): Byte? {\n
if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
ShortArray.minWith(comparator: Comparator<in Short>): Short? {\n if (isEmpty()) return null\n var min =

```

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this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun IntArray.minWith(comparator: Comparator<in Int>): Int? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(min, e) > 0) min = e\n }
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun
LongArray.minWith(comparator: Comparator<in Long>): Long? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun
FloatArray.minWith(comparator: Comparator<in Float>): Float?
{\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(min, e) > 0) min = e\n }
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun
DoubleArray.minWith(comparator: Comparator<in Double>): Double? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun
BooleanArray.minWith(comparator: Comparator<in Boolean>):
Boolean? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n
if (comparator.compare(min, e) > 0) min = e\n }
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun
CharArray.minWith(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }
return min\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun <T> Array<out T>.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun ByteArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun ShortArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun IntArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun LongArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun FloatArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun DoubleArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun BooleanArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun CharArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n */\n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <T> Array<out
T>.none(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n */\n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun ByteArray.none(predicate:
(Byte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n */\n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun ShortArray.none(predicate:

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(Short) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/\*\*\n \* Returns `true` if no elements match the given [predicate].\n \* \n \* @sample samples.collections.Collections.Aggregates.noneWithPredicate\n \*/\npublic inline fun IntArray.none(predicate: (Int) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/\*\*\n \* Returns `true` if no elements match the given [predicate].\n \* \n \* @sample samples.collections.Collections.Aggregates.noneWithPredicate\n \*/\npublic inline fun LongArray.none(predicate: (Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/\*\*\n \* Returns `true` if no elements match the given [predicate].\n \* \n \* @sample samples.collections.Collections.Aggregates.noneWithPredicate\n \*/\npublic inline fun FloatArray.none(predicate: (Float) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/\*\*\n \* Returns `true` if no elements match the given [predicate].\n \* \n \* @sample samples.collections.Collections.Aggregates.noneWithPredicate\n \*/\npublic inline fun DoubleArray.none(predicate: (Double) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/\*\*\n \* Returns `true` if no elements match the given [predicate].\n \* \n \* @sample samples.collections.Collections.Aggregates.noneWithPredicate\n \*/\npublic inline fun BooleanArray.none(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/\*\*\n \* Returns `true` if no elements match the given [predicate].\n \* \n \* @sample samples.collections.Collections.Aggregates.noneWithPredicate\n \*/\npublic inline fun CharArray.none(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \*/\npublic inline fun <S, T : S> Array<out T>.reduce(operation: (acc: S, T) -> S): S {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \*/\npublic inline fun ByteArray.reduce(operation: (acc: Byte, Byte) -> Byte): Byte {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \*/\npublic inline fun ShortArray.reduce(operation: (acc: Short, Short) -> Short): Short {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \*/\npublic inline fun IntArray.reduce(operation: (acc: Int, Int) -> Int): Int {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \*/\npublic inline fun LongArray.reduce(operation: (acc: Long, Long) -> Long): Long {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \*/\npublic inline fun FloatArray.reduce(operation: (acc: Float, Float) -> Float): Float {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in

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1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun DoubleArray.reduce(operation: (acc: Double, Double) -> Double): Double {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun BooleanArray.reduce(operation: (acc: Boolean, Boolean) -> Boolean): Boolean {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun CharArray.reduce(operation: (acc: Char, Char) -> Char): Char {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun <S, T : S> Array<out T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun ByteArray.reduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): Byte {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun ShortArray.reduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): Short {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun IntArray.reduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): Int {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun

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LongArray.reduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): Long {
 if (isEmpty())
 throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation] from left to
 * right to current accumulator value and each element with its index in the original array.
 * @param [operation] function that takes the index of an element, current accumulator value
 * and the element itself and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduce
 */
public inline fun FloatArray.reduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): Float {
 if (isEmpty())
 throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation] from left to
 * right to current accumulator value and each element with its index in the original array.
 * @param [operation] function that takes the index of an element, current accumulator value
 * and the element itself and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduce
 */
public inline fun DoubleArray.reduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): Double {
 if (isEmpty())
 throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation] from left to
 * right to current accumulator value and each element with its index in the original array.
 * @param [operation] function that takes the index of an element, current accumulator value
 * and the element itself and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduce
 */
public inline fun BooleanArray.reduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean {
 if (isEmpty())
 throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation] from
 * left to right to current accumulator value and each element. Returns null if the array is empty.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
 */
public inline fun <S, T : S> Array<out T>.reduceOrNull(operation: (acc: S, T) -> S): S? {
 if (isEmpty())
 return null
 var accumulator: S = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(accumulator, this[index])
 }
 return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
 * value and each element. Returns null if the array is empty.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
 */
public inline fun ByteArray.reduceOrNull(operation: (acc: Byte, Byte) -> Byte): Byte? {
 if (isEmpty())
 return null
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(accumulator, this[index])
 }
 return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
 * value and each element. Returns null if the array is empty.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
 */
public inline fun ShortArray.reduceOrNull(operation: (acc: Short, Short) -> Short): Short? {
 if (isEmpty())
 return null
 var accumulator = this[0]
 for (index in

```



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1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun IntArray.reduceOrNull(operation: (acc: Int, Int) -> Int): Int? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)\n {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun LongArray.reduceOrNull(operation: (acc: Long, Long) -> Long): Long? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)\n {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun FloatArray.reduceOrNull(operation: (acc: Float, Float) -> Float): Float? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)\n {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun DoubleArray.reduceOrNull(operation: (acc: Double, Double) -> Double): Double? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)\n {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun BooleanArray.reduceOrNull(operation: (acc: Boolean, Boolean) -> Boolean): Boolean? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)\n {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun CharArray.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)\n {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRight\n
*\npublic inline fun <S, T : S> Array<out T>.reduceRight(operation: (T, acc: S) -> S): S {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRight\n
*\npublic inline fun ByteArray.reduceRight(operation: (Byte, acc: Byte) -> Byte): Byte {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRight\n

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Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.

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\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline
fun ShortArray.reduceRight(operation: (Short, acc: Short) -> Short): Short {\n var index = lastIndex\n if (index
< 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline fun IntArray.reduceRight(operation:
(Int, acc: Int) -> Int): Int {\n var index = lastIndex\n if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while
(index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline fun LongArray.reduceRight(operation:
(Long, acc: Long) -> Long): Long {\n var index = lastIndex\n if (index <
0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline fun FloatArray.reduceRight(operation:
(Float, acc: Float) -> Float): Float {\n var index = lastIndex\n if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while
(index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline
fun DoubleArray.reduceRight(operation: (Double, acc: Double) -> Double): Double {\n var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline fun
BooleanArray.reduceRight(operation: (Boolean, acc: Boolean) -> Boolean): Boolean {\n var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline fun CharArray.reduceRight(operation:
(Char, acc: Char) -> Char): Char {\n var index = lastIndex\n if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while
(index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left\n * to each element with its
index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline fun <S, T : S> Array<out
T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n var index = lastIndex\n if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = get(index--)\n while
(index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left\n *
to each element with its index in the original array and current accumulator value.\n * @param [operation]

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function that takes the index of an element, the element itself and current accumulator value, and calculates the
next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceRight
public
inline fun ByteArray.reduceRightIndexed(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte {
 var index =
 lastIndex
 if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 var
 accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(index, get(index),
 accumulator)
 --index
 }
 return accumulator
}
 * Accumulates value starting with last element
and applying [operation] from right to left to each element with its index in the original array and current
accumulator value.
 * @param [operation] function that takes the index of an element, the element itself and
current accumulator value, and calculates the next accumulator value.
 * @sample
samples.collections.Collections.Aggregates.reduceRight
public inline fun
ShortArray.reduceRightIndexed(operation: (index: Int, Short, acc: Short) -> Short): Short {
 var index =
 lastIndex
 if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 var
 accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(index, get(index),
 accumulator)
 --index
 }
 return accumulator
}
 * Accumulates value starting with last element
and applying [operation] from right to left to each element with its index in the original array and current
accumulator value.
 * @param [operation] function that takes the index of an element, the element itself and
current accumulator value, and calculates the next accumulator value.
 * @sample
samples.collections.Collections.Aggregates.reduceRight
public inline fun
IntArray.reduceRightIndexed(operation: (index: Int, Int, acc: Int) -> Int): Int {
 var index = lastIndex
 if (index
 < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(index, get(index), accumulator)
 --index
 }
 return
 accumulator
}
 * Accumulates value starting with last element and applying [operation] from right to left
 * to each element with its index in the original array and current accumulator value.
 * @param [operation]
function that takes the index of an element, the element itself and current accumulator value, and calculates the
next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceRight
public
inline fun LongArray.reduceRightIndexed(operation: (index: Int, Long, acc: Long) -> Long): Long {
 var index =
 lastIndex
 if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 var
 accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(index, get(index),
 accumulator)
 --index
 }
 return accumulator
}
 * Accumulates value starting with last element
and applying [operation] from right to left to each element with its index in the original array and current
accumulator value.
 * @param [operation] function that takes the index of an element, the element itself and
current accumulator value, and calculates the next accumulator value.
 * @sample
samples.collections.Collections.Aggregates.reduceRight
public inline fun
FloatArray.reduceRightIndexed(operation: (index: Int, Float, acc: Float) -> Float): Float {
 var index =
 lastIndex
 if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 var
 accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(index, get(index),
 accumulator)
 --index
 }
 return accumulator
}
 * Accumulates value starting with last element
and applying [operation] from right to left to each element with its index in the original array and current
accumulator value.
 * @param [operation] function that takes the index of an element, the element itself and
current accumulator value, and calculates the next accumulator value.
 * @sample
samples.collections.Collections.Aggregates.reduceRight
public inline fun
DoubleArray.reduceRightIndexed(operation: (index: Int, Double, acc: Double) -> Double): Double {
 var index =
 lastIndex
 if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 var
 accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(index, get(index),
 accumulator)
 --index
 }
 return accumulator
}
 * Accumulates value starting with last element
and applying [operation] from right to left to each element with its index in the original array and current
accumulator value.
 * @param [operation] function that takes the index of an element, the element itself and
current accumulator value, and calculates the next accumulator value.
 * @sample

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samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun
BooleanArray.reduceRightIndexed(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean {\n var
index = lastIndex\n if (index < 0) throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n
var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun
CharArray.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {\n var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from
right to left to each element and current accumulator value. Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Array<out
T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n var index = lastIndex\n if (index < 0) return null\n
var accumulator: S = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--),
accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying
[operation] from right to left to each element and current accumulator value. Returns null if the array is empty.\n *
\n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun ByteArray.reduceRightOrNull(operation:
(Byte, acc: Byte) -> Byte): Byte? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value. Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun ShortArray.reduceRightOrNull(operation:
(Short, acc: Short) -> Short): Short? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value. Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun IntArray.reduceRightOrNull(operation:
(Int, acc: Int) -> Int): Int? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value. Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun LongArray.reduceRightOrNull(operation:
(Long, acc: Long) -> Long): Long? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value. Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun FloatArray.reduceRightOrNull(operation:
(Float, acc: Float) -> Float): Float? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return

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accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value. Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun DoubleArray.reduceRightOrNull(operation:
(Double, acc: Double) -> Double): Double? {\n var index = lastIndex\n if (index < 0) return null\n var
accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from
right to left to each element and current accumulator value. Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun
BooleanArray.reduceRightOrNull(operation: (Boolean, acc: Boolean) -> Boolean): Boolean? {\n var index =
lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value
starting with last element and applying [operation] from right to left to each element and current accumulator value.
Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun CharArray.reduceRightOrNull(operation:
(Char, acc: Char) -> Char): Char? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n
* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an
element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <T, R> Array<out T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n if (isEmpty()) return
listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for
(element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n
* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an
element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.scan(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val
result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n
accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n
* @param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ShortArray.scan(initial: R, operation: (acc: R, Short) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val
result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n
accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to

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each element and current accumulator value that starts with [initial] value.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scan\n

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nIntArray.scan(initial: R, operation: (acc: R, Int) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val\n result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nLongArray.scan(initial: R, operation: (acc: R, Long) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val\n result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nFloatArray.scan(initial: R, operation: (acc: R, Float) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val\n result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nDoubleArray.scan(initial: R, operation: (acc: R, Double) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val\n result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nBooleanArray.scan(initial: R, operation: (acc: R, Boolean) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val\n result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next
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accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val
result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n
accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n *
Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic
inline fun <T, R> Array<out T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n if
(isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator =
initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n if (isEmpty()) return
listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for
(index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n
}\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ShortArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n if (isEmpty()) return
listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for
(index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n
}\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
IntArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {\n if (isEmpty()) return
listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for
(index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n
}\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the

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index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

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@sample samples.collections.Collections.Aggregates.scan
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {
 if (isEmpty()) return listOf(initial)
 val result = ArrayList<R>(size + 1).apply { add(initial) }
 var accumulator = initial
 for (index in indices) {
 accumulator = operation(index, accumulator, this[index])
 result.add(accumulator)
 }
 return result
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.scan
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
FloatArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {
 if (isEmpty()) return listOf(initial)
 val result = ArrayList<R>(size + 1).apply { add(initial) }
 var accumulator = initial
 for (index in indices) {
 accumulator = operation(index, accumulator, this[index])
 result.add(accumulator)
 }
 return result
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.scan
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {
 if (isEmpty()) return listOf(initial)
 val result = ArrayList<R>(size + 1).apply { add(initial) }
 var accumulator = initial
 for (index in indices) {
 accumulator = operation(index, accumulator, this[index])
 result.add(accumulator)
 }
 return result
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.scan
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
BooleanArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {
 if (isEmpty()) return listOf(initial)
 val result = ArrayList<R>(size + 1).apply { add(initial) }
 var accumulator = initial
 for (index in indices) {
 accumulator = operation(index, accumulator, this[index])
 result.add(accumulator)
 }
 return result
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.scan
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {
 if (isEmpty()) return listOf(initial)
 val result = ArrayList<R>(size + 1).apply { add(initial) }
 var accumulator = initial
 for (index in indices) {
 accumulator = operation(index, accumulator, this[index])
 result.add(accumulator)
 }
 return result
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with the first element of



this array.  
Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.  
@param [operation] function that takes current accumulator value and the element, and calculates the next accumulator value.  
@sample

samples.collections.Collections.Aggregates.scanReduce

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Array<out T>.scanReduce(operation: (acc: S, T) -> S): List<S> {\n if (isEmpty()) return emptyList()\n var accumulator: S = this[0]\n val result = ArrayList<S>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.scanReduce
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.scanReduce(operation: (acc: Byte, Byte) -> Byte): List<Byte> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Byte>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.scanReduce
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.scanReduce(operation: (acc: Short, Short) -> Short): List<Short> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Short>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.scanReduce
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.scanReduce(operation: (acc: Int, Int) -> Int): List<Int> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Int>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.scanReduce
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.scanReduce(operation: (acc: Long, Long) -> Long): List<Long> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Long>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.scanReduce
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.scanReduce(operation: (acc: Float, Float) -> Float): List<Float> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Float>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return
```

result\n}\n\n/\*\*\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element and current accumulator value that starts with the first element of this array.\n \* \n \* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scanReduce\n

```

*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.scanReduce(operation: (acc: Double, Double) -> Double): List<Double> {\n if (isEmpty()) return
emptyList()\n var accumulator = this[0]\n val result = ArrayList<Double>(size).apply { add(accumulator) }\n
for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n
}\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.scanReduce(operation: (acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Boolean>(size).apply {
add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.scanReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n
var accumulator = this[0]\n val result = ArrayList<Char>(size).apply { add(accumulator) }\n for (index in 1 until
size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return
result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first
element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Array<out
T>.scanReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n if (isEmpty()) return emptyList()\n
var accumulator: S = this[0]\n val result = ArrayList<S>(size).apply { add(accumulator) }\n for (index in 1 until
size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.scanReduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): List<Byte> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Byte>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next

```

```

accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.scanReduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): List<Short> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Short>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.scanReduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): List<Int> {\n if (isEmpty()) return
emptyList()\n var accumulator = this[0]\n val result = ArrayList<Int>(size).apply { add(accumulator) }\n for
(index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.scanReduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): List<Long> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Long>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.scanReduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): List<Float> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Float>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.scanReduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): List<Double> {\n if
(isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Double>(size).apply {
add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.scanReduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n

```

```

if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Boolean>(size).apply {
add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.scanReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\npublic inline fun <T> Array<out T>.sumBy(selector: (T) -> Int):
Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun ByteArray.sumBy(selector: (Byte) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum
+= selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\npublic inline fun ShortArray.sumBy(selector: (Short) -> Int): Int
{\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun IntArray.sumBy(selector: (Int) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum +=
selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\npublic inline fun LongArray.sumBy(selector: (Long) -> Int): Int {\n var
sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun
FloatArray.sumBy(selector: (Float) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum +=
selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\npublic inline fun DoubleArray.sumBy(selector: (Double) -> Int): Int {\n
var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun BooleanArray.sumBy(selector: (Boolean) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n
sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\npublic inline fun CharArray.sumBy(selector: (Char) -> Int): Int
{\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun <T> Array<out T>.sumByDouble(selector: (T) -> Double): Double {\n var sum: Double = 0.0\n for
(element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n */\npublic inline fun
ByteArray.sumByDouble(selector: (Byte) -> Double): Double {\n var sum: Double = 0.0\n for (element in this)
{\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\npublic inline fun ShortArray.sumByDouble(selector:
(Short) -> Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n
}\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each
element in the array.\n */\npublic inline fun IntArray.sumByDouble(selector: (Int) -> Double): Double {\n var
sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun LongArray.sumByDouble(selector: (Long) -> Double): Double {\n var sum: Double = 0.0\n for
(element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values

```

```

produced by [selector] function applied to each element in the array.\n *\npublic inline fun
FloatArray.sumByDouble(selector: (Float) -> Double): Double {\n var sum: Double = 0.0\n for (element in this)
{\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n *\npublic inline fun DoubleArray.sumByDouble(selector:
(Double) -> Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum +=
selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\npublic inline fun BooleanArray.sumByDouble(selector: (Boolean) ->
Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n *\npublic inline fun CharArray.sumByDouble(selector: (Char) -> Double): Double {\n var sum:
Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns
an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are
any `null` elements.\n *\npublic fun <T : Any> Array<T?.>.requireNonNulls(): Array<T> {\n for (element in this)
{\n if (element == null) {\n throw IllegalArgumentException("\null element found in $this.")\n }\n }\n @Suppress("\UNCHECKED_CAST")\n return this as Array<T>\n}\n\n/**\n * Splits the original array into
pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n *\npublic inline fun <T> Array<out
T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n val first = ArrayList<T>()\n val second =
ArrayList<T>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n
second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair
of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains
elements for which [predicate] yielded `false`.\n *\npublic inline fun ByteArray.partition(predicate: (Byte) ->
Boolean): Pair<List<Byte>, List<Byte>> {\n val first = ArrayList<Byte>()\n val second = ArrayList<Byte>()\n
for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n
second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of
lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains
elements for which [predicate] yielded `false`.\n *\npublic inline fun ShortArray.partition(predicate: (Short) ->
Boolean): Pair<List<Short>, List<Short>> {\n val first = ArrayList<Short>()\n val second =
ArrayList<Short>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n }
else {\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array
into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n *\npublic inline fun IntArray.partition(predicate: (Int) ->
Boolean): Pair<List<Int>, List<Int>> {\n val first = ArrayList<Int>()\n val second = ArrayList<Int>()\n for
(element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n
second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of
lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains
elements for which [predicate] yielded `false`.\n *\npublic inline fun LongArray.partition(predicate: (Long) ->
Boolean): Pair<List<Long>, List<Long>> {\n val first = ArrayList<Long>()\n val second =
ArrayList<Long>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else
{\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into
pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n *\npublic inline fun FloatArray.partition(predicate: (Float)
-> Boolean): Pair<List<Float>, List<Float>> {\n val first = ArrayList<Float>()\n val second =
ArrayList<Float>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else
{\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into
pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n *\npublic inline fun DoubleArray.partition(predicate:
(Double) -> Boolean): Pair<List<Double>, List<Double>> {\n val first = ArrayList<Double>()\n val second =

```

```

ArrayList<Double>()
for (element in this) {
 if (predicate(element)) {
 first.add(element)
 }
 else {
 second.add(element)
 }
}
return Pair(first, second)
}

Splits the original array
into pair of lists,
where *first* list contains elements for which [predicate] yielded `true`,
while *second* list
contains elements for which [predicate] yielded `false`.

public inline fun BooleanArray.partition(predicate:
(Boolean) -> Boolean): Pair<List<Boolean>, List<Boolean>> {
 val first = ArrayList<Boolean>()
 val second = ArrayList<Boolean>()
 for (element in this) {
 if (predicate(element)) {
 first.add(element)
 }
 else {
 second.add(element)
 }
 }
 return Pair(first, second)
}

Splits the original
array into pair of lists,
where *first* list contains elements for which [predicate] yielded `true`,
while
second list contains elements for which [predicate] yielded `false`.

public inline fun
CharArray.partition(predicate: (Char) -> Boolean): Pair<List<Char>, List<Char>> {
 val first =
ArrayList<Char>()
 val second = ArrayList<Char>()
 for (element in this) {
 if (predicate(element)) {
 first.add(element)
 }
 else {
 second.add(element)
 }
 }
 return Pair(first,
second)
}

Returns a list of pairs built from the elements of `this` array and the [other] array with the
same index.
The returned list has length of the shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <T, R> Array<out T>.zip(other:
Array<out R>): List<Pair<T, R>> {
 return zip(other) { t1, t2 -> t1 to t2 }
}

Returns a list of pairs
built from the elements of `this` array and the [other] array with the same index.
The returned list has length of
the shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun
<R> ByteArray.zip(other: Array<out R>): List<Pair<Byte, R>> {
 return zip(other) { t1, t2 -> t1 to t2
}
}

Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.
The returned list has length of the shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <R> ShortArray.zip(other: Array<out
R>): List<Pair<Short, R>> {
 return zip(other) { t1, t2 -> t1 to t2 }
}

Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.
The returned list has length of the shortest
collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <R>
IntArray.zip(other: Array<out R>): List<Pair<Int, R>> {
 return zip(other) { t1, t2 -> t1 to t2 }
}

Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.
The
returned list has length of the shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <R> LongArray.zip(other: Array<out
R>): List<Pair<Long, R>> {
 return zip(other) { t1, t2 -> t1 to t2 }
}

Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.
The returned list has length of the shortest
collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <R>
FloatArray.zip(other: Array<out R>): List<Pair<Float, R>> {
 return zip(other) { t1, t2 -> t1 to t2 }
}

Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.
The
returned list has length of the shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <R> DoubleArray.zip(other: Array<out
R>): List<Pair<Double, R>> {
 return zip(other) { t1, t2 -> t1 to t2 }
}

Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.
The returned list has length of the
shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <R>
BooleanArray.zip(other: Array<out R>): List<Pair<Boolean, R>> {
 return zip(other) { t1, t2 -> t1 to t2
}
}

Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.
The returned list has length of the shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterable

public infix fun <R> CharArray.zip(other: Array<out R>):
List<Pair<Char, R>> {
 return zip(other) { t1, t2 -> t1 to t2 }
}

Returns a list of values built from the
elements of `this` array and the [other] array with the same index
using the provided [transform] function
applied to each pair of elements.
The returned list has length of the shortest collection.

@sample
samples.collections.Iterables.Operations.zipIterableWithTransform

public inline fun <T, R, V> Array<out
T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {
 val size = minOf(size, other.size)
 val

```

```

list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length
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ShortArray.zip(other: Array<out R>, transform: (a: Short, b: R) -> V): List<V> {\n val size = minOf(size,
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*/\npublic inline fun <R, V> LongArray.zip(other: Array<out R>, transform: (a: Long, b: R) -> V): List<V> {\n
val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements
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FloatArray.zip(other: Array<out R>, transform: (a: Float, b: R) -> V): List<V> {\n val size = minOf(size,
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DoubleArray.zip(other: Array<out R>, transform: (a: Double, b: R) -> V): List<V> {\n val size = minOf(size,
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samples.collections.Iterables.Operations.zipIterableWithTransform\n \* \npublic inline fun <T, R, V> Array<out T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/\*\*\n \* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample

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for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n } \n return
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fun <R, V> DoubleArray.zip(other: Iterable<R>, transform: (a: Double, b: R) -> V): List<V> {\n val arraySize =
size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element
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List<Pair<Byte, Byte>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun
ShortArray.zip(other: ShortArray): List<Pair<Short, Short>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n
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LongArray.zip(other: LongArray): List<Pair<Long, Long>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n
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List<Pair<Float, Float>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
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samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
BooleanArray.zip(other: BooleanArray, transform: (a: Boolean, b: Boolean) -> V): List<V> {\n val size =
minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i],
other[i]))\n }\n return list}\n\n/**\n * Returns a list of values built from the elements of `this` array and the
[other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n *
The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
CharArray.zip(other: CharArray, transform: (a: Char, b: Char) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n
}\n return list}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the
given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value
of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string
(which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun
<T, A : Appendable> Array<out T>.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"",
postfix: CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? =
null): A {\n buffer.append(prefix)\n var count = 0\n for (element in this) {\n if (++count > 1)
buffer.append(separator)\n if (limit < 0 || count <= limit) {\n buffer.appendElement(element, transform)\n
} else break\n }\n if (limit >= 0 && count > limit) buffer.append(truncated)\n buffer.append(postfix)\n
return buffer}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun <A :
Appendable> ByteArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Byte) -> CharSequence)? =
null): A {\n buffer.append(prefix)\n var count = 0\n for (element in this) {\n if (++count > 1)
buffer.append(separator)\n if (limit < 0 || count <= limit) {\n if (transform != null)\n
buffer.append(transform(element))\n else\n buffer.append(element.toString())\n } else break\n
}\n if (limit >= 0 && count > limit) buffer.append(truncated)\n buffer.append(postfix)\n return
buffer}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun <A :
Appendable> ShortArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Short) -> CharSequence)? =
null): A {\n buffer.append(prefix)\n var count = 0\n for (element in this) {\n if (++count > 1)
buffer.append(separator)\n if (limit < 0 || count <= limit) {\n if (transform != null)\n
buffer.append(transform(element))\n else\n buffer.append(element.toString())\n } else break\n
}\n if (limit >= 0 && count > limit) buffer.append(truncated)\n buffer.append(postfix)\n return
buffer}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given

```

[prefix] and [postfix] if supplied.

If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinTo

```

public fun <A : Appendable> IntArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"\", postfix: CharSequence = "\"\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Int) -> CharSequence)? = null): A {
 buffer.append(prefix)
 var count = 0
 for (element in this) {
 if (++count > 1)
 buffer.append(separator)
 if (limit < 0 || count <= limit) {
 if (transform != null)
 buffer.append(transform(element))
 else
 buffer.append(element.toString())
 } else break
 }
 if (limit >= 0 && count > limit) buffer.append(truncated)
 buffer.append(postfix)
 return buffer
}

```

Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.

If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinTo

```

public fun <A : Appendable> LongArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"\", postfix: CharSequence = "\"\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Long) -> CharSequence)? = null): A {
 buffer.append(prefix)
 var count = 0
 for (element in this) {
 if (++count > 1)
 buffer.append(separator)
 if (limit < 0 || count <= limit) {
 if (transform != null)
 buffer.append(transform(element))
 else
 buffer.append(element.toString())
 } else break
 }
 if (limit >= 0 && count > limit) buffer.append(truncated)
 buffer.append(postfix)
 return buffer
}

```

Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.

If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinTo

```

public fun <A : Appendable> FloatArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"\", postfix: CharSequence = "\"\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Float) -> CharSequence)? = null): A {
 buffer.append(prefix)
 var count = 0
 for (element in this) {
 if (++count > 1)
 buffer.append(separator)
 if (limit < 0 || count <= limit) {
 if (transform != null)
 buffer.append(transform(element))
 else
 buffer.append(element.toString())
 } else break
 }
 if (limit >= 0 && count > limit) buffer.append(truncated)
 buffer.append(postfix)
 return buffer
}

```

Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.

If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinTo

```

public fun <A : Appendable> DoubleArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"\", postfix: CharSequence = "\"\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Double) -> CharSequence)? = null): A {
 buffer.append(prefix)
 var count = 0
 for (element in this) {
 if (++count > 1)
 buffer.append(separator)
 if (limit < 0 || count <= limit) {
 if (transform != null)
 buffer.append(transform(element))
 else
 buffer.append(element.toString())
 } else break
 }
 if (limit >= 0 && count > limit) buffer.append(truncated)
 buffer.append(postfix)
 return buffer
}

```

Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.

If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinTo

```

public fun <A : Appendable> BooleanArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"\", postfix: CharSequence = "\"\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Boolean) -> CharSequence)? = null): A {
 buffer.append(prefix)
 var count = 0
 for (element in this) {
 if (++count > 1)
 buffer.append(separator)
 if (limit < 0 || count <= limit) {
 if (transform != null)
 buffer.append(transform(element))
 else
 buffer.append(element.toString())
 } else break
 }
 if (limit >= 0 && count > limit) buffer.append(truncated)
 buffer.append(postfix)
 return buffer
}

```

```

}
if (limit >= 0 && count > limit) buffer.append(truncated)
buffer.append(postfix)
return buffer
}

Append the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinTo
public fun <A : Appendable> CharArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Char) -> CharSequence)? = null): A {
 buffer.append(prefix)
 var count = 0
 for (element in this) {
 if (++count > 1)
 buffer.append(separator)
 if (limit < 0 || count <= limit) {
 if (transform != null)
 buffer.append(transform(element))
 else
 buffer.append(element)
 } else break
 }
 if (limit >= 0 && count > limit) buffer.append(truncated)
 buffer.append(postfix)
 return buffer
}

Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinToString
public fun <T> Array<out T>.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): String {
 return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()
}

Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinToString
public fun ByteArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Byte) -> CharSequence)? = null): String {
 return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()
}

Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinToString
public fun ShortArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Short) -> CharSequence)? = null): String {
 return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()
}

Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinToString
public fun IntArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Int) -> CharSequence)? = null): String {
 return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()
}

Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

@sample samples.collections.Collections.Transformations.joinToString
public fun LongArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((Long) -> CharSequence)? = null): String {
 return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()
}

Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be

```

appended, followed by the [truncated] string (which defaults to "...").

```

samples.collections.Collections.Transformations.joinToString\n *\npublic fun FloatArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Float) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *\npublic fun DoubleArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Double) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *\npublic fun BooleanArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Boolean) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *\npublic fun CharArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Char) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun <T> Array<out T>.asIterable(): Iterable<T> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun ByteArray.asIterable(): Iterable<Byte> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun ShortArray.asIterable(): Iterable<Short> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun IntArray.asIterable(): Iterable<Int> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun LongArray.asIterable(): Iterable<Long> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun FloatArray.asIterable(): Iterable<Float> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun DoubleArray.asIterable(): Iterable<Double> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun BooleanArray.asIterable(): Iterable<Boolean> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun CharArray.asIterable(): Iterable<Char> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromArray\n *\npublic fun <T> Array<out T>.asSequence():

```

```

Sequence<T> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun ByteArray.asSequence():
Sequence<Byte> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun ShortArray.asSequence():
Sequence<Short> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun IntArray.asSequence():
Sequence<Int> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun LongArray.asSequence():
Sequence<Long> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun FloatArray.asSequence():
Sequence<Float> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun DoubleArray.asSequence():
Sequence<Double> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun
BooleanArray.asSequence(): Sequence<Boolean> {\n if (isEmpty()) return emptySequence()\n return Sequence
{ this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements
when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic
fun CharArray.asSequence(): Sequence<Char> {\n if (isEmpty()) return emptySequence()\n return Sequence {
this.iterator() }\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Array<out Byte>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Array<out Short>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Array<out Int>.average(): Double {\n var sum: Double
= 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return if (count
== 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun Array<out Long>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun Array<out Float>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Array<out Double>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\npublic fun ByteArray.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in
this) {\n sum += element\n ++count\n }\n return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n *
Returns an average value of elements in the array.\n
*/\n\npublic fun ShortArray.average():
Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n

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++count\n } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of
elements in the array.\n */\npublic fun IntArray.average(): Double {\n var sum: Double = 0.0\n var count: Int =
0\n for (element in this) {\n sum += element\n ++count\n }\n return if (count == 0) Double.NaN else
sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun LongArray.average():
Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
++count\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of
elements in the array.\n */\npublic fun FloatArray.average(): Double {\n var sum: Double = 0.0\n var count: Int
= 0\n for (element in this) {\n sum += element\n ++count\n }\n return if (count == 0) Double.NaN
else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun
DoubleArray.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n
sum += element\n ++count\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Array<out
Byte>.sum(): Int {\n var sum: Int = 0\n for (element in this) {\n sum += element\n }\n return
sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*/\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Array<out Short>.sum(): Int {\n var sum: Int = 0\n for
(element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the
array.\n */\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Array<out Int>.sum(): Int {\n var sum: Int = 0\n
for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in
the array.\n */\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Array<out Long>.sum(): Long {\n var sum:
Long = 0L\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of
all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun Array<out Float>.sum(): Float
{\n var sum: Float = 0.0f\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n *
Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Array<out
Double>.sum(): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += element\n }\n
return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun ByteArray.sum(): Int {\n
var sum: Int = 0\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the
sum of all elements in the array.\n */\npublic fun ShortArray.sum(): Int {\n var sum: Int = 0\n for (element
in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*/\npublic fun IntArray.sum(): Int {\n var sum: Int = 0\n for (element in this) {\n sum += element\n }\n
return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun LongArray.sum(): Long {\n
var sum: Long = 0L\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the
sum of all elements in the array.\n */\npublic fun FloatArray.sum(): Float {\n var sum: Float = 0.0f\n for
(element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the
array.\n */\npublic fun DoubleArray.sum(): Double {\n var sum: Double = 0.0\n for (element in this) {\n
sum += element\n }\n return sum\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage
kotlin.ranges\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a
random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.random(): Int {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this range.\n * \n * @throws
IllegalArgumentException if this range is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun LongRange.random(): Long {\n return random(Random)\n}\n\n/**\n * Returns a random element from
this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharRange.random(): Char {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of

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randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\npublic fun IntRange.random(random: Random): Int {\n try {\n return
random.nextInt(this)\n } catch(e: IllegalArgumentException) {\n throw
NoSuchElementException(e.message)\n }\n}\n\n/**\n * Returns a random element from this range using the
specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\npublic fun LongRange.random(random: Random): Long {\n try {\n return
random.nextLong(this)\n } catch(e: IllegalArgumentException) {\n throw
NoSuchElementException(e.message)\n }\n}\n\n/**\n * Returns a random element from this range using the
specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\npublic fun CharRange.random(random: Random): Char {\n try {\n return
random.nextInt(first.toInt(), last.toInt() + 1).toChar()\n } catch(e: IllegalArgumentException) {\n throw
NoSuchElementException(e.message)\n }\n}\n\n/**\n * Returns a random element from this range, or `null` if this
range is empty.\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline
fun IntRange.randomOrNull(): Int? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
LongRange.randomOrNull(): Long? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
CharRange.randomOrNull(): Char? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this range using the specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun IntRange.randomOrNull(random: Random): Int?
{\n if (isEmpty())\n return null\n return random.nextInt(this)\n}\n\n/**\n * Returns a random element from
this range using the specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun LongRange.randomOrNull(random: Random):
Long? {\n if (isEmpty())\n return null\n return random.nextLong(this)\n}\n\n/**\n * Returns a random
element from this range using the specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun CharRange.randomOrNull(random: Random):
Char? {\n if (isEmpty())\n return null\n return random.nextInt(first.toInt(), last.toInt() +
1).toChar()\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false`
if the [element] is `null`.\n *\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun
IntRange.contains(element: Int?): Boolean {\n return element != null && contains(element)\n}\n\n/**\n * Returns
`true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun LongRange.contains(element:
Long?): Boolean {\n return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range
contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun CharRange.contains(element:
Char?): Boolean {\n return element != null && contains(element)\n}\n\n/**\n * Checks if the specified [value]
belongs to this range.\n *\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun
ClosedRange<Int>.contains(value: Byte): Boolean {\n return contains(value.toInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n *\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun
ClosedRange<Long>.contains(value: Byte): Boolean {\n return contains(value.toLong())\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n *\n@kotlin.jvm.JvmName("shortRangeContains")\npublic operator
fun ClosedRange<Short>.contains(value: Byte): Boolean {\n return contains(value.toShort())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *\n@Deprecated("This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.")\n@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun
ClosedRange<Double>.contains(value: Byte): Boolean {\n return contains(value.toDouble())\n}\n\n/**\n *

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Checks if the specified [value] belongs to this range.  
`*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value: Byte): Boolean {\n return contains(value.toFloat())\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun ClosedRange<Int>.contains(value: Double): Boolean {\n return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun ClosedRange<Long>.contains(value: Double): Boolean {\n return value.toLongExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("byteRangeContains")\npublic operator fun ClosedRange<Byte>.contains(value: Double): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun ClosedRange<Short>.contains(value: Double): Boolean {\n return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value: Double): Boolean {\n return contains(value.toFloat())\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun ClosedRange<Int>.contains(value: Float): Boolean {\n return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun ClosedRange<Long>.contains(value: Float): Boolean {\n return value.toLongExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("byteRangeContains")\npublic operator fun ClosedRange<Byte>.contains(value: Float): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun ClosedRange<Short>.contains(value: Float): Boolean {\n return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun ClosedRange<Double>.contains(value: Float): Boolean {\n return contains(value.toDouble())\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun ClosedRange<Long>.contains(value: Int): Boolean {\n return contains(value.toLong())\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@kotlin.jvm.JvmName("byteRangeContains")\npublic operator fun ClosedRange<Byte>.contains(value: Int): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.  
*\n@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun ClosedRange<Short>.contains(value: Int): Boolean {\n return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if`

the specified [value] belongs to this range.  
`@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@kotlin.jvm.JvmName("doubleRangeContains")`  
`public operator fun ClosedRange<Double>.contains(value: Int): Boolean` {  
 return contains(value.toDouble())  
} // Checks if the specified [value] belongs to this range.  
`@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@kotlin.jvm.JvmName("floatRangeContains")`  
`public operator fun ClosedRange<Float>.contains(value: Int): Boolean` {  
 return contains(value.toFloat())  
} // Checks if the specified [value] belongs to this range.  
`@kotlin.jvm.JvmName("intRangeContains")`  
`public operator fun ClosedRange<Int>.contains(value: Long): Boolean` {  
 return value.toIntExactOrNull().let { if (it != null) contains(it) else false }  
} // Checks if the specified [value] belongs to this range.  
`@kotlin.jvm.JvmName("byteRangeContains")`  
`public operator fun ClosedRange<Byte>.contains(value: Long): Boolean` {  
 return value.toByteExactOrNull().let { if (it != null) contains(it) else false }  
} // Checks if the specified [value] belongs to this range.  
`@kotlin.jvm.JvmName("shortRangeContains")`  
`public operator fun ClosedRange<Short>.contains(value: Long): Boolean` {  
 return value.toShortExactOrNull().let { if (it != null) contains(it) else false }  
} // Checks if the specified [value] belongs to this range.  
`@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@kotlin.jvm.JvmName("doubleRangeContains")`  
`public operator fun ClosedRange<Double>.contains(value: Long): Boolean` {  
 return contains(value.toDouble())  
} // Checks if the specified [value] belongs to this range.  
`@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@kotlin.jvm.JvmName("floatRangeContains")`  
`public operator fun ClosedRange<Float>.contains(value: Long): Boolean` {  
 return contains(value.toFloat())  
} // Checks if the specified [value] belongs to this range.  
`@kotlin.jvm.JvmName("intRangeContains")`  
`public operator fun ClosedRange<Int>.contains(value: Short): Boolean` {  
 return contains(value.toInt())  
} // Checks if the specified [value] belongs to this range.  
`@kotlin.jvm.JvmName("longRangeContains")`  
`public operator fun ClosedRange<Long>.contains(value: Short): Boolean` {  
 return contains(value.toLong())  
} // Checks if the specified [value] belongs to this range.  
`@kotlin.jvm.JvmName("byteRangeContains")`  
`public operator fun ClosedRange<Byte>.contains(value: Short): Boolean` {  
 return value.toByteExactOrNull().let { if (it != null) contains(it) else false }  
} // Checks if the specified [value] belongs to this range.  
`@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@kotlin.jvm.JvmName("doubleRangeContains")`  
`public operator fun ClosedRange<Double>.contains(value: Short): Boolean` {  
 return contains(value.toDouble())  
} // Checks if the specified [value] belongs to this range.  
`@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@kotlin.jvm.JvmName("floatRangeContains")`  
`public operator fun ClosedRange<Float>.contains(value: Short): Boolean` {  
 return contains(value.toFloat())  
} // Returns a progression from this value down to the specified [to] value with the step -1.  
// The [to] value should be less than or equal to `this` value.  
// If the [to] value is greater than `this` value the returned progression is empty.  
`public infix fun Int.downTo(to: Byte): IntProgression` {  
 return IntProgression.fromClosedRange(this, to.toInt(), -1)  
} // Returns a progression from this value down to the specified [to] value with the step -1.  
// The [to] value should be less than or equal to `this` value.  
// If the [to] value is greater than `this` value the returned progression is empty.  
`public infix fun Long.downTo(to: Byte): LongProgression` {  
 return LongProgression.fromClosedRange(this, to.toLong(), -1L)  
} // Returns a progression from this value down to the specified [to] value with the step -1.  
// The [to] value should be less than or equal to `this` value.  
// If the [to] value is greater than `this` value the returned progression is empty.  
`public infix fun Byte.downTo(to: Byte): IntProgression` {  
 return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)  
} // Returns a progression from this value down to the specified [to] value with the step -1.  
// The [to] value should be less than or equal to `this` value.  
// If the [to] value is greater than `this` value the returned progression is empty.

[to] value should be less than or equal to `this` value.\n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Short.downTo(to: Byte): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Char.downTo(to: Char): CharProgression {\n return CharProgression.fromClosedRange(this, to, -1)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Int.downTo(to: Int): IntProgression {\n return IntProgression.fromClosedRange(this, to, -1)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Long.downTo(to: Int): LongProgression {\n return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Byte.downTo(to: Int): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Short.downTo(to: Int): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Int.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Long.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this, to, -1L)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Byte.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Short.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Int.downTo(to: Short): IntProgression {\n return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Long.downTo(to: Short): LongProgression {\n return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Byte.downTo(to: Short): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* \n \* If the [to] value is greater than `this` value the returned progression is empty.\n \*/\npublic infix fun Short.downTo(to: Short): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/\*\*\n \* Returns a progression that goes over the same range in the opposite direction with the same step.\n \*/\n

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*/\npublic fun IntProgression.reversed(): IntProgression {\n return IntProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same
step.\n */\npublic fun LongProgression.reversed(): LongProgression {\n return
LongProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same
range in the opposite direction with the same step.\n */\npublic fun CharProgression.reversed(): CharProgression {\n
 return CharProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the
same range with the given step.\n */\npublic infix fun IntProgression.step(step: Int): IntProgression {\n
 checkStepIsPositive(step > 0, step)\n return IntProgression.fromClosedRange(first, last, if (this.step > 0) step else -
step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun
LongProgression.step(step: Long): LongProgression {\n checkStepIsPositive(step > 0, step)\n return
LongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression
that goes over the same range with the given step.\n */\npublic infix fun CharProgression.step(step: Int):
CharProgression {\n checkStepIsPositive(step > 0, step)\n return CharProgression.fromClosedRange(first, last, if
(this.step > 0) step else -step)\n}\n\ninternal fun Int.toByteExactOrNull(): Byte? {\n return if (this in
Byte.MIN_VALUE.toInt()..Byte.MAX_VALUE.toInt()) this.toByte() else null\n}\n\ninternal fun
Long.toByteExactOrNull(): Byte? {\n return if (this in
Byte.MIN_VALUE.toLong()..Byte.MAX_VALUE.toLong()) this.toByte() else null\n}\n\ninternal fun
Short.toByteExactOrNull(): Byte? {\n return if (this in
Byte.MIN_VALUE.toShort()..Byte.MAX_VALUE.toShort()) this.toByte() else null\n}\n\ninternal fun
Double.toByteExactOrNull(): Byte? {\n return if (this in
Byte.MIN_VALUE.toDouble()..Byte.MAX_VALUE.toDouble()) this.toByte() else null\n}\n\ninternal fun
Float.toByteExactOrNull(): Byte? {\n return if (this in
Byte.MIN_VALUE.toFloat()..Byte.MAX_VALUE.toFloat()) this.toByte() else null\n}\n\ninternal fun
Long.toIntExactOrNull(): Int? {\n return if (this in Int.MIN_VALUE.toLong()..Int.MAX_VALUE.toLong())
this.toInt() else null\n}\n\ninternal fun Double.toIntExactOrNull(): Int? {\n return if (this in
Int.MIN_VALUE.toDouble()..Int.MAX_VALUE.toDouble()) this.toInt() else null\n}\n\ninternal fun
Float.toIntExactOrNull(): Int? {\n return if (this in Int.MIN_VALUE.toFloat()..Int.MAX_VALUE.toFloat())
this.toInt() else null\n}\n\ninternal fun Double.toLongExactOrNull(): Long? {\n return if (this in
Long.MIN_VALUE.toDouble()..Long.MAX_VALUE.toDouble()) this.toLong() else null\n}\n\ninternal fun
Float.toLongExactOrNull(): Long? {\n return if (this in
Long.MIN_VALUE.toFloat()..Long.MAX_VALUE.toFloat()) this.toLong() else null\n}\n\ninternal fun
Int.toShortExactOrNull(): Short? {\n return if (this in Short.MIN_VALUE.toInt()..Short.MAX_VALUE.toInt())
this.toShort() else null\n}\n\ninternal fun Long.toShortExactOrNull(): Short? {\n return if (this in
Short.MIN_VALUE.toLong()..Short.MAX_VALUE.toLong()) this.toShort() else null\n}\n\ninternal fun
Double.toShortExactOrNull(): Short? {\n return if (this in
Short.MIN_VALUE.toDouble()..Short.MAX_VALUE.toDouble()) this.toShort() else null\n}\n\ninternal fun
Float.toShortExactOrNull(): Short? {\n return if (this in
Short.MIN_VALUE.toFloat()..Short.MAX_VALUE.toFloat()) this.toShort() else null\n}\n\n/**\n * Returns a range
from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this`
value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Byte): IntRange {\n return this ..
(to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n *
\n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun
Long.until(to: Byte): LongRange {\n return this .. (to.toLong() - 1).toLong()\n}\n\n/**\n * Returns a range from
this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this`
value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Byte): IntRange {\n return this.toInt() ..
(to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n *
\n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun
Short.until(to: Byte): IntRange {\n return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from

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this value up to but excluding the specified [to] value.

```

 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Char.until(to: Char): CharRange {
 if (to <= '\u0000')
 return CharRange.EMPTY
 return this .. (to - 1).toChar()
 }
 Returns a range from this value up to but
 excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Int.until(to: Int): IntRange {
 if (to <= Int.MIN_VALUE)
 return IntRange.EMPTY
 return this .. (to - 1).toInt()
 }
 Returns a range from this value up to but excluding
 the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Long.until(to: Int): LongRange {
 return this .. (to.toLong() -
1).toLong()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Byte.until(to:
Int): IntRange {
 if (to <= Int.MIN_VALUE)
 return IntRange.EMPTY
 return this.toInt() .. (to -
1).toInt()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Short.until(to:
Int): IntRange {
 if (to <= Int.MIN_VALUE)
 return IntRange.EMPTY
 return this.toInt() .. (to -
1).toInt()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Int.until(to:
Long): LongRange {
 if (to <= Long.MIN_VALUE)
 return LongRange.EMPTY
 return this.toLong() .. (to -
1).toLong()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Long.until(to:
Long): LongRange {
 if (to <= Long.MIN_VALUE)
 return LongRange.EMPTY
 return this .. (to -
1).toLong()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Byte.until(to:
Long): LongRange {
 if (to <= Long.MIN_VALUE)
 return LongRange.EMPTY
 return this.toLong() .. (to -
1).toLong()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Short.until(to:
Long): LongRange {
 if (to <= Long.MIN_VALUE)
 return LongRange.EMPTY
 return this.toLong() .. (to -
1).toLong()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Int.until(to:
Short): IntRange {
 return this .. (to.toInt() - 1).toInt()
 }
 Returns a range from this value up to but
 excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Long.until(to: Short): LongRange {
 return this .. (to.toLong() -
1).toLong()
 }
 Returns a range from this value up to but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Byte.until(to:
Short): IntRange {
 return this.toInt() .. (to.toInt() - 1).toInt()
 }
 Returns a range from this value up to
 but excluding the specified [to] value.
 If the [to] value is less than or equal to `this` value,
 then the returned range is empty.
 public infix fun Short.until(to: Short): IntRange {
 return this.toInt() .. (to.toInt() -
1).toInt()
 }
 Ensures that this value is not less than the specified [minimumValue].
 @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.
 @sample
 samples.comparisons.ComparableOps.coerceAtLeastComparable
 public fun <T : Comparable<T>>
T.coerceAtLeast(minimumValue: T): T {
 return if (this < minimumValue)
 minimumValue else this
 }
 Ensures that this value is not less than the specified [minimumValue].
 @return this value if it's greater
 than or equal to the [minimumValue] or the [minimumValue] otherwise.
 @sample
 samples.comparisons.ComparableOps.coerceAtLeast
 public fun Byte.coerceAtLeast(minimumValue: Byte):
Byte {
 return if (this < minimumValue)
 minimumValue else this
 }
 Ensures that this value is not less
 than the specified [minimumValue].
 @return this value if it's greater than or equal to the [minimumValue]
 or the [minimumValue] otherwise.
 @sample
 samples.comparisons.ComparableOps.coerceAtLeast
 public fun Short.coerceAtLeast(minimumValue: Short): Short {
 return if (this < minimumValue)
 minimumValue else this
 }
 Ensures that this value is not less than the specified [minimumValue].

```

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* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n *
@sample samples.comparisons.ComparableOps.coerceAtLeast\n * \n public fun Int.coerceAtLeast(minimumValue:
Int): Int {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not
less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the
[minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeast\n * \n public fun Long.coerceAtLeast(minimumValue: Long):
Long {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less
than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]
or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n
* \n public fun Float.coerceAtLeast(minimumValue: Float): Float {\n return if (this < minimumValue)
minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n
* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n
* @sample samples.comparisons.ComparableOps.coerceAtLeast\n * \n public fun
Double.coerceAtLeast(minimumValue: Double): Double {\n return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostComparable\n * \n public fun <T : Comparable<T>>
T.coerceAtMost(maximumValue: T): T {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n
* Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less
than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n * \n public fun Byte.coerceAtMost(maximumValue: Byte):
Byte {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n * \n public fun Short.coerceAtMost(maximumValue: Short):
Short {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n * \n public fun Int.coerceAtMost(maximumValue: Int): Int
{\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater
than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or
the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n
* \n public fun Long.coerceAtMost(maximumValue: Long): Long {\n return if (this > maximumValue)
maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n *
\n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n
* @sample samples.comparisons.ComparableOps.coerceAtMost\n * \n public fun
Float.coerceAtMost(maximumValue: Float): Float {\n return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n * \n public fun Double.coerceAtMost(maximumValue:
Double): Double {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range,
or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInComparable\n * \n public fun
<T : Comparable<T>> T.coerceIn(minimumValue: T?, maximumValue: T?): T {\n if (minimumValue !== null
&& maximumValue !== null) {\n if (minimumValue > maximumValue) throw
IllegalArgumentOutOfRangeException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this >

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maximumValue) return maximumValue\n } \n else { \n if (minimumValue != null && this <
minimumValue) return minimumValue\n if (maximumValue != null && this > maximumValue) return
maximumValue\n } \n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Byte.coerceIn(minimumValue: Byte,
maximumValue: Byte): Byte { \n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Short.coerceIn(minimumValue: Short,
maximumValue: Short): Short { \n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Int.coerceIn(minimumValue: Int, maximumValue:
Int): Int { \n if (minimumValue > maximumValue) throw IllegalArgumentException("Cannot coerce value to an
empty range: maximum $maximumValue is less than minimum $minimumValue.")\n if (this < minimumValue)
return minimumValue\n if (this > maximumValue) return maximumValue\n return this\n}\n\n/**\n * Ensures
that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in
the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater
than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun
Long.coerceIn(minimumValue: Long, maximumValue: Long): Long { \n if (minimumValue > maximumValue)
throw IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Float.coerceIn(minimumValue: Float,
maximumValue: Float): Float { \n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Double.coerceIn(minimumValue: Double,
maximumValue: Double): Double { \n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInFloatingPointRange\n *\n@SinceKotlin("1.1")\npublic fun <T :
Comparable<T>> T.coerceIn(range: ClosedFloatingPointRange<T>): T { \n if (range.isEmpty()) throw

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IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n return when {\n // this <
start equiv to this <= start && !(this >= start)\n range.lessThanOrEqualTo(this, range.start) &&
!range.lessThanOrEqualTo(range.start, this) -> range.start\n // this > end equiv to this >= end && !(this <= end)\n
 range.lessThanOrEqualTo(range.endInclusive, this) && !range.lessThanOrEqualTo(this, range.endInclusive) ->
range.endInclusive\n else -> this\n }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInComparable\n * \npublic fun <T> Comparable<T>>
T.coerceIn(range: ClosedRange<T>): T {\n if (range is ClosedFloatingPointRange) {\n return
this.coerceIn<T>(range)\n }\n if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an
empty range: $range.")\n return when {\n this < range.start -> range.start\n this > range.endInclusive ->
range.endInclusive\n else -> this\n }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n * \npublic fun Int.coerceIn(range: ClosedRange<Int>): Int {\n if (range is ClosedFloatingPointRange) {\n
return this.coerceIn<Int>(range)\n }\n if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce
value to an empty range: $range.")\n return when {\n this < range.start -> range.start\n this >
range.endInclusive -> range.endInclusive\n else -> this\n }\n}\n\n/**\n * Ensures that this value lies in the
specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than
`range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n * \npublic fun Long.coerceIn(range: ClosedRange<Long>): Long
{\n if (range is ClosedFloatingPointRange) {\n return this.coerceIn<Long>(range)\n }\n if
(range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n return
when {\n this < range.start -> range.start\n this > range.endInclusive -> range.endInclusive\n else ->
this\n }\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport
kotlin.experimental.*\n\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic inline class UByte @PublishedApi internal
constructor(@PublishedApi internal val data: Byte) : Comparable<UByte> {\n\n companion object {\n\n /**\n
 * A constant holding the minimum value an instance of UByte can have.\n
 * \n * \n * public const val
MIN_VALUE: UByte = UByte(0)\n\n /**\n
 * A constant holding the maximum value an instance of
UByte can have.\n
 * \n * \n * public const val
MAX_VALUE: UByte = UByte(-1)\n\n /**\n
 * The number of bytes used to represent an instance of UByte in a binary form.\n
 * \n * \n * public const val
SIZE_BYTES: Int = 1\n\n /**\n
 * The number of bits used to represent an instance of UByte in a binary
form.\n
 * \n * \n * public const val
SIZE_BITS: Int = 8\n }\n\n /**\n
 * Compares this value with the specified value for order.\n
 * \n * \n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n
 * \n * \n * or a positive number if it's greater than other.\n
 * \n * \n * @kotlin.internal.InlineOnly\n
 * \n * @Suppress("OVERRIDE_BY_INLINE")\n
 * \n * public override inline operator fun compareTo(other: UByte): Int =
this.toInt().compareTo(other.toInt())\n\n * \n * \n * Compares this value with the specified value for order.\n
 * \n * \n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n
 * \n * \n * or a positive number if it's greater than other.\n
 * \n * \n * @kotlin.internal.InlineOnly\n
 * \n * public inline operator fun
compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n\n * \n * \n * Compares this value with the
specified value for order.\n
 * \n * \n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n
 * \n * \n * or a positive number if it's greater than other.\n
 * \n * \n * @kotlin.internal.InlineOnly\n
 * \n * public inline operator fun
compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n * \n * \n * Compares this value with the
specified value for order.\n
 * \n * \n * Returns zero if this value is equal to the specified other value, a
negative number if it's less than other,\n
 * \n * \n * or a positive number if it's greater than other.\n
 * \n * \n * \n * \n
 */\n
}

```

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@kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: ULong): Int =
this.toULong().compareTo(other)\n\n /** Adds the other value to this value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UByte): UInt = this.toUInt().plus(other.toUInt())\n /** Adds the other value
to this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UShort): UInt =
this.toUInt().plus(other.toUInt())\n /** Adds the other value to this value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other)\n /** Adds the other value to this
value. *\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: ULong): ULong =
this.toULong().plus(other)\n\n /** Subtracts the other value from this value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n /** Subtracts the
other value from this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort):
UInt = this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n
/** Subtracts the other value from this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n
/** Multiplies this value by the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun div(other: UByte): UInt =
this.toUInt().div(other.toUInt())\n /** Divides this value by the other value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by
the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): UInt =
this.toUInt().div(other)\n /** Divides this value by the other value. *\n @kotlin.internal.InlineOnly\n public
inline operator fun div(other: ULong): ULong = this.toULong().div(other)\n\n /** Calculates the remainder of
dividing this value by the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other:
UByte): UInt = this.toUInt().rem(other.toUInt())\n /** Calculates the remainder of dividing this value by the other
value. *\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): UInt =
this.toUInt().rem(other.toUInt())\n /** Calculates the remainder of dividing this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n /**
Calculates the remainder of dividing this value by the other value. *\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /** Increments this value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun inc(): UByte = UByte(data.inc())\n /** Decrements this
value. *\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UByte = UByte(data.dec())\n\n /**
Creates a range from this value to the specified [other] value. *\n @kotlin.internal.InlineOnly\n public inline
operator fun rangeTo(other: UByte): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n\n /** Performs a
bitwise AND operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun
and(other: UByte): UByte = UByte(this.data and other.data)\n\n /** Performs a bitwise OR operation between the
two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UByte): UByte = UByte(this.data
or other.data)\n\n /** Performs a bitwise XOR operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun xor(other: UByte): UByte = UByte(this.data xor other.data)\n
/** Inverts the bits in this value. *\n @kotlin.internal.InlineOnly\n public inline fun inv(): UByte =
UByte(data.inv())\n\n /**\n * Converts this [UByte] value to [Byte].\n * If this value is less than or
equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same numerical value as this
`UByte`. Otherwise the result is negative.\n * The resulting `Byte` value has the same binary representation
as this `UByte` value.\n *\n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data\n /**\n

```

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* Converts this [UByte] value to [Short].\n * The resulting `Short` value represents the same numerical
value as this `UByte`.\n * The least significant 8 bits of the resulting `Short` value are the same as the bits
of this `UByte` value,\n * whereas the most significant 8 bits are filled with zeros.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort() and 0xFF\n /**\n * Converts
this [UByte] value to [Int].\n * The resulting `Int` value represents the same numerical value as this
`UByte`.\n * The least significant 8 bits of the resulting `Int` value are the same as the bits of this `UByte`
value,\n * whereas the most significant 24 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n
public inline fun toInt(): Int = data.toInt() and 0xFF\n /**\n * Converts this [UByte] value to [Long].\n *
The resulting `Long` value represents the same numerical value as this `UByte`.\n * The least significant
8 bits of the resulting `Long` value are the same as the bits of this `UByte` value,\n * whereas the most significant
56 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long =
data.toLong() and 0xFF\n /** Returns this value. */\n @kotlin.internal.InlineOnly\n public inline fun
toUByte(): UByte = this\n /**\n * Converts this [UByte] value to [UShort].\n * The resulting `UShort`
value represents the same numerical value as this `UByte`.\n * The least significant 8 bits of the resulting
`UShort` value are the same as the bits of this `UByte` value,\n * whereas the most significant 8 bits are filled
with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = UShort(data.toShort()
and 0xFF)\n /**\n * Converts this [UByte] value to [UInt].\n * The resulting `UInt` value represents
the same numerical value as this `UByte`.\n * The least significant 8 bits of the resulting `UInt` value are
the same as the bits of this `UByte` value,\n * whereas the most significant 24 bits are filled with zeros.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFF)\n /**\n *
Converts this [UByte] value to [ULong].\n * The resulting `ULong` value represents the same numerical
value as this `UByte`.\n * The least significant 8 bits of the resulting `ULong` value are the same as the bits
of this `UByte` value,\n * whereas the most significant 56 bits are filled with zeros.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = ULong(data.toLong() and 0xFF)\n /**\n
* Converts this [UByte] value to [Float].\n * The resulting `Float` value represents the same numerical
value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float =
this.toInt().toFloat()\n /**\n * Converts this [UByte] value to [Double].\n * The resulting `Double`
value represents the same numerical value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public inline
fun toDouble(): Double = this.toInt().toDouble()\n public override fun toString(): String =
toInt().toString()\n}\n\n/**\n * Converts this [Byte] value to [UByte].\n * If this value is positive, the resulting
`UByte` value represents the same numerical value as this `Byte`.\n * The resulting `UByte` value has the same
binary representation as this `Byte` value.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.toUByte(): UByte = UByte(this)\n/**\n * Converts this [Short] value to [UByte].\n * If this value is
positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same
numerical value as this `Short`.\n * The resulting `UByte` value is represented by the least significant 8 bits of
this `Short` value.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
Short.toUByte(): UByte = UByte(this.toByte())\n/**\n * Converts this [Int] value to [UByte].\n * If this value is
positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same
numerical value as this `Int`.\n * The resulting `UByte` value is represented by the least significant 8 bits of this
`Int` value.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun Int.toUByte(): UByte = UByte(this.toByte())\n/**\n * Converts this [Long] value to [UByte].\n * If
this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n *
the same numerical value as this `Long`.\n * The resulting `UByte` value is represented by the least significant 8
bits of this `Long` value.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
Long.toUByte(): UByte = UByte(this.toByte())\n", "\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin

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Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *^n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport
kotlin.experimental.*\n\n@Suppress("\NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@
SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class UInt @PublishedApi internal
constructor(@PublishedApi internal val data: Int) : Comparable<UInt> {\n\n companion object {\n /**\n
 * A constant holding the minimum value an instance of UInt can have.\n *^n public const val
MIN_VALUE: UInt = UInt(0)\n\n /**\n * A constant holding the maximum value an instance of UInt can
have.\n *^n public const val MAX_VALUE: UInt = UInt(-1)\n\n /**\n * The number of bytes
used to represent an instance of UInt in a binary form.\n *^n public const val SIZE_BYTES: Int = 4\n\n
 /**\n * The number of bits used to represent an instance of UInt in a binary form.\n *^n public const
val SIZE_BITS: Int = 32\n }\n\n /**\n * Compares this value with the specified value for order.\n * Returns
zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive
number if it's greater than other.\n *^n @kotlin.internal.InlineOnly\n public inline operator fun
compareTo(other: UByte): Int = this.compareTo(other.toUInt())\n\n /**\n * Compares this value with the
specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n * or a positive number if it's greater than other.\n *^n @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: UShort): Int = this.compareTo(other.toUInt())\n\n /**\n *
Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other
value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n *^n
 @kotlin.internal.InlineOnly\n @Suppress("\OVERRIDE_BY_INLINE")\n public override inline operator fun
compareTo(other: UInt): Int = uintCompare(this.data, other.data)\n\n /**\n * Compares this value with the
specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n * or a positive number if it's greater than other.\n *^n @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n /** Adds the
other value to this value. *^n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UByte): UInt =
this.plus(other.toUInt())\n\n /** Adds the other value to this value. *^n @kotlin.internal.InlineOnly\n public
inline operator fun plus(other: UShort): UInt = this.plus(other.toUInt())\n\n /** Adds the other value to this value.
*^n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UInt): UInt =
UInt(this.data.plus(other.data))\n\n /** Adds the other value to this value. *^n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n /** Subtracts the other
value from this value. *^n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UByte): UInt =
this.minus(other.toUInt())\n\n /** Subtracts the other value from this value. *^n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UShort): UInt = this.minus(other.toUInt())\n\n /** Subtracts the other value
from this value. *^n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt =
UInt(this.data.minus(other.data))\n\n /** Subtracts the other value from this value. *^n
 @kotlin.internal.InlineOnly\n public inline operator fun minus(other: ULong): ULong =
this.toULong().minus(other)\n\n /** Multiplies this value by the other value. *^n @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UByte): UInt = this.times(other.toUInt())\n\n /** Multiplies this value by the
other value. *^n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.times(other.toUInt())\n\n /** Multiplies this value by the other value. *^n @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UInt): UInt = UInt(this.data.times(other.data))\n\n /** Multiplies this value
by the other value. *^n @kotlin.internal.InlineOnly\n public inline operator fun times(other: ULong): ULong =
this.toULong().times(other)\n\n /** Divides this value by the other value. *^n @kotlin.internal.InlineOnly\n
public inline operator fun div(other: UByte): UInt = this.div(other.toUInt())\n\n /** Divides this value by the other
value. *^n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UShort): UInt =
this.div(other.toUInt())\n\n /** Divides this value by the other value. *^n @kotlin.internal.InlineOnly\n public
inline operator fun div(other: UInt): UInt = uintDivide(this, other)\n\n /** Divides this value by the other value. *^n
 @kotlin.internal.InlineOnly\n public inline operator fun div(other: ULong): ULong =

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this.toULong().div(other)\n\n /** Calculates the remainder of dividing this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): UInt = this.rem(other.toUInt())\n /**
Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UShort): UInt = this.rem(other.toUInt())\n /** Calculates the remainder of dividing
this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt
= uintRemainder(this, other)\n /** Calculates the remainder of dividing this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: ULong): ULong =
this.toULong().rem(other)\n\n /** Increments this value. */\n @kotlin.internal.InlineOnly\n public inline
operator fun inc(): UInt = UInt(data.inc())\n /** Decrements this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun dec(): UInt = UInt(data.dec())\n\n /** Creates a range from this value to the specified
[other] value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UInt): UIntRange =
UIntRange(this, other)\n\n /** Shifts this value left by the [bitCount] number of bits. */\n
@kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): UInt = UInt(data shl bitCount)\n /**
Shifts this value right by the [bitCount] number of bits, filling the leftmost bits with zeros. */\n
@kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): UInt = UInt(data ushr bitCount)\n /**
Performs a bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix
fun and(other: UInt): UInt = UInt(this.data and other.data)\n /** Performs a bitwise OR operation between the two
values. */\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UInt): UInt = UInt(this.data or
other.data)\n /** Performs a bitwise XOR operation between the two values. */\n @kotlin.internal.InlineOnly\n
public inline infix fun xor(other: UInt): UInt = UInt(this.data xor other.data)\n /** Inverts the bits in this value.
*/\n @kotlin.internal.InlineOnly\n public inline fun inv(): UInt = UInt(data.inv())\n\n /**\n * Converts this
[UInt] value to [Byte].\n * \n * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte`
value represents\n * the same numerical value as this `UInt`. \n * \n * The resulting `Byte` value is
represented by the least significant 8 bits of this `UInt` value.\n * Note that the resulting `Byte` value may be
negative.\n */\n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n /**\n *
Converts this [UInt] value to [Short].\n * \n * If this value is less than or equals to [Short.MAX_VALUE], the
resulting `Short` value represents\n * the same numerical value as this `UInt`. \n * \n * The resulting `Short`
value is represented by the least significant 16 bits of this `UInt` value.\n * Note that the resulting `Short`
value may be negative.\n */\n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort()\n
/**\n * Converts this [UInt] value to [Int].\n * \n * If this value is less than or equals to [Int.MAX_VALUE],
the resulting `Int` value represents\n * the same numerical value as this `UInt`. Otherwise the result is negative.\n
* \n * The resulting `Int` value has the same binary representation as this `UInt` value.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data\n /**\n * Converts this [UInt] value to
[Long].\n * \n * The resulting `Long` value represents the same numerical value as this `UInt`. \n * \n * The
least significant 32 bits of the resulting `Long` value are the same as the bits of this `UInt` value,\n * whereas the
most significant 32 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong():
Long = data.toLong() and 0xFFFF_FFFF\n\n /**\n * Converts this [UInt] value to [UByte].\n * \n * If this
value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same
numerical value as this `UInt`. \n * \n * The resulting `UByte` value is represented by the least significant 8 bits
of this `UInt` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte =
data.toUByte()\n /**\n * Converts this [UInt] value to [UShort].\n * \n * If this value is less than or equals
to [UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same numerical value as this `UInt`. \n
* \n * The resulting `UShort` value is represented by the least significant 16 bits of this `UInt` value.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = data.toUShort()\n /** Returns this value.
*/\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = this\n /**\n * Converts this [UInt] value
to [ULong].\n * \n * The resulting `ULong` value represents the same numerical value as this `UInt`. \n * \n
* The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `UInt` value,\n *
whereas the most significant 32 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline

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fun toULong(): ULong = ULong(data.toLong() and 0xFFFF_FFFF)\n\n /**\n * Converts this [UInt] value to [Float].\n *\n * The resulting value is the closest `Float` to this `UInt` value.\n * In case when this `UInt` value is exactly between two `Float`s,\n * the one with zero at least significant bit of mantissa is selected.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toDouble().toFloat()\n /**\n * Converts this [UInt] value to [Double].\n *\n * The resulting `Double` value represents the same numerical value as this `UInt`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double = uintToDouble(data)\n\n public override fun toString(): String = toLong().toString()\n\n}\n\n/**\n * Converts this [Byte] value to [UInt].\n *\n * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Byte`.\n *\n * The least significant 8 bits of the resulting `UInt` value are the same as the bits of this `Byte` value,\n * whereas the most significant 24 bits are filled with the sign bit of this value.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun Byte.toUInt(): UInt = UInt(this.toInt())\n /**\n * Converts this [Short] value to [UInt].\n *\n * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Short`.\n *\n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `Short` value,\n * whereas the most significant 16 bits are filled with the sign bit of this value.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun Short.toUInt(): UInt = UInt(this.toInt())\n /**\n * Converts this [Int] value to [UInt].\n *\n * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Int`.\n *\n * The resulting `UInt` value has the same binary representation as this `Int` value.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun Int.toUInt(): UInt = UInt(this)\n /**\n * Converts this [Long] value to [UInt].\n *\n * If this value is positive and less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n * the same numerical value as this `Long`.\n *\n * The resulting `UInt` value is represented by the least significant 32 bits of this `Long` value.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun Long.toUInt(): UInt = UInt(this.toInt())\n /**\n * Converts this [Float] value to [UInt].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Float` value is negative or `NaN`, [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun Float.toUInt(): UInt = doubleToUInt(this.toDouble())\n /**\n * Converts this [Double] value to [UInt].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is negative or `NaN`, [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun Double.toUInt(): UInt = doubleToUInt(this)\n", "\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\n\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public inline class UShort @PublishedApi internal constructor(@PublishedApi internal val data: Short) : Comparable<UShort> {\n\n companion object {\n\n /**\n * A constant holding the minimum value an instance of UShort can have.\n */\n public const val MIN_VALUE: UShort = UShort(0)\n\n /**\n * A constant holding the maximum value an instance of UShort can have.\n */\n public const val MAX_VALUE: UShort = UShort(-1)\n\n /**\n * The number of bytes used to represent an instance of UShort in a binary form.\n */\n public const val SIZE_BYTES: Int = 2\n\n /**\n * The number of bits used to represent an instance of UShort in a binary form.\n */\n public const val SIZE_BITS: Int = 16\n\n }\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UByte): Int = this.toInt().compareTo(other.toInt())\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other

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value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n
@kotlin.internal.InlineOnly\n @Suppress("OVERRIDE_BY_INLINE")\n public override inline operator fun
compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n\n /**\n * Compares this value with the
specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n /**\n * Compares
this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a
negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: ULong): Int =
this.toULong().compareTo(other)\n\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UByte): UInt = this.toUInt().plus(other.toUInt())\n\n /** Adds the other value
to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UShort): UInt =
this.toUInt().plus(other.toUInt())\n\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other)\n\n /** Adds the other value to this
value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: ULong): ULong =
this.toULong().plus(other)\n\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n\n /** Subtracts the
other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort):
UInt = this.toUInt().minus(other.toUInt())\n\n /** Subtracts the other value from this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n\n
/** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n\n
/** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun div(other: UByte): UInt =
this.toUInt().div(other.toUInt())\n\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n\n /** Divides this value by
the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): UInt =
this.toUInt().div(other)\n\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun div(other: ULong): ULong = this.toULong().div(other)\n\n /** Calculates the remainder of
dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other:
UByte): UInt = this.toUInt().rem(other.toUInt())\n\n /** Calculates the remainder of dividing this value by the other
value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): UInt =
this.toUInt().rem(other.toUInt())\n\n /** Calculates the remainder of dividing this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n\n /**
Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /** Increments this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun inc(): UShort = UShort(data.inc())\n\n /** Decrements
this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UShort = UShort(data.dec())\n\n
/** Creates a range from this value to the specified [other] value. */\n @kotlin.internal.InlineOnly\n public inline
operator fun rangeTo(other: UShort): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n\n /** Performs a
bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun
and(other: UShort): UShort = UShort(this.data and other.data)\n\n /** Performs a bitwise OR operation between the

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two values. */
@kotlin.internal.InlineOnly
public inline infix fun or(other: UShort): UShort =
 UShort(this.data or other.data)
/** Performs a bitwise XOR operation between the two values. */
@kotlin.internal.InlineOnly
public inline infix fun xor(other: UShort): UShort = UShort(this.data xor
other.data)
/** Inverts the bits in this value. */
@kotlin.internal.InlineOnly
public inline fun inv():
 UShort = UShort(data.inv())
/**
 * Converts this [UShort] value to [Byte].
 * If this value is less
than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents
 * the same numerical value as this
`UShort`.
 * The resulting `Byte` value is represented by the least significant 8 bits of this `UShort`
value.
 * Note that the resulting `Byte` value may be negative.
 */
@kotlin.internal.InlineOnly
public inline fun toByte(): Byte = data.toByte()
/**
 * Converts this [UShort] value to [Short].
 * If this
value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value represents
 * the same
numerical value as this `UShort`. Otherwise the result is negative.
 * The resulting `Short` value has the
same binary representation as this `UShort` value.
 */
@kotlin.internal.InlineOnly
public inline fun
toShort(): Short = data
/**
 * Converts this [UShort] value to [Int].
 * The resulting `Int` value
represents the same numerical value as this `UShort`.
 * The least significant 16 bits of the resulting `Int`
value are the same as the bits of this `UShort` value,
 * whereas the most significant 16 bits are filled with
zeros.
 */
@kotlin.internal.InlineOnly
public inline fun toInt(): Int = data.toInt() and 0xFFFF
/**
 * Converts this [UShort] value to [Long].
 * The resulting `Long` value represents the same numerical
value as this `UShort`.
 * The least significant 16 bits of the resulting `Long` value are the same as the bits
of this `UShort` value,
 * whereas the most significant 48 bits are filled with zeros.
 */
@kotlin.internal.InlineOnly
public inline fun toLong(): Long = data.toLong() and 0xFFFF
/**
 *
Converts this [UShort] value to [UByte].
 * If this value is less than or equals to [UByte.MAX_VALUE],
the resulting `UByte` value represents
 * the same numerical value as this `UShort`.
 * The resulting
`UByte` value is represented by the least significant 8 bits of this `UShort` value.
 */
@kotlin.internal.InlineOnly
public inline fun toUByte(): UByte = data.toUByte()
/** Returns this value. */
@kotlin.internal.InlineOnly
public inline fun toUShort(): UShort = this
/**
 * Converts this [UShort]
value to [UInt].
 * The resulting `UInt` value represents the same numerical value as this `UShort`.
 * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `UShort` value,
 * whereas the most significant 16 bits are filled with zeros.
 */
@kotlin.internal.InlineOnly
public inline
fun toUInt(): UInt = UInt(data.toInt() and 0xFFFF)
/**
 * Converts this [UShort] value to [ULong].
 * The
resulting `ULong` value represents the same numerical value as this `UShort`.
 * The least
significant 16 bits of the resulting `ULong` value are the same as the bits of this `UShort` value,
 * whereas the
most significant 48 bits are filled with zeros.
 */
@kotlin.internal.InlineOnly
public inline fun toULong():
 ULong = ULong(data.toLong() and 0xFFFF)
/**
 * Converts this [UShort] value to [Float].
 * The
resulting `Float` value represents the same numerical value as this `UShort`.
 */
@kotlin.internal.InlineOnly
public inline fun toFloat(): Float = this.toInt().toFloat()
/**
 * Converts this
[UShort] value to [Double].
 * The resulting `Double` value represents the same numerical value as this
`UShort`.
 */
@kotlin.internal.InlineOnly
public inline fun toDouble(): Double =
 this.toInt().toDouble()
public override fun toString(): String = toInt().toString()
/**
 * Converts this
[Byte] value to [UShort].
 * If this value is positive, the resulting `UShort` value represents the same numerical
value as this `Byte`.
 * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this
`Byte` value,
 * whereas the most significant 8 bits are filled with the sign bit of this value.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
Byte.toUShort(): UShort = UShort(this.toShort())
/**
 * Converts this [Short] value to [UShort].
 * If this
value is positive, the resulting `UShort` value represents the same numerical value as this `Short`.
 * The
resulting `UShort` value has the same binary representation as this `Short` value.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
Short.toUShort(): UShort = UShort(this)
/**
 * Converts this [Int] value to [UShort].
 * If this value is
positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents
 * the same

```



numerical value as this `Int`.  
The resulting `UShort` value is represented by the least significant 16 bits of this `Int` value.  
Converts this [Long] value to [UShort].  
If this value is positive and less than or equals to [UShort.MAX\_VALUE], the resulting `UShort` value represents the same numerical value as this `Long`.  
The resulting `UShort` value is represented by the least significant 16 bits of this `Long` value.

```
SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun Long.toUShort(): UShort = UShort(this.toShort())\n\nCopyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\nUse of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nA range of values of type `Char`.\n\npublic class CharRange(start: Char, endInclusive: Char) : CharProgression(start, endInclusive, 1), ClosedRange<Char> {\n override val start: Char get() = first\n override val endInclusive: Char get() = last\n override fun contains(value: Char): Boolean = first <= value && value <= last\n override fun isEmpty(): Boolean = first > last\n override fun equals(other: Any?): Boolean =\n other is CharRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first.toInt() + last.toInt())\n override fun toString(): String = \"$first..$last\"\n companion object {\n /** An empty range of values of type Char. */\n public val EMPTY: CharRange = CharRange(1.toChar(), 0.toChar())\n }\n}\n\nA range of values of type `Int`.\n\npublic class IntRange(start: Int, endInclusive: Int) : IntProgression(start, endInclusive, 1), ClosedRange<Int> {\n override val start: Int get() = first\n override val endInclusive: Int get() = last\n override fun contains(value: Int): Boolean = first <= value && value <= last\n override fun isEmpty(): Boolean = first > last\n override fun equals(other: Any?): Boolean =\n other is IntRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first + last)\n override fun toString(): String = \"$first..$last\"\n companion object {\n /** An empty range of values of type Int. */\n public val EMPTY: IntRange = IntRange(1, 0)\n }\n}\n\nA range of values of type `Long`.\n\npublic class LongRange(start: Long, endInclusive: Long) : LongProgression(start, endInclusive, 1), ClosedRange<Long> {\n override val start: Long get() = first\n override val endInclusive: Long get() = last\n override fun contains(value: Long): Boolean = first <= value && value <= last\n override fun isEmpty(): Boolean = first > last\n override fun equals(other: Any?): Boolean =\n other is LongRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (first xor (first ushr 32)) + (last xor (last ushr 32))).toInt()\n override fun toString(): String = \"$first..$last\"\n companion object {\n /** An empty range of values of type Long. */\n public val EMPTY: LongRange = LongRange(1, 0)\n }\n}\n\nCopyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\nUse of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
```

```
file:kotlin.jvm.JvmMultifileClass\nfile:kotlin.jvm.JvmName("CollectionsKt")\nfile:UseExperimental(kotlin.experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\ninternal object EmptyIterator : ListIterator<Nothing> {\n override fun hasNext(): Boolean = false\n override fun hasPrevious(): Boolean = false\n override fun nextIndex(): Int = 0\n override fun previousIndex(): Int = -1\n override fun next(): Nothing = throw NoSuchElementException()\n override fun previous(): Nothing = throw NoSuchElementException()\n}\n\ninternal object EmptyList : List<Nothing>, Serializable, RandomAccess {\n private const val serialVersionUID: Long = -7390468764508069838L\n override fun equals(other: Any?): Boolean = other is List<*> && other.isEmpty()\n override fun hashCode(): Int = 1\n override fun toString(): String = \"[]\"\n override val size: Int get() = 0\n override fun isEmpty(): Boolean = true\n override fun contains(element: Nothing): Boolean = false\n override fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n override fun get(index: Int): Nothing = throw IndexOutOfBoundsException(\"Empty list doesn't contain element at index $index.\")\n override fun indexOf(element: Nothing): Int = -1\n override fun lastIndexOf(element: Nothing): Int = -1\n override fun
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iterator(): Iterator<Nothing> = EmptyIterator\n override fun listIterator(): ListIterator<Nothing> = EmptyIterator\n
 override fun listIterator(index: Int): ListIterator<Nothing> {\n if (index != 0) throw
IndexOutOfBoundsException("Index: $index")\n return EmptyIterator\n }\n\n override fun
subList(fromIndex: Int, toIndex: Int): List<Nothing> {\n if (fromIndex == 0 && toIndex == 0) return this\n
throw IndexOutOfBoundsException("fromIndex: $fromIndex, toIndex: $toIndex")\n }\n\n private fun
readResolve(): Any = EmptyList\n}\n\ninternal fun <T> Array<out T>.asCollection(): Collection<T> =
ArrayAsCollection(this, isVarargs = false)\n\nprivate class ArrayAsCollection<T>(val values: Array<out T>, val
isVarargs: Boolean) : Collection<T> {\n override val size: Int get() = values.size\n override fun isEmpty():
Boolean = values.isEmpty()\n override fun contains(element: T): Boolean = values.contains(element)\n override
fun containsAll(elements: Collection<T>): Boolean = elements.all { contains(it) }\n override fun iterator():
Iterator<T> = values.iterator()\n // override hidden toArray implementation to prevent copying of values array\n
public fun toArray(): Array<out Any?> = values.copyToArrayOfAny(isVarargs)\n}\n\n/**\n * Returns an empty
read-only list. The returned list is serializable (JVM).\n * @sample
samples.collections.Collections.Lists.emptyReadOnlyList\n * ^\npublic fun <T> emptyList(): List<T> =
EmptyList\n\n/**\n * Returns a new read-only list of given elements. The returned list is serializable (JVM).\n *
@sample samples.collections.Collections.Lists.readOnlyList\n * ^\npublic fun <T> listOf(vararg elements: T):
List<T> = if (elements.size > 0) elements.asList() else emptyList()\n\n/**\n * Returns an empty read-only list. The
returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.emptyReadOnlyList\n *
^@kotlin.internal.InlineOnly\npublic inline fun <T> listOf(): List<T> = emptyList()\n\n/**\n * Returns an empty
new [MutableList].\n * @sample samples.collections.Collections.Lists.emptyMutableList\n *
^@kotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableListOf(): MutableList<T> =
ArrayList()\n\n/**\n * Returns an empty new [ArrayList].\n * @sample
samples.collections.Collections.Lists.emptyArrayList\n *
^@kotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> arrayListOf(): ArrayList<T> =
ArrayList()\n\n/**\n * Returns a new [MutableList] with the given elements.\n * @sample
samples.collections.Collections.Lists.mutableList\n * ^\npublic fun <T> mutableListOf(vararg elements: T):
MutableList<T> =\n if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs =
true))\n\n/**\n * Returns a new [ArrayList] with the given elements.\n * @sample
samples.collections.Collections.Lists.arrayList\n * ^\npublic fun <T> arrayListOf(vararg elements: T): ArrayList<T>
=\n if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n/**\n *
Returns a new read-only list either of single given element, if it is not null, or empty list if the element is null. The
returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n * ^\npublic fun
<T : Any> listOfNotNull(element: T?): List<T> = if (element != null) listOf(element) else emptyList()\n\n/**\n *
Returns a new read-only list only of those given elements, that are not null. The returned list is serializable
(JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n * ^\npublic fun <T : Any>
listOfNotNull(vararg elements: T?): List<T> = elements.filterNotNull()\n\n/**\n * Creates a new read-only list with
the specified [size], where each element is calculated by calling the specified\n * [init] function.\n * ^\n * The
function [init] is called for each list element sequentially starting from the first one.\n * It should return the value for
a list element given its index.\n * ^\n * @sample samples.collections.Collections.Lists.readOnlyListFromInitializer\n *
^@kotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> List(size: Int, init: (index: Int) -> T):
List<T> = MutableList(size, init)\n\n/**\n * Creates a new mutable list with the specified [size], where each element
is calculated by calling the specified\n * [init] function.\n * ^\n * The function [init] is called for each list element
sequentially starting from the first one.\n * It should return the value for a list element given its index.\n * ^\n *
@sample samples.collections.Collections.Lists.mutableListFromInitializer\n *
^@kotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> MutableList(size: Int, init: (index:
Int) -> T): MutableList<T> {\n val list = ArrayList<T>(size)\n repeat(size) { index -> list.add(init(index)) }\n
return list\n}\n\n/**\n * Builds a new read-only [List] by populating a [MutableList] using the given
[builderAction]\n * and returning a read-only list with the same elements.\n * ^\n * The list passed as a receiver to the

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[builderAction] is valid only inside that function.\n \* Using it outside of the function produces an unspecified behavior.\n \* @sample samples.collections.Builders.Lists.buildListSample\n

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <E>\nbuildList(@BuilderInference builderAction: MutableList<E>().->Unit): List<E> {\n contract {\n callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return\n ArrayList<E>().apply(builderAction)\n}\n\n/**\n * Builds a new read-only [List] by populating a [MutableList]\n * using the given [builderAction]\n * and returning a read-only list with the same elements.\n * The list passed as\n * a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an\n * unspecified behavior.\n * [capacity] is used to hint the expected number of elements added in the\n * [builderAction].\n * @throws IllegalArgumentException if the given [capacity] is negative.\n * @sample\n * samples.collections.Builders.Lists.buildListSample\n */\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <E>\nbuildList(capacity: Int, @BuilderInference builderAction: MutableList<E>().->Unit): List<E> {\n contract {\n callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n checkBuilderCapacity(capacity)\n return\n ArrayList<E>(capacity).apply(builderAction)\n}\n\n/**\n * Returns an [IntRange] of the valid indices for this\n * collection.\n * @sample samples.collections.Collections.Collections.indicesOfCollection\n */\npublic val\nCollection<*>.indices: IntRange\n get() = 0..size - 1\n\n/**\n * Returns the index of the last item in the list or -1 if\n * the list is empty.\n * @sample samples.collections.Collections.Lists.lastIndexOfList\n */\npublic val <T>\nList<T>.lastIndex: Int\n get() = this.size - 1\n\n/**\n * Returns `true` if the collection is not empty.\n * @sample\n * samples.collections.Collections.Collections.collectionIsNotEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline\nfun <T> Collection<T>.isNotEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable collection is\n * either null or empty.\n * @sample samples.collections.Collections.Collections.collectionIsNullOrEmpty\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>?.isNullOrEmpty():\nBoolean {\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n return this == null ||\n this.isEmpty()\n}\n\n/**\n * Returns this Collection if it's not `null` and the empty list otherwise.\n * @sample\n * samples.collections.Collections.Collections.collectionOrEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun\n<T> Collection<T>?.orEmpty(): Collection<T> = this ?: emptyList()\n\n/**\n * Returns this List if it's not `null` and\n * the empty list otherwise.\n * @sample samples.collections.Collections.Lists.listOrEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>?.orEmpty(): List<T> = this ?: emptyList()\n\n/**\n * Returns this collection if it's not empty\n * or the result of calling [defaultValue] function if the collection is\n * empty.\n * @sample samples.collections.Collections.Collections.collectionIfEmpty\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () ->\nR): R where C : Collection<*>, C : R =\n if (isEmpty()) defaultValue() else this\n\n/**\n * Checks if all\n * elements in the specified collection are contained in this collection.\n * Allows to overcome type-safety\n * restriction of `containsAll` that requires to pass a collection of type `Collection<E>`.\n * @sample\n * samples.collections.Collections.Collections.collectionContainsAll\n */\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in\nsome cases\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T>\nCollection<T>.containsAll(elements: Collection<T>): Boolean = this.containsAll(elements)\n\ninternal fun <T>\nList<T>.optimizeReadOnlyList() = when (size) {\n 0 -> emptyList()\n 1 -> listOf(this[0])\n else ->\n this\n}\n\n/**\n * Searches this list or its range for the provided [element] using the binary search algorithm.\n * The\n * list is expected to be sorted into ascending order according to the Comparable natural ordering of its elements,\n * otherwise the result is undefined.\n * If the list contains multiple elements equal to the specified [element], there\n * is no guarantee which one will be found.\n * `null` value is considered to be less than any non-null value.\n * @return the index of the element, if it is contained in the list within the specified range;\n * otherwise, the inverted\n * insertion point `(-insertion point - 1)`. The insertion point is defined as the index at which the element should be\n * inserted,\n * so that the list (or the specified subrange of list) still remains sorted.\n * @sample\n * samples.collections.Collections.Lists.binarySearchOnComparable\n * @sample
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samples.collections.Collections.Lists.binarySearchWithBoundaries\n *\npublic fun <T : Comparable<T>>
List<T?>.binarySearch(element: T?, fromIndex: Int = 0, toIndex: Int = size): Int {\n rangeCheck(size, fromIndex,
toIndex)\n\n var low = fromIndex\n var high = toIndex - 1\n\n while (low <= high) {\n val mid = (low +
high).ushr(1) // safe from overflows\n val midVal = get(mid)\n val cmp = compareValues(midVal,
element)\n\n if (cmp < 0)\n low = mid + 1\n else if (cmp > 0)\n high = mid - 1\n else\n return mid // key found\n }\n return -(low + 1) // key not found\n}\n\n/**\n * Searches this list or its range
for the provided [element] using the binary search algorithm.\n * The list is expected to be sorted into ascending
order according to the specified [comparator],\n * otherwise the result is undefined.\n * \n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n * \n * `null`
value is considered to be less than any non-null value.\n * \n * @return the index of the element, if it is contained in
the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The
insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified
subrange of list) still remains sorted according to the specified [comparator].\n * @sample
samples.collections.Collections.Lists.binarySearchWithComparator\n *\npublic fun <T>
List<T>.binarySearch(element: T, comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Int {\n
rangeCheck(size, fromIndex, toIndex)\n\n var low = fromIndex\n var high = toIndex - 1\n\n while (low <=
high) {\n val mid = (low + high).ushr(1) // safe from overflows\n val midVal = get(mid)\n val cmp =
comparator.compare(midVal, element)\n\n if (cmp < 0)\n low = mid + 1\n else if (cmp > 0)\n high = mid - 1\n else\n return mid // key found\n }\n return -(low + 1) // key not found\n}\n\n/**\n * Searches this list or its range for an element having the key returned by the specified [selector] function\n * equal to
the provided [key] value using the binary search algorithm.\n * The list is expected to be sorted into ascending order
according to the Comparable natural ordering of keys of its elements.\n * otherwise the result is undefined.\n * \n * If
the list contains multiple elements with the specified [key], there is no guarantee which one will be found.\n * \n *
`null` value is considered to be less than any non-null value.\n * \n * @return the index of the element with the
specified [key], if it is contained in the list within the specified range;\n * otherwise, the inverted insertion point
`(-insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so
that the list (or the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchByKey\n *\npublic inline fun <T, K : Comparable<K>>
List<T>.binarySearchBy(\n key: K?,\n fromIndex: Int = 0,\n toIndex: Int = size,\n crossinline selector: (T) ->
K?)\n): Int =\n binarySearch(fromIndex, toIndex) { compareValues(selector(it), key) }\n\n// do not introduce this
overload --- too rare\n//\npublic fun <T, K> List<T>.binarySearchBy(key: K, comparator: Comparator<K>,
fromIndex: Int = 0, toIndex: Int = size(), selector: (T) -> K): Int =\n//\n binarySearch(fromIndex, toIndex) {\n
comparator.compare(selector(it), key) }\n\n\n/**\n * Searches this list or its range for an element for which the
given [comparison] function returns zero using the binary search algorithm.\n * \n * The list is expected to be sorted
so that the signs of the [comparison] function's return values ascend on the list elements,\n * i.e. negative values
come before zero and zeroes come before positive values.\n * \n * Otherwise, the result is undefined.\n * \n * If the
list contains multiple elements for which [comparison] returns zero, there is no guarantee which one will be found.\n *
\n * @param comparison function that returns zero when called on the list element being searched.\n * \n * On the
elements coming before the target element, the function must return negative values;\n * on the elements coming
after the target element, the function must return positive values.\n * \n * @return the index of the found element, if
it is contained in the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point -
1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so that the list (or
the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchWithComparisonFunction\n *\npublic fun <T>
List<T>.binarySearch(fromIndex: Int = 0, toIndex: Int = size, comparison: (T) -> Int): Int {\n rangeCheck(size,
fromIndex, toIndex)\n\n var low = fromIndex\n var high = toIndex - 1\n\n while (low <= high) {\n val mid
= (low + high).ushr(1) // safe from overflows\n val midVal = get(mid)\n val cmp = comparison(midVal)\n\n if
(cmp < 0)\n low = mid + 1\n else if (cmp > 0)\n high = mid - 1\n else\n return

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mid // key found\n } \n return -(low + 1) // key not found\n}\n\n/**\n * Checks that `from` and `to` are in\n * the\n * range of [0..size] and throws an appropriate exception, if they aren't.\n * \nprivate fun rangeCheck(size: Int,\n fromIndex: Int, toIndex: Int) {\n when {\n fromIndex > toIndex -> throw\n IllegalArgumentException("fromIndex ($fromIndex) is greater than toIndex ($toIndex).")\n fromIndex < 0 ->\n throw IndexOutOfBoundsException("fromIndex ($fromIndex) is less than zero.")\n toIndex > size -> throw\n IndexOutOfBoundsException("toIndex ($toIndex) is greater than size ($size).")\n }\n}\n\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkIndexOverflow(index: Int):\nInt\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkCountOverflow(count: Int):\nInt\n\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun throwIndexOverflow() { throw\n ArithmeticException("Index overflow has happened.") }\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun\n throwCountOverflow() { throw ArithmeticException("Count overflow has happened.") }\n\n"/**\n * Copyright\n 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed\n by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n@file:UseExperimental(kotlin\n .experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport\n kotlin.contracts.*\n\nprivate object EmptyMap : Map<Any?, Nothing>, Serializable {\n private const val\n serialVersionUID: Long = 8246714829545688274\n\n override fun equals(other: Any?): Boolean = other is\n Map<*, *> && other.isEmpty()\n\n override fun hashCode(): Int = 0\n\n override fun toString(): String = "{}"\n\n\n override val size: Int get() = 0\n\n override fun isEmpty(): Boolean = true\n\n\n override fun containsKey(key:\n Any?): Boolean = false\n\n override fun containsValue(value: Nothing): Boolean = false\n\n override fun get(key:\n Any?): Nothing? = null\n\n override val entries: Set<Map.Entry<Any?, Nothing>> get() = EmptySet\n\n override\n val keys: Set<Any?> get() = EmptySet\n\n override val values: Collection<Nothing> get() = EmptyList\n\n\n private\n fun readResolve(): Any = EmptyMap\n}\n\n/**\n * Returns an empty read-only map of specified type.\n * \n * The\n * returned map is serializable (JVM).\n * \n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n *\n\npublic fun <K, V> emptyMap(): Map<K, V> = @Suppress("UNCHECKED_CAST") (EmptyMap as Map<K,\n V>)\n\n/**\n * Returns a new read-only map with the specified contents, given as a list of pairs\n * where the first\n * value is the key and the second is the value.\n * \n * If multiple pairs have the same key, the resulting map will\n * contain the value from the last of those pairs.\n * \n * Entries of the map are iterated in the order they were\n * specified.\n * \n * The returned map is serializable (JVM).\n * \n * @sample\n samples.collections.Maps.Instantiation.mapFromPairs\n *\n\npublic fun <K, V> mapOf(vararg pairs: Pair<K, V>):\n Map<K, V> =\n if (pairs.size > 0) pairs.toMap(LinkedHashMap(mapCapacity(pairs.size))) else\n emptyMap()\n\n/**\n * Returns an empty read-only map.\n * \n * The returned map is serializable (JVM).\n * \n * @sample\n samples.collections.Maps.Instantiation.emptyReadOnlyMap\n *\n\n@kotlin.internal.InlineOnly\npublic\n inline fun <K, V> mapOf(): Map<K, V> = emptyMap()\n\n/**\n * Returns an empty new [MutableMap].\n * \n * The\n * returned map preserves the entry iteration order.\n * \n * @sample\n samples.collections.Maps.Instantiation.emptyMutableMap\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mutableMapOf():\n MutableMap<K, V> = LinkedHashMap()\n\n/**\n * Returns a new [MutableMap] with the specified contents, given\n * as a list of pairs\n * where the first component is the key and the second is the value.\n * \n * If multiple pairs have\n * the same key, the resulting map will contain the value from the last of those pairs.\n * \n * Entries of the map are\n * iterated in the order they were specified.\n * \n * @sample\n samples.collections.Maps.Instantiation.mutableMapFromPairs\n *\n\n@sample\n samples.collections.Maps.Instantiation.emptyMutableMap\n *\n\npublic fun <K, V> mutableMapOf(vararg pairs:\n Pair<K, V>): MutableMap<K, V> =\n LinkedHashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs)\n }\n\n/**\n * Returns an empty new [HashMap].\n * \n * @sample\n samples.collections.Maps.Instantiation.emptyHashMap\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> hashMapOf(): HashMap<K, V>\n = HashMap<K, V>()\n\n/**\n * Returns a new [HashMap] with the specified contents, given as a list of pairs\n *

```

where the first component is the key and the second is the value.

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@sample
samples.collections.Maps.Instantiation.hashMapFromPairs
public fun <K, V> hashMapOf(vararg pairs:
Pair<K, V>): HashMap<K, V> = HashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }
Returns an empty new [HashMap].
@SinceKotlin("1.1")@kotlin.internal.InlineOnly
public inline
fun <K, V> linkedMapOf(): LinkedHashMap<K, V> = LinkedHashMap<K, V>()
Returns a new
[HashMap] with the specified contents, given as a list of pairs
where the first component is the key and
the second is the value.
If multiple pairs have the same key, the resulting map will contain the value from the
last of those pairs.
Entries of the map are iterated in the order they were specified.
@sample
samples.collections.Maps.Instantiation.linkedMapFromPairs
public fun <K, V> linkedMapOf(vararg pairs:
Pair<K, V>): LinkedHashMap<K, V> = pairs.toMap(HashMap(mapCapacity(pairs.size)))
Builds
a new read-only [Map] by populating a [MutableMap] using the given [builderAction]
and returning a read-only
map with the same key-value pairs.
The map passed as a receiver to the [builderAction] is valid only inside
that function.
Using it outside of the function produces an unspecified behavior.
Entries of the map are
iterated in the order they were added by the [builderAction].
@sample
samples.collections.Builders.Maps.buildMapSample
@SinceKotlin("1.3")@ExperimentalStdlibApi@kotlin.internal.InlineOnly
public inline fun <K, V>
buildMap(@BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> {
contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }
return LinkedHashMap<K,
V>().apply(builderAction)
}
Builds a new read-only [Map] by populating a [MutableMap] using the
given [builderAction]
and returning a read-only map with the same key-value pairs.
The map passed as a
receiver to the [builderAction] is valid only inside that function.
Using it outside of the function produces an
unspecified behavior.
[capacity] is used to hint the expected number of pairs added in the [builderAction].
Entries of the map are iterated in the order they were added by the [builderAction].
@throws
IllegalArgumentException if the given [capacity] is negative.
@sample
samples.collections.Builders.Maps.buildMapSample
@SinceKotlin("1.3")@ExperimentalStdlibApi@kotlin.internal.InlineOnly
public inline fun <K, V>
buildMap(capacity: Int, @BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> {
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }
checkBuilderCapacity(capacity)
return LinkedHashMap<K, V>(mapCapacity(capacity)).apply(builderAction)
}
Calculate the initial
capacity of a map.
@PublishedApi
internal expect fun mapCapacity(expectedSize: Int): Int
Checks a collection builder function capacity argument.
@SinceKotlin("1.3")@ExperimentalStdlibApi@PublishedApi
internal expect fun
checkBuilderCapacity(capacity: Int)
Returns `true` if this map is not empty.
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.isEmpty(): Boolean =
!isEmpty()
Returns `true` if this nullable map is either null or empty.
@sample
samples.collections.Maps.Usage.mapIsNullOrEmpty
@SinceKotlin("1.3")@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K,
V>?.isNullOrEmpty(): Boolean {
contract {
returns(false) implies (this@isNullOrEmpty != null) }
}
return this == null || isEmpty()
}
Returns the [Map] if its not `null`, or the empty [Map] otherwise.
@sample
samples.collections.Maps.Usage.mapOrNull
@kotlin.internal.InlineOnly
public inline fun
<K, V> Map<K, V>?.orEmpty(): Map<K, V> = this ?: emptyMap()
Returns this map if it's not empty
or the result of calling [defaultValue] function if the map is empty.
@sample
samples.collections.Maps.Usage.mapIfEmpty
@SinceKotlin("1.3")@kotlin.internal.InlineOnly
public
inline fun <M, R> M.ifEmpty(defaultValue: () -> R): R where M : Map<*, *>, M : R =
if (isEmpty())
defaultValue() else this
Checks if the map contains the given key.
This method allows to use the
`x in map` syntax for checking whether an object is contained in the map.
@kotlin.internal.InlineOnly
public
inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.contains(key: K): Boolean =
containsKey(key)
Returns the value corresponding to the given [key], or `null` if such a key is not present

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in the map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <@kotlin.internal.OnlyInputTypes K, V>
Map<out K, V>.get(key: K): V? =\n @Suppress("UNCHECKED_CAST") (this as Map<K,
V>).get(key)\n\n/**\n * Allows to use the index operator for storing values in a mutable map.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.set(key: K, value: V): Unit
{\n put(key, value)\n}\n\n/**\n * Returns `true` if the map contains the specified [key].\n * Allows to
overcome type-safety restriction of `containsKey` that requires to pass a key of type `K`.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes K> Map<out K,
*>.containsKey(key: K): Boolean =\n @Suppress("UNCHECKED_CAST") (this as Map<K,
*>).containsKey(key)\n\n/**\n * Returns `true` if the map maps one or more keys to the specified [value].\n *
Allows to overcome type-safety restriction of `containsValue` that requires to pass a value of type `V`.\n *
*/\n@sample samples.collections.Maps.Usage.containsValue\n
*/\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases\n@kotlin.internal.InlineOnly\npublic inline fun <K, @kotlin.internal.OnlyInputTypes V> Map<K,
V>.containsValue(value: V): Boolean = this.containsValue(value)\n\n/**\n * Removes the specified key and its
corresponding value from this map.\n * @return the previous value associated with the key, or `null` if the key
was not present in the map.\n * Allows to overcome type-safety restriction of `remove` that requires to pass a key
of type `K`.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes K, V>
MutableMap<out K, V>.remove(key: K): V? =\n @Suppress("UNCHECKED_CAST") (this as MutableMap<K,
V>).remove(key)\n\n/**\n * Returns the key component of the map entry.\n * This method allows to use
destructuring declarations when working with maps, for example:\n * ```\n * for ((key, value) in map) {\n * // do
something with the key and the value\n * }\n * ```\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K,
V> Map.Entry<K, V>.component1(): K = key\n\n/**\n * Returns the value component of the map entry.\n * This
method allows to use destructuring declarations when working with maps, for example:\n * ```\n * for ((key,
value) in map) {\n * // do something with the key and the value\n * }\n * ```\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> Map.Entry<K, V>.component2(): V =
value\n\n/**\n * Converts entry to [Pair] with key being first component and value being second.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map.Entry<K, V>.toPair(): Pair<K, V> = Pair(key,
value)\n\n/**\n * Returns the value for the given key, or the result of the [defaultValue] function if there was no
entry for the given key.\n * @sample samples.collections.Maps.Usage.getOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<K, V>.getOrElse(key: K, defaultValue: () -> V): V
= get(key) ?: defaultValue()\n\ninternal inline fun <K, V> Map<K, V>.getOrElseNullable(key: K, defaultValue: ()
-> V): V {\n val value = get(key)\n if (value == null && !containsKey(key)) {\n return defaultValue()\n }
else {\n @Suppress("UNCHECKED_CAST")\n return value as V\n }\n}\n\n/**\n * Returns the value
for the given [key] or throws an exception if there is no such key in the map.\n * If the map was created by
[withDefault], resorts to its `defaultValue` provider function\n * instead of throwing an exception.\n * @throws
NoSuchElementException when the map doesn't contain a value for the specified key and\n * no implicit default
value was provided for that map.\n */\n@SinceKotlin("1.1")\npublic fun <K, V> Map<K, V>.getValue(key: K): V
= getOrImplicitDefault(key)\n\n/**\n * Returns the value for the given key. If the key is not found in the map, calls
the [defaultValue] function,\n * puts its result into the map under the given key and returns it.\n * Note that the
operation is not guaranteed to be atomic if the map is being modified concurrently.\n * @sample
samples.collections.Maps.Usage.getOrPut\n */\npublic inline fun <K, V> MutableMap<K, V>.getOrPut(key: K,
defaultValue: () -> V): V {\n val value = get(key)\n return if (value == null) {\n val answer =
defaultValue()\n put(key, answer)\n answer\n } else {\n value\n }\n}\n\n/**\n * Returns an
[Iterator] over the entries in the [Map].\n * @sample samples.collections.Maps.Usage.forOverEntries\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> Map<out K, V>.iterator():
Iterator<Map.Entry<K, V>> = entries.iterator()\n\n/**\n * Returns a [MutableIterator] over the mutable entries in
the [MutableMap].\n * @kotlin.jvm.JvmName("mutableIterator")\n */\n@kotlin.internal.InlineOnly\npublic
inline operator fun <K, V> MutableMap<K, V>.iterator(): MutableIterator<MutableMap.MutableEntry<K, V>> =

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entries.iterator()\n\n/\*\*\n \* Populates the given [destination] map with entries having the keys of this map and the values obtained\n \* by applying the [transform] function to each entry in this [Map].\n \*/\npublic inline fun <K, V, R, M : MutableMap<in K, in R>> Map<out K, V>.mapValuesTo(destination: M, transform: (Map.Entry<K, V>) -> R): M {\n return entries.associateByTo(destination, { it.key }, transform)\n}\n\n/\*\*\n \* Populates the given [destination] map with entries having the keys obtained\n \* by applying the [transform] function to each entry in this [Map] and the values of this map.\n \*/\n \* In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite\n \* the value associated with the former one.\n \*/\npublic inline fun <K, V, R, M : MutableMap<in R, in V>> Map<out K, V>.mapKeysTo(destination: M, transform: (Map.Entry<K, V>) -> R): M {\n return entries.associateByTo(destination, transform, { it.value })\n}\n\n/\*\*\n \* Puts all the given [pairs] into this [MutableMap] with the first component in the pair being the key and the second the value.\n \*/\npublic fun <K, V> MutableMap<in K, in V>.putAll(pairs: Array<out Pair<K, V>>): Unit {\n for ((key, value) in pairs) {\n put(key, value)\n }\n}\n\n/\*\*\n \* Puts all the elements of the given collection into this [MutableMap] with the first component in the pair being the key and the second the value.\n \*/\npublic fun <K, V> MutableMap<in K, in V>.putAll(pairs: Iterable<Pair<K, V>>): Unit {\n for ((key, value) in pairs) {\n put(key, value)\n }\n}\n\n/\*\*\n \* Puts all the elements of the given sequence into this [MutableMap] with the first component in the pair being the key and the second the value.\n \*/\npublic fun <K, V> MutableMap<in K, in V>.putAll(pairs: Sequence<Pair<K, V>>): Unit {\n for ((key, value) in pairs) {\n put(key, value)\n }\n}\n\n/\*\*\n \* Returns a new map with entries having the keys of this map and the values obtained by applying the [transform]\n \* function to each entry in this [Map].\n \*/\n \* The returned map preserves the entry iteration order of the original map.\n \*/\n \* @sample samples.collections.Maps.Transformations.mapValues\n \*/\npublic inline fun <K, V, R> Map<out K, V>.mapValues(transform: (Map.Entry<K, V>) -> R): Map<K, R> {\n return mapValuesTo(LinkedHashMap<K, R>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n}\n\n/\*\*\n \* Returns a new Map with entries having the keys obtained by applying the [transform] function to each entry in this\n \* [Map] and the values of this map.\n \*/\n \* In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite\n \* the value associated with the former one.\n \*/\n \* The returned map preserves the entry iteration order of the original map.\n \*/\n \* @sample samples.collections.Maps.Transformations.mapKeys\n \*/\npublic inline fun <K, V, R> Map<out K, V>.mapKeys(transform: (Map.Entry<K, V>) -> R): Map<R, V> {\n return mapKeysTo(LinkedHashMap<R, V>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n}\n\n/\*\*\n \* Returns a map containing all key-value pairs with keys matching the given [predicate].\n \*/\n \* The returned map preserves the entry iteration order of the original map.\n \*/\n \* @sample samples.collections.Maps.Filtering.filterKeys\n \*/\npublic inline fun <K, V> Map<out K, V>.filterKeys(predicate: (K) -> Boolean): Map<K, V> {\n val result = LinkedHashMap<K, V>()\n for (entry in this) {\n if (predicate(entry.key)) {\n result.put(entry.key, entry.value)\n }\n }\n return result\n}\n\n/\*\*\n \* Returns a map containing all key-value pairs with values matching the given [predicate].\n \*/\n \* The returned map preserves the entry iteration order of the original map.\n \*/\n \* @sample samples.collections.Maps.Filtering.filterValues\n \*/\npublic inline fun <K, V> Map<out K, V>.filterValues(predicate: (V) -> Boolean): Map<K, V> {\n val result = LinkedHashMap<K, V>()\n for (entry in this) {\n if (predicate(entry.value)) {\n result.put(entry.key, entry.value)\n }\n }\n return result\n}\n\n/\*\*\n \* Appends all entries matching the given [predicate] into the mutable map given as [destination] parameter.\n \*/\n \* @return the destination map.\n \*/\n \* @sample samples.collections.Maps.Filtering.filterTo\n \*/\npublic inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {\n for (element in this) {\n if (predicate(element)) {\n destination.put(element.key, element.value)\n }\n }\n return destination\n}\n\n/\*\*\n \* Returns a new map containing all key-value pairs matching the given [predicate].\n \*/\n \* The returned map preserves the entry iteration order of the original map.\n \*/\n \* @sample samples.collections.Maps.Filtering.filter\n \*/\npublic inline fun <K, V> Map<out K, V>.filter(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {\n return filterTo(LinkedHashMap<K, V>(), predicate)\n}\n\n/\*\*\n \* Appends all entries not matching the given [predicate] into the given [destination].\n \*/\n \* @return the destination map.\n \*/\n \* @sample samples.collections.Maps.Filtering.filterNotTo\n \*/\npublic inline fun <K, V, M : MutableMap<in K, in V>>



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Map<out K, V>.filterNotTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {
 for (element in this)
 if (!predicate(element))
 destination.put(element.key, element.value)
 return destination
}
* Returns a new map containing all key-value pairs not matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample
samples.collections.Maps.Filtering.filterNot
public inline fun <K, V> Map<out K, V>.filterNot(predicate:
(Map.Entry<K, V>) -> Boolean): Map<K, V> {
 return filterNotTo(LinkedHashMap<K, V>(),
predicate)
}
* Returns a new map containing all key-value pairs from the given collection of pairs.
* The returned map preserves the entry iteration order of the original collection.
* If any of two pairs would have the same key the last one gets added to the map.
public fun <K, V> Iterable<Pair<K, V>>.toMap(): Map<K, V> {
 if (this is Collection)
 return when (size) {
 0 -> emptyMap()
 1 -> mapOf(if (this is List) this[0] else iterator().next())
 else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))
 }
 return toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()
}
* Populates and returns the [destination] mutable map with key-value pairs from the given collection of pairs.
public fun <K, V, M : MutableMap<in K, in V>> Iterable<Pair<K, V>>.toMap(destination: M): M =
 destination.apply {
 putAll(this@toMap)
 }
* Returns a new map containing all key-value pairs from the given array of pairs.
* The returned map preserves the entry iteration order of the original array.
* If any of two pairs would have the same key the last one gets added to the map.
public fun <K, V> Array<out Pair<K, V>>.toMap(): Map<K, V> =
 when (size) {
 0 -> emptyMap()
 1 -> mapOf(this[0])
 else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))
 }
* Populates and returns the [destination] mutable map with key-value pairs from the given array of pairs.
public fun <K, V, M : MutableMap<in K, in V>> Array<out Pair<K, V>>.toMap(destination: M): M =
 destination.apply {
 putAll(this@toMap)
 }
* Returns a new map containing all key-value pairs from the given sequence of pairs.
* The returned map preserves the entry iteration order of the original sequence.
* If any of two pairs would have the same key the last one gets added to the map.
public fun <K, V> Sequence<Pair<K, V>>.toMap(): Map<K, V> =
 toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()
* Populates and returns the [destination] mutable map with key-value pairs from the given sequence of pairs.
public fun <K, V, M : MutableMap<in K, in V>> Sequence<Pair<K, V>>.toMap(destination: M): M =
 destination.apply {
 putAll(this@toMap)
 }
* Returns a new read-only map containing all key-value pairs from the original map.
* The returned map preserves the entry iteration order of the original map.
@SinceKotlin("1.1")
public fun <K, V> Map<out K, V>.toMap(): Map<K, V> =
 when (size) {
 0 -> emptyMap()
 1 -> singletonMap()
 else -> mutableMap()
 }
* Returns a new mutable map containing all key-value pairs from the original map.
* The returned map preserves the entry iteration order of the original map.
@SinceKotlin("1.1")
public fun <K, V> Map<out K, V>.toMutableMap(): MutableMap<K, V> =
 LinkedHashMap(this)
* Populates and returns the [destination] mutable map with key-value pairs from the given map.
@SinceKotlin("1.1")
public fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.toMap(destination: M): M =
 destination.apply {
 putAll(this@toMap)
 }
* Creates a new read-only map by replacing or adding an entry to this map from a given key-value [pair].
* The returned map preserves the entry iteration order of the original map.
* The [pair] is iterated in the end if it has a unique key.
public operator fun <K, V> Map<out K, V>.plus(pair: Pair<K, V>): Map<K, V> =
 if (this.isEmpty()) mapOf(pair) else LinkedHashMap(this).apply {
 put(pair.first, pair.second)
 }
* Creates a new read-only map by replacing or adding entries to this map from a given collection of key-value [pairs].
* The returned map preserves the entry iteration order of the original map.
* Those [pairs] with unique keys are iterated in the end in the order of [pairs] collection.
public operator fun <K, V> Map<out K, V>.plus(pairs: Iterable<Pair<K, V>>): Map<K, V> =
 if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply {
 putAll(pairs)
 }
* Creates a new read-only map by replacing or adding entries to this map from a given array of key-value [pairs].
* The returned map preserves the entry iteration order of the original map.
* Those [pairs] with unique keys are iterated in the end in the order of [pairs] array.
public operator fun <K, V> Map<out K, V>.plus(pairs: Array<out Pair<K, V>>): Map<K, V> =
 if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply {
 putAll(pairs)
 }
* Creates a new read-only map by

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replacing or adding entries to this map from a given sequence of key-value [pairs].

`plus(pairs: Sequence<Pair<K, V>>): Map<K, V> =` LinkedHashMap(this).apply { putAll(pairs) }.optimizeReadOnlyMap()

\* The returned map preserves the entry iteration order of the original map.

\* Those [pairs] with unique keys are iterated in the end in the order of [pairs] sequence.

`plus(map: Map<out K, V>): Map<K, V> =` LinkedHashMap(this).apply { putAll(map) }

\* The returned map preserves the entry iteration order of the original map.

\* Those entries of another [map] that are missing in this map are iterated in the end in the order of that [map].

`plusAssign(pair: Pair<K, V>) {` put(pair.first, pair.second)

\* Appends or replaces the given [pair] in this mutable map.

`plusAssign(pairs: Iterable<Pair<K, V>>) {` putAll(pairs)

\* Appends or replaces all pairs from the given collection of [pairs] in this mutable map.

`plusAssign(pairs: Array<out Pair<K, V>>) {` putAll(pairs)

\* Appends or replaces all pairs from the given array of [pairs] in this mutable map.

`plusAssign(pairs: Sequence<Pair<K, V>>) {` putAll(pairs)

\* Appends or replaces all entries from the given [map] in this mutable map.

`plusAssign(map: Map<K, V>) {` putAll(map)

\* Returns a map containing all entries of the original map except the entry with the given [key].

`minus(key: K): Map<K, V> =` this.toMutableMap().apply { minusAssign(key) }.optimizeReadOnlyMap()

\* Returns a map containing all entries of the original map except those entries the keys of which are contained in the given [keys] collection.

`minus(keys: Iterable<K>): Map<K, V> =` this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()

\* Returns a map containing all entries of the original map except those entries the keys of which are contained in the given [keys] array.

`minus(keys: Array<out K>): Map<K, V> =` this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()

\* Returns a map containing all entries of the original map except those entries the keys of which are contained in the given [keys] sequence.

`minusAssign(key: K) {` remove(key)

\* Removes all entries the keys of which are contained in the given [keys] collection from this mutable map.

`minusAssign(keys: Iterable<K>) {` this.keys.removeAll(keys)

\* Removes all entries the keys of which are contained in the given [keys] array from this mutable map.

`minusAssign(keys: Array<out K>) {` this.keys.removeAll(keys)

\* Removes all entries from the keys of which are contained in the given [keys] sequence from this mutable map.

`minusAssign(keys: Sequence<K>) {` this.keys.removeAll(keys)

do not expose for now

`optimizeReadOnlyMap() =` when (size) { 0 -> emptyMap() 1 -> toSingletonMapOrSelf() }

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Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

```

*\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("\SetsKt")\n\n@file:UseExperimental(kotlin.experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport
kotlin.contracts.*\n\ninternal object EmptySet : Set<Nothing>, Serializable {\n private const val
serialVersionUID: Long = 3406603774387020532\n override fun equals(other: Any?): Boolean = other is
Set<*> && other.isEmpty()\n override fun hashCode(): Int = 0\n override fun toString(): String = ""\n\n override val size: Int get() = 0\n override fun isEmpty(): Boolean = true\n override fun contains(element:
Nothing): Boolean = false\n override fun containsAll(elements: Collection<Nothing>): Boolean =
elements.isEmpty()\n\n override fun iterator(): Iterator<Nothing> = EmptyIterator\n\n private fun readResolve():
Any = EmptySet\n}\n\n/**\n * Returns an empty read-only set. The returned set is serializable (JVM).\n *
@sample samples.collections.Collections.Sets.emptyReadOnlySet\n */\n\npublic fun <T> emptySet(): Set<T> =
EmptySet\n\n/**\n * Returns a new read-only set with the given elements.\n * Elements of the set are iterated in the
order they were specified.\n * The returned set is serializable (JVM).\n * @sample
samples.collections.Collections.Sets.readOnlySet\n */\n\npublic fun <T> setOf(vararg elements: T): Set<T> = if
(elements.size > 0) elements.toSet() else emptySet()\n\n/**\n * Returns an empty read-only set. The returned set is
serializable (JVM).\n * @sample samples.collections.Collections.Sets.emptyReadOnlySet\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> setOf(): Set<T> = emptySet()\n\n/**\n * Returns an empty
new [MutableSet].\n * \n * The returned set preserves the element iteration order.\n * @sample
samples.collections.Collections.Sets.emptyMutableSet\n */\n\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> mutableSetOf(): MutableSet<T> =
LinkedHashSet()\n\n/**\n * Returns a new [MutableSet] with the given elements.\n * Elements of the set are
iterated in the order they were specified.\n * @sample samples.collections.Collections.Sets.mutableSet\n */\n\npublic
fun <T> mutableSetOf(vararg elements: T): MutableSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n\n/**\n * Returns an empty new [HashSet].
*\n\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> hashSetOf(): HashSet<T> =
HashSet()\n\n/**\n * Returns a new [HashSet] with the given elements. *\n\npublic fun <T> hashSetOf(vararg elements:
T): HashSet<T> = elements.toCollection(HashSet(mapCapacity(elements.size)))\n\n/**\n * Returns an empty new
[LinkedHashSet].\n * @sample samples.collections.Collections.Sets.emptyLinkedHashSet\n */\n\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> linkedSetOf(): LinkedHashSet<T>
= LinkedHashSet()\n\n/**\n * Returns a new [LinkedHashSet] with the given elements.\n * Elements of the set are
iterated in the order they were specified.\n * @sample samples.collections.Collections.Sets.linkedHashSet\n */\n\npublic
fun <T> linkedSetOf(vararg elements: T): LinkedHashSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n\n/**\n * Builds a new read-only [Set] by
populating a [MutableSet] using the given [builderAction]\n * and returning a read-only set with the same
elements.\n * \n * The set passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it
outside of the function produces an unspecified behavior.\n * \n * Elements of the set are iterated in the order they
were added by the [builderAction].\n * @sample samples.collections.Builders.Sets.buildSetSample\n */\n\n@SinceKotlin("1.3")\n\n@ExperimentalStdlibApi\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <E>
buildSet(@BuilderInference builderAction: MutableSet<E>().->Unit): Set<E> {\n contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return
LinkedHashSet<E>().apply(builderAction)\n}\n\n/**\n * Builds a new read-only [Set] by populating a [MutableSet]
using the given [builderAction]\n * and returning a read-only set with the same elements.\n * \n * The set passed as a
receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an
unspecified behavior.\n * \n * [capacity] is used to hint the expected number of elements added in the
[builderAction].\n * \n * Elements of the set are iterated in the order they were added by the [builderAction].\n * \n *
@throws IllegalArgumentException if the given [capacity] is negative.\n * \n * @sample
samples.collections.Builders.Sets.buildSetSample\n */

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*^@SinceKotlin("1.3")@ExperimentalStdlibApi@kotlin.internal.InlineOnly\npublic inline fun <E>
buildSet(capacity: Int, @BuilderInference builderAction: MutableSet<E>().->Unit): Set<E> {\n contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n checkBuilderCapacity(capacity)\n return
LinkedHashSet<E>(mapCapacity(capacity)).apply(builderAction)\n}\n\n/** Returns this Set if it's not `null` and
the empty set otherwise. */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Set<T>?.orEmpty(): Set<T> = this
?: emptySet()\n\ninternal fun <T> Set<T>.optimizeReadOnlySet() = when (size) {\n 0 -> emptySet()\n 1 ->
setOf(iterator().next())\n else -> this\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*^@file:kotlin.jvm.JvmMultifileClass@file:kotlin.jvm.JvmName("StringsKt")@file:Suppress("PLATFORM_
M_CLASS_MAPPED_TO_KOTLIN")\n\npackage kotlin.text\n\n/**\n * Parses the string as a signed [Byte]
number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*^@SinceKotlin("1.1")\npublic fun String.toByteArrayOrNull(): Byte? = toByteOrNull(radix = 10)\n\n/**\n * Parses
the string as a signed [Byte] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.\n *^@SinceKotlin("1.1")\npublic fun String.toByteArrayOrNull(radix: Int): Byte? {\n val int =
this.toIntOrNull(radix) ?: return null\n if (int < Byte.MIN_VALUE || int > Byte.MAX_VALUE) return null\n
return int.toByteArray()\n}\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the string
is not a valid representation of a number.\n *^@SinceKotlin("1.1")\npublic fun String.toShortOrNull(): Short? =
toShortOrNull(radix = 10)\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the
string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a
valid radix for string to number conversion.\n *^@SinceKotlin("1.1")\npublic fun String.toShortOrNull(radix:
Int): Short? {\n val int = this.toIntOrNull(radix) ?: return null\n if (int < Short.MIN_VALUE || int >
Short.MAX_VALUE) return null\n return int.toShort()\n}\n\n/**\n * Parses the string as an [Int] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n
*^@SinceKotlin("1.1")\npublic fun String.toIntOrNull(): Int? = toIntOrNull(radix = 10)\n\n/**\n * Parses the
string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
* @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*^@SinceKotlin("1.1")\npublic fun String.toIntOrNull(radix: Int): Int? {\n checkRadix(radix)\n\n val length
= this.length\n if (length == 0) return null\n\n val start: Int\n val isNegative: Boolean\n val limit: Int\n val
firstChar = this[0]\n if (firstChar < '0') { // Possible leading sign\n if (length == 1) return null // non-digit
(possible sign) only, no digits after\n\n start = 1\n\n if (firstChar == '-') {\n isNegative = true\n
limit = Int.MIN_VALUE\n } else if (firstChar == '+') {\n isNegative = false\n limit = -
Int.MAX_VALUE\n } else\n return null\n } else {\n start = 0\n isNegative = false\n limit
= -Int.MAX_VALUE\n }\n\n val limitForMaxRadix = (-Int.MAX_VALUE) / 36\n var limitBeforeMul =
limitForMaxRadix\n var result = 0\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n
if (digit < 0) return null\n if (result < limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n
 limitBeforeMul = limit / radix\n }\n if (result < limitBeforeMul) {\n return null\n
 }\n } else {\n return null\n }\n }\n result *= radix\n\n if (result < limit + digit)
return null\n\n result -= digit\n}\n\n return if (isNegative) result else -result\n}\n\n/**\n * Parses the string
as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*^@SinceKotlin("1.1")\npublic fun String.toLongOrNull(): Long? = toLongOrNull(radix = 10)\n\n/**\n * Parses
the string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.\n *^@SinceKotlin("1.1")\npublic fun String.toLongOrNull(radix: Int): Long? {\n checkRadix(radix)\n\n
val length = this.length\n if (length == 0) return null\n\n val start: Int\n val isNegative:
Boolean\n val limit: Long\n val firstChar = this[0]\n if (firstChar < '0') { // Possible leading sign\n if
(length == 1) return null // non-digit (possible sign) only, no digits after\n\n start = 1\n\n if (firstChar == '-')

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{\n isNegative = true\n limit = Long.MIN_VALUE\n } else if (firstChar == '+') {\n
isNegative = false\n limit = -Long.MAX_VALUE\n } else\n return null\n } else {\n start =
0\n isNegative = false\n limit = -Long.MAX_VALUE\n }\n\n val limitForMaxRadix = (-
Long.MAX_VALUE) / 36\n var limitBeforeMul = limitForMaxRadix\n var result = 0L\n for (i in start until
length) {\n val digit = digitOf(this[i], radix)\n if (digit < 0) return null\n if (result < limitBeforeMul)
{\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit / radix\n if
(result < limitBeforeMul) {\n return null\n }\n } else {\n return null\n
}\n }\n result *= radix\n if (result < limit + digit) return null\n result -= digit\n }\n
return if (isNegative) result else -result\n}\n\ninternal fun numberFormatError(input: String): Nothing = throw
NumberFormatException("Invalid number format: '$input')\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n
*/\n@file:kotlin.jvm.JvmName("UnsignedKt")\n@file:UseExperimental(ExperimentalUnsignedTypes::class)\npackage
kotlin\n\n@PublishedApi\ninternal fun uintCompare(v1: Int, v2: Int): Int = (v1 xor
Int.MIN_VALUE).compareTo(v2 xor Int.MIN_VALUE)\n@PublishedApi\ninternal fun ulongCompare(v1: Long,
v2: Long): Int = (v1 xor Long.MIN_VALUE).compareTo(v2 xor Long.MIN_VALUE)\n@PublishedApi\ninternal fun
uintDivide(v1: UInt, v2: UInt): UInt = (v1.toLong() / v2.toLong()).toUInt()\n@PublishedApi\ninternal fun
uintRemainder(v1: UInt, v2: UInt): UInt = (v1.toLong() % v2.toLong()).toUInt()\n// Division and remainder are
based on Guava's UnsignedLongs implementation\n// Copyright 2011 The Guava
Authors\n\n@PublishedApi\ninternal fun ulongDivide(v1: ULong, v2: ULong): ULong {\n val dividend =
v1.toLong()\n val divisor = v2.toLong()\n if (divisor < 0) { // i.e., divisor >= 2^63:\n return if (v1 < v2)
ULong(0) else ULong(1)\n }\n // Optimization - use signed division if both dividend and divisor < 2^63\n if
(dividend >= 0) {\n return ULong(dividend / divisor)\n }\n // Otherwise, approximate the quotient, check,
and correct if necessary.\n val quotient = ((dividend ushr 1) / divisor) shl 1\n val rem = dividend - quotient *
divisor\n return ULong(quotient + if (ULong(rem) >= ULong(divisor)) 1 else 0)\n}\n\n@PublishedApi\ninternal
fun ulongRemainder(v1: ULong, v2: ULong): ULong {\n val dividend = v1.toLong()\n val divisor =
v2.toLong()\n if (divisor < 0) { // i.e., divisor >= 2^63:\n return if (v1 < v2) {\n v1 // dividend <
divisor\n } else {\n v1 - v2 // dividend >= divisor\n }\n }\n // Optimization - use signed
modulus if both dividend and divisor < 2^63\n if (dividend >= 0) {\n return ULong(dividend % divisor)\n
}\n // Otherwise, approximate the quotient, check, and correct if necessary.\n val quotient = ((dividend ushr 1)
/ divisor) shl 1\n val rem = dividend - quotient * divisor\n return ULong(rem - if (ULong(rem) >=
ULong(divisor)) divisor else 0)\n}\n\n@PublishedApi\ninternal fun doubleToUInt(v: Double): UInt = when {\n
v.isNaN() -> 0u\n v <= UInt.MIN_VALUE.toDouble() -> UInt.MIN_VALUE\n v >=
UInt.MAX_VALUE.toDouble() -> UInt.MAX_VALUE\n v <= Int.MAX_VALUE -> v.toInt().toUInt()\n else -
> (v - Int.MAX_VALUE).toInt().toUInt() + Int.MAX_VALUE.toUInt()\n // Int.MAX_VALUE < v <
UInt.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun doubleToULong(v: Double): ULong = when {\n
v.isNaN() -> 0u\n v <= ULong.MIN_VALUE.toDouble() -> ULong.MIN_VALUE\n v >=
ULong.MAX_VALUE.toDouble() -> ULong.MAX_VALUE\n v < Long.MAX_VALUE ->
v.toLong().toULong()\n // Real values from Long.MAX_VALUE to (Long.MAX_VALUE + 1) are not
representable in Double, so don't handle them.\n else -> (v - 9223372036854775808.0).toLong().toULong() +
9223372036854775808uL\n // Long.MAX_VALUE + 1 < v <
ULong.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun uintToDouble(v: Int): Double = (v and
Int.MAX_VALUE).toDouble() + (v ushr 31 shl 30).toDouble() * 2\n\n@PublishedApi\ninternal fun
ulongToDouble(v: Long): Double = (v ushr 11).toDouble() * 2048 + (v and 2047)\n\n\ninternal fun
ulongToString(v: Long): String = ulongToString(v, 10)\n\ninternal fun ulongToString(v: Long, base: Int): String {\n
if (v >= 0) return v.toString(base)\n var quotient = ((v ushr 1) / base) shl 1\n var rem = v - quotient * base\n
if (rem >= base) {\n rem -= base\n quotient += 1\n }\n return quotient.toString(base) +
rem.toString(base)\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language

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```
*/\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n\npackage\nkotlin.collections\n\n/**\n * Given an [iterator] function constructs an [Iterable] instance that returns values through\n the [Iterator]\n * provided by that function.\n * @sample samples.collections.Iterables.Building.iterable\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable(crossinline iterator: () -> Iterator<T>): Iterable<T>\n = object : Iterable<T> {\n override fun iterator(): Iterator<T> = iterator()\n }\n\n/**\n * A wrapper over another\n [Iterable] (or any other object that can produce an [Iterator]) that returns\n * an indexing iterator.\n */\n@internal class\nIndexingIterable<out T>(private val iteratorFactory: () -> Iterator<T>) : Iterable<IndexedValue<T>> {\n override\n fun iterator(): Iterator<IndexedValue<T>> = IndexingIterator(iteratorFactory())\n }\n\n/**\n * Returns the size of\n this iterable if it is known, or `null` otherwise.\n */\n@PublishedApi\ninternal fun <T>\nIterable<T>.collectionSizeOrNull(): Int? = if (this is Collection<*>) this.size else null\n\n/**\n * Returns the size of\n this iterable if it is known, or the specified [default] value otherwise.\n */\n@PublishedApi\ninternal fun <T>\nIterable<T>.collectionSizeOrDefault(default: Int): Int = if (this is Collection<*>) this.size else default\n\n/**\n * Returns true when it's safe to convert this collection to a set without changing contains method behavior.\n */\nprivate\nfun <T> Collection<T>.safeToConvertToSet() = size > 2 && this is ArrayList\n\n/**\n * Converts this collection to a\n set, when it's worth so and it doesn't change contains method behavior.\n */\ninternal fun <T>\nIterable<T>.convertToSetForSetOperationWith(source: Iterable<T>): Collection<T> =\n when (this) {\n is\n Set -> this\n is\n Collection -> when {\n source is Collection && source.size < 2 -> this\n else -> if (this.safeToConvertToSet()) toHashSet() else this\n }\n else -> toHashSet()\n }\n\n/**\n * Converts this collection to a set, when it's worth so and it doesn't change contains method behavior.\n */\ninternal fun\n<T> Iterable<T>.convertToSetForSetOperation(): Collection<T> =\n when (this) {\n is\n Set -> this\n is\n Collection -> if (this.safeToConvertToSet()) toHashSet() else this\n else -> toHashSet()\n }\n\n/**\n * Returns a single list of all elements from all collections in the given collection.\n * @sample\n samples.collections.Iterables.Operations.flattenIterable\n */\npublic fun <T> Iterable<Iterable<T>>.flatten():\nList<T> {\n val result = ArrayList<T>()\n for (element in this) {\n result.addAll(element)\n }\n return\n result\n }\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each pair from this\n collection,\n * *second* list is built from the second values of each pair from this collection.\n * @sample\n samples.collections.Iterables.Operations.unzipIterable\n */\npublic fun <T, R> Iterable<Pair<T, R>>.unzip():\nPair<List<T>, List<R>> {\n val expectedSize = collectionSizeOrDefault(10)\n val listT =\n ArrayList<T>(expectedSize)\n val listR = ArrayList<R>(expectedSize)\n for (pair in this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to listR\n }\n\n"/*\n * Copyright 2010-2018\n JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the\n Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"SequencesKt\")\n\npackage\nkotlin.sequences\n\n/**\n * Given an [iterator] function constructs a [Sequence] that returns values through the\n [Iterator]\n * provided by that function.\n * The values are evaluated lazily, and the sequence is potentially\n infinite.\n * @sample samples.collections.Sequences.Building.sequenceFromIterator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence(crossinline iterator: () -> Iterator<T>):\nSequence<T> = object : Sequence<T> {\n override fun iterator(): Iterator<T> = iterator()\n }\n\n/**\n * Creates a\n sequence that returns all elements from this iterator. The sequence is constrained to be iterated only once.\n */\n@sample\n samples.collections.Sequences.Building.sequenceFromIterator\n */\npublic fun <T>\nIterator<T>.asSequence(): Sequence<T> = Sequence { this }.constrainOnce()\n\n/**\n * Creates a sequence that\n returns the specified values.\n */\n@sample\n samples.collections.Sequences.Building.sequenceOfValues\n */\npublic fun <T> sequenceOf(vararg elements: T): Sequence<T> = if (elements.isEmpty()) emptySequence() else\n elements.asSequence()\n\n/**\n * Returns an empty sequence.\n */\npublic fun <T> emptySequence():\nSequence<T> = EmptySequence\n\nprivate object EmptySequence : Sequence<Nothing>,\nDropTakeSequence<Nothing> {\n override fun iterator(): Iterator<Nothing> = EmptyIterator\n override fun
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drop(n: Int) = EmptySequence\n override fun take(n: Int) = EmptySequence\n}\n\n/**\n * Returns this sequence if
it's not `null` and the empty sequence otherwise.\n * @sample
samples.collections.Sequences.Usage.sequenceOrElse\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>?.orElse():
Sequence<T> = this ?: emptySequence()\n}\n\n/**\n * Returns a sequence that iterates through the elements either of
this sequence\n * or, if this sequence turns out to be empty, of the sequence returned by [defaultValue] function.\n
*\n * @sample samples.collections.Sequences.Usage.sequenceIfEmpty\n *\n@SinceKotlin("1.3")\npublic fun
<T> Sequence<T>.ifEmpty(defaultValue: () -> Sequence<T>): Sequence<T> = sequence {\n val iterator =
this@ifEmpty.iterator()\n if (iterator.hasNext()) {\n yieldAll(iterator)\n } else {\n
yieldAll(defaultValue())\n }\n}\n}\n\n/**\n * Returns a sequence of all elements from all sequences in this
sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n@public fun <T>
Sequence<Sequence<T>>.flatten(): Sequence<T> = flatten { it.iterator() }\n}\n\n/**\n * Returns a sequence of all
elements from all iterables in this sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n
*\n@kotlin.jvm.JvmName("flattenSequenceOfIterable")\npublic fun <T> Sequence<Iterable<T>>.flatten():
Sequence<T> = flatten { it.iterator() }\n}\n\nprivate fun <T, R> Sequence<T>.flatten(iterator: (T) -> Iterator<R>):
Sequence<R> {\n if (this is TransformingSequence<*, *>) {\n return (this as TransformingSequence<*,
T>).flatten(iterator)\n }\n return FlatteningSequence(this, { it }, iterator)\n}\n}\n\n/**\n * Returns a pair of lists,
where\n * *first* list is built from the first values of each pair from this sequence,\n * *second* list is built from the
second values of each pair from this sequence.\n *\n * The operation is _terminal_.\n *\n@public fun <T, R>
Sequence<Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n val listT = ArrayList<T>()\n val listR =
ArrayList<R>()\n for (pair in this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to
listR\n}\n}\n\n/**\n * A sequence that returns the values from the underlying [sequence] that either match or do not
match\n * the specified [predicate].\n *\n * @param sendWhen If `true`, values for which the predicate returns `true`
are returned. Otherwise,\n * values for which the predicate returns `false` are returned\n *\n@internal class
FilteringSequence<T>(\n private val sequence: Sequence<T>,\n private val sendWhen: Boolean = true,\n private val predicate: (T) -> Boolean\n) : Sequence<T> {\n override fun iterator(): Iterator<T> = object :
Iterator<T> {\n val iterator = sequence.iterator()\n var nextState: Int = -1 // -1 for unknown, 0 for done, 1
for continue\n var nextItem: T? = null\n private fun calcNext() {\n while (iterator.hasNext()) {\n
 val item = iterator.next()\n if (predicate(item) == sendWhen) {\n nextItem = item\n
 nextState = 1\n return\n }\n }\n nextState = 0\n }\n override fun
next(): T {\n if (nextState == -1)\n calcNext()\n if (nextState == 0)\n throw
NoSuchElementException()\n val result = nextItem\n nextItem = null\n nextState = -1\n
@Suppress("UNCHECKED_CAST")\n return result as T\n }\n override fun hasNext(): Boolean
{\n if (nextState == -1)\n calcNext()\n return nextState == 1\n }\n }\n}\n}\n\n/**\n * A
sequence which returns the results of applying the given [transformer] function to the values\n * in the underlying
[sequence].\n *\n@internal class TransformingSequence<T, R>(\n constructor(private val sequence: Sequence<T>,\n private val transformer: (T) -> R) : Sequence<R> {\n override fun iterator(): Iterator<R> = object : Iterator<R> {\n
 val iterator = sequence.iterator()\n override fun next(): R {\n return transformer(iterator.next())\n
 }\n override fun hasNext(): Boolean {\n return iterator.hasNext()\n }\n }\n}\n}\n\ninternal fun <E>
flatten(iterator: (R) -> Iterator<E>): Sequence<E> {\n return FlatteningSequence<T, R, E>(sequence,
transformer, iterator)\n}\n}\n\n/**\n * A sequence which returns the results of applying the given [transformer]
function to the values\n * in the underlying [sequence], where the transformer function takes the index of the value
in the underlying\n * sequence along with the value itself.\n *\n@internal class TransformingIndexedSequence<T,
R>(\n constructor(private val sequence: Sequence<T>, private val transformer: (Int, T) -> R) : Sequence<R> {\n
 override fun iterator(): Iterator<R> = object : Iterator<R> {\n val iterator = sequence.iterator()\n var index =
0\n override fun next(): R {\n return transformer(checkIndexOverflow(index++), iterator.next())\n
 }\n override fun hasNext(): Boolean {\n return iterator.hasNext()\n }\n }\n}\n}\n\n/**\n * A
sequence which combines values from the underlying [sequence] with their indices and returns them as\n *

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[IndexValue] objects.\n *\ninternal class IndexingSequence<T>\nconstructor(private val sequence:
Sequence<T>) : Sequence<IndexedValue<T>> {\n override fun iterator(): Iterator<IndexedValue<T>> = object :
Iterator<IndexedValue<T>> {\n val iterator = sequence.iterator()\n var index = 0\n override fun next():
IndexedValue<T> {\n return IndexedValue(checkIndexOverflow(index++), iterator.next())\n }\n\n override fun hasNext(): Boolean {\n return iterator.hasNext()\n }\n}\n}\n\n**\n * A sequence which
takes the values from two parallel underlying sequences, passes them to the given\n * [transform] function and
returns the values returned by that function. The sequence stops returning\n * values as soon as one of the
underlying sequences stops returning values.\n *\ninternal class MergingSequence<T1, T2, V>\nconstructor(\nprivate val sequence1: Sequence<T1>,\nprivate val sequence2: Sequence<T2>,\nprivate val transform: (T1,
T2) -> V)\n : Sequence<V> {\n override fun iterator(): Iterator<V> = object : Iterator<V> {\n val iterator1 =
sequence1.iterator()\n val iterator2 = sequence2.iterator()\n override fun next(): V {\n return
transform(iterator1.next(), iterator2.next())\n }\n\n override fun hasNext(): Boolean {\n return
iterator1.hasNext() && iterator2.hasNext()\n }\n }\n}\n\ninternal class FlatteningSequence<T, R,
E>\nconstructor(\nprivate val sequence: Sequence<T>,\nprivate val transformer: (T) -> R,\nprivate val
iterator: (R) -> Iterator<E>)\n : Sequence<E> {\n override fun iterator(): Iterator<E> = object : Iterator<E> {\n
val iterator = sequence.iterator()\n var itemIterator: Iterator<E>? = null\n\n override fun next(): E {\n
if (!ensureItemIterator())\n throw NoSuchElementException()\n return itemIterator!!.next()\n
}\n\n override fun hasNext(): Boolean {\n return ensureItemIterator()\n }\n\n private fun
ensureItemIterator(): Boolean {\n if (itemIterator?.hasNext() == false)\n itemIterator = null\n\n while (itemIterator == null) {\n if (!iterator.hasNext()) {\n return false\n } else {\n
val element = iterator.next()\n val nextItemIterator = iterator(transformer(element))\n
if (nextItemIterator.hasNext()) {\n itemIterator = nextItemIterator\n return true\n
}\n }\n }\n return true\n }\n }\n}\n\n**\n * A sequence that supports drop(n) and
take(n) operations\n *\ninternal interface DropTakeSequence<T> : Sequence<T> {\n fun drop(n: Int):
Sequence<T>\n fun take(n: Int): Sequence<T>\n}\n\n**\n * A sequence that skips [startIndex] values from the
underlying [sequence]\n * and stops returning values right before [endIndex], i.e. stops at `endIndex - 1`\n
*\ninternal class SubSequence<T>(\nprivate val sequence: Sequence<T>,\nprivate val startIndex: Int,\nprivate val
endIndex: Int)\n : Sequence<T>, DropTakeSequence<T> {\n\n init {\n require(startIndex >= 0) {\n \"startIndex should be non-negative, but is $startIndex\"\n }\n require(endIndex >= 0) {\n \"endIndex should be
non-negative, but is $endIndex\"\n }\n require(endIndex >= startIndex) {\n \"endIndex should be not less than
startIndex, but was $endIndex < $startIndex\"\n }\n }\n\n private val count: Int get() = endIndex - startIndex\n\n override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence,
startIndex + n, endIndex)\n\n override fun take(n: Int): Sequence<T> = if (n >= count) this else SubSequence(sequence,
startIndex, startIndex + n)\n\n override fun iterator() = object : Iterator<T> {\n\n val iterator =
sequence.iterator()\n var position = 0\n\n // Shouldn't be called from constructor to avoid premature
iteration\n private fun drop() {\n while (position < startIndex && iterator.hasNext()) {\n
iterator.next()\n position++\n }\n }\n\n override fun hasNext(): Boolean {\n drop()\n
return (position < endIndex) && iterator.hasNext()\n }\n\n override fun next(): T {\n drop()\n
if (position >= endIndex)\n throw NoSuchElementException()\n position++\n return
iterator.next()\n }\n }\n}\n\n**\n * A sequence that returns at most [count] values from the underlying
[sequence], and stops returning values\n * as soon as that count is reached.\n *\ninternal class TakeSequence<T>(\nprivate val sequence: Sequence<T>,\nprivate val count: Int)\n : Sequence<T>, DropTakeSequence<T> {\n\n init {\n require(count >= 0) {\n \"count must be non-negative, but was $count.\"\n }\n }\n\n override fun drop(n:
Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence, n, count)\n\n override fun
take(n: Int): Sequence<T> = if (n >= count) this else TakeSequence(sequence, n)\n\n override fun iterator():
Iterator<T> = object : Iterator<T> {\n\n var left = count\n val iterator = sequence.iterator()\n\n override
fun next(): T {\n if (left == 0)\n throw NoSuchElementException()\n left--\n return
iterator.next()\n }\n\n override fun hasNext(): Boolean {\n return left > 0 && iterator.hasNext()\n
}

```





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nextItem (to avoid keeping reference on yielded instance) -- need to keep state for getNextValue\n
return result\n
override fun hasNext(): Boolean {\n
 if (nextState < 0)\n
 calcNext()\n
 return nextState == 1\n
}\n\n
Returns a wrapper sequence that provides
values of this sequence, but ensures it can be iterated only one time.\n
The operation is _intermediate_ and
stateless.

[IllegalStateException] is thrown on iterating the returned sequence from the second time.

public fun <T> Sequence<T>.constrainOnce(): Sequence<T> {\n
 // as? does not work in js\n
 //return this as?
 ConstrainedOnceSequence<T>?: ConstrainedOnceSequence(this)\n
 return if (this is
 ConstrainedOnceSequence<T>) this else ConstrainedOnceSequence(this)\n
}\n\n
Returns a sequence which
invokes the function to calculate the next value on each iteration until the function returns `null`.

The
returned sequence is constrained to be iterated only once.

@see constrainOnce\n
@see
kotlin.sequences.sequence\n
@sample samples.collections.Sequences.Building.generateSequence\n
public fun <T : Any> generateSequence(nextFunction: () -> T?): Sequence<T> {\n
 return
 GeneratorSequence(nextFunction, { nextFunction() }).constrainOnce()\n
}\n\n
Returns a sequence defined by
the starting value [seed] and the function [nextFunction],

which is invoked to calculate the next value based on
the previous one on each iteration.

The sequence produces values until it encounters first `null` value.

If
[seed] is `null`, an empty sequence is produced.

The sequence can be iterated multiple times, each time
starting with [seed].

@see kotlin.sequences.sequence\n
@sample
samples.collections.Sequences.Building.generateSequenceWithSeed\n
@kotlin.internal.LowPriorityInOverloadResolution\n
public fun <T : Any> generateSequence(seed: T?,
 nextFunction: (T) -> T?): Sequence<T> =\n
 if (seed == null)\n
 EmptySequence\n
 else\n
 GeneratorSequence({ seed }, nextFunction)\n
}\n\n
Returns a sequence defined by the function [seedFunction],
which is invoked to produce the starting value,

and the [nextFunction], which is invoked to calculate the next
value based on the previous one on each iteration.

The sequence produces values until it encounters first
`null` value.

If [seedFunction] returns `null`, an empty sequence is produced.

The sequence can be
iterated multiple times.

@see kotlin.sequences.sequence\n
@sample
samples.collections.Sequences.Building.generateSequenceWithLazySeed\n
public fun <T : Any>
generateSequence(seedFunction: () -> T?, nextFunction: (T) -> T?): Sequence<T> =\n
 GeneratorSequence(seedFunction, nextFunction)\n
}\n\n
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Programming Language contributors.\n
Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n
@file:kotlin.jvm.JvmMultiFileClass\n
@file:kotlin.jvm.JvmName("PreconditionsKt")\n
package
kotlin\n
import kotlin.contracts.contract\n
Throws an [IllegalArgumentException] if the [value] is false.

@sample samples.misc.Preconditions.failRequireWithLazyMessage\n
@kotlin.internal.InlineOnly\n
public inline fun require(value: Boolean): Unit {\n
 contract {\n
 returns() implies value\n
 }\n
 require(value) {\n
 "Failed requirement." }\n
}\n\n
Throws an [IllegalArgumentException] with the result of calling
[lazyMessage] if the [value] is false.

@sample samples.misc.Preconditions.failRequireWithLazyMessage\n
@kotlin.internal.InlineOnly\n
public inline fun require(value: Boolean, lazyMessage: () -> Any): Unit {\n
 contract {\n
 returns() implies value\n
 }\n
 if (!value) {\n
 val message = lazyMessage()\n
 throw
 IllegalArgumentException(message.toString()) }\n
}\n\n
Throws an [IllegalArgumentException] if the
[value] is null. Otherwise returns the not null value.

@kotlin.internal.InlineOnly\n
public inline fun <T : Any>
requireNotNull(value: T?): T {\n
 contract {\n
 returns() implies (value != null)\n
 }\n
 return
 requireNotNull(value) {"Required value was null." }\n
}\n\n
Throws an [IllegalArgumentException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise

returns the not null value.

@sample
samples.misc.Preconditions.failRequireWithLazyMessage\n
@kotlin.internal.InlineOnly\n
public inline fun <T :
Any> requireNotNull(value: T?, lazyMessage: () -> Any): T {\n
 contract {\n
 returns() implies (value !=
 null)\n
 }\n
 if (value == null) {\n
 val message = lazyMessage()\n
 throw
 IllegalArgumentException(message.toString()) }\n
 } else {\n
 return value\n
 }\n
}\n\n
Throws an
[IllegalStateException] if the [value] is false.

@sample

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samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\npublic inline fun
check(value: Boolean): Unit {\n contract {\n returns() implies value\n }\n check(value) { \"Check failed.\n
}\n}\n\n/**\n * Throws an [IllegalStateException] with the result of calling [lazyMessage] if the [value] is false.\n
*\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\npublic
inline fun check(value: Boolean, lazyMessage: () -> Any): Unit {\n contract {\n returns() implies value\n }\n
if (!value) {\n val message = lazyMessage()\n throw IllegalStateException(message.toString())\n
}\n}\n\n/**\n * Throws an [IllegalStateException] if the [value] is null. Otherwise\n * returns the not null value.\n
*\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\npublic
inline fun <T : Any> checkNotNull(value: T?): T {\n contract {\n returns() implies (value != null)\n }\n
return checkNotNull(value) { \"Required value was null.\" }\n}\n\n/**\n * Throws an [IllegalStateException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n * \n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n *^\n@kotlin.internal.InlineOnly\npublic inline fun <T :
Any> checkNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n returns() implies (value != null)\n
}\n\n if (value == null) {\n val message = lazyMessage()\n throw
IllegalStateException(message.toString())\n } else {\n return value\n }\n}\n\n\n/**\n * Throws an
[IllegalStateException] with the given [message].\n * \n * @sample samples.misc.Preconditions.failWithError\n
*^\n@kotlin.internal.InlineOnly\npublic inline fun error(message: Any): Nothing = throw
IllegalStateException(message.toString())\n\" ,/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *^\n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport
kotlin.js.*\nimport primitiveArrayConcat\nimport withType\nimport kotlin.ranges.contains\nimport
kotlin.ranges.reversed\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n *^\npublic actual fun <T> Array<out T>.elementAt(index:
Int): T {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n
}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n *^\npublic
actual fun ByteArray.elementAt(index: Int): Byte {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n *^\npublic actual fun ShortArray.elementAt(index: Int): Short
{\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n
}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n *^\npublic
actual fun IntArray.elementAt(index: Int): Int {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n *^\npublic actual fun LongArray.elementAt(index: Int): Long
{\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n
}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n *^\npublic
actual fun FloatArray.elementAt(index: Int): Float {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n *^\npublic actual fun DoubleArray.elementAt(index: Int):
Double {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is

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out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n\npublic
actual fun BooleanArray.elementAt(index: Int): Boolean {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n\npublic actual fun CharArray.elementAt(index: Int): Char
{\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n
}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n * \n\npublic actual fun <T> Array<out T>.asList():
List<T> {\n return ArrayList<T>(this.unsafeCast<Array<Any?>>())\n}\n\n/**\n * Returns a [List] that wraps the
original array.\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun ByteArray.asList(): List<Byte> {\n
return this.unsafeCast<Array<Byte>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun ShortArray.asList(): List<Short> {\n return
this.unsafeCast<Array<Short>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun IntArray.asList(): List<Int> {\n return
this.unsafeCast<Array<Int>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun LongArray.asList(): List<Long> {\n return
this.unsafeCast<Array<Long>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun FloatArray.asList(): List<Float> {\n return
this.unsafeCast<Array<Float>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun DoubleArray.asList(): List<Double> {\n return
this.unsafeCast<Array<Double>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun BooleanArray.asList(): List<Boolean> {\n return
this.unsafeCast<Array<Boolean>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\npublic actual fun CharArray.asList(): List<Char> {\n return object : AbstractList<Char>(), RandomAccess {\n
 override val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n
 override fun contains(element: Char): Boolean = this@asList.contains(element)\n override fun get(index: Int):
Char {\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n
 override fun indexOf(element: Char): Int {\n if ((element as Any?) !is Char) return -1\n return
this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: Char): Int {\n if ((element as
Any?) !is Char) return -1\n return this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns
`true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same
elements in the same order.\n * \n * If two corresponding elements are nested arrays, they are also compared
deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of
other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n * \n\n@SinceKotlin("1.1")\n@library("arrayDeepEquals")\npublic actual infix fun <T> Array<out
T>.contentDeepEquals(other: Array<out T>): Boolean {\n definedExternally\n}\n\n/**\n * Returns a hash code
based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays
contains itself on any nesting level the behavior is undefined.\n
*\n * \n\n@SinceKotlin("1.1")\n@library("arrayDeepHashCode")\npublic actual fun <T> Array<out
T>.contentDeepHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a string representation of the
contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains
itself on any nesting level that reference\n * is rendered as `"[...]"` to prevent recursion.\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentDeepToString\n
*\n * \n\n@SinceKotlin("1.1")\n@library("arrayDeepToString")\npublic actual fun <T> Array<out
T>.contentDeepToString(): String {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays
are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n
*\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers
it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

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*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun <T> Array<out
T>.contentEquals(other: Array<out T>): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two
specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the
same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating
point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun ByteArray.contentEquals(other:
ByteArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are
structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n
* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun ShortArray.contentEquals(other:
ShortArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are
structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n
* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun IntArray.contentEquals(other:
IntArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally*
equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements
are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that
`NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun LongArray.contentEquals(other:
LongArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are
structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n
* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun FloatArray.contentEquals(other:
FloatArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are
structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n
* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun DoubleArray.contentEquals(other:
DoubleArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are
structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n
* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun BooleanArray.contentEquals(other:
BooleanArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are
structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n
* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun CharArray.contentEquals(other:
CharArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array
as if it is [List].\n *\n@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun <T> Array<out
T>.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this
array as if it is [List].\n *\n@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun
ByteArray.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents
of this array as if it is [List].\n *\n@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun
ShortArray.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents

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of this array as if it is [List].\n \*^@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun IntArray.contentHashCode(): Int {\n definedExternally\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*^@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun LongArray.contentHashCode(): Int {\n definedExternally\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*^@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun FloatArray.contentHashCode(): Int {\n definedExternally\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*^@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun DoubleArray.contentHashCode(): Int {\n definedExternally\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*^@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun BooleanArray.contentHashCode(): Int {\n definedExternally\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is [List].\n \*^@SinceKotlin("1.1")\n@library("arrayHashCode")\npublic actual fun CharArray.contentHashCode(): Int {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun <T> Array<out T>.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun ByteArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun ShortArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun IntArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun LongArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun FloatArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun DoubleArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun BooleanArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n \*^@SinceKotlin("1.1")\n@library("arrayToString")\npublic actual fun CharArray.contentToString(): String {\n definedExternally\n}\n\n/\*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* \n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* \n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the

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[destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T> {\n arrayCopy(this, destination, destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray {\n arrayCopy(this.unsafeCast<Array<Byte>>(), destination.unsafeCast<Array<Byte>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray {\n arrayCopy(this.unsafeCast<Array<Short>>(), destination.unsafeCast<Array<Short>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray {\n arrayCopy(this.unsafeCast<Array<Int>>(), destination.unsafeCast<Array<Int>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n *

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@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray {\n arrayCopy(this.unsafeCast<Array<Long>>(), destination.unsafeCast<Array<Long>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray {\n arrayCopy(this.unsafeCast<Array<Float>>(), destination.unsafeCast<Array<Float>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray {\n arrayCopy(this.unsafeCast<Array<Double>>(), destination.unsafeCast<Array<Double>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray {\n arrayCopy(this.unsafeCast<Array<Boolean>>(), destination.unsafeCast<Array<Boolean>>(), destinationOffset,
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startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination]
array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the
subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n *
@param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices
range.\n *
\n * @return the [destination] array.\n
\n\n*/\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): CharArray {\n arrayCopy(this.unsafeCast<Array<Char>>(),
destination.unsafeCast<Array<Char>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n
 * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\n@Suppress("ACTUAL_WITHOUT_EXPECT",
"NOTHING_TO_INLINE")\npublic actual inline fun <T> Array<out T>.copyOf(): Array<T> {\n return
this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline fun ByteArray.copyOf(): ByteArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new
array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline fun ShortArray.copyOf(): ShortArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new
array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline fun IntArray.copyOf(): IntArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\npublic actual fun LongArray.copyOf(): LongArray {\n return withType("LongArray",
this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline fun FloatArray.copyOf(): FloatArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new
array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline fun DoubleArray.copyOf(): DoubleArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns
new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\npublic actual fun BooleanArray.copyOf():
BooleanArray {\n return withType("BooleanArray", this.asDynamic().slice())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n\n*/\n\npublic actual fun CharArray.copyOf(): CharArray {\n return withType("CharArray",
this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given
[newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize]
is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater
than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n\n*/\n\npublic actual fun
ByteArray.copyOf(newSize: Int): ByteArray {\n require(newSize >= 0) { "Invalid new array size: $newSize." }\n
 return fillFrom(this, ByteArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if
necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the

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[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*/\npublic actual fun ShortArray.copyOf(newSize: Int): ShortArray {\n require(newSize >= 0) { "Invalid new
array size: $newSize.\n" }\n return fillFrom(this, ShortArray(newSize))\n}\n\n/**\n * Returns new array which is a
copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with
zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated
to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array
are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*/\npublic actual fun
IntArray.copyOf(newSize: Int): IntArray {\n require(newSize >= 0) { "Invalid new array size: $newSize.\n" }\n
return fillFrom(this, IntArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array,
resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n
* \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If
[newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero
values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*/\npublic actual fun
LongArray.copyOf(newSize: Int): LongArray {\n require(newSize >= 0) { "Invalid new array size:
$newSize.\n" }\n return withType("LongArray", arrayCopyResize(this, newSize, 0L))\n}\n\n/**\n * Returns new
array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded
at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy
array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements
in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*/\npublic actual fun
FloatArray.copyOf(newSize: Int): FloatArray {\n require(newSize >= 0) { "Invalid new array size: $newSize.\n"
}\n return fillFrom(this, FloatArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if
necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*/\npublic actual fun
DoubleArray.copyOf(newSize: Int): DoubleArray {\n require(newSize >= 0) { "Invalid new
array size: $newSize.\n" }\n return fillFrom(this, DoubleArray(newSize))\n}\n\n/**\n * Returns new array which is
a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end
with `false` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is
truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the
copy array are filled with `false` values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*/\npublic actual fun
BooleanArray.copyOf(newSize: Int): BooleanArray {\n require(newSize >= 0) { "Invalid new array size:
$newSize.\n" }\n return withType("BooleanArray", arrayCopyResize(this, newSize, false))\n}\n\n/**\n * Returns
new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or
padded at the end with null char (`\u0000`) values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with null char (`\u0000`) values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*/\npublic actual fun
CharArray.copyOf(newSize: Int): CharArray {\n require(newSize >= 0) { "Invalid new array size: $newSize.\n"
}\n return withType("CharArray", fillFrom(this, CharArray(newSize)))\n}\n\n/**\n * Returns new array which is
a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end
with `null` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is
truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the
copy array are filled with `null` values.\n * \n * @sample

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samples.collections.Arrays.CopyOfOperations.resizingCopyOf
*\n@Suppress("ACTUAL_WITHOUT_EXPECT")\npublic actual fun <T> Array<out T>.copyOf(newSize: Int):
Array<T?> {\n require(newSize >= 0) { "Invalid new array size: $newSize." }\n return arrayCopyResize(this,
newSize, null)\n}\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n
* @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the
range (exclusive), must be in `fromIndex..array.size`\n
*\n@Suppress("ACTUAL_WITHOUT_EXPECT")\npublic actual fun <T> Array<out
T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> {\n AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n**\n * Returns a new array which is a
copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must
be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
*\npublic actual fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex,
toIndex)\n}\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
@param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the
range (exclusive), must be in `fromIndex..array.size`\n *\npublic actual fun ShortArray.copyOfRange(fromIndex:
Int, toIndex: Int): ShortArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return
this.asDynamic().slice(fromIndex, toIndex)\n}\n\n**\n * Returns a new array which is a copy of the specified range
of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n *
@param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n *\npublic actual fun
IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray {\n AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n**\n * Returns a new array which is a
copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must
be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
*\npublic actual fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("LongArray",
this.asDynamic().slice(fromIndex, toIndex))\n}\n\n**\n * Returns a new array which is a copy of the specified
range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n
* @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n *\npublic actual fun
FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex,
toIndex)\n}\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
@param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the
range (exclusive), must be in `fromIndex..array.size`\n *\npublic actual fun DoubleArray.copyOfRange(fromIndex:
Int, toIndex: Int): DoubleArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return
this.asDynamic().slice(fromIndex, toIndex)\n}\n\n**\n * Returns a new array which is a copy of the specified range
of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n *
@param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n *\npublic actual fun
BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("BooleanArray",
this.asDynamic().slice(fromIndex, toIndex))\n}\n\n**\n * Returns a new array which is a copy of the specified
range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n
* @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n *\npublic actual fun
CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("CharArray",
this.asDynamic().slice(fromIndex, toIndex))\n}\n\n**\n * Fills this array or its subrange with the specified
[element] value.\n * \n * @param fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the
end of the range (exclusive), size of this array by default.\n * \n * @throws IndexOutOfBoundsException if

```

[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws  
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

```

*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
 toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
 fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
 of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
 [toIndex].\n
 */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
 toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
 fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
 of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
 [toIndex].\n
 */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
 toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
 fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
 of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
 [toIndex].\n
 */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
 toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
 fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
 of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
 [toIndex].\n
 */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
 toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
 fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
 of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
 [toIndex].\n
 */\n\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
 toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
 fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
 of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
 [toIndex].\n
 */

```

is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

```

*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size
of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n
*\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline operator
fun <T> Array<out T>.plus(element: T): Array<T> {\n return
this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original
array and then the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator
fun ByteArray.plus(element: Byte): ByteArray {\n return plus(byteArrayOf(element))\n}\n\n/**\n * Returns an
array containing all elements of the original array and then the given [element].\n
*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun ShortArray.plus(element: Short):
ShortArray {\n return plus(shortArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline
operator fun IntArray.plus(element: Int): IntArray {\n return plus(intArrayOf(element))\n}\n\n/**\n * Returns an
array containing all elements of the original array and then the given [element].\n
*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun LongArray.plus(element: Long):
LongArray {\n return plus(longArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline
operator fun FloatArray.plus(element: Float): FloatArray {\n return plus(floatArrayOf(element))\n}\n\n/**\n *
Returns an array containing all elements of the original array and then the given [element].\n
*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun DoubleArray.plus(element:
Double): DoubleArray {\n return plus(doubleArrayOf(element))\n}\n\n/**\n * Returns an array containing all
elements of the original array and then the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline operator fun BooleanArray.plus(element: Boolean): BooleanArray {\n return
plus(booleanArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then
the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun
CharArray.plus(element: Char): CharArray {\n return plus(charArrayOf(element))\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] collection.\n
*\n@Suppress("ACTUAL_WITHOUT_EXPECT")\npublic actual operator fun <T> Array<out T>.plus(elements:
Collection<T>): Array<T> {\n return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array

```

containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray {
 return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun ShortArray.plus(elements: Collection<Short>): ShortArray {
 return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun IntArray.plus(elements: Collection<Int>): IntArray {
 return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun LongArray.plus(elements: Collection<Long>): LongArray {
 return arrayPlusCollection(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun FloatArray.plus(elements: Collection<Float>): FloatArray {
 return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray {
 return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray {
 return arrayPlusCollection(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun CharArray.plus(elements: Collection<Char>): CharArray {
 return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")
public actual inline operator fun <T> Array<out T>.plus(elements: Array<out T>):
Array<T> {
 return this.asDynamic().concat(elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun ByteArray.plus(elements:
ByteArray): ByteArray {
 return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun ShortArray.plus(elements:
ShortArray): ShortArray {
 return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun IntArray.plus(elements: IntArray):
IntArray {
 return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun LongArray.plus(elements:
LongArray): LongArray {
 return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun FloatArray.plus(elements:
FloatArray): FloatArray {
 return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun DoubleArray.plus(elements:
DoubleArray): DoubleArray {
 return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun BooleanArray.plus(elements:
BooleanArray): BooleanArray {
 return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun CharArray.plus(elements:
CharArray): CharArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then the given [element].\n
*\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline fun <T>
Array<out T>.plusElement(element: T): Array<T> {\n return
this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n@library("primitiveArraySort")\npublic actual fun
IntArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\npublic actual fun LongArray.sort(): Unit {\n if (size > 1) sort {
a: Long, b: Long -> a.compareTo(b) }\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n@library("primitiveArraySort")\npublic actual fun
ByteArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n@library("primitiveArraySort")\npublic actual fun
ShortArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n@library("primitiveArraySort")\npublic actual fun
DoubleArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n@library("primitiveArraySort")\npublic actual fun
FloatArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n@library("primitiveArraySort")\npublic actual fun
CharArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place according to the natural order
of its elements.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n * \n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n
*\npublic actual fun
<T : Comparable<T>> Array<out T>.sort(): Unit {\n if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-
place according to the order specified by the given [comparison] function.\n * \n * The sort is _stable_. It means that
equal elements preserve their order relative to each other after sorting.\n
*\npublic fun <T> Array<out
T>.sort(comparison: (a: T, b: T) -> Int): Unit {\n if (size > 1) sortArrayWith(this, comparison)\n}\n\n/**\n * Sorts
the array in-place according to the order specified by the given [comparison] function.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sort(noinline comparison: (a: Byte, b: Byte) -> Int):
Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by
the given [comparison] function.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sort(noinline
comparison: (a: Short, b: Short) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-
place according to the order specified by the given [comparison] function.\n
*\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.sort(noinline comparison: (a: Int, b: Int) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given
[comparison] function.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sort(noinline comparison:
(a: Long, b: Long) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according
to the order specified by the given [comparison] function.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sort(noinline comparison: (a: Float, b: Float) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given
[comparison] function.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sort(noinline comparison:
(a: Double, b: Double) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place
according to the order specified by the given [comparison] function.\n
*\n@kotlin.internal.InlineOnly\npublic
inline fun CharArray.sort(noinline comparison: (a: Char, b: Char) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n
*\npublic actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit {\n if
(size > 1) sortArrayWith(this, comparator)\n}\n\n/**\n * Returns a *typed* object array containing all of the
elements of this primitive array.\n
*\npublic actual fun ByteArray.toTypedArray(): Array<Byte> {\n return

```

```
js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * ^\npublic actual fun ShortArray.toArray(): Array<Short> {\n return\njs("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * ^\npublic actual fun IntArray.toArray(): Array<Int> {\n return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * ^\npublic actual fun LongArray.toArray(): Array<Long> {\n return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * ^\npublic actual fun FloatArray.toArray(): Array<Float> {\n return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * ^\npublic actual fun DoubleArray.toArray(): Array<Double> {\n return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * ^\npublic actual fun BooleanArray.toArray(): Array<Boolean> {\n return js("[\"]').slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * ^\npublic actual fun CharArray.toArray(): Array<Char> {\n return Array(size) { index -> this[index] }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName("ComparisonsKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin.comparisons\n\n/**\n * Compares two values using the specified functions [selectors] to calculate the result of the comparison.\n * The functions are called sequentially, receive the given values [a] and [b] and return [Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for [a] and [b] values do\n * not compare as equal, the result of that comparison is returned.\n */\n\n@sample\nsamples.comparisons.Comparisons.compareValuesByWithSelectors\n\n/**\npublic fun <T> compareValuesBy(a: T, b: T, vararg selectors: (T) -> Comparable<*>?): Int {\n require(selectors.size > 0)\n return compareValuesByImpl(a, b, selectors)\n}\n\nprivate fun <T> compareValuesByImpl(a: T, b: T, selectors: Array<out (T) -> Comparable<*>?): Int {\n for (fn in selectors) {\n val v1 = fn(a)\n val v2 = fn(b)\n val diff = compareValues(v1, v2)\n if (diff != 0) return diff\n }\n return 0\n}\n\n/**\n * Compares two values using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to the given values [a] and [b] and return [Comparable] objects.\n * The result of comparison of these [Comparable] instances is returned.\n */\n\n@sample\nsamples.comparisons.Comparisons.compareValuesByWithSingleSelector\n\n/**\npublic inline fun <T> compareValuesBy(a: T, b: T, selector: (T) -> Comparable<*>?): Int {\n return compareValues(selector(a), selector(b))\n}\n\n/**\n * Compares two values using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to the given values [a] and [b] and return objects of type K which are then being compared with the given [comparator].\n */\n\n@sample\nsamples.comparisons.Comparisons.compareValuesByWithComparator\n\n/**\npublic inline fun <T, K> compareValuesBy(a: T, b: T, comparator: Comparator<in K>, selector: (T) -> K): Int {\n return comparator.compare(selector(a), selector(b))\n}\n\n//// Not so useful without type inference for receiver of expression\n//// compareValuesWith(v1, v2, compareBy { it.prop1 } thenByDescending { it.prop2 })\n\n/**\npublic inline fun <T> compareValuesWith(a: T, b: T, comparator: Comparator<T>): Int = comparator.compare(a, b)\n\n/**\n * Compares two nullable [Comparable] values. Null is considered less than any value.\n */\n\n@sample\nsamples.comparisons.Comparisons.compareValues\n\n/**\npublic fun <T : Comparable<*>> compareValues(a: T?, b: T?): Int {\n if (a === b) return 0\n if (a == null) return -1\n if (b == null) return 1\n}\n\n@Suppress("UNCHECKED_CAST")\nreturn (a as Comparable<Any>).compareTo(b)\n}\n\n/**\n * Creates a comparator using the sequence of functions to calculate a result of comparison.\n * The functions are called sequentially, receive the given values `a` and `b` and return [Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for `a` and `b` values do\n * not compare as equal, the result of that comparison is returned from the [Comparator].\n */\n\n@sample\nsamples.comparisons.Comparisons.compareByWithSelectors\n\n/**\npublic fun <T> compareBy(vararg selectors: (T)
```



```

-> Comparable<*>?): Comparator<T> {n require(selectors.size > 0)\n return Comparator { a, b ->
compareValuesByImpl(a, b, selectors) }\n}\n\n/**\n * Creates a comparator using the function to transform value
to a [Comparable] instance for comparison.\n *\n * @sample
samples.comparisons.Comparisons.compareByWithSingleSelector\n *\n@kotlin.internal.InlineOnly\npublic inline
fun <T> compareBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n Comparator { a, b ->
compareValuesBy(a, b, selector) }\n\n/**\n * Creates a comparator using the [selector] function to transform values
being compared and then applying\n * the specified [comparator] to compare transformed values.\n *\n * @sample
samples.comparisons.Comparisons.compareByWithComparator\n *\n@kotlin.internal.InlineOnly\npublic inline
fun <T, K> compareBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n
Comparator { a, b -> compareValuesBy(a, b, comparator, selector) }\n\n/**\n * Creates a descending comparator
using the function to transform value to a [Comparable] instance for comparison.\n *\n * @sample
samples.comparisons.Comparisons.compareByDescendingWithSingleSelector\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareByDescending(crossinline selector: (T) ->
Comparable<*>?): Comparator<T> =\n Comparator { a, b -> compareValuesBy(b, a, selector) }\n\n/**\n *
Creates a descending comparator using the [selector] function to transform values being compared and then
applying\n * the specified [comparator] to compare transformed values.\n *\n * Note that an order of [comparator] is
reversed by this wrapper.\n *\n * @sample
samples.comparisons.Comparisons.compareByDescendingWithComparator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareByDescending(comparator: Comparator<in K>,
crossinline selector: (T) -> K): Comparator<T> =\n Comparator { a, b -> compareValuesBy(b, a, comparator,
selector) }\n\n/**\n * Creates a comparator comparing values after the primary comparator defined them equal. It
uses\n * the function to transform value to a [Comparable] instance for comparison.\n *\n * @sample
samples.comparisons.Comparisons.thenBy\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Comparator<T>.thenBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n Comparator { a, b -
->\n val previousCompare = this@thenBy.compare(a, b)\n if (previousCompare != 0) previousCompare else
compareValuesBy(a, b, selector)\n }\n\n/**\n * Creates a comparator comparing values after the primary
comparator defined them equal. It uses\n * the [selector] function to transform values and then compares them with
the given [comparator].\n *\n * @sample samples.comparisons.Comparisons.thenByWithComparator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> Comparator<T>.thenBy(comparator: Comparator<in K>,
crossinline selector: (T) -> K): Comparator<T> =\n Comparator { a, b ->\n val previousCompare =
this@thenBy.compare(a, b)\n if (previousCompare != 0) previousCompare else compareValuesBy(a, b,
comparator, selector)\n }\n\n/**\n * Creates a descending comparator using the primary comparator and\n * the
function to transform value to a [Comparable] instance for comparison.\n *\n * @sample
samples.comparisons.Comparisons.thenByDescending\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Comparator<T>.thenByDescending(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n
Comparator { a, b ->\n val previousCompare = this@thenByDescending.compare(a, b)\n if
(previousCompare != 0) previousCompare else compareValuesBy(b, a, selector)\n }\n\n/**\n * Creates a
descending comparator comparing values after the primary comparator defined them equal. It uses\n * the [selector]
function to transform values and then compares them with the given [comparator].\n *\n * @sample
samples.comparisons.Comparisons.thenByDescendingWithComparator\n *\n@kotlin.internal.InlineOnly\npublic
inline fun <T, K> Comparator<T>.thenByDescending(comparator: Comparator<in K>, crossinline selector: (T) ->
K): Comparator<T> =\n Comparator { a, b ->\n val previousCompare = this@thenByDescending.compare(a,
b)\n if (previousCompare != 0) previousCompare else compareValuesBy(b, a, comparator, selector)\n
}\n\n/**\n * Creates a comparator using the primary comparator and function to calculate a result of comparison.\n
*\n * @sample samples.comparisons.Comparisons.thenComparator\n *\n@kotlin.internal.InlineOnly\npublic inline
fun <T> Comparator<T>.thenComparator(crossinline comparison: (a: T, b: T) -> Int): Comparator<T> =\n
Comparator { a, b ->\n val previousCompare = this@thenComparator.compare(a, b)\n if (previousCompare
!= 0) previousCompare else comparison(a, b)\n }\n\n/**\n * Combines this comparator and the given [comparator]

```

such that the latter is applied only when the former considered values equal.

```

@sample
samples.comparisons.Comparisons.then
public infix fun <T> Comparator<T>.then(comparator:
Comparator<in T>): Comparator<T> =
 Comparator { a, b ->
 val previousCompare =
this@then.compare(a, b)
 if (previousCompare != 0) previousCompare else comparator.compare(a, b)
 }

```

Combines this comparator and the given [comparator] such that the latter is applied only when the former considered values equal.

```

@sample
samples.comparisons.Comparisons.thenDescending
public infix fun <T> Comparator<T>.thenDescending(comparator: Comparator<in T>): Comparator<T> =
 Comparator<T> { a, b ->
 val previousCompare = this@thenDescending.compare(a, b)
 if (previousCompare != 0) previousCompare else comparator.compare(b, a)
 }

```

Not so useful without type inference for receiver of expression

```

@sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator
public fun <T : Any>
nullsFirst(comparator: Comparator<in T>): Comparator<T?> =
 Comparator { a, b ->
 when {
 a == b -> 0
 a == null -> -1
 b == null -> 1
 else -> comparator.compare(a, b)
 }
 }

```

Provides a comparator of nullable [Comparable] values considering `null` value less than any other value.

```

@sample
samples.comparisons.Comparisons.nullsFirstLastComparator
public inline fun <T : Comparable<T>> nullsFirst(): Comparator<T?> =
 nullsFirst(naturalOrder())

```

Extends the given [comparator] of non-nullable values to a comparator of nullable values considering `null` value greater than any other value.

```

@sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator
public fun <T : Any>
nullsLast(comparator: Comparator<in T>): Comparator<T?> =
 Comparator { a, b ->
 when {
 a == b -> 0
 a == null -> 1
 b == null -> -1
 else -> comparator.compare(a, b)
 }
 }

```

Provides a comparator of nullable [Comparable] values considering `null` value greater than any other value.

```

@sample
samples.comparisons.Comparisons.nullsFirstLastComparator
public inline fun <T : Comparable<T>> nullsLast(): Comparator<T?> =
 nullsLast(naturalOrder())

```

Returns a comparator that compares [Comparable] objects in natural order.

```

@sample
samples.comparisons.Comparisons.naturalOrderComparator
public fun <T : Comparable<T>>
naturalOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as
Comparator<T>)

```

Returns a comparator that compares [Comparable] objects in reversed natural order.

```

@sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator
public fun <T :
Comparable<T>> reverseOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST")
(ReverseOrderComparator as Comparator<T>)

```

Returns a comparator that imposes the reverse ordering of this comparator.

```

@sample
samples.comparisons.Comparisons.reversed
public fun <T>
Comparator<T>.reversed(): Comparator<T> = when (this) {
 is ReversedComparator -> this.comparator
 NaturalOrderComparator -> @Suppress("UNCHECKED_CAST") (ReverseOrderComparator as
Comparator<T>)
 ReverseOrderComparator -> @Suppress("UNCHECKED_CAST")
(NaturalOrderComparator as Comparator<T>)
 else -> ReversedComparator(this)
}

```

```

private class
ReversedComparator<T>(public val comparator: Comparator<T>) : Comparator<T> {
 override fun compare(a: T, b: T): Int = comparator.compare(b, a)
 @Suppress("VIRTUAL_MEMBER_HIDDEN") fun reversed():
Comparator<T> = comparator
}
private object NaturalOrderComparator : Comparator<Comparable<Any>> {
 override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = a.compareTo(b)
 @Suppress("VIRTUAL_MEMBER_HIDDEN") fun reversed(): Comparator<Comparable<Any>> =
ReverseOrderComparator
}
private object ReverseOrderComparator : Comparator<Comparable<Any>> {
 override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = b.compareTo(a)
 @Suppress("VIRTUAL_MEMBER_HIDDEN") fun reversed(): Comparator<Comparable<Any>> =
NaturalOrderComparator
}

```

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```

package kotlin
public actual interface Comparator<T> {

```

```

@JsName("compare")\n actual fun compare(a: T, b: T): Int\n}\n\npublic actual inline fun <T>
Comparator(crossinline comparison: (a: T, b: T) -> Int): Comparator<T> = object : Comparator<T> {\n override
fun compare(a: T, b: T): Int = comparison(a, b)\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n\n*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StandardKt")\n\npackage kotlin\n\nimport
kotlin.contracts.*\n\n/**\n * An exception is thrown to indicate that a method body remains to be implemented.\n *\n * \n\npublic class NotImplementedError(message: String = "An operation is not implemented.") :
Error(message)\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n *\n * \n\n@kotlin.internal.InlineOnly\n\npublic inline fun TODO(): Nothing = throw NotImplementedError()\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n * \n * @param reason a string
explaining why the implementation is missing.\n *\n * \n\n@kotlin.internal.InlineOnly\n\npublic inline fun TODO(reason:
String): Nothing = throw NotImplementedError("An operation is not implemented: $reason")\n\n/**\n * Calls
the specified function [block] and returns its result.\n * \n * For detailed usage information see the documentation for
[scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n\n*\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <R> run(block: () -> R): R {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return block()\n}\n\n/**\n * Calls the specified
function [block] with `this` value as its receiver and returns its result.\n * \n * For detailed usage information see the
documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n\n*\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T, R> T.run(block: T.() -> R): R {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return block()\n}\n\n/**\n * Calls the specified
function [block] with the given [receiver] as its receiver and returns its result.\n * \n * For detailed usage information
see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#with).\n\n*\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T, R> with(receiver: T, block: T.() -> R): R {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return receiver.block()\n}\n\n/**\n * Calls the
specified function [block] with `this` value as its receiver and returns `this` value.\n * \n * For detailed usage
information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-
functions.html#apply).\n\n*\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> T.apply(block: T.() -> Unit): T {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n block()\n return
this\n}\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns `this` value.\n * \n * \n\n * For detailed usage information see the documentation for [scope
functions](https://kotlinlang.org/docs/reference/scope-functions.html#also).\n\n*\n\n@kotlin.internal.InlineOnly\n\n@SinceKotlin("1.1")\n\npublic inline fun <T> T.also(block: (T) -> Unit): T {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n block(this)\n return
this\n}\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns its result.\n * \n * \n\n * For detailed usage information see the documentation for [scope
functions](https://kotlinlang.org/docs/reference/scope-functions.html#let).\n\n*\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun <T, R> T.let(block: (T) -> R): R {\n contract {\n callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n }\n return block(this)\n}\n\n/**\n * Returns `this` value if it satisfies the
given [predicate] or `null`, if it doesn't.\n * \n * \n\n@kotlin.internal.InlineOnly\n\n@SinceKotlin("1.1")\n\npublic inline fun
<T> T.takeIf(predicate: (T) -> Boolean): T? {\n contract {\n callsInPlace(predicate,
InvocationKind.EXACTLY_ONCE)\n }\n return if (predicate(this)) this else null\n}\n\n/**\n * Returns `this`
value if it _does not_ satisfy the given [predicate] or `null`, if it does.\n\n*\n\n@kotlin.internal.InlineOnly\n\n@SinceKotlin("1.1")\n\npublic inline fun <T> T.takeUnless(predicate: (T) ->
Boolean): T? {\n contract {\n callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n }\n return if
(!predicate(this)) this else null\n}\n\n/**\n * Executes the given function [action] specified number of [times].\n * \n * \n\n * A zero-based index of current iteration is passed as a parameter to [action].\n * \n * @sample
samples.misc.ControlFlow.repeat\n\n*\n\n@kotlin.internal.InlineOnly\n\npublic inline fun repeat(times: Int, action: (Int)

```

```

-> Unit) {\n contract { callsInPlace(action) }\n\n for (index in 0 until times) {\n action(index)\n }\n}\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of\n this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n *\n\npackage kotlin.comparisons\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the\n GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport\n kotlin.js.\n\n/**\n * Returns the greater of two values.\n * If values are equal, returns the first one.\n\n *\n\n@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T): T {\n return if (a >= b) a\n else b\n}\n\n/**\n * Returns the greater of two values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Byte, b: Byte): Byte {\n return Math.max(a.toInt(), b.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the greater of two values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Short, b: Short): Short {\n return Math.max(a.toInt(),\n b.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the greater of two values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Int, b: Int): Int {\n return Math.max(a, b)\n}\n\n/**\n * Returns the greater of two values.\n\n *\n\n@SinceKotlin("1.1")\n@Suppress("DEPRECATION_ERROR", "NOTHING_TO_INLINE")\npublic actual\n inline fun maxOf(a: Long, b: Long): Long {\n return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two\n values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Float, b: Float): Float {\n return Math.max(a, b)\n}\n\n/**\n * Returns the greater of two\n values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Double, b: Double): Double {\n return Math.max(a, b)\n}\n\n/**\n * Returns the greater of\n three values.\n\n *\n\n@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T, c: T): T {\n return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Byte, b: Byte, c: Byte): Byte {\n return Math.max(a.toInt(), b.toInt(),\n c.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the greater of three values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Short, b: Short, c: Short): Short {\n return Math.max(a.toInt(), b.toInt(),\n c.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the greater of three values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Int, b: Int, c: Int): Int {\n return Math.max(a, b, c)\n}\n\n/**\n * Returns the greater of three\n values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Long, b: Long,\n c: Long): Long {\n return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Float, b: Float, c: Float): Float {\n return Math.max(a, b, c)\n}\n\n/**\n * Returns the greater\n of three values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun maxOf(a: Double, b: Double, c: Double): Double {\n return Math.max(a, b, c)\n}\n\n/**\n * Returns the\n smaller of two values.\n\n *\n\n@SinceKotlin("1.1")\npublic actual fun\n <T : Comparable<T>> minOf(a: T, b: T): T {\n return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two\n values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual\n inline fun minOf(a: Byte, b: Byte): Byte {\n return Math.min(a.toInt(), b.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the smaller of two values.\n\n *\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION_ERROR")\npublic actual

```

```

inline fun minOf(a: Short, b: Short): Short {
 return Math.min(a.toInt(),
b.toInt()).unsafeCast<Short>()
}

/** Returns the smaller of two values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Int, b: Int): Int {
 return Math.min(a, b)
}

/** Returns the smaller of two values. */
@SinceKotlin("1.1")
@Suppress("DEPRECATION_ERROR", "NOTHING_TO_INLINE")
public actual
inline fun minOf(a: Long, b: Long): Long {
 return if (a <= b) a else b
}

/** Returns the smaller of two values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Float, b: Float): Float {
 return Math.min(a, b)
}

/** Returns the smaller of two values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Double, b: Double): Double {
 return Math.min(a, b)
}

/** Returns the smaller of three values. */
@SinceKotlin("1.1")
public actual
fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T {
 return minOf(a, minOf(b, c))
}

/** Returns the smaller of three values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Byte, b: Byte, c: Byte): Byte {
 return Math.min(a.toInt(),
c.toInt(),
b.toInt()).unsafeCast<Byte>()
}

/** Returns the smaller of three values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Short, b: Short, c: Short): Short {
 return Math.min(a.toInt(),
b.toInt(),
c.toInt()).unsafeCast<Short>()
}

/** Returns the smaller of three values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Int, b: Int, c: Int): Int {
 return Math.min(a, b, c)
}

/** Returns the smaller of three values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual
inline fun minOf(a: Long, b: Long, c: Long): Long {
 return minOf(a, minOf(b, c))
}

/** Returns the smaller of three values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Float, b: Float, c: Float): Float {
 return Math.min(a, b, c)
}

/** Returns the smaller of three values. */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
@Suppress("DEPRECATION_ERROR")
public actual
inline fun minOf(a: Double, b: Double, c: Double): Double {
 return Math.min(a, b, c)
}

/** Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. */
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("CollectionsKt")
package
kotlin.collections

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
// See:
// https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
import kotlin.random.*
import
kotlin.ranges.contains
import kotlin.ranges.reversed

/** Returns 1st element from the list. */
Throws an [IndexOutOfBoundsException] if the size of this list is less than 1.

@kotlin.internal.InlineOnly
public inline operator fun <T> List<T>.component1(): T {
 return
get(0)
}

/** Returns 2nd element from the list. */
Throws an [IndexOutOfBoundsException] if the size of this list is less than 2.

@kotlin.internal.InlineOnly
public inline operator fun <T>
List<T>.component2(): T {
 return get(1)
}

/** Returns 3rd element from the list. */
Throws an [IndexOutOfBoundsException] if the size of this list is less than 3.

@kotlin.internal.InlineOnly
public inline
operator fun <T> List<T>.component3(): T {
 return get(2)
}

/** Returns 4th element from the list. */
Throws an [IndexOutOfBoundsException] if the size of this list is less than 4.

@kotlin.internal.InlineOnly
public inline operator fun <T> List<T>.component4(): T {
 return
get(3)
}

/** Returns 5th element from the list. */
Throws an [IndexOutOfBoundsException] if the size of this list is less than 5.

@kotlin.internal.InlineOnly
public inline operator fun <T>
List<T>.component5(): T {
 return get(4)
}

/** Returns `true` if [element] is found in the collection. */
@public operator fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.contains(element: T): Boolean {
 if

```

```

(this is Collection)\n return contains(element)\n return indexOf(element) >= 0\n}\n\n/**\n * Returns an
element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this
collection.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic fun <T>
Iterable<T>.elementAt(index: Int): T {\n if (this is List)\n return get(index)\n return
elementAtOrElse(index) { throw IndexOutOfBoundsException("Collection doesn't contain element at index
$index.") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if
the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAt(index: Int): T {\n return
get(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function
if the [index] is out of bounds of this collection.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\npublic fun <T>
Iterable<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n if (this is List)\n return
this.getOrElse(index, defaultValue)\n if (index < 0)\n return defaultValue(index)\n val iterator = iterator()\n
 var count = 0\n while (iterator.hasNext()) {\n val element = iterator.next()\n if (index == count++)\n return element\n }\n return defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> List<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this collection.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n */\npublic fun <T>
Iterable<T>.elementAtOrNull(index: Int): T? {\n if (this is List)\n return this.getOrElse(index)\n if (index <
0)\n return null\n val iterator = iterator()\n var count = 0\n while (iterator.hasNext()) {\n val element =
iterator.next()\n if (index == count++)\n return element\n }\n return null\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this list.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> List<T>.elementAtOrNull(index: Int): T? {\n return this.getOrElse(index)\n}\n\n/**\n * Returns the first
element matching the given [predicate], or `null` if no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.find(predicate: (T) -> Boolean): T? {\n return
firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such
element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.findLast(predicate: (T) ->
Boolean): T? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
List<T>.findLast(predicate: (T) -> Boolean): T? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns first
element.\n * @throws [NoSuchElementException] if the collection is empty.\n */\npublic fun <T>
Iterable<T>.first(): T {\n when (this) {\n is List -> return this.first()\n else -> {\n val iterator =
iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException("Collection is empty.")\n return
iterator.next()\n }\n }\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException]
if the list is empty.\n */\npublic fun <T> List<T>.first(): T {\n if (isEmpty())\n throw
NoSuchElementException("List is empty.")\n return this[0]\n}\n\n/**\n * Returns the first element matching the
given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T>
Iterable<T>.first(predicate: (T) -> Boolean): T {\n for (element in this) if (predicate(element)) return element\n
 throw NoSuchElementException("Collection contains no element matching the predicate.")\n}\n\n/**\n * Returns
the first element, or `null` if the collection is empty.\n */\npublic fun <T> Iterable<T>.firstOrNull(): T? {\n when
(this) {\n is List -> {\n if (isEmpty())\n return null\n else\n return this[0]\n }\n else -> {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n return
iterator.next()\n }\n }\n}\n\n/**\n * Returns the first element, or `null` if the list is empty.\n */\npublic
fun <T> List<T>.firstOrNull(): T? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element

```

```

matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun <T>
Iterable<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n for (element in this) if (predicate(element)) return
element\n return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this list.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T> List<T>.getOrNull(index: Int, defaultValue: (Int) -> T): T {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this list.\n */\npublic fun <T> List<T>.getOrNull(index: Int): T? {\n return if (index >=
0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or -1 if the collection
does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.indexOf(element: T):
Int {\n if (this is List) return this.indexOf(element)\n var index = 0\n for (item in this) {\n
checkIndexOverflow(index)\n if (element == item)\n return index\n index++\n }\n return -
1\n}\n\n/**\n * Returns first index of [element], or -1 if the list does not contain element.\n
*/\n\n/**\n * @Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases\npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.indexOf(element: T): Int {\n return
indexOf(element)\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
collection does not contain such element.\n */\npublic inline fun <T> Iterable<T>.indexOfFirst(predicate: (T) ->
Boolean): Int {\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if
(predicate(item))\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the list does not contain such element.\n */\npublic inline fun <T>
List<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n var index = 0\n for (item in this) {\n if
(predicate(item))\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the collection does not contain such element.\n */\npublic inline fun
<T> Iterable<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n var lastIndex = -1\n var index = 0\n for (item
in this) {\n checkIndexOverflow(index)\n if (predicate(item))\n lastIndex = index\n index++\n
}\n return lastIndex\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the list
does not contain such element.\n */\npublic inline fun <T> List<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n
val iterator = this.listIterator(size)\n while (iterator.hasPrevious()) {\n if (predicate(iterator.previous())) {\n
return iterator.nextIndex()\n }\n }\n return -1\n}\n\n/**\n * Returns the last element.\n */\n * @throws
[NoSuchElementException] if the collection is empty.\n */\npublic fun <T> Iterable<T>.last(): T {\n when (this)
{\n is List -> return this.last()\n else -> {\n val iterator = iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException("Collection is empty.")\n var last = iterator.next()\n while
(iterator.hasNext())\n last = iterator.next()\n return last\n }\n }\n}\n\n/**\n * Returns the last
element.\n */\n * @throws [NoSuchElementException] if the list is empty.\n */\npublic fun <T> List<T>.last(): T {\n
if (isEmpty())\n throw NoSuchElementException("List is empty.")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element matching the given [predicate].\n */\n * @throws [NoSuchElementException] if no such
element is found.\n */\npublic inline fun <T> Iterable<T>.last(predicate: (T) -> Boolean): T {\n var last: T? =
null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n last = element\n
found = true\n }\n }\n if (!found) throw NoSuchElementException("Collection contains no element
matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return last as T\n}\n\n/**\n * Returns the last element matching the given [predicate].\n */\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n\npublic inline fun <T> List<T>.last(predicate: (T) -> Boolean): T {\n val iterator = this.listIterator(size)\n
while (iterator.hasPrevious()) {\n val element = iterator.previous()\n if (predicate(element)) return
element\n }\n throw NoSuchElementException("List contains no element matching the predicate.")\n}\n\n/**\n * Returns last index of [element], or -1 if the collection does not contain element.\n
*/\n\npublic fun
<@kotlin.internal.OnlyInputTypes T> Iterable<T>.lastIndexOf(element: T): Int {\n if (this is List) return
this.lastIndexOf(element)\n var lastIndex = -1\n var index = 0\n for (item in this) {\n
checkIndexOverflow(index)\n if (element == item)\n lastIndex = index\n index++\n }\n return
lastIndex\n}\n\n/**\n * Returns last index of [element], or -1 if the list does not contain element.\n
*/\n

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*^\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases\npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.lastIndexOf(element: T): Int {\n return
lastIndexOf(element)\n}\n\n/**\n * Returns the last element, or `null` if the collection is empty.\n */\npublic fun
<T> Iterable<T>.lastOrNull(): T? {\n when (this) {\n is List -> return if (isEmpty()) null else this[size - 1]\n }
else -> {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n var last =
iterator.next()\n while (iterator.hasNext())\n last = iterator.next()\n return last\n }\n}\n}\n\n/**\n * Returns the last element, or `null` if the list is empty.\n */\npublic fun <T> List<T>.lastOrNull(): T?
{\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n */\npublic inline fun <T> Iterable<T>.lastOrNull(predicate:
(T) -> Boolean): T? {\n var last: T? = null\n for (element in this) {\n if (predicate(element)) {\n last =
element\n }\n }\n return last\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null`
if no such element was found.\n */\npublic inline fun <T> List<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n val
iterator = this.listIterator(size)\n while (iterator.hasPrevious()) {\n val element = iterator.previous()\n if
(predicate(element)) return element\n }\n return null\n}\n}\n\n/**\n * Returns a random element from this
collection.\n */\n * @throws NoSuchElementException if this collection is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.random(): T {\n return
random(Random)\n}\n\n/**\n * Returns a random element from this collection using the specified source of
randomness.\n */\n * @throws NoSuchElementException if this collection is empty.\n */\n@SinceKotlin("1.3")\npublic fun <T> Collection<T>.random(random: Random): T {\n if (isEmpty())\n throw NoSuchElementException("Collection is empty.")\n return elementAt(random.nextInt(size))\n}\n}\n\n/**\n * Returns a random element from this collection, or `null` if this collection is empty.\n */\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Collection<T>.randomOrNull(): T? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element
from this collection using the specified source of randomness, or `null` if this collection is empty.\n */\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T> Collection<T>.randomOrNull(random:
Random): T? {\n if (isEmpty())\n return null\n return elementAt(random.nextInt(size))\n}\n}\n\n/**\n * Returns the single element, or throws an exception if the collection is empty or has more than one element.\n */\npublic fun <T> Iterable<T>.single(): T {\n when (this) {\n is List -> return this.single()\n } else -> {\n val
iterator = iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException("Collection
is empty.")\n val single = iterator.next()\n if (iterator.hasNext())\n throw
IllegalArgumentException("Collection has more than one element.")\n return single\n }\n}\n}\n\n/**\n * Returns the single element, or throws an exception if the list is empty or has more than one
element.\n */\npublic fun <T> List<T>.single(): T {\n return when (size) {\n 0 -> throw
NoSuchElementException("List is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("List has more than one element.")\n }\n}\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic
inline fun <T> Iterable<T>.single(predicate: (T) -> Boolean): T {\n var single: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Collection contains more than one matching element.")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException("Collection contains no element
matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as T\n}\n}\n\n/**\n * Returns
single element, or `null` if the collection is empty or has more than one element.\n */\npublic fun <T>
Iterable<T>.singleOrNull(): T? {\n when (this) {\n is List -> return if (size == 1) this[0] else null\n } else ->
{\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n val single =
iterator.next()\n if (iterator.hasNext())\n return null\n return single\n }\n}\n}\n\n/**\n * Returns single element, or `null` if the list is empty or has more than one element.\n */\npublic fun <T>
List<T>.singleOrNull(): T? {\n return if (size == 1) this[0] else null\n}\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic

```



```

inline fun <T> Iterable<T>.singleOrNull(predicate: (T) -> Boolean): T? {
 var single: T? = null
 var found = false
 for (element in this) {
 if (predicate(element)) {
 if (found) return null
 single = element
 found = true
 }
 }
 if (!found) return null
 return single
}

/** Returns a list containing all elements except first [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 * @sample samples.collections.Collections.Transformations.drop
 */
public fun <T> Iterable<T>.drop(n: Int): List<T> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 if (n == 0) return toList()
 val list: ArrayList<T>
 if (this is Collection<*>) {
 val resultSize = size - n
 if (resultSize <= 0) return emptyList()
 if (resultSize == 1) return listOf(last())
 list = ArrayList<T>(resultSize)
 } else {
 if (this is RandomAccess) {
 for (index in n until size) list.add(this[index])
 } else {
 for (item in listIterator(n)) list.add(item)
 }
 }
 return list
}

/** Returns a list containing all elements except last [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 * @sample samples.collections.Collections.Transformations.drop
 */
public fun <T> List<T>.dropLast(n: Int): List<T> {
 require(n >= 0) { "Requested element count $n is less than zero." }
 return take((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except last elements that satisfy the given [predicate].
 * @sample samples.collections.Collections.Transformations.drop
 */
public inline fun <T> List<T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {
 if (!isEmpty()) {
 val iterator = listIterator(size)
 while (iterator.hasPrevious()) {
 if (!predicate(iterator.previous())) return take(iterator.nextIndex() + 1)
 }
 }
 return emptyList()
}

/** Returns a list containing all elements except first elements that satisfy the given [predicate].
 * @sample samples.collections.Collections.Transformations.drop
 */
public inline fun <T> Iterable<T>.dropWhile(predicate: (T) -> Boolean): List<T> {
 var yielding = false
 val list = ArrayList<T>()
 for (item in this) {
 if (yielding) list.add(item)
 else if (!predicate(item)) {
 list.add(item)
 yielding = true
 }
 }
 return list
}

/** Returns a list containing only elements matching the given [predicate].
 * @param [predicate] function that takes the index of an element and the element itself
 * and returns the result of predicate evaluation on the element.
 */
public inline fun <T> Iterable<T>.filter(predicate: (T) -> Boolean): List<T> {
 return filterTo(ArrayList<T>(), predicate)
}

/** Returns a list containing only elements matching the given [predicate].
 * @param [predicate] function that takes the index of an element and the element itself
 * and returns the result of predicate evaluation on the element.
 */
public inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {
 return filterIndexedTo(ArrayList<T>(), predicate)
}

/** Appends all elements matching the given [predicate] to the given [destination].
 * @param [predicate] function that takes the index of an element and the element itself
 * and returns the result of predicate evaluation on the element.
 */
public inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {
 for (index, element) in this {
 if (predicate(index, element)) destination.add(element)
 }
 return destination
}

/** Returns a list containing all elements that are instances of specified type parameter R.
 * @public inline fun <reified R> Iterable<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {
 return filterIsInstanceTo(ArrayList<R>())
}

/** Appends all elements that are instances of specified type parameter R to the given [destination].
 * @public inline fun <reified R, C : MutableCollection<in R>> Iterable<*>.filterIsInstanceTo(destination: C): C {
 for (element in this) if (element is R) destination.add(element)
 return destination
}

/** Returns a list containing all elements not matching the given [predicate].
 * @public inline fun <T> Iterable<T>.filterNot(predicate: (T) -> Boolean): List<T> {
 return filterNotTo(ArrayList<T>(), predicate)
}

/** Returns a list containing all elements that are not `null`.
 * @public inline fun <T : Any> Iterable<T?>.filterNotNull(): List<T> {
 return filterNotNullTo(ArrayList<T>())
}

/** Appends all elements that are not `null` to the given [destination].
 * @public inline fun <C : MutableCollection<in T>, T : Any> Iterable<T?>.filterNotNullTo(destination: C): C {
 for (element in this) if (element != null) destination.add(element)
 return destination
}

/** Appends all elements not matching the given [predicate] to the given [destination].
 * @public inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {
 for (element

```

```

in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements
matching the given [predicate] to the given [destination].\n *\npublic inline fun <T, C : MutableCollection<in T>>
Iterable<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n for (element in this) if (predicate(element))
destination.add(element)\n return destination\n}\n\n/**\n * Returns a list containing elements at indices in the
specified [indices] range.\n *\npublic fun <T> List<T>.slice(indices: IntRange): List<T> {\n if
(indices.isEmpty()) return listOf()\n return this.subList(indices.start, indices.endInclusive + 1).toList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n *\npublic fun <T> List<T>.slice(indices:
Iterable<Int>): List<T> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n
val list = ArrayList<T>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n * @sample samples.collections.Collections.Transformations.take\n *\npublic fun <T> Iterable<T>.take(n: Int):
List<T> {\n require(n >= 0) {\n "Requested element count $n is less than zero." }\n if (n == 0) return
emptyList()\n if (this is Collection<T>) {\n if (n >= size) return toList()\n if (n == 1) return
listOf(first())\n }\n var count = 0\n val list = ArrayList<T>(n)\n for (item in this) {\n list.add(item)\n
if (++count == n)\n break\n }\n return list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing
last [n] elements.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.take\n *\npublic fun <T> List<T>.takeLast(n: Int): List<T> {\n
require(n >= 0) {\n "Requested element count $n is less than zero." }\n if (n == 0) return emptyList()\n
val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(last())\n val list = ArrayList<T>(n)\n if (this is
RandomAccess) {\n for (index in size - n until size)\n list.add(this[index])\n } else {\n for (item in
listIterator(size - n))\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n *\n * @sample samples.collections.Collections.Transformations.take\n *\npublic
inline fun <T> List<T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n if (isEmpty())\n return
emptyList()\n val iterator = listIterator(size)\n while (iterator.hasPrevious()) {\n if
(!predicate(iterator.previous())) {\n iterator.next()\n val expectedSize = size - iterator.nextIndex()\n
if (expectedSize == 0) return emptyList()\n return ArrayList<T>(expectedSize).apply {\n while
(iterator.hasNext())\n add(iterator.next())\n }\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n *\n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun <T> Iterable<T>.takeWhile(predicate:
(T) -> Boolean): List<T> {\n val list = ArrayList<T>()\n for (item in this) {\n if (!predicate(item))\n
break\n list.add(item)\n }\n return list\n}\n\n/**\n * Reverses elements in the list in-place.\n *\npublic
expect fun <T> MutableList<T>.reverse(): Unit\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic
fun <T> Iterable<T>.reversed(): List<T> {\n if (this is Collection && size <= 1) return toList()\n val
list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Sorts elements in the list in-place according to
natural sort order of the value returned by specified [selector] function.\n *\n * The sort is _stable_. It means that
equal elements preserve their order relative to each other after sorting.\n *\npublic inline fun <T, R :
Comparable<R>> MutableList<T>.sortBy(crossinline selector: (T) -> R?): Unit {\n if (size > 1)
sortByWith(compareBy(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to natural sort
order of the value returned by specified [selector] function.\n *\n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n *\npublic inline fun <T, R : Comparable<R>>
MutableList<T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n if (size > 1)
sortByWith(compareByDescending(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to
their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n *\npublic fun <T : Comparable<T>> MutableList<T>.sortDescending(): Unit {\n
sortByWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\npublic
fun <T : Comparable<T>> Iterable<T>.sorted(): List<T> {\n if (this is Collection) {\n if (size <= 1)
return this.toList()\n @SuppressWarnings("UNCHECKED_CAST")\n return (toArray<Comparable<T>>())

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as Array<T>).apply { sort() }.asList()\n } return toMutableList().apply { sort() }\n}\n\n/**\n * Returns a list of
all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic
inline fun <T, R : Comparable<R>> Iterable<T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural
sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sortedDescending(): List<T>
{\n return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Iterable<T>.sortedWith(comparator: Comparator<in T>): List<T> {\n if (this is
Collection) {\n if (size <= 1) return this.toList()\n @SuppressWarnings("UNCHECKED_CAST")\n return
(toTypedArray<Any?>() as Array<T>).apply { sortWith(comparator) }.asList()\n }\n return
toMutableList().apply { sortWith(comparator) }\n}\n\n/**\n * Returns an array of Boolean containing all of the
elements of this collection.\n */\npublic fun Collection<Boolean>.toBooleanArray(): BooleanArray {\n val result
= BooleanArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this collection.\n */\npublic fun
Collection<Byte>.toByteArray(): ByteArray {\n val result = ByteArray(size)\n var index = 0\n for (element in
this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Char containing all of the
elements of this collection.\n */\npublic fun Collection<Char>.toCharArray(): CharArray {\n val result =
CharArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Double containing all of the elements of this collection.\n */\npublic fun
Collection<Double>.toDoubleArray(): DoubleArray {\n val result = DoubleArray(size)\n var index = 0\n for
(element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Float containing
all of the elements of this collection.\n */\npublic fun Collection<Float>.toFloatArray(): FloatArray {\n val result
= FloatArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Int containing all of the elements of this collection.\n */\npublic fun
Collection<Int>.toIntArray(): IntArray {\n val result = IntArray(size)\n var index = 0\n for (element in this)\n
result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Long containing all of the elements
of this collection.\n */\npublic fun Collection<Long>.toLongArray(): LongArray {\n val result =
LongArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Short containing all of the elements of this collection.\n */\npublic fun
Collection<Short>.toShortArray(): ShortArray {\n val result = ShortArray(size)\n var index = 0\n for (element
in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns a [Map] containing key-value pairs
provided by [transform] function\n * applied to elements of the given collection.\n * \n * If any of two pairs would
have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order
of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associate\n */\npublic
inline fun <T, K, V> Iterable<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K,
V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given collection indexed
by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateBy\n */\npublic inline fun <T, K>
Iterable<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n val capacity =

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mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K,
T>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and
indexed by [keySelector] functions applied to elements of the given collection.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateByWithValueTransform\n */\npublic inline fun <T, K, V>
Iterable<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K,
V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with
key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given
collection\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by
[keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateByTo\n */\npublic inline fun <T, K, M : MutableMap<in
K, in T>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n
destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n *
and value is provided by the [valueTransform] function applied to elements of the given collection.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateByToWithValueTransform\n */\npublic inline fun <T, K,
V, M : MutableMap<in K, in V>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs\n * provided by [transform] function applied to each element of the given collection.\n *
\n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateTo\n */\npublic inline fun <T, K, V, M : MutableMap<in
K, in V>> Iterable<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n for (element in this) {\n
destination += transform(element)\n }\n return destination\n}\n\n/**\n * Returns a [Map] where keys are
elements from the given collection and values are\n * produced by the [valueSelector] function applied to each
element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map
preserves the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin("1.3")\npublic inline fun <K,
V> Iterable<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n val result = LinkedHashMap<K,
V>(mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16))\n return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given collection,\n * where key is the element itself and value is provided by the [valueSelector]
function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the
map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin("1.3")\npublic inline fun <K, V, M : MutableMap<in K, in V>>
Iterable<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n for (element in this) {\n
destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Appends all elements to
the given [destination] collection.\n */\npublic fun <T, C : MutableCollection<in T>>
Iterable<T>.toCollection(destination: C): C {\n for (item in this) {\n destination.add(item)\n }\n return
destination\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic fun <T> Iterable<T>.toHashSet():
HashSet<T> {\n return toCollection(HashSet<T>(mapCapacity(collectionSizeOrDefault(12))))\n}\n\n/**\n *
Returns a [List] containing all elements.\n */\npublic fun <T> Iterable<T>.toList(): List<T> {\n if (this is
Collection) {\n return when (size) {\n 0 -> emptyList()\n 1 -> listOf(if (this is List) get(0) else
iterator().next())\n else -> this.toMutableList()\n }\n }\n return
this.toMutableList().optimizeReadOnlyList()\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this

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collection.\n */\npublic fun <T> Iterable<T>.toMutableList(): MutableList<T> {\n if (this is Collection<T>)\n return this.toMutableList()\n return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this collection.\n */\npublic fun <T> Collection<T>.toMutableList(): MutableList<T> {\n return ArrayList(this)\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic fun <T> Iterable<T>.toSet(): Set<T> {\n if (this is Collection) {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(if (this is List) this[0] else iterator().next())\n else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n }\n }\n return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <T, R> Iterable<T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original collection, to the given [destination].\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K> Iterable<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original collection\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V> Iterable<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K, M : MutableMap<in K, MutableList<T>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<T>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original collection\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V, M : MutableMap<in K, MutableList<V>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Creates a [Grouping] source from a collection to be used later with one of group-and-fold operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin("1.1")\npublic inline fun <T, K> Iterable<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n return object : Grouping<T, K> {\n override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n override fun keyOf(element: T): K = keySelector(element)\n }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original collection.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <T, R> Iterable<T>.map(transform:

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(T) -> R): List<R> {\n return mapTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element and its index in
the original collection.\n * @param [transform] function that takes the index of an element and the element itself\n *
and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R>
Iterable<T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n return
mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing only
the non-null results of applying the given [transform] function\n * to each element and its index in the original
collection.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns
the result of the transform applied to the element.\n */\npublic inline fun <T, R : Any>
Iterable<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original collection\n * and appends\n only the non-null results to the given [destination].\n
* @param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>>
Iterable<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n forEachIndexed {
index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n *
Applies the given [transform] function to each element and its index in the original collection\n * and appends the
results to the given [destination].\n * @param [transform] function that takes the index of an element and the
element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R, C :
MutableCollection<in R>> Iterable<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var
index = 0\n for (item in this)\n destination.add(transform(checkIndexOverflow(index++), item))\n return
destination\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform]
function\n * to each element in the original collection.\n */\npublic inline fun <T, R : Any>
Iterable<T>.mapNotNull(transform: (T) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Applies the given [transform] function to each element in the original collection\n * and
appends only the non-null results to the given [destination].\n */\npublic inline fun <T, R : Any, C :
MutableCollection<in R>> Iterable<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n forEach {
element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given
[transform] function to each element of the original collection\n * and appends the results to the given
[destination].\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.mapTo(destination: C,
transform: (T) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return
destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original collection\n * into an
[IndexValue] containing the index of that element and the element itself.\n */\npublic fun <T>
Iterable<T>.withIndex(): Iterable<IndexedValue<T>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns a list containing only distinct elements from the given collection.\n * \n * The elements in the resulting list
are in the same order as they were in the source collection.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T> Iterable<T>.distinct():
List<T> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only elements from the
given collection\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the
resulting list are in the same order as they were in the source collection.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <T, K>
Iterable<T>.distinctBy(selector: (T) -> K): List<T> {\n val set = HashSet<K>()\n val list = ArrayList<T>()\n
for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n *
Returns a set containing all elements that are contained by both this collection and the specified collection.\n * \n *
The returned set preserves the element iteration order of the original collection.\n * \n * To get a set containing all
elements that are contained at least in one of these collections use [union].\n */\npublic infix fun <T>
Iterable<T>.intersect(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.retainAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this collection and not contained

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by the specified collection.

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 * The returned set preserves the element iteration order of the original
 collection.
 * public infix fun <T> Iterable<T>.subtract(other: Iterable<T>): Set<T> {
 val set =
 this.toMutableSet()
 set.removeAll(other)
 return set
 }
 * Returns a mutable set containing all
 distinct elements from the given collection.
 * The returned set preserves the element iteration order of the
 original collection.
 * public fun <T> Iterable<T>.toMutableSet(): MutableSet<T> {
 return when (this) {
 is Collection<T> -> LinkedHashSet(this)
 else -> toCollection(LinkedHashSet<T>())
 }
 }
 * Returns a set containing all distinct elements from both collections.
 * The returned set preserves the element
 iteration order of the original collection.
 * Those elements of the [other] collection that are unique are iterated in
 the end
 * in the order of the [other] collection.
 * To get a set containing all elements that are contained in
 both collections use [intersect].
 * public infix fun <T> Iterable<T>.union(other: Iterable<T>): Set<T> {
 val set =
 this.toMutableSet()
 set.addAll(other)
 return set
 }
 * Returns `true` if all elements match the
 given [predicate].
 * @sample samples.collections.Collections.Aggregates.all
 * public inline fun <T>
 Iterable<T>.all(predicate: (T) -> Boolean): Boolean {
 if (this is Collection && isEmpty()) return true
 for
 (element in this) if (!predicate(element)) return false
 return true
 }
 * Returns `true` if collection has at
 least one element.
 * @sample samples.collections.Collections.Aggregates.any
 * public fun <T>
 Iterable<T>.any(): Boolean {
 if (this is Collection) return !isEmpty()
 return iterator().hasNext()
 }
 * Returns `true` if at least one element matches the given [predicate].
 * @sample
 samples.collections.Collections.Aggregates.anyWithPredicate
 * public inline fun <T>
 Iterable<T>.any(predicate: (T) -> Boolean): Boolean {
 if (this is Collection && isEmpty()) return false
 for
 (element in this) if (predicate(element)) return true
 return false
 }
 * Returns the number of elements in
 this collection.
 * public fun <T> Iterable<T>.count(): Int {
 if (this is Collection) return size
 var count =
 0
 for (element in this) checkCountOverflow(++count)
 return count
 }
 * Returns the number of
 elements in this collection.
 * @kotlin.internal.InlineOnly
 * public inline fun <T> Collection<T>.count(): Int {
 return size
 }
 * Returns the number of elements matching the given [predicate].
 * public inline fun <T>
 Iterable<T>.count(predicate: (T) -> Boolean): Int {
 if (this is Collection && isEmpty()) return 0
 var count =
 0
 for (element in this) if (predicate(element)) checkCountOverflow(++count)
 return count
 }
 * Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator
 value and each element.
 * public inline fun <T, R> Iterable<T>.fold(initial: R, operation: (acc: R, T) -> R): R
 {
 var accumulator = initial
 for (element in this) accumulator = operation(accumulator, element)
 return
 accumulator
 }
 * Accumulates value starting with [initial] value and applying [operation] from left to
 right
 * to current accumulator value and each element with its index in the original collection.
 * @param
 [operation] function that takes the index of an element, current accumulator value
 * and the element itself, and
 calculates the next accumulator value.
 * public inline fun <T, R> Iterable<T>.foldIndexed(initial: R, operation:
 (index: Int, acc: R, T) -> R): R
 {
 var index = 0
 var accumulator = initial
 for (element in this) accumulator
 = operation(checkIndexOverflow(index++), accumulator, element)
 return accumulator
 }
 * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and
 current accumulator value.
 * public inline fun <T, R> List<T>.foldRight(initial: R, operation: (T, acc: R) -> R):
 R
 {
 var accumulator = initial
 if (!isEmpty()) {
 val iterator = listIterator(size)
 while
 (iterator.hasPrevious()) {
 accumulator = operation(iterator.previous(), accumulator)
 }
 }
 return
 accumulator
 }
 * Accumulates value starting with [initial] value and applying [operation] from right to
 left
 * to each element with its index in the original list and current accumulator value.
 * @param [operation]
 function that takes the index of an element, the element itself
 * and current accumulator value, and calculates the
 next accumulator value.
 * public inline fun <T, R> List<T>.foldRightIndexed(initial: R, operation: (index: Int,
 T, acc: R) -> R): R
 {
 var accumulator = initial
 if (!isEmpty()) {
 val iterator = listIterator(size)
 while
 (iterator.hasPrevious()) {
 val index = iterator.previousIndex()
 accumulator =
 operation(index, iterator.previous(), accumulator)
 }
 }
 return accumulator
 }
 * Performs the
 given [action] on each element.
 * @kotlin.internal.HidesMembers
 * public inline fun <T>
 Iterable<T>.forEach(action: (T) -> Unit): Unit
 {
 for (element in this) action(element)
 }
 * Performs the

```

given [action] on each element, providing sequential index with the element.

```

 * @param [action] function that
 takes the index of an element and the element itself
 * and performs the desired action on the element.
 */
public inline fun <T> Iterable<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {
 var index = 0
 for (item in this) action(checkIndexOverflow(index++), item)
}

```

**max()** Returns the largest element or `null` if there are no elements.

```

 * If any of elements is `NaN` returns `NaN`.
 */
@SinceKotlin("1.1")
public fun Iterable<Double>.max(): Double? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var max = iterator.next()
 if (max.isNaN()) return max
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (e.isNaN()) return e
 if (max < e) max = e
 }
 return max
}

```

**max()** Returns the largest element or `null` if there are no elements.

```

 * If any of elements is `NaN` returns `NaN`.
 */
@SinceKotlin("1.1")
public fun Iterable<Float>.max(): Float? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var max = iterator.next()
 if (max.isNaN()) return max
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (e.isNaN()) return e
 if (max < e) max = e
 }
 return max
}

```

**max()** Returns the largest element or `null` if there are no elements.

```

 * If any of elements is `NaN` returns `NaN`.
 */
public fun <T> Comparable<T>> Iterable<T>.max(): T? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var max = iterator.next()
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (max < e) max = e
 }
 return max
}

```

**maxBy()** Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```

 * @sample samples.collections.Collections.Aggregates.maxBy
 */
public inline fun <T, R : Comparable<R>> Iterable<T>.maxBy(selector: (T) -> R): T? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var maxElem = iterator.next()
 if (!iterator.hasNext()) return maxElem
 var maxValue = selector(maxElem)
 do {
 val e = iterator.next()
 val v = selector(e)
 if (maxValue < v) {
 maxElem = e
 maxValue = v
 }
 } while (iterator.hasNext())
 return maxElem
}

```

**maxWith()** Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

 */
public fun <T> Iterable<T>.maxWith(comparator: Comparator<in T>): T? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var max = iterator.next()
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (comparator.compare(max, e) < 0) max = e
 }
 return max
}

```

**min()** Returns the smallest element or `null` if there are no elements.

```

 * If any of elements
 is `NaN` returns `NaN`.
 */
@SinceKotlin("1.1")
public fun Iterable<Double>.min(): Double? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var min = iterator.next()
 if (min.isNaN()) return min
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (e.isNaN()) return e
 if (min > e) min = e
 }
 return min
}

```

**min()** Returns the smallest element or `null` if there are no elements.

```

 * If any of
 elements is `NaN` returns `NaN`.
 */
@SinceKotlin("1.1")
public fun Iterable<Float>.min(): Float? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var min = iterator.next()
 if (min.isNaN()) return min
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (e.isNaN()) return e
 if (min > e) min = e
 }
 return min
}

```

**min()** Returns the smallest element or `null` if there are no elements.

```

 */
public fun <T : Comparable<T>> Iterable<T>.min(): T? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var min = iterator.next()
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (min > e) min = e
 }
 return min
}

```

**minBy()** Returns the first element yielding the smallest value of the given function or `null` if there are no elements.

```

 * @sample samples.collections.Collections.Aggregates.minBy
 */
public inline fun <T, R : Comparable<R>> Iterable<T>.minBy(selector: (T) -> R): T? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var minElem = iterator.next()
 if (!iterator.hasNext()) return minElem
 var minValue = selector(minElem)
 do {
 val e = iterator.next()
 val v = selector(e)
 if (minValue > v) {
 minElem = e
 minValue = v
 }
 } while (iterator.hasNext())
 return minElem
}

```

**minWith()** Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.

```

 */
public fun <T> Iterable<T>.minWith(comparator: Comparator<in T>): T? {
 val iterator = iterator()
 if (!iterator.hasNext()) return null
 var min = iterator.next()
 while (iterator.hasNext()) {
 val e = iterator.next()
 if (comparator.compare(min, e) > 0) min = e
 }
 return min
}

```

**none()** Returns `true` if the collection has no elements.

```

 * @sample
 samples.collections.Collections.Aggregates.none
 */
public fun <T> Iterable<T>.none(): Boolean {
 if (this is

```



```

Collection) return isEmpty()\n return iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the
given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic
inline fun <T> Iterable<T>.none(predicate: (T) -> Boolean): Boolean {\n if (this is Collection && isEmpty())
return true\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/**\n * Performs the
given [action] on each element and returns the collection itself afterwards.\n * \n@SinceKotlin("1.1")\npublic
inline fun <T, C : Iterable<T>> C.onEach(action: (T) -> Unit): C {\n return apply { for (element in this)
action(element) }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left
to right to current accumulator value and each element.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n * \npublic inline fun <S, T : S> Iterable<T>.reduce(operation:
(acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext()) throw
UnsupportedOperationException("Empty collection can't be reduced.")\n var accumulator: S = iterator.next()\n
while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original collection.\n * @param
[operation] function that takes the index of an element, current accumulator value\n * and the element itself and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \npublic inline fun <S, T : S> Iterable<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n val
iterator = this.iterator()\n if (iterator.hasNext()) throw UnsupportedOperationException("Empty collection can't
be reduced.")\n var index = 1\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n
accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right to current accumulator value and each element. Returns null if the collection is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n * \n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S>
Iterable<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n val iterator = this.iterator()\n if
(!iterator.hasNext()) return null\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n
accumulator = operation(accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value
starting with last element and applying [operation] from right to left to each element and current accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n * \npublic inline fun <S, T : S>
List<T>.reduceRight(operation: (T, acc: S) -> S): S {\n val iterator = listIterator(size)\n if
(!iterator.hasPrevious())\n throw UnsupportedOperationException("Empty list can't be reduced.")\n var
accumulator: S = iterator.previous()\n while (iterator.hasPrevious()) {\n accumulator =
operation(iterator.previous(), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting
with last element and applying [operation] from right to left\n * to each element with its index in the original list and
current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n *
and current accumulator value, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n * \npublic inline fun <S, T : S>
List<T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n val iterator = listIterator(size)\n if
(!iterator.hasPrevious())\n throw UnsupportedOperationException("Empty list can't be reduced.")\n var
accumulator: S = iterator.previous()\n while (iterator.hasPrevious()) {\n val index = iterator.previousIndex()\n
accumulator = operation(index, iterator.previous(), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current
accumulator value. Returns null if the list is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n * \n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S>
List<T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n val iterator = listIterator(size)\n if
(!iterator.hasPrevious())\n return null\n var accumulator: S = iterator.previous()\n while
(iterator.hasPrevious()) {\n accumulator = operation(iterator.previous(), accumulator)\n }\n return

```

accumulator\n}\n\n/\*\*\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element and current accumulator value that starts with [initial] value.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scan\n \*/\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <T, R> Iterable<T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n val estimatedSize = collectionSizeOrDefault(9)\n if (estimatedSize == 0) return listOf(initial)\n val result = ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/\*\*\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element, its index in the original collection and current accumulator value that starts with [initial] value.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value\n \* and the element itself, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scan\n \*/\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <T, R> Iterable<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n val estimatedSize = collectionSizeOrDefault(9)\n if (estimatedSize == 0) return listOf(initial)\n val result = ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n var index = 0\n var accumulator = initial\n for (element in this) {\n accumulator = operation(index++, accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/\*\*\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element and current accumulator value that starts with the first element of this collection.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes current accumulator value and the element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scanReduce\n \*/\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Iterable<T>.scanReduce(operation: (acc: S, T) -> S): List<S> {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return emptyList()\n var accumulator: S = iterator.next()\n val result = ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n result.add(accumulator)\n }\n return result\n}\n\n/\*\*\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element, its index in the original collection and current accumulator value that starts with the first element of this collection.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value\n \* and the element itself, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scanReduce\n \*/\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Iterable<T>.scanReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return emptyList()\n var accumulator: S = iterator.next()\n val result = ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n var index = 1\n while (iterator.hasNext()) {\n accumulator = operation(index++, accumulator, iterator.next())\n result.add(accumulator)\n }\n return result\n}\n\n/\*\*\n \* Returns the sum of all values produced by [selector] function applied to each element in the collection.\n \*/\n\npublic inline fun <T> Iterable<T>.sumBy(selector: (T) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/\*\*\n \* Returns the sum of all values produced by [selector] function applied to each element in the collection.\n \*/\n\npublic inline fun <T> Iterable<T>.sumByDouble(selector: (T) -> Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/\*\*\n \* Returns

an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.

```

*\npublic fun <T : Any> Iterable<T?>.requireNoNulls(): Iterable<T> {\n for (element in this) {\n if (element == null) {\n throw IllegalArgumentException("null element found in $this.")\n }\n }\n @Suppress("UNCHECKED_CAST")\n return this as Iterable<T>}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n *\npublic fun <T : Any> List<T?>.requireNoNulls(): List<T> {\n for (element in this) {\n if (element == null) {\n throw IllegalArgumentException("null element found in $this.")\n }\n }\n @Suppress("UNCHECKED_CAST")\n return this as List<T>}\n\n/**\n * Splits this collection into a list of lists each not exceeding the given [size].\n *\n * The last list in the resulting list may have less elements than the given [size].\n *\n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this collection.\n *\n * @sample samples.collections.Collections.Transformations.chunked\n *\npublic fun <T> Iterable<T>.chunked(size: Int): List<List<T>> {\n return windowed(size, size, partialWindows = true)}\n\n/**\n * Splits this collection into several lists each not exceeding the given [size] and applies the given [transform] function to an each.\n *\n * @return list of results of the [transform] applied to an each list.\n *\n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n *\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n *\n * The last list may have less elements than the given [size].\n *\n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this collection.\n *\n * @sample samples.text.Strings.chunkedTransform\n *\npublic fun <T, R> Iterable<T>.chunked(size: Int, transform: (List<T>) -> R): List<R> {\n return windowed(size, size, partialWindows = true, transform = transform)}\n\n/**\n * Returns a list containing all elements of the original collection without the first occurrence of the given [element].\n *\npublic operator fun <T> Iterable<T>.minus(element: T): List<T> {\n val result = ArrayList<T>(collectionSizeOrDefault(10))\n var removed = false\n return this.filterTo(result) { if (!removed && it == element) { removed = true; false } else true }\n\n/**\n * Returns a list containing all elements of the original collection except the elements contained in the given [elements] array.\n *\n * The [elements] array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\npublic operator fun <T> Iterable<T>.minus(elements: Array<out T>): List<T> {\n if (elements.isEmpty()) return this.toList()\n val other = elements.toHashSet()\n return this.filterNot { it in other }\n\n/**\n * Returns a list containing all elements of the original collection except the elements contained in the given [elements] collection.\n *\n * The [elements] collection may be converted to a [HashSet] to speed up the operation, thus the elements are required to have a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\npublic operator fun <T> Iterable<T>.minus(elements: Iterable<T>): List<T> {\n val other = elements.convertToSetForSetOperationWith(this)\n if (other.isEmpty())\n return this.toList()\n return this.filterNot { it in other }\n\n/**\n * Returns a list containing all elements of the original collection except the elements contained in the given [elements] sequence.\n *\n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are required to have a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\npublic operator fun <T> Iterable<T>.minus(elements: Sequence<T>): List<T> {\n val other = elements.toHashSet()\n if (other.isEmpty())\n return this.toList()\n return this.filterNot { it in other }\n\n/**\n * Returns a list containing all elements of the original collection without the first occurrence of the given [element].\n *\npublic inline fun <T> Iterable<T>.minusElement(element: T): List<T> {\n return minus(element)}\n\n/**\n * Splits the original collection into pair of lists, where *first* list contains elements for which [predicate] yielded `true`, while *second* list contains elements for which [predicate] yielded `false`.\n *\npublic inline fun <T> Iterable<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n val first = ArrayList<T>()\n val second = ArrayList<T>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n second.add(element)\n }\n }\n }

```

```

return Pair(first, second)}\n\n/**\n * Returns a list containing all elements of the original collection and then the
given [element].\n */\npublic operator fun <T> Iterable<T>.plus(element: T): List<T> {\n if (this is Collection)
return this.plus(element)\n val result = ArrayList<T>()\n result.addAll(this)\n result.add(element)\n return
result}\n}\n\n/**\n * Returns a list containing all elements of the original collection and then the given [element].\n
*/\npublic operator fun <T> Collection<T>.plus(element: T): List<T> {\n val result = ArrayList<T>(size + 1)\n
result.addAll(this)\n result.add(element)\n return result}\n}\n\n/**\n * Returns a list containing all elements of the
original collection and then all elements of the given [elements] array.\n */\npublic operator fun <T>
Iterable<T>.plus(elements: Array<out T>): List<T> {\n if (this is Collection) return this.plus(elements)\n val
result = ArrayList<T>()\n result.addAll(this)\n result.addAll(elements)\n return result}\n}\n\n/**\n * Returns a
list containing all elements of the original collection and then all elements of the given [elements] array.\n */\npublic
operator fun <T> Collection<T>.plus(elements: Array<out T>): List<T> {\n val result = ArrayList<T>(this.size +
elements.size)\n result.addAll(this)\n result.addAll(elements)\n return result}\n}\n\n/**\n * Returns a list
containing all elements of the original collection and then all elements of the given [elements] collection.\n
*/\npublic operator fun <T> Iterable<T>.plus(elements: Iterable<T>): List<T> {\n if (this is Collection) return
this.plus(elements)\n val result = ArrayList<T>()\n result.addAll(this)\n result.addAll(elements)\n return
result}\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given
[elements] collection.\n */\npublic operator fun <T> Collection<T>.plus(elements: Iterable<T>): List<T> {\n if
(elements is Collection) {\n val result = ArrayList<T>(this.size + elements.size)\n result.addAll(this)\n
result.addAll(elements)\n return result\n } else {\n val result = ArrayList<T>(this)\n result.addAll(elements)\n
return result\n }\n}\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] sequence.\n */\npublic operator fun <T>
Iterable<T>.plus(elements: Sequence<T>): List<T> {\n val result = ArrayList<T>()\n result.addAll(this)\n
result.addAll(elements)\n return result}\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] sequence.\n */\npublic operator fun <T>
Collection<T>.plus(elements: Sequence<T>): List<T> {\n val result = ArrayList<T>(this.size + 10)\n
result.addAll(this)\n result.addAll(elements)\n return result}\n}\n\n/**\n * Returns a list containing all elements
of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.plusElement(element: T): List<T> {\n return plus(element)\n}\n}\n\n/**\n * Returns a list containing all
elements of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>.plusElement(element: T): List<T> {\n return plus(element)\n}\n}\n\n/**\n * Returns a list of
snapshots of the window of the given [size]\n * sliding along this collection with the given [step], where each\n *
snapshot is a list.\n * \n * Several last lists may have less elements than the given [size].\n * \n * Both [size] and
[step] must be positive and can be greater than the number of elements in this collection.\n * @param size the
number of elements to take in each window\n * @param step the number of elements to move the window forward
by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the
end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.takeWindows\n */\n@SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<List<T>> {\n
checkWindowSizeStep(size, step)\n if (this is RandomAccess && this is List) {\n val thisSize = this.size\n
val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n val result =
ArrayList<List<T>>(resultCapacity)\n var index = 0\n while (index in 0 until thisSize) {\n val
windowSize = size.coerceAtMost(thisSize - index)\n if (windowSize < size && !partialWindows) break\n
result.add(List(windowSize) { this[it + index] })\n index += step\n }\n return result\n }\n val
result = ArrayList<List<T>>()\n windowedIterator(iterator(), size, step, partialWindows, reuseBuffer =
false).forEach {\n result.add(it)\n }\n return result}\n}\n\n/**\n * Returns a list of results of applying the
given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding
along this collection with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral
and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made

```

a snapshot of it.

- Several last lists may have less elements than the given [size].
- Both [size] and [step] must be positive and can be greater than the number of elements in this collection.
- @param size the number of elements to take in each window
- @param step the number of elements to move the window forward by on an each step, by default 1
- @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved
- @sample

```

samples.collections.Sequences.Transformations.averageWindows
*\n@SinceKotlin("1.2")\npublic fun <T, R>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):
List<R> {
 \n checkWindowSizeStep(size, step)
 \n if (this is RandomAccess && this is List) {
 \n val thisSize =
this.size
 \n val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1
 \n val result =
ArrayList<R>(resultCapacity)
 \n val window = MovingSubList(this)
 \n var index = 0
 \n while (index in 0
until thisSize) {
 \n val windowSize = size.coerceAtMost(thisSize - index)
 \n if (!partialWindows &&
windowSize < size) break
 \n window.move(index, index + windowSize)
 \n result.add(transform(window))
 \n index += step
 \n }
 \n return result
 \n }
 \n val result =
ArrayList<R>()
 \n windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = true).forEach {
 \n result.add(transform(it))
 \n }
 \n return result
}
}

```

**zip**

- Returns a list of pairs built from the elements of `this` collection and the [other] array with the same index.
- The returned list has length of the shortest collection.
- @sample

```

samples.collections.Iterables.Operations.zipIterable
*\npublic infix fun <T, R> Iterable<T>.zip(other:
Array<out R>): List<Pair<T, R>> {
 \n return zip(other) { t1, t2 -> t1 to t2 }
}

```

- Returns a list of values built from the elements of `this` collection and the [other] array with the same index using the provided [transform] function applied to each pair of elements.
- The returned list has length of the shortest collection.
- @sample

```

samples.collections.Iterables.Operations.zipIterableWithTransform
*\npublic inline fun <T, R, V>
Iterable<T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {
 \n val arraySize = other.size
 \n val list = ArrayList<V>(minOf(collectionSizeOrDefault(10), arraySize))
 \n var i = 0
 \n for (element in this) {
 \n if (i >= arraySize) break
 \n list.add(transform(element, other[i++]))
 \n }
 \n return list
}

```

- Returns a list of pairs built from the elements of `this` collection and [other] collection with the same index.
- The returned list has length of the shortest collection.
- @sample

```

samples.collections.Iterables.Operations.zipIterable
*\npublic infix fun <T, R> Iterable<T>.zip(other: Iterable<R>): List<Pair<T, R>> {
 \n return zip(other) { t1, t2 ->
t1 to t2 }
}

```

- Returns a list of values built from the elements of `this` collection and the [other] collection with the same index using the provided [transform] function applied to each pair of elements.
- The returned list has length of the shortest collection.
- @sample

```

samples.collections.Iterables.Operations.zipIterableWithTransform
*\npublic inline fun <T, R, V>
Iterable<T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {
 \n val first = iterator()
 \n val second = other.iterator()
 \n val list = ArrayList<V>(minOf(collectionSizeOrDefault(10),
other.collectionSizeOrDefault(10)))
 \n while (first.hasNext() && second.hasNext()) {
 \n list.add(transform(first.next(), second.next()))
 \n }
 \n return list
}

```

- Returns a list of pairs of each two adjacent elements in this collection.
- The returned list is empty if this collection contains less than two elements.
- @sample

```

samples.collections.Collections.Transformations.zipWithNext
*\n@SinceKotlin("1.2")\npublic fun <T> Iterable<T>.zipWithNext(): List<Pair<T, T>> {
 \n return zipWithNext
{ a, b -> a to b }
}

```

- Returns a list containing the results of applying the given [transform] function to an each pair of two adjacent elements in this collection.
- The returned list is empty if this collection contains less than two elements.
- @sample

```

samples.collections.Collections.Transformations.zipWithNextToFindDeltas
*\n@SinceKotlin("1.2")\npublic
inline fun <T, R> Iterable<T>.zipWithNext(transform: (a: T, b: T) -> R): List<R> {
 \n val iterator = iterator()
 \n if (!iterator.hasNext()) return emptyList()
 \n val result = mutableListOf<R>()
 \n var current = iterator.next()
 \n while (iterator.hasNext()) {
 \n val next = iterator.next()
 \n result.add(transform(current, next))
 \n current = next
 \n }
 \n return result
}

```

- Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
- If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the

```

[truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n * \n public fun <T, A : Appendable>
Iterable<T>.joinTo(buffer: A, separator: CharSequence = '|', prefix: CharSequence = "\", postfix: CharSequence
= "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): A {\n
buffer.append(prefix)\n var count = 0\n for (element in this) {\n if (++count > 1) buffer.append(separator)\n
 if (limit < 0 || count <= limit) {\n buffer.appendElement(element, transform)\n } else break\n }\n
(limit >= 0 && count > limit) buffer.append(truncated)\n buffer.append(postfix)\n return buffer\n}\n\n/**\n *
Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if
supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only
the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n *
@sample samples.collections.Collections.Transformations.joinToString\n * \n public fun <T>
Iterable<T>.joinToString(separator: CharSequence = '|', prefix: CharSequence = "\", postfix: CharSequence =
 "\", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): String {\n return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Returns this
collection as an [Iterable].\n * \n * @kotlin.internal.InlineOnly\n * \n public inline fun <T> Iterable<T>.asIterable():
Iterable<T> {\n return this\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original collection returning
its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromCollection\n * \n public fun <T> Iterable<T>.asSequence():
Sequence<T> {\n return Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the
collection.\n * \n * @kotlin.jvm.JvmName("averageOfByte")\n * \n public fun Iterable<Byte>.average(): Double {\n var
sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the collection.\n * \n * @kotlin.jvm.JvmName("averageOfShort")\n * \n public fun
Iterable<Short>.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n
sum += element\n checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the collection.\n
*\n * @kotlin.jvm.JvmName("averageOfInt")\n * \n public fun Iterable<Int>.average(): Double {\n var sum: Double =
0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the collection.\n * \n * @kotlin.jvm.JvmName("averageOfLong")\n * \n public fun
Iterable<Long>.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n
sum += element\n checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the collection.\n
*\n * @kotlin.jvm.JvmName("averageOfFloat")\n * \n public fun
Iterable<Float>.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n
sum += element\n checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the collection.\n
*\n * @kotlin.jvm.JvmName("averageOfDouble")\n * \n public fun Iterable<Double>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the collection.\n * \n * @kotlin.jvm.JvmName("sumOfByte")\n * \n public fun
Iterable<Byte>.sum(): Int {\n var sum: Int = 0\n for (element in this) {\n sum += element\n }\n return
sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n * @kotlin.jvm.JvmName("sumOfShort")\n * \n public fun Iterable<Short>.sum(): Int {\n var sum: Int = 0\n for
(element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the
collection.\n * \n * @kotlin.jvm.JvmName("sumOfInt")\n * \n public fun Iterable<Int>.sum(): Int {\n var sum: Int = 0\n
for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in
the collection.\n * \n * @kotlin.jvm.JvmName("sumOfLong")\n * \n public fun Iterable<Long>.sum(): Long {\n var
sum: Long = 0L\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the

```

```

sum of all elements in the collection.\n *\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun
Iterable<Float>.sum(): Float {\n var sum: Float = 0.0f\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n *\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Iterable<Double>.sum(): Double {\n var sum: Double
= 0.0\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n", /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.collections\n\nimport
kotlin.comparisons.naturalOrder\n\nimport kotlin.random.Random\n\n/** Returns the array if it's not `null`, or an
empty array otherwise. *\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Array<out T>?.orEmpty():
Array<out T> = this ?: emptyArray<T>()\n\n@kotlin.internal.InlineOnly\npublic actual inline fun <T>
Collection<T>.toArray(): Array<T> =
copyToArray(this)\n\n@JsName("copyToArray")\n@PublishedApi\ninternal fun <T> copyToArray(collection:
Collection<T>): Array<T> {\n return if (collection.asDynamic().toArray !== undefined)\n collection.asDynamic().toArray().unsafeCast<Array<T>>()\n else\n copyToArrayImpl(collection).unsafeCast<Array<T>>()\n}\n\n@JsName("copyToArrayImpl")\ninternal actual fun
copyToArrayImpl(collection: Collection<*>): Array<Any?> {\n val array = emptyArray<Any?>()\n val iterator
= collection.iterator()\n while (iterator.hasNext())\n array.asDynamic().push(iterator.next())\n return
array\n}\n\n@JsName("copyToExistingArrayImpl")\ninternal actual fun <T> copyToArrayImpl(collection:
Collection<*>, array: Array<T>): Array<T> {\n if (array.size < collection.size)\n return
copyToArrayImpl(collection).unsafeCast<Array<T>>()\n val iterator = collection.iterator()\n var index = 0\n while (iterator.hasNext()) {\n array[index++] = iterator.next().unsafeCast<T>()\n }\n if (index < array.size)\n array[index] = null.unsafeCast<T>()\n }\n return array\n}\n\n/**\n * Returns an immutable list
containing only the specified object [element].\n *\npublic fun <T> listOf(element: T): List<T> =
arrayListOf(element)\n\n/**\n * Returns an immutable set containing only the specified object [element].\n *\npublic fun <T> setOf(element: T): Set<T> = hashSetOf(element)\n\n/**\n * Returns an immutable map,
mapping only the specified key to the\n * specified value.\n *\npublic fun <K, V> mapOf(pair: Pair<K, V>):
Map<K, V> = hashMapOf(pair)\n\n/**\n * Fills the list with the provided [value].\n * Each element in the list
gets replaced with the [value].\n *\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.fill(value: T):
Unit {\n for (index in 0..lastIndex) {\n this[index] = value\n }\n}\n\n/**\n * Randomly shuffles elements in
this list.\n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm\n *\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.shuffle(): Unit = shuffle(Random)\n\n/**\n * Returns a new list with the elements of this list randomly shuffled.\n *\n@SinceKotlin("1.2")\npublic actual fun
<T> Iterable<T>.shuffled(): List<T> = toMutableList().apply { shuffle() }\n\n/**\n * Sorts elements in the list in-
place according to their natural sort order.\n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n *\npublic actual fun <T : Comparable<T>> MutableList<T>.sort(): Unit
{\n collectionsSort(this, naturalOrder())\n}\n\n/**\n * Sorts elements in the list in-place according to the order
specified with [comparator].\n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n *\npublic actual fun <T> MutableList<T>.sortWith(comparator: Comparator<in T>):
Unit {\n collectionsSort(this, comparator)\n}\n\nprivate fun <T> collectionsSort(list: MutableList<T>,
comparator: Comparator<in T>) {\n if (list.size <= 1) return\n val array = copyToArray(list)\n sortArrayWith(array, comparator)\n for (i in 0 until array.size) {\n list[i] = array[i]\n }\n}\n\ninternal
actual fun <T> arrayOfNulls(reference: Array<T>, size: Int): Array<T> {\n return
arrayOfNulls<Any>(size).unsafeCast<Array<T>>()\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@JsName("arrayCopy")\ninternal fun <T> arrayCopy(source: Array<out T>, destination: Array<in T>, destinationOffset: Int,
startIndex: Int, endIndex: Int) {\n AbstractList.checkRangeIndexes(startIndex, endIndex, source.size)\n val
rangeSize = endIndex - startIndex\n AbstractList.checkRangeIndexes(destinationOffset, destinationOffset +
rangeSize, destination.size)\n if (js("ArrayBuffer").isView(destination) &&
js("ArrayBuffer").isView(source)) {\n val subrange = source.asDynamic().subarray(startIndex, endIndex)\n

```





```

*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double):
Double\n\n/**\n * Returns the greater of three values.\n *^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect fun <T :
Comparable<T>> maxOf(a: T, b: T, c: T): T\n\n/**\n * Returns the greater of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte, c: Byte):
Byte\n\n/**\n * Returns the greater of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short, c:
Short): Short\n\n/**\n * Returns the greater of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int, c: Int):
Int\n\n/**\n * Returns the greater of three values.\n *^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic
expect inline fun maxOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the greater of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float, b: Float, c:
Float): Float\n\n/**\n * Returns the greater of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double, c:
Double): Double\n\n/**\n * Returns the greater of three values according to the order specified by the given
[comparator].\n *^@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, c: T, comparator: Comparator<in T>):
T {\n return maxOf(a, maxOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the greater of two values
according to the order specified by the given [comparator].\n * If values are equal, returns the first one.\n
*^@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, comparator: Comparator<in T>): T {\n return if
(comparator.compare(a, b) >= 0) a else b\n}\n\n/**\n * Returns the smaller of two values.\n * If values are equal,
returns the first one.\n *^@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T):
T\n\n/**\n * Returns the smaller of two values.\n *^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic
expect inline fun minOf(a: Byte, b: Byte): Byte\n\n/**\n * Returns the smaller of two values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short):
Short\n\n/**\n * Returns the smaller of two values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int): Int\n\n/**\n
 * Returns the smaller of two values.\n *^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline
fun minOf(a: Long, b: Long): Long\n\n/**\n * Returns the smaller of two values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float):
Float\n\n/**\n * Returns the smaller of two values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double):
Double\n\n/**\n * Returns the smaller of three values.\n *^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic
expect fun <T :
Comparable<T>> minOf(a: T, b: T, c: T): T\n\n/**\n * Returns the smaller of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte, c: Byte):
Byte\n\n/**\n * Returns the smaller of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short, c:
Short): Short\n\n/**\n * Returns the smaller of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int, c: Int):
Int\n\n/**\n * Returns the smaller of three values.\n *^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic
expect inline fun minOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the smaller of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float, c: Float):
Float\n\n/**\n * Returns the smaller of three values.\n
*^@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double, c:
Double): Double\n\n/**\n * Returns the smaller of three values according to the order specified by the given
[comparator].\n *^@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, c: T, comparator: Comparator<in T>):
T {\n return minOf(a, minOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the smaller of two values
according to the order specified by the given [comparator].\n * If values are equal, returns the first one.\n
*^@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, comparator: Comparator<in T>): T {\n return if
(comparator.compare(a, b) <= 0) a else b\n}\n\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin

```

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\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage\nkotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:\nhttps://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns a [List] containing all key-value pairs.\n *\npublic fun <K, V> Map<out K, V>.toList(): List<Pair<K, V>> {\n if (size == 0)\n return emptyList()\n val iterator = entries.iterator()\n if (!iterator.hasNext())\n return emptyList()\n val first = iterator.next()\n if (!iterator.hasNext())\n return listOf(first.toPair())\n val result = ArrayList<Pair<K, V>>(size)\n result.add(first.toPair())\n do {\n result.add(iterator.next().toPair())\n } while (iterator.hasNext())\n return result\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each entry of original map.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <K, V, R> Map<out K, V>.flatMap(transform: (Map.Entry<K, V>) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each entry of original map, to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each entry in the original map.\n *\n * @sample\nsamples.collections.Maps.Transformations.mapToList\n *\npublic inline fun <K, V, R> Map<out K, V>.map(transform: (Map.Entry<K, V>) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each entry in the original map.\n *\npublic inline fun <K, V, R : Any> Map<out K, V>.mapNotNull(transform: (Map.Entry<K, V>) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each entry in the original map\n * and appends only the non-null results to the given [destination].\n *\npublic inline fun <K, V, R : Any, C : MutableCollection<in R>> Map<out K, V>.mapNotNullTo(destination: C, transform: (Map.Entry<K, V>) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each entry of the original map\n * and appends the results to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.mapTo(destination: C, transform: (Map.Entry<K, V>) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns `true` if all entries match the given [predicate].\n *\n * @sample\nsamples.collections.Collections.Aggregates.all\n *\npublic inline fun <K, V> Map<out K, V>.all(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n if (isEmpty()) return true\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if map has at least one entry.\n *\n * @sample\nsamples.collections.Collections.Aggregates.any\n *\npublic fun <K, V> Map<out K, V>.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if at least one entry matches the given [predicate].\n *\n * @sample\nsamples.collections.Collections.Aggregates.anyWithPredicate\n *\npublic inline fun <K, V> Map<out K, V>.any(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n if (isEmpty()) return false\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns the number of entries in this map.\n *\n *@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.count(): Int {\n return size\n}\n\n/**\n * Returns the number of entries matching the given [predicate].\n *\npublic inline fun <K, V> Map<out K, V>.count(predicate: (Map.Entry<K, V>) -> Boolean): Int {\n if (isEmpty()) return 0\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Performs the given [action] on each entry.\n *\n *@kotlin.internal.HidesMembers\npublic inline fun <K, V> Map<out K, V>.forEach(action: (Map.Entry<K, V>) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Returns the first entry yielding the largest value of the given function or `null` if there are no entries.\n *\n * @sample\nsamples.collections.Collections.Aggregates.maxBy\n *\n *@kotlin.internal.InlineOnly\npublic inline fun <K, V, R :
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Comparable<R>> Map<out K, V>.maxBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n return
entries.maxBy(selector)\n}\n\n/**\n * Returns the first entry having the largest value according to the provided
[comparator] or `null` if there are no entries.\n * \n * @kotlin.internal.InlineOnly\n * public inline fun <K, V> Map<out
K, V>.maxWith(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n return
entries.maxWith(comparator)\n}\n\n/**\n * Returns the first entry yielding the smallest value of the given function
or `null` if there are no entries.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n * \n * public
inline fun <K, V, R : Comparable<R>> Map<out K, V>.minBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K,
V>? {\n return entries.minBy(selector)\n}\n\n/**\n * Returns the first entry having the smallest value according to
the provided [comparator] or `null` if there are no entries.\n * \n * public fun <K, V> Map<out K,
V>.minWith(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n return
entries.minWith(comparator)\n}\n\n/**\n * Returns `true` if the map has no entries.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n * \n * public fun <K, V> Map<out K, V>.none(): Boolean {\n
return isEmpty()\n}\n\n/**\n * Returns `true` if no entries match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \n * public inline fun <K, V> Map<out K,
V>.none(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n if (isEmpty()) return true\n for (element in
this) if (predicate(element)) return false\n return true\n}\n\n/**\n * Performs the given [action] on each entry and
returns the map itself afterwards.\n * \n * @SinceKotlin("1.1")\n * public inline fun <K, V, M : Map<out K, V>>
M.onEach(action: (Map.Entry<K, V>) -> Unit): M {\n return apply { for (element in this) action(element)
}\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original map returning its entries when being iterated.\n
* \n * @kotlin.internal.InlineOnly\n * public inline fun <K, V> Map<out K, V>.asIterable(): Iterable<Map.Entry<K,
V>> {\n return entries\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original map returning its entries
when being iterated.\n * \n * public fun <K, V> Map<out K, V>.asSequence(): Sequence<Map.Entry<K, V>> {\n
return entries.asSequence()\n}\n\n"/\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n * @file:kotlin.jvm.JvmMultifileClass\n * @file:kotlin.jvm.JvmName("SequencesKt")\n * \n * package
kotlin.sequences\n * \n * // NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n * // See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n * \n * \n * import kotlin.random.*\n * \n * /**\n * Returns
`true` if [element] is found in the sequence.\n * \n * * The operation is _terminal_.\n * \n * public operator fun
<@kotlin.internal.OnlyInputTypes T> Sequence<T>.contains(element: T): Boolean {\n return indexOf(element)
>= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this sequence.\n * \n * * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n * public fun <T> Sequence<T>.elementAt(index: Int): T
{\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("Sequence doesn't contain element at
index $index.") }\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this sequence.\n * \n * * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n * \n * public fun <T>
Sequence<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n if (index < 0)\n return
defaultValue(index)\n val iterator = iterator()\n var count = 0\n while (iterator.hasNext()) {\n val element
= iterator.next()\n if (index == count++)\n return element\n }\n return
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this sequence.\n * \n * * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n * \n * public fun <T>
Sequence<T>.elementAtOrNull(index: Int): T? {\n if (index < 0)\n return null\n val iterator = iterator()\n
var count = 0\n while (iterator.hasNext()) {\n val element = iterator.next()\n if (index == count++)\n
return element\n }\n return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null`
if no such element was found.\n * \n * * The operation is _terminal_.\n * \n * @kotlin.internal.InlineOnly\n * public inline
fun <T> Sequence<T>.find(predicate: (T) -> Boolean): T? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns

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the last element matching the given [predicate], or `null` if no such element was found.

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 * The operation is _terminal_
 * @kotlin.internal.InlineOnly
 public inline fun <T> Sequence<T>.findLast(predicate: (T) -> Boolean): T? {
 return lastOrNull(predicate)
 }
 * Returns first element
 * @throws [NoSuchElementException] if the sequence is empty.
 * The operation is _terminal_
 * public fun <T> Sequence<T>.first(): T {
 val iterator = iterator()
 if (!iterator.hasNext())
 throw NoSuchElementException("Sequence is empty.")
 return iterator.next()
 }
 * Returns the first element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 * The operation is _terminal_
 * public inline fun <T> Sequence<T>.first(predicate: (T) -> Boolean): T {
 for (element in this)
 if (predicate(element))
 return element
 throw NoSuchElementException("Sequence contains no element matching the predicate.")
 }
 * Returns the first element, or `null` if the sequence is empty.
 * The operation is _terminal_
 * public fun <T> Sequence<T>.firstOrNull(): T? {
 val iterator = iterator()
 if (!iterator.hasNext())
 return null
 return iterator.next()
 }
 * Returns the first element matching the given [predicate], or `null` if element was not found.
 * The operation is _terminal_
 * public inline fun <T> Sequence<T>.firstOrNull(predicate: (T) -> Boolean): T? {
 for (element in this)
 if (predicate(element))
 return element
 return null
 }
 * Returns first index of [element], or -1 if the sequence does not contain element.
 * The operation is _terminal_
 * public fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.indexOf(element: T): Int {
 var index = 0
 for (item in this) {
 checkIndexOverflow(index)
 if (element == item)
 return index
 index++
 }
 return -1
 }
 * Returns index of the first element matching the given [predicate], or -1 if the sequence does not contain such element.
 * The operation is _terminal_
 * public inline fun <T> Sequence<T>.indexOfFirst(predicate: (T) -> Boolean): Int {
 var index = 0
 for (item in this) {
 checkIndexOverflow(index)
 if (predicate(item))
 return index
 index++
 }
 return -1
 }
 * Returns index of the last element matching the given [predicate], or -1 if the sequence does not contain such element.
 * The operation is _terminal_
 * public inline fun <T> Sequence<T>.indexOfLast(predicate: (T) -> Boolean): Int {
 var lastIndex = -1
 var index = 0
 for (item in this) {
 checkIndexOverflow(index)
 if (predicate(item))
 lastIndex = index
 index++
 }
 return lastIndex
 }
 * Returns the last element.
 * @throws [NoSuchElementException] if the sequence is empty.
 * The operation is _terminal_
 * public fun <T> Sequence<T>.last(): T {
 val iterator = iterator()
 if (!iterator.hasNext())
 throw NoSuchElementException("Sequence is empty.")
 var last = iterator.next()
 while (iterator.hasNext())
 last = iterator.next()
 return last
 }
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 * The operation is _terminal_
 * public inline fun <T> Sequence<T>.last(predicate: (T) -> Boolean): T {
 var last: T? = null
 var found = false
 for (element in this) {
 if (predicate(element))
 last = element
 found = true
 }
 if (!found)
 throw NoSuchElementException("Sequence contains no element matching the predicate.")
 @Suppress("UNCHECKED_CAST")
 return last as T
 }
 * Returns last index of [element], or -1 if the sequence does not contain element.
 * The operation is _terminal_
 * public fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.lastIndexOf(element: T): Int {
 var lastIndex = -1
 var index = 0
 for (item in this) {
 checkIndexOverflow(index)
 if (element == item)
 lastIndex = index
 index++
 }
 return lastIndex
 }
 * Returns the last element, or `null` if the sequence is empty.
 * The operation is _terminal_
 * public fun <T> Sequence<T>.lastOrNull(): T? {
 val iterator = iterator()
 if (!iterator.hasNext())
 return null
 var last = iterator.next()
 while (iterator.hasNext())
 last = iterator.next()
 return last
 }
 * Returns the last element matching the given [predicate], or `null` if no such element was found.
 * The operation is _terminal_
 * public inline fun <T> Sequence<T>.lastOrNull(predicate: (T) -> Boolean): T? {
 var last: T? = null
 for (element in this)
 if (predicate(element))
 last = element
 return last
 }
 * Returns the single element, or throws an exception if the sequence is empty or has more than one element.
 * The operation is _terminal_
 * public fun <T> Sequence<T>.single(): T {
 val iterator = iterator()
 if (!iterator.hasNext())
 throw

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NoSuchElementException("Sequence is empty.")\n val single = iterator.next()\n if (iterator.hasNext())\n throw IllegalArgumentException("Sequence has more than one element.")\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.single(predicate: (T) -> Boolean): T {\n var single: T? = null\n var found = false\n for (element in this) {\n if (predicate(element))\n {\n if (found) throw IllegalArgumentException("Sequence contains more than one matching element.")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException("Sequence contains no element matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as T\n}\n\n/**\n * Returns single element, or `null` if the sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.singleOrNull(): T? {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n val single = iterator.next()\n if (iterator.hasNext())\n return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.singleOrNull(predicate: (T) -> Boolean): T? {\n var single: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns a sequence containing all elements except first [n] elements.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n * @sample\nsamples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.drop(n: Int): Sequence<T> {\n require(n >= 0) { "Requested element count $n is less than zero." }\n return when {\n n == 0 -> this\n this is DropTakeSequence -> this.drop(n)\n else -> DropSequence(this, n)\n }\n}\n\n/**\n * Returns a sequence containing all elements except first elements that satisfy the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample\nsamples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.dropWhile(predicate: (T) -> Boolean): Sequence<T> {\n return DropWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence containing only elements matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T> Sequence<T>.filter(predicate: (T) -> Boolean): Sequence<T> {\n return FilteringSequence(this, true, predicate)\n}\n\n/**\n * Returns a sequence containing only elements matching the given [predicate].\n *\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T> Sequence<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): Sequence<T> {\n // TODO: Rewrite with generalized MapFilterIndexingSequence\n return TransformingSequence(FilteringSequence(IndexingSequence(this), true, { predicate(it.index, it.value) }), { it.value })\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, C : MutableCollection<in T>> Sequence<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n forEachIndexed {\n index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return destination\n}\n\n/**\n * Returns a sequence containing all elements that are instances of specified type parameter R.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic inline fun <reified R> Sequence<*>.filterIsInstance(): Sequence<@kotlin.internal.NoInfer R> {\n @Suppress("UNCHECKED_CAST")\n return filter { it is R } as Sequence<R>\n}\n\n/**\n * Appends all elements that are instances of specified type parameter R to the given [destination].\n *\n * The operation is _terminal_.\n */\npublic inline fun <reified R, C : MutableCollection<in R>> Sequence<*>.filterIsInstanceTo(destination: C): C {\n for (element in this) if (element is R)\n destination.add(element)\n return destination\n}\n\n/**\n * Returns a sequence containing all elements not matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T> Sequence<T>.filterNot(predicate: (T) -> Boolean): Sequence<T> {\n return FilteringSequence(this, false,

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predicate)\n}\n\n/**\n * Returns a sequence containing all elements that are not `null`.\n * \n * The operation is
intermediate and _stateless_.\n * \n\npublic fun <T : Any> Sequence<T?>.filterNotNull(): Sequence<T> {\n
@Suppress("UNCHECKED_CAST")\n return filterNot { it == null } as Sequence<T>}\n}\n\n/**\n * Appends all
elements that are not `null` to the given [destination].\n * \n * The operation is _terminal_.\n * \n\npublic fun <C :
MutableCollection<in T>, T : Any> Sequence<T?>.filterNotNullTo(destination: C): C {\n for (element in this) if
(element != null) destination.add(element)\n return destination}\n}\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n * \n * The operation is _terminal_.\n * \n\npublic inline fun <T, C :
MutableCollection<in T>> Sequence<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n for
(element in this) if (!predicate(element)) destination.add(element)\n return destination}\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n * \n * The operation is _terminal_.\n * \n\npublic
inline fun <T, C : MutableCollection<in T>> Sequence<T>.filterTo(destination: C, predicate: (T) -> Boolean): C
{\n for (element in this) if (predicate(element)) destination.add(element)\n return destination}\n}\n\n/**\n *
Returns a sequence containing first [n] elements.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * \n * @sample
samples.collections.Collections.Transformations.take\n * \n\npublic fun <T> Sequence<T>.take(n: Int): Sequence<T>
{\n require(n >= 0) { "Requested element count $n is less than zero." }\n return when {\n n == 0 ->
emptySequence()\n this is DropTakeSequence -> this.take(n)\n else -> TakeSequence(this, n)\n }\n}\n}\n\n/**\n * Returns a sequence containing first elements satisfying the given [predicate].\n * \n * The operation
is _intermediate_ and _stateless_.\n * \n * \n * @sample samples.collections.Collections.Transformations.take\n * \n\npublic
fun <T> Sequence<T>.takeWhile(predicate: (T) -> Boolean): Sequence<T> {\n return
TakeWhileSequence(this, predicate)}\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n * \n * The operation is _intermediate_ and _stateful_.\n * \n\npublic fun <T :
Comparable<T>> Sequence<T>.sorted(): Sequence<T> {\n return object : Sequence<T> {\n override fun
iterator(): Iterator<T> {\n val sortedList = this@sorted.toMutableList()\n sortedList.sort()\n return sortedList.iterator()\n }\n }\n}\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is
stable. It means that equal elements preserve their order relative to each other after sorting.\n * \n * The operation
is _intermediate_ and _stateful_.\n * \n\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.sortedBy(crossinline selector: (T) -> R?): Sequence<T> {\n return
sortedWith(compareBy(selector))}\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted
descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is
stable. It means that equal elements preserve their order relative to each other after sorting.\n * \n * The operation
is _intermediate_ and _stateful_.\n * \n\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.sortedByDescending(crossinline selector: (T) -> R?): Sequence<T> {\n return
sortedWith(compareByDescending(selector))}\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements
preserve their order relative to each other after sorting.\n * \n * The operation is _intermediate_ and _stateful_.\n * \n\npublic
fun <T : Comparable<T>> Sequence<T>.sortedDescending(): Sequence<T> {\n return
sortedWith(reverseOrder())}\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according
to the specified [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative
to each other after sorting.\n * \n * The operation is _intermediate_ and _stateful_.\n * \n\npublic fun <T>
Sequence<T>.sortedWith(comparator: Comparator<in T>): Sequence<T> {\n return object : Sequence<T> {\n override fun
iterator(): Iterator<T> {\n val sortedList = this@sortedWith.toMutableList()\n sortedList.sortWith(comparator)\n return sortedList.iterator()\n }\n }\n}\n}\n\n/**\n * Returns a [Map]
containing key-value pairs provided by [transform] function\n * applied to elements of the given sequence.\n * \n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original sequence.\n * \n * The operation is _terminal_.\n * \n * \n * @sample

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samples.collections.Collections.Transformations.associate\n *^npublic inline fun <T, K, V>
Sequence<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n return associateTo(LinkedHashMap<K,
V>(), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given sequence indexed by the
key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original sequence.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateBy\n *^npublic inline fun <T, K>
Sequence<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n return associateByTo(LinkedHashMap<K,
T>(), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed
by [keySelector] functions applied to elements of the given sequence.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original sequence.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateByWithValueTransform\n *^npublic inline fun <T, K, V>
Sequence<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n return
associateByTo(LinkedHashMap<K, V>(), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to
each element of the given sequence\n * and value is the element itself.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The operation is _terminal_.\n * \n *
@sample samples.collections.Collections.Transformations.associateByTo\n *^npublic inline fun <T, K, M :
MutableMap<in K, in T>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the
given sequence.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateByToWithValueTransform\n *^npublic inline fun <T, K,
V, M : MutableMap<in K, in V>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs\n * provided by [transform] function applied to each element of the given sequence.\n * \n *
If any of two pairs would have the same key the last one gets added to the map.\n * \n * The operation is
terminal.\n * \n * @sample samples.collections.Collections.Transformations.associateTo\n *^npublic inline fun
<T, K, V, M : MutableMap<in K, in V>> Sequence<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>):
M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n *
Returns a [Map] where keys are elements from the given sequence and values are\n * produced by the
[valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to
the map.\n * \n * The returned map preserves the entry iteration order of the original sequence.\n * \n * The
operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n *^n@SinceKotlin("1.3")\npublic inline fun <K, V> Sequence<K>.associateWith(valueSelector: (K) -> V):
Map<K, V> {\n val result = LinkedHashMap<K, V>()\n return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given sequence,\n * where key is the element itself and value is provided by the [valueSelector]
function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the
map.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n *^n@SinceKotlin("1.3")\npublic inline fun
<K, V, M : MutableMap<in K, in V>> Sequence<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M
{\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n * \n * The operation is

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terminal.\n *^\npublic fun <T, C : MutableCollection<in T>> Sequence<T>.toCollection(destination: C): C {\n
for (item in this) {\n destination.add(item)\n } \n return destination\n}\n\n/**\n * Returns a [HashSet] of all
elements.\n *\n * The operation is _terminal_.\n *^\npublic fun <T> Sequence<T>.toHashSet(): HashSet<T> {\n
return toCollection(HashSet<T>())\n}\n\n/**\n * Returns a [List] containing all elements.\n *\n * The operation is
terminal.\n *^\npublic fun <T> Sequence<T>.toList(): List<T> {\n return
this.toMutableList().optimizeReadOnlyList()\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this
sequence.\n *\n * The operation is _terminal_.\n *^\npublic fun <T> Sequence<T>.toMutableList(): MutableList<T>
{\n return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a [Set] of all elements.\n *\n * The returned set
preserves the element iteration order of the original sequence.\n *\n * The operation is _terminal_.\n *^\npublic fun
<T> Sequence<T>.toSet(): Set<T> {\n return
toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single sequence of all elements
from results of [transform] function being invoked on each element of original sequence.\n *\n * The operation is
intermediate and _stateless_.\n *\n * @sample samples.collections.Collections.Transformations.flatMap\n
*^\npublic fun <T, R> Sequence<T>.flatMap(transform: (T) -> Sequence<R>): Sequence<R> {\n return
FlatteningSequence(this, transform, { it.iterator() })\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original sequence, to the given [destination].\n *\n * The
operation is _terminal_.\n *^\npublic inline fun <T, R, C : MutableCollection<in R>>
Sequence<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n for (element in this) {\n val
list = transform(element)\n destination.addAll(list)\n } \n return destination\n}\n\n/**\n * Groups elements of
the original sequence by the key returned by the given [keySelector] function\n * applied to each element and
returns a map where each group key is associated with a list of corresponding elements.\n *\n * The returned map
preserves the entry iteration order of the keys produced from the original sequence.\n *\n * The operation is
terminal.\n *\n * @sample samples.collections.Collections.Transformations.groupBy\n
*^\npublic inline fun <T,
K> Sequence<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return groupByTo(LinkedHashMap<K,
MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to
each element of the original sequence\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n *\n * The
returned map preserves the entry iteration order of the keys produced from the original sequence.\n *\n * The
operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*^\npublic inline fun <T, K, V>
Sequence<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original sequence by the key returned by the given [keySelector] function\n * applied to each element and
puts to the [destination] map each group key associated with a list of corresponding elements.\n *\n * @return The
[destination] map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupBy\n
*^\npublic inline fun <T, K, M : MutableMap<in K,
MutableList<T>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this)
{\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<T>() }\n
list.add(element)\n } \n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function
applied to each element of the original sequence\n * by the key returned by the given [keySelector] function applied
to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n
*\n * @return The [destination] map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*^\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n } \n return
destination\n}\n\n/**\n * Creates a [Grouping] source from a sequence to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n *\n * The operation is

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intermediate and _stateless_.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n
*\n@SinceKotlin("1.1")\npublic inline fun <T, K> Sequence<T>.groupingBy(crossinline keySelector: (T) -> K):
Grouping<T, K> {\n return object : Grouping<T, K> {\n override fun sourceIterator(): Iterator<T> =
this@groupingBy.iterator()\n override fun keyOf(element: T): K = keySelector(element)\n }\n}\n\n/**\n *
Returns a sequence containing the results of applying the given [transform] function\n * to each element in the
original sequence.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Transformations.map\n *\npublic fun <T, R> Sequence<T>.map(transform: (T) ->
R): Sequence<R> {\n return TransformingSequence(this, transform)\n}\n\n/**\n * Returns a sequence containing
the results of applying the given [transform] function\n * to each element and its index in the original sequence.\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n * \n * The operation is _intermediate_ and _stateless_.\n *\npublic fun <T,
R> Sequence<T>.mapIndexed(transform: (index: Int, T) -> R): Sequence<R> {\n return
TransformingIndexedSequence(this, transform)\n}\n\n/**\n * Returns a sequence containing only the non-null
results of applying the given [transform] function\n * to each element and its index in the original sequence.\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n * \n * The operation is _intermediate_ and _stateless_.\n *\npublic fun <T, R :
Any> Sequence<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): Sequence<R> {\n return
TransformingIndexedSequence(this, transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function
to each element and its index in the original sequence\n * and appends only the non-null results to the given
[destination].\n * \n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n * \n * The operation is _terminal_.\n *\npublic inline fun
<T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapIndexedNotNullTo(destination: C, transform: (index:
Int, T) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n
return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original
sequence\n * and appends the results to the given [destination].\n * \n * @param [transform] function that takes the
index of an element and the element itself\n * and returns the result of the transform applied to the element.\n * \n *
The operation is _terminal_.\n *\npublic inline fun <T, R, C : MutableCollection<in R>>
Sequence<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var index = 0\n for (item in
this)\n destination.add(transform(checkIndexOverflow(index++), item))\n return destination\n}\n\n/**\n * Returns a sequence containing only the non-null results of applying the given [transform] function\n * to each
element in the original sequence.\n * \n * The operation is _intermediate_ and _stateless_.\n *\npublic fun <T, R :
Any> Sequence<T>.mapNotNull(transform: (T) -> R?): Sequence<R> {\n return TransformingSequence(this,
transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function to each element in the original
sequence\n * and appends only the non-null results to the given [destination].\n * \n * The operation is _terminal_.\n *
*\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapNotNullTo(destination: C,
transform: (T) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return
destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original sequence\n * and
appends the results to the given [destination].\n * \n * The operation is _terminal_.\n *\npublic inline fun <T, R, C :
MutableCollection<in R>> Sequence<T>.mapTo(destination: C, transform: (T) -> R): C {\n for (item in this)\n
destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a sequence that wraps each element of
the original sequence\n * into an [IndexedValue] containing the index of that element and the element itself.\n * \n *
The operation is _intermediate_ and _stateless_.\n *\npublic fun <T> Sequence<T>.withIndex():
Sequence<IndexedValue<T>> {\n return IndexingSequence(this)\n}\n\n/**\n * Returns a sequence containing
only distinct elements from the given sequence.\n * \n * The elements in the resulting sequence are in the same order
as they were in the source sequence.\n * \n * The operation is _intermediate_ and _stateful_.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *\npublic fun <T>
Sequence<T>.distinct(): Sequence<T> {\n return this.distinctBy { it }\n}\n\n/**\n * Returns a sequence
containing only elements from the given sequence\n * having distinct keys returned by the given [selector]

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function.  
 The elements in the resulting sequence are in the same order as they were in the source sequence.  
 The operation is `_intermediate_` and `_stateful_`.  
 @sample  
 samples.collections.Collections.Transformations.distinctAndDistinctBy  
`public fun <T, K> Sequence<T>.distinctBy(selector: (T) -> K): Sequence<T> {`  
 `return DistinctSequence(this, selector)`  
`}`  
 Returns a mutable set containing all distinct elements from the given sequence.  
 The returned set preserves the element iteration order of the original sequence.  
 The operation is `_terminal_`.  
`public fun <T> Sequence<T>.toMutableSet(): MutableSet<T> {`  
 `val set = LinkedHashSet<T>()`  
 `for (item in this) set.add(item)`  
 `return set`  
`}`  
 Returns `true` if all elements match the given [predicate].  
 The operation is `_terminal_`.  
 @sample  
 samples.collections.Collections.Aggregates.all  
`public inline fun <T> Sequence<T>.all(predicate: (T) -> Boolean): Boolean {`  
 `for (element in this) if (!predicate(element)) return false`  
 `return true`  
`}`  
 Returns `true` if sequence has at least one element.  
 The operation is `_terminal_`.  
 @sample  
 samples.collections.Collections.Aggregates.any  
`public fun <T> Sequence<T>.any(): Boolean {`  
 `return iterator().hasNext()`  
`}`  
 Returns `true` if at least one element matches the given [predicate].  
 The operation is `_terminal_`.  
 @sample  
 samples.collections.Collections.Aggregates.anyWithPredicate  
`public inline fun <T> Sequence<T>.any(predicate: (T) -> Boolean): Boolean {`  
 `for (element in this) if (predicate(element)) return true`  
 `return false`  
`}`  
 Returns the number of elements in this sequence.  
 The operation is `_terminal_`.  
`public fun <T> Sequence<T>.count(): Int {`  
 `var count = 0`  
 `for (element in this) checkCountOverflow(++count)`  
 `return count`  
`}`  
 Returns the number of elements matching the given [predicate].  
 The operation is `_terminal_`.  
`public inline fun <T> Sequence<T>.count(predicate: (T) -> Boolean): Int {`  
 `var count = 0`  
 `for (element in this) if (predicate(element)) checkCountOverflow(++count)`  
 `return count`  
`}`  
 Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.  
 The operation is `_terminal_`.  
`public inline fun <T, R> Sequence<T>.fold(initial: R, operation: (acc: R, T) -> R): R {`  
 `var accumulator = initial`  
 `for (element in this) accumulator = operation(accumulator, element)`  
 `return accumulator`  
`}`  
 Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element with its index in the original sequence.  
 @param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.  
 The operation is `_terminal_`.  
`public inline fun <T, R> Sequence<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {`  
 `var index = 0`  
 `var accumulator = initial`  
 `for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator, element)`  
 `return accumulator`  
`}`  
 Performs the given [action] on each element.  
 The operation is `_terminal_`.  
`public inline fun <T> Sequence<T>.forEach(action: (T) -> Unit): Unit {`  
 `for (element in this) action(element)`  
`}`  
 Performs the given [action] on each element, providing sequential index with the element.  
 @param [action] function that takes the index of an element and the element itself and performs the desired action on the element.  
 The operation is `_terminal_`.  
`public inline fun <T> Sequence<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {`  
 `var index = 0`  
 `for (item in this) action(checkIndexOverflow(index++), item)`  
`}`  
 Returns the largest element or `null` if there are no elements.  
 If any of elements is `NaN` returns `NaN`.  
 The operation is `_terminal_`.  
 @SinceKotlin("1.1")  
`public fun Sequence<Double>.max(): Double? {`  
 `val iterator = iterator()`  
 `if (!iterator.hasNext()) return null`  
 `var max = iterator.next()`  
 `if (max.isNaN()) return max`  
 `while (iterator.hasNext()) {`  
 `val e = iterator.next()`  
 `if (e.isNaN()) return e`  
 `if (max < e) max = e`  
 `}`  
 `return max`  
`}`  
 Returns the largest element or `null` if there are no elements.  
 If any of elements is `NaN` returns `NaN`.  
 The operation is `_terminal_`.  
 @SinceKotlin("1.1")  
`public fun Sequence<Float>.max(): Float? {`  
 `val iterator = iterator()`  
 `if (!iterator.hasNext()) return null`  
 `var max = iterator.next()`  
 `if (max.isNaN()) return max`  
 `while (iterator.hasNext()) {`  
 `val e = iterator.next()`  
 `if (e.isNaN()) return e`  
 `if (max < e) max = e`  
 `}`  
 `return max`  
`}`  
 Returns the largest element or `null` if there are no elements.  
 The operation is `_terminal_`.  
`public fun <T : Comparable<T>> Sequence<T>.max(): T? {`  
 `val iterator = iterator()`  
 `if (!iterator.hasNext()) return null`  
 `var max =`

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iterator.next()\n while (iterator.hasNext()) {\n val e = iterator.next()\n if (max < e) max = e\n }
return max\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there
are no elements.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.maxBy(selector: (T) -> R): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var maxElem = iterator.next()\n if (!iterator.hasNext()) return maxElem\n var maxValue = selector(maxElem)\n do {\n val e = iterator.next()\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n } while (iterator.hasNext())\n return maxElem\n}\n\n/**\n * Returns the first element
having the largest value according to the provided [comparator] or `null` if there are no elements.\n *\n * The
operation is _terminal_.\n */\npublic fun <T> Sequence<T>.maxWith(comparator: Comparator<in T>): T? {\n val
iterator = iterator()\n if (!iterator.hasNext()) return null\n var max = iterator.next()\n while (iterator.hasNext())\n {\n val e = iterator.next()\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n *\n * If any of elements is `NaN` returns `NaN`.\n
*\n * The operation is _terminal_.\n */\n@SinceKotlin("1.1")\npublic fun Sequence<Double>.min(): Double? {\n val
iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n if (min.isNaN()) return
min\n while (iterator.hasNext()) {\n val e = iterator.next()\n if (e.isNaN()) return e\n if (min > e) min
= e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n *\n * If any
of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin("1.1")\npublic fun
Sequence<Float>.min(): Float? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min =
iterator.next()\n if (min.isNaN()) return min\n while (iterator.hasNext()) {\n val e = iterator.next()\n if
(e.isNaN()) return e\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element or
`null` if there are no elements.\n *\n * The operation is _terminal_.\n */\npublic fun <T : Comparable<T>>
Sequence<T>.min(): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min =
iterator.next()\n while (iterator.hasNext()) {\n val e = iterator.next()\n if (min > e) min = e\n }\n return
min\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no
elements.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.minBy(selector: (T) -> R): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var
minElem = iterator.next()\n if (!iterator.hasNext()) return minElem\n var minValue = selector(minElem)\n do {\n val
e = iterator.next()\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n } while (iterator.hasNext())\n return minElem\n}\n\n/**\n * Returns the first element
having the smallest value according to the provided [comparator] or `null` if there are no elements.\n *\n * The
operation is _terminal_.\n */\npublic fun <T> Sequence<T>.minWith(comparator: Comparator<in T>): T? {\n val
iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n while (iterator.hasNext())\n {\n val e = iterator.next()\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns `true` if the sequence has no elements.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun <T> Sequence<T>.none(): Boolean {\n return
!iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n *\n * The operation is
terminal.\n *\n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun
<T> Sequence<T>.none(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element))
return false\n return true\n}\n\n/**\n * Returns a sequence which performs the given [action] on each element of
the original sequence as they pass through it.\n *\n * The operation is _intermediate_ and _stateless_.\n
*/\n@SinceKotlin("1.1")\npublic fun <T> Sequence<T>.onEach(action: (T) -> Unit): Sequence<T> {\n return
map {\n action(it)\n it\n }\n}\n\n/**\n * Accumulates value starting with the first element and applying
[operation] from left to right to current accumulator value and each element.\n *\n * The operation is _terminal_.\n
*\n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun <S, T : S>
Sequence<T>.reduce(operation: (acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext())
throw UnsupportedOperationException("Empty sequence can't be reduced.")\n var accumulator: S =

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iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original sequence.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself and calculates the next accumulator value.\n * The operation is _terminal_.\n * @sample samples.collections.Collections.Aggregates.reduce\n *\npublic inline fun <S, T : S> Sequence<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext()) throw UnsupportedOperationException("Empty sequence can't be reduced.")\n var index = 1\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the sequence is empty.\n * The operation is _terminal_.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Sequence<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return null\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * The operation is _intermediate_ and _stateless_.\n * @sample samples.collections.Collections.Aggregates.scan\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T, R> Sequence<T>.scan(initial: R, operation: (acc: R, T) -> R): Sequence<R> {\n return sequence {\n yield(initial)\n var accumulator = initial\n for (element in this@scan) {\n accumulator = operation(accumulator, element)\n yield(accumulator)\n }\n }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original sequence and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * The operation is _intermediate_ and _stateless_.\n * @sample samples.collections.Collections.Aggregates.scan\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T, R> Sequence<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n return sequence {\n yield(initial)\n var index = 0\n var accumulator = initial\n for (element in this@scanIndexed) {\n accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n yield(accumulator)\n }\n }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this sequence.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * @param [operation] function that takes current accumulator value and the element, and calculates the next accumulator value.\n * The operation is _intermediate_ and _stateless_.\n * @sample samples.collections.Collections.Aggregates.scanReduce\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <S, T : S> Sequence<T>.scanReduce(operation: (acc: S, T) -> S): Sequence<S> {\n return sequence {\n val iterator = iterator()\n if (iterator.hasNext()) {\n var accumulator: S = iterator.next()\n yield(accumulator)\n while (iterator.hasNext()) {\n
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 accumulator = operation(accumulator, iterator.next())\n yield(accumulator)\n }\n }\n}\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation]
from left to right\n * to each element, its index in the original sequence and current accumulator value that starts
with the first element of this sequence.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Aggregates.scanReduce\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <S, T : S>
Sequence<T>.scanReduceIndexed(operation: (index: Int, acc: S, T) -> S): Sequence<S> {\n return sequence {\n
val iterator = iterator()\n if (iterator.hasNext()) {\n var accumulator: S = iterator.next()\n
yield(accumulator)\n var index = 1\n while (iterator.hasNext()) {\n accumulator =
operation(checkIndexOverflow(index++), accumulator, iterator.next())\n yield(accumulator)\n }\n
}\n }\n}\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
sequence.\n * \n * The operation is _terminal_.\n */\n\npublic inline fun <T> Sequence<T>.sumBy(selector: (T) ->
Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return
sum\n}\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
sequence.\n * \n * The operation is _terminal_.\n */\n\npublic inline fun <T> Sequence<T>.sumByDouble(selector:
(T) -> Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n
}\n return sum\n}\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n * \n * The operation is _intermediate_ and
stateless.\n */\n\npublic fun <T : Any> Sequence<T?>.requireNonNulls(): Sequence<T> {\n return map { it ? :
throw IllegalArgumentException("null element found in $this.") }\n}\n}\n}\n\n/**\n * Splits this sequence into a
sequence of lists each not exceeding the given [size].\n * \n * The last list in the resulting sequence may have less
elements than the given [size].\n * \n * @param size the number of elements to take in each list, must be positive
and can be greater than the number of elements in this sequence.\n * \n * The operation is _intermediate_ and
stateful.\n * \n * @sample samples.collections.Collections.Transformations.chunked\n
*/\n\n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.chunked(size: Int): Sequence<List<T>> {\n return
windowed(size, size, partialWindows = true)\n}\n}\n\n/**\n * Splits this sequence into several lists each not exceeding
the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return sequence of results of the
[transform] applied to an each list.\n * \n * Note that the list passed to the [transform] function is ephemeral and is
valid only inside that function.\n * \n * You should not store it or allow it to escape in some way, unless you made a
snapshot of it.\n * \n * The last list may have less elements than the given [size].\n * \n * @param size the number of
elements to take in each list, must be positive and can be greater than the number of elements in this sequence.\n *
\n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.text.Strings.chunkedTransform\n
*/\n\n@SinceKotlin("1.2")\npublic fun <T, R> Sequence<T>.chunked(size: Int, transform: (List<T>) -> R):
Sequence<R> {\n return windowed(size, size, partialWindows = true, transform = transform)\n}\n}\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence without the first occurrence of the given
[element].\n * \n * The operation is _intermediate_ and _stateless_.\n */\n\npublic operator fun <T>
Sequence<T>.minus(element: T): Sequence<T> {\n return object: Sequence<T> {\n override fun iterator():
Iterator<T> {\n var removed = false\n return this@minus.filter { if (!removed && it == element) {\n
removed = true; false } else true }.iterator()\n }\n }\n}\n}\n\n/**\n * Returns a sequence containing all elements
of original sequence except the elements contained in the given [elements] array.\n * \n * Note that the source
sequence and the array being subtracted are iterated only when an `iterator` is requested from\n * the resulting
sequence. Changing any of them between successive calls to `iterator` may affect the result.\n * \n * The [elements]
array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct
and stable implementation of `hashCode()` that doesn't change between successive invocations.\n * \n * The
operation is _intermediate_ and _stateful_.\n */\n\npublic operator fun <T> Sequence<T>.minus(elements: Array<out

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T>): Sequence<T> {\n if (elements.isEmpty()) return this\n return object: Sequence<T> {\n override fun
iterator(): Iterator<T> {\n val other = elements.toHashSet()\n return this@minus.filterNot { it in other
}.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the
elements contained in the given [elements] collection.\n * \n * Note that the source sequence and the collection
being subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of
them between successive calls to `iterator` may affect the result.\n * \n * The [elements] collection may be converted
to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable
implementation of `hashCode()` that doesn't change between successive invocations.\n * \n * The operation is
intermediate and _stateful_.\n */\npublic operator fun <T> Sequence<T>.minus(elements: Iterable<T>):
Sequence<T> {\n return object: Sequence<T> {\n override fun iterator(): Iterator<T> {\n val other =
elements.convertToSetForSetOperation()\n if (other.isEmpty())\n return this@minus.iterator()\n else\n return this@minus.filterNot { it in other }.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence
containing all elements of original sequence except the elements contained in the given [elements] sequence.\n * \n
* Note that the source sequence and the sequence being subtracted are iterated only when an `iterator` is requested
from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n
* \n * The operation is _intermediate_ for this sequence and _terminal_ and _stateful_ for the [elements] sequence.\n
* \n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are
required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive
invocations.\n */\npublic operator fun <T> Sequence<T>.minus(elements: Sequence<T>): Sequence<T> {\n
return object: Sequence<T> {\n override fun iterator(): Iterator<T> {\n val other =
elements.toHashSet()\n if (other.isEmpty())\n return this@minus.iterator()\n else\n return
this@minus.filterNot { it in other }.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence containing all
elements of the original sequence without the first occurrence of the given [element].\n * \n * The operation is
intermediate and _stateless_.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Sequence<T>.minusElement(element: T): Sequence<T> {\n return minus(element)\n}\n\n/**\n * Splits the
original sequence into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n
* while *second* list contains elements for which [predicate] yielded `false`.\n * \n * The operation is _terminal_.\n
*/\npublic inline fun <T> Sequence<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n val first
= ArrayList<T>()\n val second = ArrayList<T>()\n for (element in this) {\n if (predicate(element)) {\n
first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first,
second)\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence and then the given
[element].\n * \n * The operation is _intermediate_ and _stateless_.\n */\npublic operator fun <T>
Sequence<T>.plus(element: T): Sequence<T> {\n return sequenceOf(this,
sequenceOf(element)).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and
then all elements of the given [elements] array.\n * \n * Note that the source sequence and the array being added are
iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between
successive calls to `iterator` may affect the result.\n * \n * The operation is _intermediate_ and _stateless_.\n
*/\npublic operator fun <T> Sequence<T>.plus(elements: Array<out T>): Sequence<T> {\n return
this.plus(elements.asList())\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and then
all elements of the given [elements] collection.\n * \n * Note that the source sequence and the collection being added
are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between
successive calls to `iterator` may affect the result.\n * \n * The operation is _intermediate_ and _stateless_.\n
*/\npublic operator fun <T> Sequence<T>.plus(elements: Iterable<T>): Sequence<T> {\n return
sequenceOf(this, elements.asSequence()).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of original
sequence and then all elements of the given [elements] sequence.\n * \n * Note that the source sequence and the
sequence being added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any
of them between successive calls to `iterator` may affect the result.\n * \n * The operation is _intermediate_ and
stateless.\n */\npublic operator fun <T> Sequence<T>.plus(elements: Sequence<T>): Sequence<T> {\n return

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sequenceOf(this, elements).flatten()\n\n\n**\n * Returns a sequence containing all elements of the original
sequence and then the given [element].\n * \n * The operation is _intermediate_ and _stateless_.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.plusElement(element: T): Sequence<T> {\n
return plus(element)\n}\n\n\n**\n * Returns a sequence of snapshots of the window of the given [size]\n * sliding
along this sequence with the given [step], where each\n * snapshot is a list.\n * \n * Several last lists may have less
elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of
elements in this sequence.\n * @param size the number of elements to take in each window\n * @param step the
number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows
controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial
windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n
*\n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows:
Boolean = false): Sequence<List<T>> {\n
return windowedSequence(size, step, partialWindows, reuseBuffer =
false)\n}\n\n\n**\n * Returns a sequence of results of applying the given [transform] function to\n * an each list
representing a view over the window of the given [size]\n * sliding along this sequence with the given [step].\n * \n
* Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You
should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last lists may
have less elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the
number of elements in this sequence.\n * @param size the number of elements to take in each window\n * @param
step the number of elements to move the window forward by on an each step, by default 1\n * @param
partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which
means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.averageWindows\n
*\n@SinceKotlin("1.2")\npublic fun <T, R>
Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):
Sequence<R> {\n
return windowedSequence(size, step, partialWindows, reuseBuffer =
true).map(transform)\n}\n\n\n**\n * Returns a sequence of values built from the elements of `this` sequence and the
[other] sequence with the same index.\n * The resulting sequence ends as soon as the shortest input sequence ends.\n
*\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Sequences.Transformations.zip\n
*\npublic infix fun <T, R> Sequence<T>.zip(other:
Sequence<R>): Sequence<Pair<T, R>> {\n
return MergingSequence(this, other) { t1, t2 -> t1 to t2 }\n}\n\n\n**\n *
Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The resulting sequence ends
as soon as the shortest input sequence ends.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n *
@sample samples.collections.Sequences.Transformations.zipWithTransform\n
*\npublic fun <T, R, V>
Sequence<T>.zip(other: Sequence<R>, transform: (a: T, b: R) -> V): Sequence<V> {\n
return
MergingSequence(this, other, transform)\n}\n\n\n**\n * Returns a sequence of pairs of each two adjacent elements in
this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two elements.\n * \n * The
operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNext\n
*\n@SinceKotlin("1.2")\npublic fun <T>
Sequence<T>.zipWithNext(): Sequence<Pair<T, T>> {\n
return zipWithNext { a, b -> a to b }\n}\n\n\n**\n *
Returns a sequence containing the results of applying the given [transform] function\n * to an each pair of two
adjacent elements in this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two
elements.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n
*\n@SinceKotlin("1.2")\npublic
fun <T, R> Sequence<T>.zipWithNext(transform: (a: T, b: T) -> R): Sequence<R> {\n
return sequence result@
{\n
val iterator = iterator()\n
if (!iterator.hasNext()) return@result\n
var current = iterator.next()\n
while (iterator.hasNext()) {\n
val next = iterator.next()\n
yield(transform(current, next))\n
current = next\n
}\n
}\n}\n\n\n**\n * Appends the string from all the elements separated using [separator] and
using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-

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negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the
[truncated] string (which defaults to "...").\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n * \npublic fun <T, A : Appendable>
Sequence<T>.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = \"\\\", postfix:
CharSequence = \"\\\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): A
{\n buffer.append(prefix)\n var count = 0\n for (element in this) {\n if (++count > 1)
buffer.append(separator)\n if (limit < 0 || count <= limit) {\n buffer.appendElement(element, transform)\n
 } else break\n }\n if (limit >= 0 && count > limit) buffer.append(truncated)\n buffer.append(postfix)\n
return buffer}\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n * \npublic fun <T>
Sequence<T>.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = \"\\\", postfix: CharSequence =
\"\\\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): String {\n return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original sequence returning its elements when being iterated.\n * \npublic fun <T>
Sequence<T>.asIterable(): Iterable<T> {\n return Iterable { this.iterator() }\n}\n\n/**\n * Returns this sequence as
a [Sequence].\n * \n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.asSequence(): Sequence<T>
{\n return this}\n}\n\n/**\n * Returns an average value of elements in the sequence.\n * \n * The operation is
terminal.\n * \n@kotlin.jvm.JvmName(\"averageOfByte\")\npublic fun Sequence<Byte>.average(): Double {\n var
sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfShort\")\npublic fun Sequence<Short>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfInt\")\npublic fun Sequence<Int>.average(): Double {\n var sum: Double
= 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfLong\")\npublic fun
Sequence<Long>.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n
sum += element\n checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfFloat\")\npublic fun Sequence<Float>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"averageOfDouble\")\npublic fun Sequence<Double>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"sumOfByte\")\npublic fun Sequence<Byte>.sum(): Int {\n var sum: Int = 0\n for
(element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the
sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName(\"sumOfShort\")\npublic fun
Sequence<Short>.sum(): Int {\n var sum: Int = 0\n for (element in this) {\n sum += element\n }\n return
sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n

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*@\n@kotlin.jvm.JvmName("\sumOfInt")\npublic fun Sequence<Int>.sum(): Int {\n var sum: Int = 0\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("\sumOfLong")\npublic fun Sequence<Long>.sum(): Long {\n var sum: Long = 0L\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("\sumOfFloat")\npublic fun Sequence<Float>.sum(): Float {\n var sum: Float = 0.0f\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("\sumOfDouble")\npublic fun Sequence<Double>.sum(): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

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@\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SetsKt")\n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns a set containing all elements of the original set except the given [element].\n *\n * The returned set preserves the element iteration order of the original set.\n */\n\npublic operator fun <T> Set<T>.minus(element: T): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(size))\n var removed = false\n return this.filterTo(result) { if (!removed && it == element) { removed = true; false } else true }\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] array.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * The [elements] array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\n\npublic operator fun <T> Set<T>.minus(elements: Array<out T>): Set<T> {\n val result = LinkedHashSet<T>(this)\n result.removeAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] collection.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * The [elements] collection may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\n\npublic operator fun <T> Set<T>.minus(elements: Iterable<T>): Set<T> {\n val other = elements.convertToSetForSetOperationWith(this)\n if (other.isEmpty())\n return this.toSet()\n if (other is Set)\n return this.filterNotTo(LinkedHashSet<T>()) { it in other }\n val result = LinkedHashSet<T>(this)\n result.removeAll(other)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] sequence.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\n\npublic operator fun <T> Set<T>.minus(elements: Sequence<T>): Set<T> {\n val result = LinkedHashSet<T>(this)\n result.removeAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the given [element].\n *\n * The returned set preserves the element iteration order of the original set.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Set<T>.minusElement(element: T): Set<T> {\n return minus(element)\n}\n\n/**\n * Returns a set containing all elements of the original set and then the given [element] if it isn't already in this set.\n *\n * The returned set preserves the element iteration order of the original set.\n */\n\npublic operator fun <T> Set<T>.plus(element: T): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(size + 1))\n result.addAll(this)\n result.add(element)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements] array,\n * which aren't already in this set.\n *\n * The returned set preserves the element iteration order of the original set.\n */\n\npublic operator fun <T> Set<T>.plus(elements: Array<out T>): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(this.size + elements.size))\n result.addAll(this)\n

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result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set and
the given [elements] collection,\n * which aren't already in this set.\n * The returned set preserves the element
iteration order of the original set.\n */\npublic operator fun <T> Set<T>.plus(elements: Iterable<T>): Set<T> {\n
val result = HashSet<T>(mapCapacity(elements.collectionSizeOrNull()?.let { this.size + it } ?: this.size *
2))\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all
elements of the original set and the given [elements] sequence,\n * which aren't already in this set.\n * \n * The
returned set preserves the element iteration order of the original set.\n */\npublic operator fun <T>
Set<T>.plus(elements: Sequence<T>): Set<T> {\n val result = HashSet<T>(mapCapacity(this.size * 2))\n
result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of
the original set and then the given [element] if it isn't already in this set.\n * \n * The returned set preserves the
element iteration order of the original set.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Set<T>.plusElement(element: T): Set<T> {\n return plus(element)\n}\n\n"/>\n * Copyright 2010-2019 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a
character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char
sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun
CharSequence.elementAt(index: Int): Char\n\n/**\n * Returns a character at the given [index] or the result of calling
the [defaultValue] function if the [index] is out of bounds of this char sequence.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns a character at the given [index] or `null` if
the [index] is out of bounds of this char sequence.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.elementAtOrNull(index: Int): Char? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns the first
character matching the given [predicate], or `null` if no such character was found.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.find(predicate: (Char) -> Boolean): Char? {\n
return firstOrNull(predicate)\n}\n\n/**\n * Returns the last character matching the given [predicate], or `null` if no
such character was found.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.findLast(predicate:
(Char) -> Boolean): Char? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns first character.\n * @throws
[NoSuchElementException] if the char sequence is empty.\n */\npublic fun CharSequence.first(): Char {\n if
(isEmpty())\n throw NoSuchElementException("Char sequence is empty.")\n return this[0]\n}\n\n/**\n *
Returns the first character matching the given [predicate].\n * @throws [NoSuchElementException] if no such
character is found.\n */\npublic inline fun CharSequence.first(predicate: (Char) -> Boolean): Char {\n for (element
in this) if (predicate(element)) return element\n throw NoSuchElementException("Char sequence contains no
character matching the predicate.")\n}\n\n/**\n * Returns the first character, or `null` if the char sequence is
empty.\n */\npublic fun CharSequence.firstOrNull(): Char? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n *
Returns the first character matching the given [predicate], or `null` if character was not found.\n
*\n */\npublic inline fun CharSequence.firstOrNull(predicate: (Char) -> Boolean): Char? {\n for (element in this)
if (predicate(element))\n return element\n return null\n}\n\n/**\n * Returns a character at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this char sequence.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.getOrNull(index: Int, defaultValue: (Int) -> Char):
Char {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns a
character at the given [index] or `null` if the [index] is out of bounds of this char sequence.\n
*\n */\npublic fun CharSequence.getOrNull(index: Int): Char? {\n return if (index >= 0 && index <= lastIndex)
get(index) else\n null\n}\n\n/**\n * Returns index of the first character matching the given [predicate], or -1 if
the char sequence does

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not contain such character.\n */\npublic inline fun CharSequence.indexOfFirst(predicate: (Char) -> Boolean): Int {\n
 for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -
1\n}\n\n/**\n * Returns index of the last character matching the given [predicate], or -1 if the char sequence does
not contain such character.\n */\npublic inline fun CharSequence.indexOfLast(predicate: (Char) -> Boolean): Int {\n
 for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -
1\n}\n\n/**\n * Returns the last character.\n * @throws [NoSuchElementException] if the char sequence is empty.\n */\npublic fun CharSequence.last(): Char {\n if (isEmpty())\n throw NoSuchElementException("Char
sequence is empty.")\n return this[lastIndex]\n}\n\n/**\n * Returns the last character matching the given
[predicate].\n * @throws [NoSuchElementException] if no such character is found.\n */\npublic inline fun
CharSequence.last(predicate: (Char) -> Boolean): Char {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n }\n throw NoSuchElementException("Char
sequence contains no character matching the predicate.")\n}\n\n/**\n * Returns the last character, or `null` if the
char sequence is empty.\n */\npublic fun CharSequence.lastOrNull(): Char? {\n return if (isEmpty()) null else
this[length - 1]\n}\n\n/**\n * Returns the last character matching the given [predicate], or `null` if no such character
was found.\n */\npublic inline fun CharSequence.lastOrNull(predicate: (Char) -> Boolean): Char? {\n for (index in
this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n
return null\n}\n\n/**\n * Returns a random character from this char sequence.\n * \n * @throws
NoSuchElementException if this char sequence is empty.\n */\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.random(): Char {\n
return random(Random)\n}\n\n/**\n * Returns a random character from this char sequence using the specified
source of randomness.\n * \n * @throws NoSuchElementException if this char sequence is empty.\n */\n\n@SinceKotlin("1.3")\npublic fun CharSequence.random(random: Random): Char {\n if (isEmpty())\n throw NoSuchElementException("Char sequence is empty.")\n return get(random.nextInt(length))\n}\n\n/**\n *
Returns a random character from this char sequence, or `null` if this char sequence is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.randomOrNull(): Char? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random
character from this char sequence using the specified source of randomness, or `null` if this char sequence is
empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun CharSequence.randomOrNull(random:
Random): Char? {\n if (isEmpty())\n return null\n return get(random.nextInt(length))\n}\n\n/**\n * Returns
the single character, or throws an exception if the char sequence is empty or has more than one character.\n */\n\npublic fun CharSequence.single(): Char {\n return when (length) {\n 0 -> throw
NoSuchElementException("Char sequence is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Char sequence has more than one element.")\n }\n}\n\n/**\n * Returns the single
character matching the given [predicate], or throws exception if there is no or more than one matching character.\n */\n\npublic inline fun CharSequence.single(predicate: (Char) -> Boolean): Char {\n var single: Char? = null\n var
found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Char sequence contains more than one matching element.")\n single =
element\n found = true\n }\n }\n if (!found) throw NoSuchElementException("Char sequence
contains no character matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return single as
Char\n}\n\n/**\n * Returns single character, or `null` if the char sequence is empty or has more than one character.\n */\n\npublic fun CharSequence.singleOrNull(): Char? {\n return if (length == 1) this[0] else null\n}\n\n/**\n *
Returns the single character matching the given [predicate], or `null` if character was not found or more than one
character was found.\n */\n\npublic inline fun CharSequence.singleOrNull(predicate: (Char) -> Boolean): Char? {\n
var single: Char? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if
(found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return
single\n}\n\n/**\n * Returns a subsequence of this char sequence with the first [n] characters removed.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n */\n\npublic fun
CharSequence.drop(n: Int): CharSequence {\n require(n >= 0) { "Requested character count $n is less than zero."

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}\n return subSequence(n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string with the first [n] characters
removed.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.text.Strings.drop\n */\npublic fun String.drop(n: Int): String {\n require(n >= 0) {\n "Requested character
count $n is less than zero." }\n return substring(n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of
this char sequence with the last [n] characters removed.\n * \n * @throws IllegalArgumentException if [n] is
negative.\n * \n * @sample samples.text.Strings.drop\n */\npublic fun CharSequence.dropLast(n: Int):
CharSequence {\n require(n >= 0) {\n "Requested character count $n is less than zero." }\n return take((length -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a string with the last [n] characters removed.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n */\npublic fun
String.dropLast(n: Int): String {\n require(n >= 0) {\n "Requested character count $n is less than zero." }\n return
take((length - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n
*/\npublic inline fun CharSequence.dropLastWhile(predicate: (Char) -> Boolean): CharSequence {\n for (index in
lastIndex downTo 0)\n if (!predicate(this[index]))\n return subSequence(0, index + 1)\n return
""\n}\n\n/**\n * Returns a string containing all characters except last characters that satisfy the given [predicate].\n
*\n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropLastWhile(predicate: (Char) ->
Boolean): String {\n for (index in lastIndex downTo 0)\n if (!predicate(this[index]))\n return
substring(0, index + 1)\n return ""\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n
*/\npublic inline fun CharSequence.dropWhile(predicate: (Char) -> Boolean): CharSequence {\n for (index in
this.indices)\n if (!predicate(this[index]))\n return subSequence(index, length)\n return ""\n}\n\n/**\n * Returns a string containing all characters except first characters that satisfy the given [predicate].\n * \n *
@sample samples.text.Strings.drop\n */\npublic inline fun String.dropWhile(predicate: (Char) -> Boolean): String
{\n for (index in this.indices)\n if (!predicate(this[index]))\n return substring(index)\n return
""\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char sequence that
match the given [predicate].\n * \n * @public inline fun CharSequence.filter(predicate: (Char) -> Boolean):
CharSequence {\n return filterTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing only those
characters from the original string that match the given [predicate].\n * \n * @public inline fun String.filter(predicate:
(Char) -> Boolean): String {\n return filterTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Returns a char
sequence containing only those characters from the original char sequence that match the given [predicate].\n *
*\n * @param [predicate] function that takes the index of a character and the character itself\n * and returns the result of
predicate evaluation on the character.\n * \n * @public inline fun CharSequence.filterIndexed(predicate: (index: Int,
Char) -> Boolean): CharSequence {\n return filterIndexedTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a
string containing only those characters from the original string that match the given [predicate].\n * \n * @param
[predicate] function that takes the index of a character and the character itself\n * and returns the result of predicate
evaluation on the character.\n * \n * @public inline fun String.filterIndexed(predicate: (index: Int, Char) -> Boolean):
String {\n return filterIndexedTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Appends all characters
matching the given [predicate] to the given [destination].\n * \n * @param [predicate] function that takes the index of a
character and the character itself\n * and returns the result of predicate evaluation on the character.\n * \n * @public
inline fun <C : Appendable> CharSequence.filterIndexedTo(destination: C, predicate: (index: Int, Char) ->
Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element))\n destination.append(element)\n }\n return destination\n}\n\n/**\n * Returns a char sequence containing only
those characters from the original char sequence that do not match the given [predicate].\n * \n * @public inline fun
CharSequence.filterNot(predicate: (Char) -> Boolean): CharSequence {\n return filterNotTo(StringBuilder(),
predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that do not match
the given [predicate].\n * \n * @public inline fun String.filterNot(predicate: (Char) -> Boolean): String {\n return
filterNotTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Appends all characters not matching the given
[predicate] to the given [destination].\n * \n * @public inline fun <C : Appendable>

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CharSequence.filterNotTo(destination: C, predicate: (Char) -> Boolean): C { \n for (element in this) if
(!predicate(element)) destination.append(element)\n return destination\n}\n\n/**\n * Appends all characters
matching the given [predicate] to the given [destination].\n */\npublic inline fun <C : Appendable>
CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C { \n for (index in 0 until length) {\n val
element = get(index)\n if (predicate(element)) destination.append(element)\n }\n return
destination\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence at the
specified range of [indices].\n */\npublic fun CharSequence.slice(indices: IntRange): CharSequence { \n if
(indices.isEmpty()) return ""\n return subSequence(indices)\n}\n\n/**\n * Returns a string containing characters
of the original string at the specified range of [indices].\n */\npublic fun String.slice(indices: IntRange): String { \n
if (indices.isEmpty()) return ""\n return substring(indices)\n}\n\n/**\n * Returns a char sequence containing
characters of the original char sequence at specified [indices].\n */\npublic fun CharSequence.slice(indices:
Iterable<Int>): CharSequence { \n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return ""\n
val result = StringBuilder(size)\n for (i in indices) {\n result.append(get(i))\n }\n return result\n}\n\n/**\n
* Returns a string containing characters of the original string at specified [indices].\n */\npublic inline fun
String.slice(indices: Iterable<Int>): String { \n return (this as
CharSequence).slice(indices).toString()\n}\n\n/**\n * Returns a subsequence of this char sequence containing the
first [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun
CharSequence.take(n: Int): CharSequence { \n require(n >= 0) { "Requested character count $n is less than zero."
}\n return subSequence(0, n.coerceAtMost(length))\n}\n\n/**\n * Returns a string containing the first [n]
characters from this string, or the entire string if this string is shorter.\n * \n * @throws IllegalArgumentException
if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun String.take(n: Int): String { \n
require(n >= 0) { "Requested character count $n is less than zero." }\n return substring(0,
n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this char sequence containing the last [n]
characters from this char sequence, or the entire char sequence if this char sequence is shorter.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun
CharSequence.takeLast(n: Int): CharSequence { \n require(n >= 0) { "Requested character count $n is less than
zero." }\n val length = length\n return subSequence(length - n.coerceAtMost(length), length)\n}\n\n/**\n
* Returns a string containing the last [n] characters from this string, or the entire string if this string is shorter.\n
* \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic
fun String.takeLast(n: Int): String { \n require(n >= 0) { "Requested character count $n is less than zero." }\n
val length = length\n return substring(length - n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this
char sequence containing last characters that satisfy the given [predicate].\n * \n * @sample
samples.text.Strings.take\n */\npublic inline fun CharSequence.takeLastWhile(predicate: (Char) -> Boolean):
CharSequence { \n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return
subSequence(index + 1, length)\n }\n }\n return subSequence(0, length)\n}\n\n/**\n * Returns a string
containing last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic
inline fun String.takeLastWhile(predicate: (Char) -> Boolean): String { \n for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n return substring(index + 1)\n }\n}\n return this\n}\n\n/**\n * Returns
a subsequence of this char sequence containing the first characters that satisfy the given [predicate].\n * \n *
@sample samples.text.Strings.take\n */\npublic inline fun CharSequence.takeWhile(predicate: (Char) -> Boolean):
CharSequence { \n for (index in 0 until length)\n if (!predicate(get(index))) {\n return subSequence(0,
index)\n }\n return subSequence(0, length)\n}\n\n/**\n * Returns a string containing the first characters that
satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic inline fun
String.takeWhile(predicate: (Char) -> Boolean): String { \n for (index in 0 until length)\n if
(!predicate(get(index))) {\n return substring(0, index)\n }\n return this\n}\n\n/**\n * Returns a char
sequence with characters in reversed order.\n */\npublic fun CharSequence.reversed(): CharSequence { \n return
StringBuilder(this).reverse()\n}\n\n/**\n * Returns a string with characters in reversed order.\n */

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*@\n@kotlin.internal.InlineOnly\npublic inline fun String.reversed(): String {\n return (this as
CharSequence).reversed().toString()\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by
[transform] function\n * applied to characters of the given char sequence.\n * \n * If any of two pairs would have the
same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the
original char sequence.\n * \n * @sample samples.text.Strings.associate\n */\npublic inline fun <K, V>
CharSequence.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(length).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing the characters from the given char sequence indexed by the
key\n * returned from [keySelector] function applied to each character.\n * \n * If any two characters would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associateBy\n */\npublic inline
fun <K> CharSequence.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n val capacity =
mapCapacity(length).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to characters of the given char sequence.\n * \n * If any two characters would have
the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the
entry iteration order of the original char sequence.\n * \n * @sample
samples.text.Strings.associateByWithValueTransform\n */\npublic inline fun <K, V>
CharSequence.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n val capacity
= mapCapacity(length).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value
pairs,\n * where key is provided by the [keySelector] function applied to each character of the given char sequence\n
* and value is the character itself.\n * \n * If any two characters would have the same key returned by [keySelector]
the last one gets added to the map.\n * \n * @sample samples.text.Strings.associateByTo\n */\npublic inline fun <K,
M : MutableMap<in K, in Char>> CharSequence.associateByTo(destination: M, keySelector: (Char) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n
* Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function and\n * and value is provided by the [valueTransform] function applied to characters of the
given char sequence.\n * \n * If any two characters would have the same key returned by [keySelector] the last one
gets added to the map.\n * \n * @sample samples.text.Strings.associateByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> CharSequence.associateByTo(destination: M, keySelector: (Char)
-> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs\n * provided by [transform] function applied to each character of the given char
sequence.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample
samples.text.Strings.associateTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>>
CharSequence.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {\n for (element in this) {\n
 destination += transform(element)\n }\n return destination\n}\n\n/**\n * Returns a [Map] where keys are
characters from the given char sequence and values are\n * produced by the [valueSelector] function applied to each
character.\n * \n * If any two characters are equal, the last one gets added to the map.\n * \n * The returned map
preserves the entry iteration order of the original char sequence.\n * \n * @sample
samples.text.Strings.associateWith\n */\n@SinceKotlin("1.3")\npublic inline fun <V>
CharSequence.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n val result = LinkedHashMap<Char,
V>(mapCapacity(length).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs for each character of the given char
sequence,\n * where key is the character itself and value is provided by the [valueSelector] function applied to that
key.\n * \n * If any two characters are equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.text.Strings.associateWithTo\n */\n@SinceKotlin("1.3")\npublic inline fun <V, M : MutableMap<in Char,

```

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in V>> CharSequence.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n for (element in this)
{\n destination.put(element, valueSelector(element))\n }\n return destination}\n\n/n/**\n * Appends all
characters to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Char>>
CharSequence.toCollection(destination: C): C {\n for (item in this) {\n destination.add(item)\n }\n return
destination}\n\n/n/**\n * Returns a [HashSet] of all characters.\n */\npublic fun CharSequence.toHashSet():
HashSet<Char> {\n return toCollection(HashSet<Char>(mapCapacity(length)))}\n\n/n/**\n * Returns a [List]
containing all characters.\n */\npublic fun CharSequence.toList(): List<Char> {\n return when (length) {\n 0 -
> emptyList()\n 1 -> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/n/**\n * Returns a
[MutableList] filled with all characters of this char sequence.\n */\npublic fun CharSequence.toMutableList():
MutableList<Char> {\n return toCollection(ArrayList<Char>(length))}\n\n/n/**\n * Returns a [Set] of all
characters.\n * \n * The returned set preserves the element iteration order of the original char sequence.\n */\npublic
fun CharSequence.toSet(): Set<Char> {\n return when (length) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n
else -> toCollection(LinkedHashSet<Char>(mapCapacity(length)))\n }\n}\n\n/n/**\n * Returns a single list of all
elements yielded from results of [transform] function being invoked on each character of original char sequence.\n *
\n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
CharSequence.flatMap(transform: (Char) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
character of original char sequence, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in
R>> CharSequence.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {\n for (element in this) {\n
val list = transform(element)\n destination.addAll(list)\n }\n return destination}\n\n/n/**\n * Groups
characters of the original char sequence by the key returned by the given [keySelector] function\n * applied to each
character and returns a map where each group key is associated with a list of corresponding characters.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original char sequence.\n * \n *
\n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
CharSequence.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)\n}\n\n/n/**\n * Groups values returned by the
[valueTransform] function applied to each character of the original char sequence\n * by the key returned by the
given [keySelector] function applied to the character\n * and returns a map where each group key is associated with
a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
CharSequence.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/n/**\n * Groups
characters of the original char sequence by the key returned by the given [keySelector] function\n * applied to each
character and puts to the [destination] map each group key associated with a list of corresponding characters.\n * \n
\n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharSequence.groupByTo(destination: M,
keySelector: (Char) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Char>() }\n list.add(element)\n }\n return destination}\n\n/n/**\n *
Groups values returned by the [valueTransform] function applied to each character of the original char sequence\n *
by the key returned by the given [keySelector] function applied to the character\n * and puts to the [destination]
map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n *
\n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> CharSequence.groupByTo(destination: M, keySelector: (Char) -> K,
valueTransform: (Char) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination}\n\n/n/**\n * Creates a [Grouping] source from a char sequence to be used later with one of group-and-
fold operations\n * using the specified [keySelector] function to extract a key from each character.\n * \n * @sample

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samples.collections.Grouping.groupingByEachCount\n *^\n@SinceKotlin("1.1")\npublic inline fun <K>
CharSequence.groupingBy(crossinline keySelector: (Char) -> K): Grouping<Char, K> {\n return object :
Grouping<Char, K> {\n override fun sourceIterator(): Iterator<Char> = this@groupingBy.iterator()\n
override fun keyOf(element: Char): K = keySelector(element)\n } \n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each character in the original char sequence.\n * \n *
@sample samples.text.Strings.map\n *^\npublic inline fun <R> CharSequence.map(transform: (Char) -> R):
List<R> {\n return mapTo(ArrayList<R>(length), transform)\n}\n\n/**\n * Returns a list containing the results of
applying the given [transform] function\n * to each character and its index in the original char sequence.\n *
@param [transform] function that takes the index of a character and the character itself\n * and returns the result of
the transform applied to the character.\n *^\npublic inline fun <R> CharSequence.mapIndexed(transform: (index:
Int, Char) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(length), transform)\n}\n\n/**\n * Returns a list
containing only the non-null results of applying the given [transform] function\n * to each character and its index in
the original char sequence.\n * @param [transform] function that takes the index of a character and the character
itself\n * and returns the result of the transform applied to the character.\n *^\npublic inline fun <R : Any>
CharSequence.mapIndexedNotNull(transform: (index: Int, Char) -> R?): List<R> {\n return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
character and its index in the original char sequence\n * and appends only the non-null results to the given
[destination].\n * @param [transform] function that takes the index of a character and the character itself\n * and
returns the result of the transform applied to the character.\n *^\npublic inline fun <R : Any, C :
MutableCollection<in R>> CharSequence.mapIndexedNotNullTo(destination: C, transform: (index: Int, Char) ->
R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return
destination\n}\n\n/**\n * Applies the given [transform] function to each character and its index in the original char
sequence\n * and appends the results to the given [destination].\n * @param [transform] function that takes the
index of a character and the character itself\n * and returns the result of the transform applied to the character.\n
*^\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapIndexedTo(destination: C, transform:
(index: Int, Char) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++,
item))\n return destination\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given
[transform] function\n * to each character in the original char sequence.\n *^\npublic inline fun <R : Any>
CharSequence.mapNotNull(transform: (Char) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Applies the given [transform] function to each character in the original char sequence\n *
and appends only the non-null results to the given [destination].\n *^\npublic inline fun <R : Any, C :
MutableCollection<in R>> CharSequence.mapNotNullTo(destination: C, transform: (Char) -> R?): C {\n forEach
{ element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given
[transform] function to each character of the original char sequence\n * and appends the results to the given
[destination].\n *^\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapTo(destination: C,
transform: (Char) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return
destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each character of the original char sequence\n * into an
[IndexValue] containing the index of that character and the character itself.\n *^\npublic fun
CharSequence.withIndex(): Iterable<IndexedValue<Char>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns `true` if all characters match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun CharSequence.all(predicate: (Char) ->
Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n *
Returns `true` if char sequence has at least one character.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun CharSequence.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if at least one character matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun CharSequence.any(predicate:
(Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns the length of this char sequence.\n *^\n@kotlin.internal.InlineOnly\npublic inline fun

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CharSequence.count(): Int {\n return length\n}\n\n/**\n * Returns the number of characters matching the given
[predicate].\n */\npublic inline fun CharSequence.count(predicate: (Char) -> Boolean): Int {\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right to current accumulator value and each character.\n
*/\npublic inline fun <R> CharSequence.fold(initial: R, operation: (acc: R, Char) -> R): R {\n var accumulator =
initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator
value and each character with its index in the original char sequence.\n * @param [operation] function that takes the
index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator
value.\n */\npublic inline fun <R> CharSequence.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R):
R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++,
accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from right to left to each character and current accumulator value.\n */\npublic inline fun <R>
CharSequence.foldRight(initial: R, operation: (Char, acc: R) -> R): R {\n var index = lastIndex\n var
accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each character with its index in the original char sequence and current accumulator value.\n * @param
[operation] function that takes the index of a character, the character itself\n * and current accumulator value, and
calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.foldRightIndexed(initial: R,
operation: (index: Int, Char, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while
(index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return
accumulator\n}\n\n/**\n * Performs the given [action] on each character.\n */\npublic inline fun
CharSequence.forEach(action: (Char) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each character, providing sequential index with the character.\n * @param [action]
function that takes the index of a character and the character itself\n * and performs the desired action on the
character.\n */\npublic inline fun CharSequence.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {\n var
index = 0\n for (item in this) action(index++, item)\n}\n\n/**\n * Returns the largest character or `null` if there are
no characters.\n */\npublic fun CharSequence.max(): Char? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns
the first character yielding the largest value of the given function or `null` if there are no characters.\n * \n *
@sample samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <R : Comparable<R>>
CharSequence.maxBy(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val
lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n
maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first character having the largest
value according to the provided [comparator] or `null` if there are no characters.\n */\npublic fun
CharSequence.maxWith(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var max =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return
max\n}\n\n/**\n * Returns the smallest character or `null` if there are no characters.\n */\npublic fun
CharSequence.min(): Char? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the first character yielding the
smallest value of the given function or `null` if there are no characters.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
CharSequence.minBy(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var minElem = this[0]\n val
lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n
minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first character having the smallest value
according to the provided [comparator] or `null` if there are no characters.\n */\npublic fun

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CharSequence.minWith(comparator: Comparator<in Char>): Char? {
 if (isEmpty()) return null
 var min = this[0]
 for (i in 1..lastIndex) {
 val e = this[i]
 if (comparator.compare(min, e) > 0) min = e
 }
 return min
}

Returns `true` if the char sequence has no characters.
@sample
samples.collections.Collections.Aggregates.none

public fun CharSequence.none(): Boolean {
 return isEmpty()
}

Returns `true` if no characters match the given [predicate].
@sample
samples.collections.Collections.Aggregates.noneWithPredicate

public inline fun
CharSequence.none(predicate: (Char) -> Boolean): Boolean {
 for (element in this) if (predicate(element)) return
 false
 return true
}

Performs the given [action] on each character and returns the char sequence itself
afterwards.
@SinceKotlin("1.1")
public inline fun <S : CharSequence> S.onEach(action: (Char) -> Unit): S
{
 return apply { for (element in this) action(element) }
}

Accumulates value starting with the first
character and applying [operation] from left to right to current accumulator value and each character.
@sample
samples.collections.Collections.Aggregates.reduce

public inline fun
CharSequence.reduce(operation: (acc: Char, Char) -> Char): Char {
 if (isEmpty())
 throw
 UnsupportedOperationException("Empty char sequence can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(accumulator, this[index])
 }
 return accumulator
}

Accumulates value starting with the first character and applying [operation] from left to
right
to current accumulator value and each character with its index in the original char sequence.
@param
[operation] function that takes the index of a character, current accumulator value
and the character itself and
calculates the next accumulator value.
@sample
samples.collections.Collections.Aggregates.reduce

public inline fun
CharSequence.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {
 if (isEmpty())
 throw UnsupportedOperationException("Empty char sequence can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(index, accumulator,
 this[index])
 }
 return accumulator
}

Accumulates value starting with the first character and
applying [operation] from left to right to current accumulator value and each character. Returns null if the char
sequence is empty.
@sample
samples.collections.Collections.Aggregates.reduceOrNull

@SinceKotlin("1.3")
@ExperimentalStdlibApi
public inline fun
CharSequence.reduceOrNull(operation:
(acc: Char, Char) -> Char): Char? {
 if (isEmpty())
 return null
 var accumulator = this[0]
 for (index
 in 1..lastIndex) {
 accumulator = operation(accumulator, this[index])
 }
 return accumulator
}

Accumulates value starting with last character and applying [operation] from right to left to each character and
current accumulator value.
@sample
samples.collections.Collections.Aggregates.reduceRight

public
inline fun
CharSequence.reduceRight(operation: (Char, acc: Char) -> Char): Char {
 var index = lastIndex
 if (index < 0) throw UnsupportedOperationException("Empty char sequence can't be reduced.")
 var accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(get(index--), accumulator)
 }
 return accumulator
}

Accumulates value starting with last character and applying [operation] from right to
left
to each character with its index in the original char sequence and current accumulator value.
@param
[operation] function that takes the index of a character, the character itself
and current accumulator value, and
calculates the next accumulator value.
@sample
samples.collections.Collections.Aggregates.reduceRight

public
inline fun
CharSequence.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {
 var index = lastIndex
 if (index < 0) throw UnsupportedOperationException("Empty char sequence can't be
 reduced.")
 var accumulator = get(index--)
 while (index >= 0) {
 accumulator = operation(index,
 get(index), accumulator)
 }
 return accumulator
}

Accumulates value starting with
last character and applying [operation] from right to left to each character and current accumulator value. Returns
null if the char sequence is empty.
@sample
samples.collections.Collections.Aggregates.reduceRightOrNull

@SinceKotlin("1.3")
@ExperimentalStdlibApi
public inline fun
CharSequence.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {
 var index = lastIndex
 if (index < 0) return null
 var accumulator = get(index--)
 while (index >= 0) {
 accumulator =
 operation(get(index--), accumulator)
 }
 return accumulator
}

Returns a list containing successive

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accumulation values generated by applying [operation] from left to right to each character and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list. @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value. @sample samples.collections.Collections.Aggregates.scan

```
\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <R> CharSequence.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(length + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character, its index in the original char sequence and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list. @param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value. @sample samples.collections.Collections.Aggregates.scan\n *\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun <R> CharSequence.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(length + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/*\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character and current accumulator value that starts with the first character of this char sequence. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list. @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value. @sample samples.collections.Collections.Aggregates.scanReduce\n *\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun CharSequence.scanReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(length).apply { add(accumulator) }\n for (index in 1 until length) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/*\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character, its index in the original char sequence and current accumulator value that starts with the first character of this char sequence. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list. @param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value. @sample samples.collections.Collections.Aggregates.scanReduce\n *\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun CharSequence.scanReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(length).apply { add(accumulator) }\n for (index in 1 until length) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/*\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun CharSequence.sumBy(selector: (Char) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/*\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun CharSequence.sumByDouble(selector: (Char) -> Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/*\n * Splits this char sequence into a list of strings each not exceeding the given [size]. The last string in the resulting list may have less characters than the given [size]. @param size the number of elements to take in each string, must be positive and can be greater than the number of elements in this char sequence. @sample samples.collections.Collections.Transformations.chunked\n *\n */
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*\n@SinceKotlin("1.2")\npublic fun CharSequence.chunked(size: Int): List<String> {\n return windowed(size,
size, partialWindows = true)\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding
the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return list of results of the
[transform] applied to an each char sequence.\n * \n * Note that the char sequence passed to the [transform] function
is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way,
unless you made a snapshot of it.\n * The last char sequence may have less characters than the given [size].\n * \n *
@param size the number of elements to take in each char sequence, must be positive and can be greater than the
number of elements in this char sequence.\n * \n * @sample samples.text.Strings.chunkedTransform\n
*\n@SinceKotlin("1.2")\npublic fun <R> CharSequence.chunked(size: Int, transform: (CharSequence) -> R):
List<R> {\n return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Splits this
char sequence into a sequence of strings each not exceeding the given [size].\n * \n * The last string in the resulting
sequence may have less characters than the given [size].\n * \n * @param size the number of elements to take in
each string, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.chunked\n
*\n@SinceKotlin("1.2")\npublic fun
CharSequence.chunkedSequence(size: Int): Sequence<String> {\n return chunkedSequence(size) { it.toString()
}\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding the given [size]\n * and
applies the given [transform] function to an each.\n * \n * @return sequence of results of the [transform] applied to
an each char sequence.\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is
valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a
snapshot of it.\n * The last char sequence may have less characters than the given [size].\n * \n * @param size the
number of elements to take in each char sequence, must be positive and can be greater than the number of elements
in this char sequence.\n * \n * @sample samples.text.Strings.chunkedTransformToSequence\n
*\n@SinceKotlin("1.2")\npublic fun <R> CharSequence.chunkedSequence(size: Int, transform: (CharSequence) -
> R): Sequence<R> {\n return windowedSequence(size, size, partialWindows = true, transform =
transform)\n}\n\n/**\n * Splits the original char sequence into pair of char sequences,\n * where *first* char
sequence contains characters for which [predicate] yielded `true`,\n * while *second* char sequence contains
characters for which [predicate] yielded `false`.\n * \n *\npublic inline fun CharSequence.partition(predicate: (Char) ->
Boolean): Pair<CharSequence, CharSequence> {\n val first = StringBuilder()\n val second = StringBuilder()\n
for (element in this) {\n if (predicate(element)) {\n first.append(element)\n } else {\n
second.append(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original string into pair
of strings,\n * where *first* string contains characters for which [predicate] yielded `true`,\n * while *second* string
contains characters for which [predicate] yielded `false`.\n * \n *\npublic inline fun String.partition(predicate: (Char) ->
Boolean): Pair<String, String> {\n val first = StringBuilder()\n val second = StringBuilder()\n
for (element in this) {\n if (predicate(element)) {\n first.append(element)\n } else {\n
second.append(element)\n }\n }\n return Pair(first.toString(), second.toString())\n}\n\n/**\n * Returns a list
of snapshots of the window of the given [size]\n * sliding along this char sequence with the given [step], where
each\n * snapshot is a string.\n * \n * Several last strings may have less characters than the given [size].\n * \n *
Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n *
@param size the number of elements to take in each window\n * @param step the number of elements to move the
window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep
partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n *
@sample samples.collections.Sequences.Transformations.takeWindows\n
*\n@SinceKotlin("1.2")\npublic fun
CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<String> {\n return
windowed(size, step, partialWindows) { it.toString() }\n}\n\n/**\n * Returns a list of results of applying the given
[transform] function to\n * an each char sequence representing a view over the window of the given [size]\n *
sliding along this char sequence with the given [step].\n * \n * Note that the char sequence passed to the [transform]
function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some
way, unless you made a snapshot of it.\n * Several last char sequences may have less characters than the given

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[size].\n \* \n \* Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n \* @param size the number of elements to take in each window\n \* @param step the number of elements to move the window forward by on an each step, by default 1\n \* @param partialWindows controls whether or not to keep partial windows in the end if any,\n \* by default `false` which means partial windows won't be preserved\n \* \n \* @sample samples.collections.Sequences.Transformations.averageWindows\n \* \n \* @SinceKotlin("1.2")\n public fun <R> CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): List<R> {\n checkWindowSizeStep(size, step)\n val thisSize = this.length\n val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n val result = ArrayList<R>(resultCapacity)\n var index = 0\n while (index in 0 until thisSize) {\n val end = index + size\n val coercedEnd = if (end < 0 || end > thisSize) { if (partialWindows) thisSize else break } else end\n result.add(transform(subSequence(index, coercedEnd)))\n index += step\n }\n return result\n}\n\n/\*\*\n \* Returns a sequence of snapshots of the window of the given [size]\n \* sliding along this char sequence with the given [step], where each\n \* snapshot is a string.\n \* \n \* Several last strings may have less characters than the given [size].\n \* \n \* Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n \* \n \* @param size the number of elements to take in each window\n \* @param step the number of elements to move the window forward by on an each step, by default 1\n \* @param partialWindows controls whether or not to keep partial windows in the end if any,\n \* by default `false` which means partial windows won't be preserved\n \* \n \* @sample samples.collections.Sequences.Transformations.takeWindows\n \* \n \* @SinceKotlin("1.2")\n public fun CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false): Sequence<String> {\n return windowedSequence(size, step, partialWindows) { it.toString() }\n}\n\n/\*\*\n \* Returns a sequence of results of applying the given [transform] function to\n \* an each char sequence representing a view over the window of the given [size]\n \* sliding along this char sequence with the given [step].\n \* \n \* Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n \* You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n \* \n \* Several last char sequences may have less characters than the given [size].\n \* \n \* Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n \* \n \* @param size the number of elements to take in each window\n \* @param step the number of elements to move the window forward by on an each step, by default 1\n \* @param partialWindows controls whether or not to keep partial windows in the end if any,\n \* by default `false` which means partial windows won't be preserved\n \* \n \* @sample samples.collections.Sequences.Transformations.averageWindows\n \* \n \* @SinceKotlin("1.2")\n public fun <R> CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): Sequence<R> {\n checkWindowSizeStep(size, step)\n val windows = (if (partialWindows) indices else 0 until length - size + 1) step step\n return windows.asSequence().map { index ->\n val end = index + size\n val coercedEnd = if (end < 0 || end > length) length else end\n transform(subSequence(index, coercedEnd))\n }\n}\n\n/\*\*\n \* Returns a list of pairs built from the characters of `this` and the [other] char sequences with the same index\n \* The returned list has length of the shortest char sequence.\n \* \n \* @sample samples.text.Strings.zip\n \* \n \* public infix fun CharSequence.zip(other: CharSequence): List<Pair<Char, Char>> {\n return zip(other) { c1, c2 -> c1 to c2 }\n}\n\n/\*\*\n \* Returns a list of values built from the characters of `this` and the [other] char sequences with the same index\n \* using the provided [transform] function applied to each pair of characters.\n \* The returned list has length of the shortest char sequence.\n \* \n \* @sample samples.text.Strings.zipWithTransform\n \* \n \* public inline fun <V> CharSequence.zip(other: CharSequence, transform: (a: Char, b: Char) -> V): List<V> {\n val length = minOf(this.length, other.length)\n val list = ArrayList<V>(length)\n for (i in 0 until length) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/\*\*\n \* Returns a list of pairs of each two adjacent characters in this char sequence.\n \* \n \* The returned list is empty if this char sequence contains less than two characters.\n \* \n \* @sample samples.collections.Collections.Transformations.zipWithNext\n \* \n \* @SinceKotlin("1.2")\n public fun CharSequence.zipWithNext(): List<Pair<Char, Char>> {\n return zipWithNext { a, b -> a to b }\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to an each pair of two adjacent

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characters in this char sequence.
 * The returned list is empty if this char sequence contains less than two
characters.
 * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas
*/
@SinceKotlin("1.2")
public inline fun <R> CharSequence.zipWithNext(transform: (a: Char, b: Char) -> R):
List<R> {
 val size = length - 1
 if (size < 1) return emptyList()
 val result = ArrayList<R>(size)
 for (index in 0 until size) {
 result.add(transform(this[index], this[index + 1]))
 }
 return result
}

Creates an [Iterable] instance that wraps the original char sequence returning its characters when being iterated.
public fun CharSequence.asIterable(): Iterable<Char> {
 if (this is String && isEmpty()) return emptyList()
 return Iterable { this.iterator() }
}

Creates a [Sequence] instance that wraps the original char sequence
returning its characters when being iterated.
public fun CharSequence.asSequence(): Sequence<Char> {
 if (this is String && isEmpty()) return emptySequence()
 return Sequence { this.iterator() }
}

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*/

@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("StringsKt")
package
kotlin.text

import kotlin.contracts.contract

Returns a sub sequence of this char sequence having
leading and trailing characters matching the [predicate] removed.
public inline fun
CharSequence.trim(predicate: (Char) -> Boolean): CharSequence {
 var startIndex = 0
 var endIndex = length
 - 1
 var startFound = false
 while (startIndex <= endIndex) {
 val index = if (!startFound) startIndex
 else endIndex
 val match = predicate(this[index])
 if (!startFound) {
 if (!match)
 startFound = true
 else
 startIndex += 1
 } else {
 if (!match)
 break
 else
 endIndex -= 1
 }
 }
 return subSequence(startIndex, endIndex + 1)
}

Returns a string having leading and trailing characters matching the [predicate] removed.
public inline fun
String.trim(predicate: (Char) -> Boolean): String =
 (this as CharSequence).trim(predicate).toString()

Returns a sub sequence of this char sequence having leading characters matching the [predicate] removed.
public inline fun CharSequence.trimStart(predicate: (Char) -> Boolean): CharSequence {
 for (index in
this.indices)
 if (!predicate(this[index]))
 return subSequence(index, length)
 return
""
}

Returns a string having leading characters matching the [predicate] removed.
public inline
fun String.trimStart(predicate: (Char) -> Boolean): String =
 (this as
CharSequence).trimStart(predicate).toString()

Returns a sub sequence of this char sequence having
trailing characters matching the [predicate] removed.
public inline fun CharSequence.trimEnd(predicate:
(Char) -> Boolean): CharSequence {
 for (index in this.indices.reversed())
 if (!predicate(this[index]))
 return subSequence(0, index + 1)
 return ""
}

Returns a string having trailing characters
matching the [predicate] removed.
public inline fun String.trimEnd(predicate: (Char) -> Boolean): String =
 (this as CharSequence).trimEnd(predicate).toString()

Returns a sub sequence of this char sequence
having leading and trailing characters from the [chars] array removed.
public fun CharSequence.trim(vararg
chars: Char): CharSequence = trim { it in chars }

Returns a string having leading and trailing characters
from the [chars] array removed.
public fun String.trim(vararg chars: Char): String = trim { it in chars
}

Returns a sub sequence of this char sequence having leading characters from the [chars] array
removed.
public fun CharSequence.trimStart(vararg chars: Char): CharSequence = trimStart { it in chars
}

Returns a string having leading characters from the [chars] array removed.
public fun
String.trimStart(vararg chars: Char): String = trimStart { it in chars }

Returns a sub sequence of this char
sequence having trailing characters from the [chars] array removed.
public fun CharSequence.trimEnd(vararg
chars: Char): CharSequence = trimEnd { it in chars }

Returns a string having trailing characters from the
[chars] array removed.
public fun String.trimEnd(vararg chars: Char): String = trimEnd { it in chars }

Returns a sub sequence of this char sequence having leading and trailing whitespace removed.
public fun
CharSequence.trim(): CharSequence = trim(Char::isWhitespace)

Returns a string having leading and
trailing whitespace removed.
@kotlin.internal.InlineOnly
public inline fun String.trim(): String = (this as
CharSequence).trim().toString()

Returns a sub sequence of this char sequence having leading whitespace
removed.
public fun CharSequence.trimStart(): CharSequence = trimStart(Char::isWhitespace)

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Returns a string having leading whitespace removed.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
String.trimStart(): String = (this as CharSequence).trimStart().toString()\n\n/**\n * Returns a sub sequence of this
char sequence having trailing whitespace removed.\n */\npublic fun CharSequence.trimEnd(): CharSequence =
trimEnd(Char::isWhitespace)\n\n/**\n * Returns a string having trailing whitespace removed.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun String.trimEnd(): String = (this as
CharSequence).trimEnd().toString()\n\n/**\n * Returns a char sequence with content of this char sequence padded at
the beginning\n * to the specified [length] with the specified character or space.\n */\n * @param length the desired
string length.\n * @param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.\n * @return Returns a char sequence of length at least [length] consisting of `this` char
sequence prepended with [padChar] as many times\n * as are necessary to reach that length.\n * @sample
samples.text.Strings.padStart\n */\npublic fun CharSequence.padStart(length: Int, padChar: Char = ' '):
CharSequence {\n if (length < 0)\n throw IllegalArgumentException("Desired length $length is less than
zero.")\n if (length <= this.length)\n return this.subSequence(0, this.length)\n\n val sb =
StringBuilder(length)\n for (i in 1..(length - this.length))\n sb.append(padChar)\n sb.append(this)\n return
sb\n}\n\n/**\n * Pads the string to the specified [length] at the beginning with the specified character or space.\n */\n *
@param length the desired string length.\n * @param padChar the character to pad string with, if it has length less
than the [length] specified. Space is used by default.\n * @return Returns a string of length at least [length]
consisting of `this` string prepended with [padChar] as many times\n * as are necessary to reach that length.\n *
@sample samples.text.Strings.padStart\n */\npublic fun String.padStart(length: Int, padChar: Char = ' '): String =\n
(this as CharSequence).padStart(length, padChar).toString()\n\n/**\n * Returns a char sequence with content of this
char sequence padded at the end\n * to the specified [length] with the specified character or space.\n */\n * @param
length the desired string length.\n * @param padChar the character to pad string with, if it has length less than the
[length] specified. Space is used by default.\n * @return Returns a char sequence of length at least [length]
consisting of `this` char sequence appended with [padChar] as many times\n * as are necessary to reach that
length.\n * @sample samples.text.Strings.padEnd\n */\npublic fun CharSequence.padEnd(length: Int, padChar: Char
= ' '): CharSequence {\n if (length < 0)\n throw IllegalArgumentException("Desired length $length is less
than zero.")\n if (length <= this.length)\n return this.subSequence(0, this.length)\n\n val sb =
StringBuilder(length)\n sb.append(this)\n for (i in 1..(length - this.length))\n sb.append(padChar)\n return
sb\n}\n\n/**\n * Pads the string to the specified [length] at the end with the specified character or space.\n */\n *
@param length the desired string length.\n * @param padChar the character to pad string with, if it has length less
than the [length] specified. Space is used by default.\n * @return Returns a string of length at least [length]
consisting of `this` string appended with [padChar] as many times\n * as are necessary to reach that length.\n *
@sample samples.text.Strings.padEnd\n */\npublic fun String.padEnd(length: Int, padChar: Char = ' '): String =\n
(this as CharSequence).padEnd(length, padChar).toString()\n\n/**\n * Returns `true` if this nullable char sequence is
either `null` or empty.\n */\n * @sample samples.text.Strings.stringOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence?.isNullOrEmpty(): Boolean {\n contract {\n
returns(false) implies (this@isNullOrEmpty != null)\n }\n\n return this == null || this.length == 0\n}\n\n/**\n *
Returns `true` if this char sequence is empty (contains no characters).\n */\n * @sample
samples.text.Strings.stringIsEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isEmpty():
Boolean = length == 0\n\n/**\n * Returns `true` if this char sequence is not empty.\n */\n * @sample
samples.text.Strings.stringIsNotEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.isNotEmpty(): Boolean = length > 0\n\n// implemented differently in JVM and JS\n//public fun
String.isBlank(): Boolean = length() == 0 || all { it.isWhitespace() }\n\n/**\n * Returns `true` if this char sequence
is not empty and contains some characters except of whitespace characters.\n */\n * @sample
samples.text.Strings.stringIsNotBlank\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.isNotBlank(): Boolean = !isBlank()\n\n/**\n * Returns `true` if this nullable char sequence is either
`null` or empty or consists solely of whitespace characters.\n */\n * @sample
samples.text.Strings.stringOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun

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CharSequence?.isNullOrBlank(): Boolean {
 contract {
 returns(false) implies (this@isNullOrBlank != null)
 }
 return this == null || this.isBlank()
}

/**
 * Iterator for characters of the given char sequence.
 */
public operator fun CharSequence.iterator(): CharIterator = object : CharIterator() {
 private var index = 0
 public override fun nextChar(): Char = get(index++)
 public override fun hasNext(): Boolean = index < length
}

/**
 * Returns the string if it is not `null`, or the empty string otherwise.
 */
@kotlin.internal.InlineOnly
public inline fun String?.orEmpty(): String = this ?: ""

/**
 * Returns this char sequence if it's not empty or the result of calling [defaultValue] function if the char sequence is empty.
 */
@sample samples.text.Strings.stringIfEmpty

/**
 * Returns this char sequence if it is not empty and doesn't consist solely of whitespace characters, or the result of calling [defaultValue] function otherwise.
 */
@sample samples.text.Strings.stringIfBlank

/**
 * Returns the range of valid character indices for this char sequence.
 */
public val CharSequence.indices: IntRange
 get() = 0..length - 1

/**
 * Returns the index of the last character in the char sequence or -1 if it is empty.
 */
public val CharSequence.lastIndex: Int
 get() = this.length - 1

/**
 * Returns `true` if this CharSequence has Unicode surrogate pair at the specified [index].
 */
public fun CharSequence.hasSurrogatePairAt(index: Int): Boolean {
 return index in 0..length - 2 && this[index].isHighSurrogate() && this[index + 1].isLowSurrogate()
}

/**
 * Returns a substring specified by the given [range] of indices.
 */
public fun String.substring(range: IntRange): String = substring(range.start, range.endInclusive + 1)

/**
 * Returns a subsequence of this char sequence specified by the given [range] of indices.
 */
public fun CharSequence.subSequence(range: IntRange): CharSequence = subSequence(range.start, range.endInclusive + 1)

/**
 * Returns a substring of chars from a range of this char sequence starting at the [startIndex] and ending right before the [endIndex].
 */
@param startIndex the start index (inclusive).
@param endIndex the end index (exclusive). If not specified, the length of the char sequence is used.
@kotlin.internal.InlineOnly
public inline fun String.subSequence(start: Int, end: Int): CharSequence = subSequence(start, end)

/**
 * Returns a substring of chars at indices from the specified [range] of this char sequence.
 */
public fun CharSequence.substring(range: IntRange): String = subSequence(range.start, range.endInclusive + 1).toString()

/**
 * Returns a substring before the first occurrence of [delimiter].
 */
If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
public fun String.substringBefore(delimiter: Char, missingDelimiterValue: String = this): String {
 val index = indexOf(delimiter)
 return if (index == -1) missingDelimiterValue else substring(0, index)
}

/**
 * Returns a substring before the first occurrence of [delimiter].
 */
If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
public fun String.substringBefore(delimiter: String, missingDelimiterValue: String = this): String {
 val index = indexOf(delimiter)
 return if (index == -1) missingDelimiterValue else substring(0, index)
}

/**
 * Returns a substring after the first occurrence of [delimiter].
 */
If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
public fun String.substringAfter(delimiter: Char, missingDelimiterValue: String = this): String {
 val index = indexOf(delimiter)
 return if (index == -1) missingDelimiterValue else substring(index + 1, length)
}

/**
 * Returns a substring after the first occurrence of [delimiter].
 */
If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
public fun String.substringAfter(delimiter: String, missingDelimiterValue: String = this):

```



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String {
 val index = indexOf(delimiter)
 return if (index == -1) missingDelimiterValue else substring(index +
delimiter.length, length)
}

/**
 * Returns a substring before the last occurrence of [delimiter].
 * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
 */
public fun String.substringBeforeLast(delimiter: Char, missingDelimiterValue: String = this): String {
 val index =
lastIndexOf(delimiter)
 return if (index == -1) missingDelimiterValue else substring(0, index)
}

/**
 * Returns a substring before the last occurrence of [delimiter].
 * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.
 */
public fun String.substringBeforeLast(delimiter:
String, missingDelimiterValue: String = this): String {
 val index = lastIndexOf(delimiter)
 return if (index ==
-1) missingDelimiterValue else substring(0, index)
}

/**
 * Returns a substring after the last occurrence of
[delimiter].
 * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
 */
public fun String.substringAfterLast(delimiter: Char, missingDelimiterValue: String = this): String {
 val index = lastIndexOf(delimiter)
 return if (index == -1) missingDelimiterValue else
substring(index + 1, length)
}

/**
 * Returns a substring after the last occurrence of [delimiter].
 * If the
string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
 */
public fun String.substringAfterLast(delimiter: String, missingDelimiterValue: String = this): String {
 val
index = lastIndexOf(delimiter)
 return if (index == -1) missingDelimiterValue else substring(index +
delimiter.length, length)
}

/**
 * Returns a char sequence with content of this char sequence where its part at
the given range
 * is replaced with the [replacement] char sequence.
 * @param startIndex the index of the first
character to be replaced.
 * @param endIndex the index of the first character after the replacement to keep in the
string.
 */
@UseExperimental(ExperimentalStdlibApi::class)
public fun CharSequence.replaceRange(startIndex:
Int, endIndex: Int, replacement: CharSequence): CharSequence {
 if (endIndex < startIndex)
 throw
IndexOutOfBoundsException("End index ($endIndex) is less than start index ($startIndex).")
 val sb =
StringBuilder()
 sb.appendRange(this, 0, startIndex)
 sb.append(replacement)
 sb.appendRange(this,
endIndex, length)
 return sb
}

/**
 * Replaces the part of the string at the given range with the
[replacement] char sequence.
 * @param startIndex the index of the first character to be replaced.
 * @param
endIndex the index of the first character after the replacement to keep in the string.
 */
@kotlin.internal.InlineOnly
public inline fun String.replaceRange(startIndex: Int, endIndex: Int, replacement:
CharSequence): String =
 (this as CharSequence).replaceRange(startIndex, endIndex,
replacement).toString()

/**
 * Returns a char sequence with content of this char sequence where its part at the
given [range]
 * is replaced with the [replacement] char sequence.
 * @param range The end index of the [range] is included
in the part to be replaced.
 */
public fun CharSequence.replaceRange(range: IntRange, replacement:
CharSequence): CharSequence =
 replaceRange(range.start, range.endInclusive + 1, replacement)

/**
 * Replace the part of string at the given [range] with the [replacement] string.
 * @param range The end index of the [range] is
included in the part to be replaced.
 */
@kotlin.internal.InlineOnly
public inline fun String.replaceRange(range:
IntRange, replacement: CharSequence): String =
 (this as CharSequence).replaceRange(range,
replacement).toString()

/**
 * Returns a char sequence with content of this char sequence where its part at the
given range is removed.
 * @param startIndex the index of the first character to be removed.
 * @param
endIndex the index of the first character after the removed part to keep in the string.
 * @param [endIndex] is not
included in the removed part.
 */
@UseExperimental(ExperimentalStdlibApi::class)
public fun
CharSequence.removeRange(startIndex: Int, endIndex: Int): CharSequence {
 if (endIndex < startIndex)
 throw
IndexOutOfBoundsException("End index ($endIndex) is less than start index ($startIndex).")
 if
(endIndex == startIndex)
 return this.subSequence(0, length)
 val sb = StringBuilder(length - (endIndex -
startIndex))
 sb.appendRange(this, 0, startIndex)
 sb.appendRange(this, endIndex, length)
 return
sb
}

/**
 * Removes the part of a string at a given range.
 * @param startIndex the index of the first character
to be removed.
 * @param endIndex the index of the first character after the removed part to keep in the string.
 * @param [endIndex] is not included in the removed part.
 */
@kotlin.internal.InlineOnly
public inline fun
String.removeRange(startIndex: Int, endIndex: Int): String =
 (this as CharSequence).removeRange(startIndex,
endIndex).toString()

/**
 * Returns a char sequence with content of this char sequence where its part at the

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given [range] is removed.\n \* The end index of the [range] is included in the removed part.\n \*/\npublic fun CharSequence.removeRange(range: IntRange): CharSequence = removeRange(range.start, range.endInclusive + 1)\n \*/\n \* Removes the part of a string at the given [range].\n \* The end index of the [range] is included in the removed part.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun String.removeRange(range: IntRange): String =\n (this as CharSequence).removeRange(range).toString()\n \*/\n \* If this char sequence starts with the given [prefix], returns a new char sequence\n \* with the prefix removed. Otherwise, returns a new char sequence with the same characters.\n \*/\npublic fun CharSequence.removePrefix(prefix: CharSequence): CharSequence {\n if (startsWith(prefix)) {\n return subSequence(prefix.length, length)\n }\n return subSequence(0, length)\n }\n \*/\n \* If this string starts with the given [prefix], returns a copy of this string\n \* with the prefix removed. Otherwise, returns this string.\n \*/\npublic fun String.removePrefix(prefix: CharSequence): String {\n if (startsWith(prefix)) {\n return substring(prefix.length)\n }\n return this\n }\n \*/\n \* If this char sequence ends with the given [suffix], returns a new char sequence\n \* with the suffix removed. Otherwise, returns a new char sequence with the same characters.\n \*/\npublic fun CharSequence.removeSuffix(suffix: CharSequence): CharSequence {\n if (endsWith(suffix)) {\n return subSequence(0, length - suffix.length)\n }\n return subSequence(0, length)\n }\n \*/\n \* If this string ends with the given [suffix], returns a copy of this string\n \* with the suffix removed. Otherwise, returns this string.\n \*/\npublic fun String.removeSuffix(suffix: CharSequence): String {\n if (endsWith(suffix)) {\n return substring(0, length - suffix.length)\n }\n return this\n }\n \*/\n \* When this char sequence starts with the given [prefix] and ends with the given [suffix],\n \* returns a new char sequence having both the given [prefix] and [suffix] removed.\n \* Otherwise returns a new char sequence with the same characters.\n \*/\npublic fun CharSequence.removeSurrounding(prefix: CharSequence, suffix: CharSequence): CharSequence {\n if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n return subSequence(prefix.length, length - suffix.length)\n }\n return subSequence(0, length)\n }\n \*/\n \* Removes from a string both the given [prefix] and [suffix] if and only if\n \* it starts with the [prefix] and ends with the [suffix].\n \* Otherwise returns this string unchanged.\n \*/\npublic fun String.removeSurrounding(prefix: CharSequence, suffix: CharSequence): String {\n if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n return substring(prefix.length, length - suffix.length)\n }\n return this\n }\n \*/\n \* When this char sequence starts with and ends with the given [delimiter],\n \* returns a new char sequence having this [delimiter] removed both from the start and end.\n \* Otherwise returns a new char sequence with the same characters.\n \*/\npublic fun CharSequence.removeSurrounding(delimiter: CharSequence): CharSequence = removeSurrounding(delimiter, delimiter)\n \*/\n \* Removes the given [delimiter] string from both the start and the end of this string\n \* if and only if it starts with and ends with the [delimiter].\n \* Otherwise returns this string unchanged.\n \*/\npublic fun String.removeSurrounding(delimiter: CharSequence): String = removeSurrounding(delimiter, delimiter)\n \*/\n \* Replace part of string before the first occurrence of given delimiter with the [replacement] string.\n \* If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n \*/\npublic fun String.replaceBefore(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n }\n \*/\n \* Replace part of string before the first occurrence of given delimiter with the [replacement] string.\n \* If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n \*/\npublic fun String.replaceBefore(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n }\n \*/\n \* Replace part of string after the first occurrence of given delimiter with the [replacement] string.\n \* If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n \*/\npublic fun String.replaceAfter(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)\n }\n \*/\n \* Replace part of string after the first occurrence of given delimiter with the [replacement] string.\n \* If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n \*/\npublic fun String.replaceAfter(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)\n }\n \*/\n

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replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if
(index == -1) missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)\n}\n\n/**\n *
Replace part of string after the last occurrence of given delimiter with the [replacement] string.\n * If the string does
not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceAfterLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n
val index = lastIndexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index +
delimiter.length, length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence of given
delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfterLast(delimiter:
Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n
return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)\n}\n\n/**\n *
Replace part of string before the last occurrence of given delimiter with the [replacement] string.\n * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic
fun String.replaceBeforeLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n
val index = lastIndexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index,
replacement)\n}\n\n/**\n * Replace part of string before the last occurrence of given delimiter with the
[replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults
to the original string.\n */\npublic fun String.replaceBeforeLast(delimiter: String, replacement: String,
missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n return if (index == -1)
missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n// public fun String.replace(oldChar: Char,
newChar: Char, ignoreCase: Boolean): String // JVM- and JS-specific\n// public fun String.replace(oldValue: String,
newValue: String, ignoreCase: Boolean): String // JVM- and JS-specific\n\n/**\n * Returns a new string obtained by
replacing each substring of this char sequence that matches the given regular expression\n * with the given
[replacement].\n * The [replacement] can consist of any combination of literal text and $-substitutions. To treat
the replacement string\n * literally escape it with the [kotlin.text.Regex.Companion.escapeReplacement] method.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, replacement: String): String
= regex.replace(this, replacement)\n\n/**\n * Returns a new string obtained by replacing each substring of this char
sequence that matches the given regular expression\n * with the result of the given function [transform] that takes
[MatchResult] and returns a string to be used as a\n * replacement for that match.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, noinline transform:
(MatchResult) -> CharSequence): String =\n regex.replace(this, transform)\n\n/**\n * Replaces the first
occurrence of the given regular expression [regex] in this char sequence with specified [replacement] expression.\n
*/\n * @param replacement A replacement expression that can include substitutions. See [Regex.replaceFirst] for
details.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replaceFirst(regex: Regex, replacement:
String): String = regex.replaceFirst(this, replacement)\n\n/**\n * Returns `true` if this char sequence matches the
given regular expression.\n */\n\n@kotlin.internal.InlineOnly\npublic inline infix fun CharSequence.matches(regex:
Regex): Boolean = regex.matches(this)\n\n/**\n * Implementation of [regionMatches] for CharSequences.\n *
Invoked when it's already known that arguments are not Strings, so that no additional type checks are performed.\n
*/\n\ninternal fun CharSequence.regionMatchesImpl(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int,
ignoreCase: Boolean): Boolean {\n if ((otherOffset < 0) || (thisOffset < 0) || (thisOffset > this.length - length) ||
(otherOffset > other.length - length)) {\n return false\n }\n\n for (index in 0 until length) {\n if
(!this[thisOffset + index].equals(other[otherOffset + index], ignoreCase))\n return false\n }\n return
true\n}\n\n/**\n * Returns `true` if this char sequence starts with the specified character.\n */\n\npublic fun
CharSequence.startsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n this.length > 0 &&
this[0].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence ends with the specified character.\n
*/\n\npublic fun CharSequence.endsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n this.length > 0 &&
this[lastIndex].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence starts with the specified
prefix.\n */\n\npublic fun CharSequence.startsWith(prefix: CharSequence, ignoreCase: Boolean = false): Boolean {\n

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if (!ignoreCase && this is String && prefix is String)\n return this.startsWith(prefix)\n else\n return
regionMatchesImpl(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this char
sequence starting at the specified offset [startIndex] starts with the specified prefix.\n */\npublic fun
CharSequence.startsWith(prefix: CharSequence, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n if
(!ignoreCase && this is String && prefix is String)\n return this.startsWith(prefix, startIndex)\n else\n
return regionMatchesImpl(startIndex, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this char
sequence ends with the specified suffix.\n */\npublic fun CharSequence.endsWith(suffix: CharSequence,
ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase && this is String && suffix is String)\n return
this.endsWith(suffix)\n else\n return regionMatchesImpl(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n// common prefix and suffix\n/**\n * Returns the longest string `prefix` such that this char
sequence and [other] char sequence both start with this prefix,\n * taking care not to split surrogate pairs.\n * If this
and [other] have no common prefix, returns the empty string.\n */\n * @param ignoreCase `true` to ignore character
case when matching a character. By default `false`.\n */\n * @sample samples.text.Strings.commonPrefixWith\n
*/\npublic fun CharSequence.commonPrefixWith(other: CharSequence, ignoreCase: Boolean = false): String {\n
 val shortestLength = minOf(this.length, other.length)\n var i = 0\n while (i < shortestLength &&
this[i].equals(other[i], ignoreCase = ignoreCase)) {\n i++\n }\n if (this.hasSurrogatePairAt(i - 1) ||
other.hasSurrogatePairAt(i - 1)) {\n i--\n }\n return subSequence(0, i).toString()\n}\n\n/**\n * Returns the
longest string `suffix` such that this char sequence and [other] char sequence both end with this suffix,\n * taking
care not to split surrogate pairs.\n * If this and [other] have no common suffix, returns the empty string.\n */\n
* @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n */\n * @sample
samples.text.Strings.commonSuffixWith\n */\npublic fun CharSequence.commonSuffixWith(other: CharSequence,
ignoreCase: Boolean = false): String {\n val thisLength = this.length\n val otherLength = other.length\n val
shortestLength = minOf(thisLength, otherLength)\n var i = 0\n while (i < shortestLength && this[thisLength -
i - 1].equals(other[otherLength - i - 1], ignoreCase = ignoreCase)) {\n i++\n }\n if
(this.hasSurrogatePairAt(thisLength - i - 1) || other.hasSurrogatePairAt(otherLength - i - 1)) {\n i--\n }\n
return subSequence(thisLength - i, thisLength).toString()\n}\n\n// indexOfAny()\n/**\n * Finds the index of the
first occurrence of any of the specified [chars] in this char sequence,\n * starting from the specified [startIndex] and
optionally ignoring the case.\n */\n * @param ignoreCase `true` to ignore character case when matching a character.
By default `false`.\n */\n * @return An index of the first occurrence of matched character from [chars] or -1 if none of
[chars] are found.\n */\n * @public fun CharSequence.indexOfAny(chars: CharArray, startIndex: Int = 0, ignoreCase:
Boolean = false): Int {\n if (!ignoreCase && chars.size == 1 && this is String) {\n val char = chars.single()\n
return nativeIndexOf(char, startIndex)\n }\n for (index in startIndex.coerceAtLeast(0)..lastIndex) {\n val
charAtIndex = get(index)\n if (chars.any { it.equals(charAtIndex, ignoreCase) })\n return index\n }\n
return -1\n}\n\n/**\n * Finds the index of the last occurrence of any of the specified [chars] in this char sequence,\n
* starting from the specified [startIndex] and optionally ignoring the case.\n */\n * @param startIndex The index of
character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param
ignoreCase `true` to ignore character case when matching a character. By default `false`.\n */\n * @return An index of
the last occurrence of matched character from [chars] or -1 if none of [chars] are found.\n */\n * @public fun
CharSequence.lastIndexOfAny(chars: CharArray, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n
 if (!ignoreCase && chars.size == 1 && this is String) {\n val char = chars.single()\n return
nativeLastIndexOf(char, startIndex)\n }\n for (index in startIndex.coerceAtMost(lastIndex) downTo 0) {\n val
charAtIndex = get(index)\n if (chars.any { it.equals(charAtIndex, ignoreCase) })\n return index\n }\n
return -1\n}\n\nprivate fun CharSequence.indexOf(other: CharSequence, startIndex: Int, endIndex: Int,
ignoreCase: Boolean, last: Boolean = false): Int {\n val indices = if (!last)\n startIndex.coerceAtLeast(0)..endIndex.coerceAtMost(length)\n else\n startIndex.coerceAtMost(lastIndex)
downTo endIndex.coerceAtLeast(0)\n if (this is String && other is String) { // smart cast\n for (index in
indices) {\n if (other.regionMatches(0, this, index, other.length, ignoreCase))\n return index\n
 }\n } else {\n for (index in indices) {\n if (other.regionMatchesImpl(0, this, index, other.length,

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ignoreCase))\n return index\n }\n }\n return -1\n}\n\nprivate fun CharSequence.findAnyOf(strings:
Collection<String>, startIndex: Int, ignoreCase: Boolean, last: Boolean): Pair<Int, String>? {\n if (!ignoreCase
&& strings.size == 1) {\n val string = strings.single()\n val index = if (!last) indexOf(string, startIndex) else
lastIndexOf(string, startIndex)\n return if (index < 0) null else index to string\n }\n\n val indices = if (!last)
startIndex.coerceAtLeast(0)..length else startIndex.coerceAtMost(lastIndex) downTo 0\n if (this is String) {\n
for (index in indices) {\n val matchingString = strings.firstOrNull { it.regionMatches(0, this, index, it.length,
ignoreCase) }\n if (matchingString != null)\n return index to matchingString\n }\n } else {\n
for (index in indices) {\n val matchingString = strings.firstOrNull { it.regionMatchesImpl(0, this, index,
it.length, ignoreCase) }\n if (matchingString != null)\n return index to matchingString\n }\n }\n
return null\n}\n\n/**\n * Finds the first occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n * @param ignoreCase `true` to ignore
character case when matching a string. By default `false`.\n * @return A pair of an index of the first occurrence of
matched string from [strings] and the string matched\n * or `null` if none of [strings] are found.\n * To avoid
ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the
beginning to the end of this string, and finds at each position the first element in [strings]\n * that matches this
string at that position.\n */\npublic fun CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int = 0,
ignoreCase: Boolean = false): Pair<Int, String>? =\n findAnyOf(strings, startIndex, ignoreCase, last =
false)\n\n/**\n * Finds the last occurrence of any of the specified [strings] in this char sequence,\n * starting from
the specified [startIndex] and optionally ignoring the case.\n * @param startIndex The index of character to start
searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to
ignore character case when matching a string. By default `false`.\n * @return A pair of an index of the last
occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found.\n * To
avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the
end toward the beginning of this string, and finds at each position the first element in [strings]\n * that matches
this string at that position.\n */\npublic fun CharSequence.findLastAnyOf(strings: Collection<String>, startIndex: Int =
lastIndex, ignoreCase: Boolean = false): Pair<Int, String>? =\n findAnyOf(strings, startIndex, ignoreCase, last =
true)\n\n/**\n * Finds the index of the first occurrence of any of the specified [strings] in this char sequence,\n *
starting from the specified [startIndex] and optionally ignoring the case.\n * @param ignoreCase `true` to ignore
character case when matching a string. By default `false`.\n * @return An index of the first occurrence of matched
string from [strings] or -1 if none of [strings] are found.\n * To avoid ambiguous results when strings in [strings]
have characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each
position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun
CharSequence.indexOfAny(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Int =\n
findAnyOf(strings, startIndex, ignoreCase, last = false)?.first ?: -1\n\n/**\n * Finds the index of the last occurrence
of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally
ignoring the case.\n * @param startIndex The index of character to start searching at. The search proceeds
backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching
a string. By default `false`.\n * @return An index of the last occurrence of matched string from [strings] or -1
if none of [strings] are found.\n * To avoid ambiguous results when strings in [strings] have characters in common,
this method proceeds from\n * the end toward the beginning of this string, and finds at each position the first
element in [strings]\n * that matches this string at that position.\n */\npublic fun
CharSequence.lastIndexOfAny(strings: Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean =
false): Int =\n findAnyOf(strings, startIndex, ignoreCase, last = true)?.first ?: -1\n\n// indexOf\n\n/**\n * Returns
the index within this string of the first occurrence of the specified character, starting from the specified
[startIndex].\n * @param ignoreCase `true` to ignore character case when matching a character. By default
`false`.\n * @return An index of the first occurrence of [char] or -1 if none is found.\n */\npublic fun
CharSequence.indexOf(char: Char, startIndex: Int = 0, ignoreCase: Boolean = false): Int {\n return if (ignoreCase
|| this !is String)\n indexOfAny(charArrayOf(char), startIndex, ignoreCase)\n else\n nativeIndexOf(char,

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startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the first occurrence of the specified
[string],\n * starting from the specified [startIndex].\n *\n * @param ignoreCase `true` to ignore character case when
matching a string. By default `false`.\n *\n * @return An index of the first occurrence of [string] or -1 if none is
found.\n *\n * @sample samples.text.Strings.indexOf\n */\npublic fun CharSequence.indexOf(string: String, startIndex:
Int = 0, ignoreCase: Boolean = false): Int {\n return if (ignoreCase || this !is String)\n indexOf(string,
startIndex, length, ignoreCase)\n else\n nativeIndexOf(string, startIndex)\n}\n\n/**\n * Returns the index
within this char sequence of the last occurrence of the specified character,\n * starting from the specified
[startIndex].\n *\n * @param startIndex The index of character to start searching at. The search proceeds backward
toward the beginning of the string.\n *\n * @param ignoreCase `true` to ignore character case when matching a
character. By default `false`.\n *\n * @return An index of the last occurrence of [char] or -1 if none is found.\n
*\n */\npublic fun CharSequence.lastIndexOf(char: Char, startIndex: Int = lastIndexOf, ignoreCase: Boolean = false): Int
{\n return if (ignoreCase || this !is String)\n lastIndexOfAny(charArrayOf(char), startIndex, ignoreCase)\n
 else\n nativeLastIndexOf(char, startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the last
occurrence of the specified [string],\n * starting from the specified [startIndex].\n *\n * @param startIndex The
index of character to start searching at. The search proceeds backward toward the beginning of the string.\n *\n
@param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n *\n * @return An index
of the last occurrence of [string] or -1 if none is found.\n *\n */\npublic fun CharSequence.lastIndexOf(string: String,
startIndex: Int = lastIndexOf, ignoreCase: Boolean = false): Int {\n return if (ignoreCase || this !is String)\n
indexOf(string, startIndex, 0, ignoreCase, last = true)\n else\n nativeLastIndexOf(string,
startIndex)\n}\n\n/**\n * Returns `true` if this char sequence contains the specified [other] sequence of characters as
a substring.\n *\n * @param ignoreCase `true` to ignore character case when comparing strings. By default `false`.\n
*\n */\n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun
CharSequence.contains(other: CharSequence, ignoreCase: Boolean = false): Boolean =\n if (other is String)\n indexOf(other, ignoreCase = ignoreCase) >= 0\n else\n indexOf(other, 0, length, ignoreCase) >=
0\n}\n\n/**\n * Returns `true` if this char sequence contains the specified character [char].\n *\n * @param
ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n
*\n */\n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun CharSequence.contains(char:
Char, ignoreCase: Boolean = false): Boolean =\n indexOf(char, ignoreCase = ignoreCase) >= 0\n}\n\n/**\n * Returns
`true` if this char sequence contains at least one match of the specified regular expression [regex].\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharSequence.contains(regex: Regex): Boolean =
regex.containsMatchIn(this)\n}\n\n// rangesDelimitedBy\n\nprivate class DelimitedRangesSequence(\n private
val input: CharSequence,\n private val startIndex: Int,\n private val limit: Int,\n private val getNextMatch:
CharSequence.(currentIndex: Int) -> Pair<Int, Int>?) : Sequence<IntRange> {\n override fun iterator():
Iterator<IntRange> = object : Iterator<IntRange> {\n var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for
continue\n var currentStartIndex: Int = startIndex.coerceIn(0, input.length)\n var nextSearchIndex: Int =
currentStartIndex\n var nextItem: IntRange? = null\n var counter: Int = 0\n private fun calcNext() {\n
 if (nextSearchIndex < 0) {\n nextState = 0\n nextItem = null\n } else {\n if
(limit > 0 && ++counter >= limit || nextSearchIndex > input.length) {\n nextItem =
currentStartIndex..input.lastIndex\n nextSearchIndex = -1\n } else {\n val match =
input.getNextMatch(nextSearchIndex)\n if (match == null) {\n nextItem =
currentStartIndex..input.lastIndex\n nextSearchIndex = -1\n } else {\n val
(index, length) = match\n nextItem = currentStartIndex until index\n currentStartIndex
= index + length\n nextSearchIndex = currentStartIndex + if (length == 0) 1 else 0\n }\n }\n nextState = 1\n }\n }\n override fun next(): IntRange {\n if (nextState ==
-1)\n calcNext()\n if (nextState == 0)\n throw NoSuchElementException()\n val
result = nextItem as IntRange\n // Clean next to avoid keeping reference on yielded instance\n nextItem = null\n nextState = -1\n return result\n }\n override fun hasNext(): Boolean {\n if (nextState == -1)\n calcNext()\n return nextState == 1\n }\n }\n}\n\n/**\n * Returns a

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sequence of index ranges of substrings in this char sequence around occurrences of the specified [delimiters].

`@param delimiters` One or more characters to be used as delimiters.

`@param startIndex` The index to start searching delimiters from.

No range having its start value less than [startIndex] is returned.

[startIndex] is coerced to be non-negative and not greater than length of this string.

`@param ignoreCase`true`` to ignore character case when matching a delimiter. By default ``false``.

`@param limit` The maximum number of substrings to return. Zero by default means no limit is set.

```

private fun CharSequence.rangesDelimitedBy(delimiters: CharArray, startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {
 require(limit >= 0, { "Limit must be non-negative, but was $limit." })
 return DelimitedRangesSequence(this, startIndex, limit, { currentIndex -> indexOfAny(delimiters, currentIndex, ignoreCase = ignoreCase).let { if (it < 0) null else it + 1 } })
}

```

Returns a sequence of index ranges of substrings in this char sequence around occurrences of the specified [delimiters].

`@param delimiters` One or more strings to be used as delimiters.

`@param startIndex` The index to start searching delimiters from.

No range having its start value less than [startIndex] is returned.

[startIndex] is coerced to be non-negative and not greater than length of this string.

`@param ignoreCase`true`` to ignore character case when matching a delimiter. By default ``false``.

`@param limit` The maximum number of substrings to return. Zero by default means no limit is set.

To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from the beginning to the end of this string, and finds at each position the first element in [delimiters] that matches this string at that position.

```

private fun CharSequence.rangesDelimitedBy(delimiters: Array<out String>, startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {
 require(limit >= 0, { "Limit must be non-negative, but was $limit." })
 val delimitersList = delimiters.asList()
 return DelimitedRangesSequence(this, startIndex, limit, { currentIndex -> findAnyOf(delimitersList, currentIndex, ignoreCase = ignoreCase, last = false)?.let { it.first to it.second.length } })
}

```

Splits this char sequence to a sequence of strings around occurrences of the specified [delimiters].

`@param delimiters` One or more strings to be used as delimiters.

`@param ignoreCase`true`` to ignore character case when matching a delimiter. By default ``false``.

`@param limit` The maximum number of substrings to return. Zero by default means no limit is set.

To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from the beginning to the end of this string, and finds at each position the first element in [delimiters] that matches this string at that position.

```

public fun CharSequence.splitToSequence(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =
 rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }

```

Splits this char sequence to a list of strings around occurrences of the specified [delimiters].

`@param delimiters` One or more strings to be used as delimiters.

`@param ignoreCase`true`` to ignore character case when matching a delimiter. By default ``false``.

`@param limit` The maximum number of substrings to return. Zero by default means no limit is set.

To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from the beginning to the end of this string, and matches at each position the first element in [delimiters] that is equal to a delimiter in this instance at that position.

```

public fun CharSequence.split(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): List<String> {
 if (delimiters.size == 1) {
 val delimiter = delimiters[0]
 if (!delimiter.isEmpty()) {
 return split(delimiter, ignoreCase, limit)
 }
 }
 return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }
}

```

Splits this char sequence to a sequence of strings around occurrences of the specified [delimiters].

`@param delimiters` One or more characters to be used as delimiters.

`@param ignoreCase`true`` to ignore character case when matching a delimiter. By default ``false``.

`@param limit` The maximum number of substrings to return.

```

public fun CharSequence.splitToSequence(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =
 rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }

```

Splits this char sequence to a list of strings around occurrences of the specified [delimiters].

`@param delimiters` One or more characters to be used as delimiters.

`@param ignoreCase`true`` to ignore character case when matching a delimiter. By default ``false``.

`@param limit` The maximum number of substrings to return.

```

to return.
public fun CharSequence.split(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0):
List<String> {
 if (delimiters.size == 1) {
 return split(delimiters[0].toString(), ignoreCase, limit)
 }
 return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }
}
/** Splits this char sequence to a list of strings around occurrences of the specified [delimiter]. This
is specialized version of split which receives single non-empty delimiter and offers better performance
@param delimiter String used as delimiter
@param ignoreCase `true` to ignore character case when matching a
delimiter. By default `false`.
@param limit The maximum number of substrings to return.
private fun
CharSequence.split(delimiter: String, ignoreCase: Boolean, limit: Int): List<String> {
 require(limit >= 0, {
 "Limit must be non-negative, but was $limit."
 })
 var currentOffset = 0
 var nextIndex =
indexOf(delimiter, currentOffset, ignoreCase)
 if (nextIndex == -1 || limit == 1) {
 return
listOf(this.toString())
 }
 val isLimited = limit > 0
 val result = ArrayList<String>(if (isLimited)
limit.coerceAtMost(10) else 10)
 do {
 result.add(substring(currentOffset, nextIndex))
 currentOffset
= nextIndex + delimiter.length
 // Do not search for next occurrence if we're reaching limit
 if (isLimited
&& result.size == limit - 1) break
 nextIndex = indexOf(delimiter, currentOffset, ignoreCase)
 } while
(nextIndex != -1)
 result.add(substring(currentOffset, length))
 return result
}
/** Splits this char
sequence around matches of the given regular expression.
@param limit Non-negative value specifying the
maximum number of substrings to return.
Zero by default means no limit is set.
@kotlin.internal.InlineOnly
public inline fun CharSequence.split(regex: Regex, limit: Int = 0): List<String> =
regex.split(this, limit)
/** Splits this char sequence to a sequence of lines delimited by any of the following
character sequences: CRLF, LF or CR.
The lines returned do not include terminating line separators.
public fun CharSequence.lineSequence(): Sequence<String> = splitToSequence("\\r\\n", "\\n",
"\\r")
/** Splits this char sequence to a list of lines delimited by any of the following character sequences:
CRLF, LF or CR.
The lines returned do not include terminating line separators.
public fun
CharSequence.lines(): List<String> = lineSequence().toList()
/** Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.
Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.
package kotlin.text
import kotlin.js.RegExp
/**
Converts the characters in the specified array to a string.
@SinceKotlin("1.2")
public actual fun
String(chars: CharArray): String {
 var result = ""
 for (char in chars) {
 result += char
 }
 return
result
}
/** Converts the characters from a portion of the specified array to a string.
@throws
IndexOutOfBoundsException if either [offset] or [length] are less than zero
or `offset + length` is out of [chars]
array bounds.
@SinceKotlin("1.2")
public actual fun String(chars: CharArray, offset: Int, length: Int):
String {
 if (offset < 0 || length < 0 || chars.size - offset < length)
 throw
IndexOutOfBoundsException("size: ${chars.size}; offset: $offset; length: $length")
 var result = ""
 for
(index in offset until offset + length) {
 result += chars[index]
 }
 return result
}
Concatenates characters in this [CharArray] into a String.
@SinceKotlin("1.3")
@ExperimentalStdlibApi
public actual fun CharArray.concatToString(): String {
 var result = ""
 for (char in this) {
 result += char
 }
 return result
}
Concatenates
characters in this [CharArray] or its subrange into a String.
@param startIndex the beginning (inclusive) of
the subrange of characters, 0 by default.
@param endIndex the end (exclusive) of the subrange of characters,
size of this array by default.
@throws IndexOutOfBoundsException if [startIndex] is less than zero or
[endIndex] is greater than the size of this array.
@throws IllegalArgumentException if [startIndex] is greater
than [endIndex].
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
@ExperimentalStdlibApi
public actual fun CharArray.concatToString(startIndex: Int = 0, endIndex: Int = this.size): String
{
 AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)
 var result = ""
 for (index in
startIndex until endIndex) {
 result += this[index]
 }
 return result
}
Returns a [CharArray]
containing characters of this string.
@SinceKotlin("1.3")
@ExperimentalStdlibApi
public actual fun
String.toCharArray(): CharArray {
 return CharArray(length) { get(it) }
}
Returns a [CharArray]

```



containing characters of this string or its substring.\n \* \n \* @param startIndex the beginning (inclusive) of the substring, 0 by default.\n \* @param endIndex the end (exclusive) of the substring, length of this string by default.\n \* \n \* @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the length of this string.\n \* @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n

```

*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n@ExperimentalStdlibApi\npublic actual fun String.toCharArray(startIndex: Int = 0, endIndex: Int = this.length): CharArray {
\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n return CharArray(endIndex - startIndex) {
 get(startIndex + it) }\n}\n\n/**\n * Decodes a string from the bytes in UTF-8 encoding in this array.\n * \n * Malformed byte sequences are replaced by the replacement char `\\uFFFD`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun ByteArray.decodeToString(): String {
\n return decodeUtf8(this, 0, size, false)\n}\n\n/**\n * Decodes a string from the bytes in UTF-8 encoding in this array or its subrange.\n * \n * @param startIndex the beginning (inclusive) of the subrange to decode, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to decode, size of this array by default.\n * @param throwOnInvalidSequence specifies whether to throw an exception on malformed byte sequence or replace it by the replacement char `\\uFFFD`.\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n * @throws CharacterCodingException if the byte array contains malformed UTF-8 byte sequence and [throwOnInvalidSequence] is true.\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n@ExperimentalStdlibApi\npublic actual fun ByteArray.decodeToString(\n startIndex: Int = 0,\n endIndex: Int = this.size,\n throwOnInvalidSequence: Boolean = false\n): String {
\n AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)\n return decodeUtf8(this, startIndex, endIndex, throwOnInvalidSequence)\n}\n\n/**\n * Encodes this string to an array of bytes in UTF-8 encoding.\n * \n * Any malformed char sequence is replaced by the replacement byte sequence.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun String.encodeToByteArray(): ByteArray {
\n return encodeUtf8(this, 0, length, false)\n}\n\n/**\n * Encodes this string or its substring to an array of bytes in UTF-8 encoding.\n * \n * @param startIndex the beginning (inclusive) of the substring to encode, 0 by default.\n * @param endIndex the end (exclusive) of the substring to encode, length of this string by default.\n * @param throwOnInvalidSequence specifies whether to throw an exception on malformed char sequence or replace.\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the length of this string.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n * @throws CharacterCodingException if this string contains malformed char sequence and [throwOnInvalidSequence] is true.\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n@ExperimentalStdlibApi\npublic actual fun String.encodeToByteArray(\n startIndex: Int = 0,\n endIndex: Int = this.length,\n throwOnInvalidSequence: Boolean = false\n): ByteArray {
\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n return encodeUtf8(this, startIndex, endIndex, throwOnInvalidSequence)\n}\n\n/**\n * Returns a copy of this string converted to upper case using the rules of the default locale.\n * \n * @sample samples.text.Strings.toUpperCase\n * \n * @kotlin.internal.InlineOnly\npublic actual inline fun String.toUpperCase(): String = asDynamic().toUpperCase()\n\n/**\n * Returns a copy of this string converted to lower case using the rules of the default locale.\n * \n * @sample samples.text.Strings.toLowerCase\n * \n * @kotlin.internal.InlineOnly\npublic actual inline fun String.toLowerCase(): String = asDynamic().toLowerCase()\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeIndexOf(str: String, fromIndex: Int): Int = asDynamic().indexOf(str, fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(str: String, fromIndex: Int): Int = asDynamic().lastIndexOf(str, fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal inline fun String.nativeStartsWith(s: String, position: Int): Boolean = asDynamic().startsWith(s, position)\n\n@kotlin.internal.InlineOnly\ninternal inline fun String.nativeEndsWith(s: String): Boolean = asDynamic().endsWith(s)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun String.substring(startIndex: Int): String =

```

```

asDynamic().substring(startIndex)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun
String.substring(startIndex: Int, endIndex: Int): String = asDynamic().substring(startIndex,
endIndex)\n\n@kotlin.internal.InlineOnly\npublic inline fun String.concat(str: String): String =
asDynamic().concat(str)\n\n@kotlin.internal.InlineOnly\npublic inline fun String.match(regex: String):
Array<String>? = asDynamic().match(regex)\n\n//native public fun String.trim(): String\n//TODO: String.replace to
implement effective trimLeading and trimTrailing\n\n@kotlin.internal.InlineOnly\ninternal inline fun
String.nativeReplace(pattern: RegExp, replacement: String): String = asDynamic().replace(pattern,
replacement)\n\n@SinceKotlin("1.2")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS
")\npublic actual fun String.compareTo(other: String, ignoreCase: Boolean = false): Int {\n if (ignoreCase) {\n
val n1 = this.length\n val n2 = other.length\n val min = minOf(n1, n2)\n if (min == 0) return n1 - n2\n
 var start = 0\n while (true) {\n val end = minOf(start + 16, min)\n var s1 = this.substring(start,
end)\n var s2 = other.substring(start, end)\n if (s1 != s2) {\n s1 = s1.toUpperCase()\n
s2 = s2.toUpperCase()\n if (s1 != s2) {\n s1 = s1.toLowerCase()\n s2 =
s2.toLowerCase()\n if (s1 != s2) {\n return s1.compareTo(s2)\n }\n
}\n }\n if (end == min) break\n start = end\n }\n return n1 - n2\n } else {\n return
compareTo(other)\n }\n}\n\nprivate val STRING_CASE_INSENSITIVE_ORDER = Comparator<String> { a, b
-> a.compareTo(b, ignoreCase = true) }\n\n@SinceKotlin("1.2")\npublic actual val
String.Companion.CASE_INSENSITIVE_ORDER: Comparator<String>\n get() =
STRING_CASE_INSENSITIVE_ORDER\n"}\n\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class
UByteArray\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@Published
Api\ninternal constructor(@PublishedApi internal val storage: ByteArray) : Collection<UByte> {\n\n /** Creates
a new array of the specified [size], with all elements initialized to zero. *\n public constructor(size: Int) :
this(ByteArray(size))\n\n /**\n * Returns the array element at the given [index]. This method can be called
using the index operator.\n *\n * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n *\n public
operator fun get(index: Int): UByte = storage[index].toUByte()\n\n /**\n * Sets the element at the given [index]
to the given [value]. This method can be called using the index operator.\n *\n * If the [index] is out of bounds
of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is
unspecified.\n *\n public operator fun set(index: Int, value: UByte) {\n storage[index] = value.toByte()\n
}\n\n /** Returns the number of elements in the array. *\n public override val size: Int get() = storage.size\n
\n /** Creates an iterator over the elements of the array. *\n public override operator fun iterator(): UByteIterator =
Iterator(storage)\n\n private class Iterator(private val array: ByteArray) : UByteIterator() {\n private var index
= 0\n override fun hasNext() = index < array.size\n override fun nextUByte() = if (index < array.size)
array[index++].toUByte() else throw NoSuchElementException(index.toString())\n }\n\n override fun
contains(element: UByte): Boolean {\n // TODO: Eliminate this check after KT-30016 gets fixed.\n //
Currently JS BE does not generate special bridge method for this method.\n if ((element as Any?) !is UByte)
return false\n\n return storage.contains(element.toByte())\n }\n\n override fun containsAll(elements:
Collection<UByte>): Boolean {\n return (elements as Collection<*>).all { it is UByte &&
storage.contains(it.toByte()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n *
Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n * \n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n\n *\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray(size: Int, init: (Int) -> UByte): UByteArray {\n return UByteArray(ByteArray(size) { index ->
init(index).toByte()

```

```

})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ubyteArrayOf(vararg elements: UByte): UByteArray = elements\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class
UIntArray\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@PublishedAp
i\ninternal constructor(@PublishedApi internal val storage: IntArray) : Collection<UInt> {\n\n /** Creates a new
array of the specified [size], with all elements initialized to zero. *\n public constructor(size: Int) :
this(IntArray(size))\n\n /**\n * Returns the array element at the given [index]. This method can be called using
the index operator.\n *\n * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsExcep
tion] except in Kotlin/JS\n * where the behavior is unspecified.\n *\n public
operator fun get(index: Int): UInt = storage[index].toUInt()\n\n /**\n * Sets the element at the given [index] to
the given [value]. This method can be called using the index operator.\n *\n * If the [index] is out of bounds of
this array, throws an [IndexOutOfBoundsExcep
tion] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n public operator fun set(index: Int, value: UInt) {\n storage[index] = value.toInt()\n }\n\n /** Returns
the number of elements in the array. *\n public override val size: Int get() = storage.size\n\n /** Creates an
iterator over the elements of the array. *\n public override operator fun iterator(): UIntIterator =
Iterator(storage)\n\n private class Iterator(private val array: IntArray) : UIntIterator() {\n private var index =
0\n override fun hasNext() = index < array.size\n override fun nextUInt() = if (index < array.size)
array[index++].toUInt() else throw NoSuchElementException(index.toString())\n }\n\n override fun
contains(element: UInt): Boolean {\n // TODO: Eliminate this check after KT-30016 gets fixed.\n //
Currently JS BE does not generate special bridge method for this method.\n if ((element as Any?) !is UInt)
return false\n\n return storage.contains(element.toInt())\n }\n\n override fun containsAll(elements:
Collection<UInt>): Boolean {\n return (elements as Collection<*>).all { it is UInt &&
storage.contains(it.toInt()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size == 0}\n\n/**\n *
Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n *\n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray(size: Int, init: (Int) -> UInt): UIntArray {\n return UIntArray(IntArray(size) { index ->
init(index).toInt()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
uintArrayOf(vararg elements: UInt): UIntArray = elements\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class
ULongArray\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@Published
Api\ninternal constructor(@PublishedApi internal val storage: LongArray) : Collection<ULong> {\n\n /** Creates
a new array of the specified [size], with all elements initialized to zero. *\n public constructor(size: Int) :
this(LongArray(size))\n\n /**\n * Returns the array element at the given [index]. This method can be called
using the index operator.\n *\n * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsExcep
tion] except in Kotlin/JS\n * where the behavior is unspecified.\n *\n public
operator fun get(index: Int): ULong = storage[index].toULong()\n\n /**\n * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.\n *\n * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsExcep
tion] except in Kotlin/JS\n * where the behavior is
unspecified.\n *\n public operator fun set(index: Int, value: ULong) {\n storage[index] = value.toLong()\n
}\n\n /** Returns the number of elements in the array. *\n public override val size: Int get() = storage.size\n\n
/** Creates an iterator over the elements of the array. *\n public override operator fun iterator(): ULongIterator =

```

```

Iterator(storage)\n\n private class Iterator(private val array: LongArray) : ULongIterator() {\n private var
index = 0\n override fun hasNext() = index < array.size\n override fun nextULong() = if (index < array.size)
array[index++].toULong() else throw NoSuchElementException(index.toString())\n } \n\n override fun
contains(element: ULong): Boolean {\n // TODO: Eliminate this check after KT-30016 gets fixed.\n //
Currently JS BE does not generate special bridge method for this method.\n if ((element as Any?) !is ULong)
return false\n\n return storage.contains(element.toLong())\n } \n\n override fun containsAll(elements:
Collection<ULong>): Boolean {\n return (elements as Collection<*>).all { it is ULong &&
storage.contains(it.toLong()) }\n } \n\n override fun isEmpty(): Boolean = this.storage.size == 0\n\n\n/**\n *
Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n * \n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n
*/\n\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray(size: Int, init: (Int) -> ULong): ULongArray {\n return ULongArray(LongArray(size) { index ->
init(index).toLong()
})\n}\n\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ulongArrayOf(vararg elements: ULong): ULongArray = elements\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\nimport
kotlin.experimental.*\n\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@
SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class ULong @PublishedApi internal
constructor(@PublishedApi internal val data: Long) : Comparable<ULong> {\n\n companion object {\n\n /**\n
 * A constant holding the minimum value an instance of ULong can have.\n
 */\n public const val
MIN_VALUE: ULong = ULong(0)\n\n /**\n
 * A constant holding the maximum value an instance of
 ULong can have.\n
 */\n public const val MAX_VALUE: ULong = ULong(-1)\n\n /**\n
 * The
 number of bytes used to represent an instance of ULong in a binary form.\n
 */\n public const val
SIZE_BYTES: Int = 8\n\n /**\n
 * The number of bits used to represent an instance of ULong in a binary
 form.\n
 */\n public const val SIZE_BITS: Int = 64\n }\n\n /**\n
 * Compares this value with the
 specified value for order.\n
 * Returns zero if this value is equal to the specified other value, a negative number if
 it's less than other,\n
 * or a positive number if it's greater than other.\n
 */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UByte): Int =
this.compareTo(other.toULong())\n\n /**\n
 * Compares this value with the specified value for order.\n
 * Returns zero if this value is equal to the specified other
 value, a negative number if it's less than other,\n
 * or a positive number if it's greater than other.\n
 */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UShort): Int =
this.compareTo(other.toULong())\n\n /**\n
 * Compares this value with the specified value for order.\n
 * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n
 * or a positive number if it's greater than other.\n
 */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UInt): Int =
this.compareTo(other.toULong())\n\n /**\n
 * Compares this value with the
 specified value for order.\n
 * Returns zero if this value is equal to the specified other value, a negative number if
 it's less than other,\n
 * or a positive number if it's greater than other.\n
 */\n @kotlin.internal.InlineOnly\n @Suppress("OVERRIDE_BY_INLINE")\n public override inline operator fun compareTo(other: ULong): Int =
ulongCompare(this.data, other.data)\n\n /**\n
 * Adds the other value to this value.\n
 */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UByte): ULong =
this.plus(other.toULong())\n\n /**\n
 * Adds the other value to this value.\n
 */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other:
UShort): ULong = this.plus(other.toULong())\n\n /**\n
 * Adds the other value to this value.\n
 */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other:
UInt): ULong = this.plus(other.toULong())\n\n /**\n
 * Adds the other value to this value.\n
 */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other:
ULong): ULong = ULong(this.data.plus(other.data))\n\n /**\n
 * Subtracts the other value from this value.\n
 */\n

```

```

@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UByte): ULong =
this.minus(other.toULong())\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UShort): ULong = this.minus(other.toULong())\n /** Subtracts the other
value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): ULong =
this.minus(other.toULong())\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: ULong): ULong = ULong(this.data.minus(other.data))\n\n /** Multiplies
this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte):
ULong = this.times(other.toULong())\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): ULong =
this.times(other.toULong())\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UInt): ULong = this.times(other.toULong())\n /** Multiplies this value by
the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: ULong): ULong =
ULong(this.data.times(other.data))\n\n /** Divides this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun div(other: UByte): ULong = this.div(other.toULong())\n
/** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other:
UShort): ULong = this.div(other.toULong())\n /** Divides this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): ULong = this.div(other.toULong())\n
/** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other:
ULong): ULong = ulongDivide(this, other)\n\n /** Calculates the remainder of dividing this value by the other
value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): ULong =
this.rem(other.toULong())\n /** Calculates the remainder of dividing this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): ULong = this.rem(other.toULong())\n
/** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UInt): ULong = this.rem(other.toULong())\n /** Calculates the remainder of
dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other:
ULong): ULong = ulongRemainder(this, other)\n\n /** Increments this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun inc(): ULong = ULong(data.inc())\n /** Decrements this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun dec(): ULong = ULong(data.dec())\n\n /** Creates a
range from this value to the specified [other] value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
rangeTo(other: ULong): ULongRange = ULongRange(this, other)\n\n /** Shifts this value left by the [bitCount]
number of bits. */\n @kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): ULong =
ULong(data shl bitCount)\n\n /** Shifts this value right by the [bitCount] number of bits, filling the leftmost bits
with zeros. */\n @kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): ULong = ULong(data
ushr bitCount)\n\n /** Performs a bitwise AND operation between the two values. */\n
@kotlin.internal.InlineOnly\n public inline infix fun and(other: ULong): ULong = ULong(this.data and
other.data)\n\n /** Performs a bitwise OR operation between the two values. */\n @kotlin.internal.InlineOnly\n
public inline infix fun or(other: ULong): ULong = ULong(this.data or other.data)\n\n /** Performs a bitwise XOR
operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: ULong):
ULong = ULong(this.data xor other.data)\n\n /** Inverts the bits in this value. */\n @kotlin.internal.InlineOnly\n
public inline fun inv(): ULong = ULong(data.inv())\n\n /**\n * Converts this [ULong] value to [Byte].\n * \n
* If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same
numerical value as this `ULong`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits
of this `ULong` value.\n * \n * Note that the resulting `Byte` value may be negative.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [ULong]
value to [Short].\n * \n * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents\n * the same numerical value as this `ULong`.\n * \n * The resulting `Short` value is represented
by the least significant 16 bits of this `ULong` value.\n * \n * Note that the resulting `Short` value may be
negative.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort()\n\n /**\n * Converts this

```

[ULong] value to [Int].  
 \* If this value is less than or equals to [Int.MAX\_VALUE], the resulting `Int` value represents the same numerical value as this `ULong`.  
 \* The resulting `Int` value is represented by the least significant 32 bits of this `ULong` value.  
 \* Note that the resulting `Int` value may be negative.  
 @kotlin.internal.InlineOnly  
 public inline fun toInt(): Int = data.toInt()  
 /\*\*  
 \* Converts this [ULong] value to [Long].  
 \* If this value is less than or equals to [Long.MAX\_VALUE], the resulting `Long` value represents the same numerical value as this `ULong`. Otherwise the result is negative.  
 \* The resulting `Long` value has the same binary representation as this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toLong(): Long = data  
 /\*\*  
 \* Converts this [ULong] value to [UByte].  
 \* If this value is less than or equals to [UByte.MAX\_VALUE], the resulting `UByte` value represents the same numerical value as this `ULong`.  
 \* The resulting `UByte` value is represented by the least significant 8 bits of this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toUByte(): UByte = data.toUByte()  
 /\*\*  
 \* Converts this [ULong] value to [UShort].  
 \* If this value is less than or equals to [UShort.MAX\_VALUE], the resulting `UShort` value represents the same numerical value as this `ULong`.  
 \* The resulting `UShort` value is represented by the least significant 16 bits of this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toUShort(): UShort = data.toUShort()  
 /\*\*  
 \* Converts this [ULong] value to [UInt].  
 \* If this value is less than or equals to [UInt.MAX\_VALUE], the resulting `UInt` value represents the same numerical value as this `ULong`.  
 \* The resulting `UInt` value is represented by the least significant 32 bits of this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toUInt(): UInt = data.toUInt()  
 /\*\* Returns this value. \*/  
 @kotlin.internal.InlineOnly  
 public inline fun toULong(): ULong = this  
 /\*\*  
 \* Converts this [ULong] value to [Float].  
 \* The resulting value is the closest `Float` to this `ULong` value.  
 \* In case when this `ULong` value is exactly between two `Float`s, the one with zero at least significant bit of mantissa is selected.  
 @kotlin.internal.InlineOnly  
 public inline fun toFloat(): Float = this.toDouble().toFloat()  
 /\*\*  
 \* Converts this [ULong] value to [Double].  
 \* The resulting value is the closest `Double` to this `ULong` value.  
 \* In case when this `ULong` value is exactly between two `Double`s, the one with zero at least significant bit of mantissa is selected.  
 @kotlin.internal.InlineOnly  
 public inline fun toDouble(): Double = ulongToDouble(data)  
 public override fun toString(): String = ulongToString(data)  
 /\*\*  
 \* Converts this [Byte] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Byte`.  
 \* The least significant 8 bits of the resulting `ULong` value are the same as the bits of this `Byte` value, whereas the most significant 56 bits are filled with the sign bit of this value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Byte.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Short] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Short`.  
 \* The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `Short` value, whereas the most significant 48 bits are filled with the sign bit of this value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Short.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Int] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Int`.  
 \* The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `Int` value, whereas the most significant 32 bits are filled with the sign bit of this value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Int.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Long] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Long`.  
 \* The resulting `ULong` value has the same binary representation as this `Long` value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Long.toULong(): ULong = ULong(this)  
 /\*\*  
 \* Converts this [Float] value to [ULong].  
 \* The fractional part, if any, is rounded down towards zero.  
 \* Returns zero if this `Float` value is negative or `NaN`, [ULong.MAX\_VALUE] if it's bigger than `ULong.MAX\_VALUE`.  
 @kotlin.internal.InlineOnly  
 public inline fun Float.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Double] value to [ULong].  
 \* The fractional part, if any, is rounded down towards zero.  
 \* Returns zero if this `Double` value is negative or `NaN`, [ULong.MAX\_VALUE] if it's bigger than `ULong.MAX\_VALUE`.  
 @kotlin.internal.InlineOnly  
 public inline fun Double.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [ULong] value to [Int].  
 \* If this value is less than or equals to [Int.MAX\_VALUE], the resulting `Int` value represents the same numerical value as this `ULong`.  
 \* The resulting `Int` value is represented by the least significant 32 bits of this `ULong` value.  
 \* Note that the resulting `Int` value may be negative.  
 @kotlin.internal.InlineOnly  
 public inline fun toInt(): Int = data.toInt()  
 /\*\*  
 \* Converts this [ULong] value to [Long].  
 \* If this value is less than or equals to [Long.MAX\_VALUE], the resulting `Long` value represents the same numerical value as this `ULong`. Otherwise the result is negative.  
 \* The resulting `Long` value has the same binary representation as this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toLong(): Long = data  
 /\*\*  
 \* Converts this [ULong] value to [UByte].  
 \* If this value is less than or equals to [UByte.MAX\_VALUE], the resulting `UByte` value represents the same numerical value as this `ULong`.  
 \* The resulting `UByte` value is represented by the least significant 8 bits of this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toUByte(): UByte = data.toUByte()  
 /\*\*  
 \* Converts this [ULong] value to [UShort].  
 \* If this value is less than or equals to [UShort.MAX\_VALUE], the resulting `UShort` value represents the same numerical value as this `ULong`.  
 \* The resulting `UShort` value is represented by the least significant 16 bits of this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toUShort(): UShort = data.toUShort()  
 /\*\*  
 \* Converts this [ULong] value to [UInt].  
 \* If this value is less than or equals to [UInt.MAX\_VALUE], the resulting `UInt` value represents the same numerical value as this `ULong`.  
 \* The resulting `UInt` value is represented by the least significant 32 bits of this `ULong` value.  
 @kotlin.internal.InlineOnly  
 public inline fun toUInt(): UInt = data.toUInt()  
 /\*\* Returns this value. \*/  
 @kotlin.internal.InlineOnly  
 public inline fun toULong(): ULong = this  
 /\*\*  
 \* Converts this [ULong] value to [Float].  
 \* The resulting value is the closest `Float` to this `ULong` value.  
 \* In case when this `ULong` value is exactly between two `Float`s, the one with zero at least significant bit of mantissa is selected.  
 @kotlin.internal.InlineOnly  
 public inline fun toFloat(): Float = this.toDouble().toFloat()  
 /\*\*  
 \* Converts this [ULong] value to [Double].  
 \* The resulting value is the closest `Double` to this `ULong` value.  
 \* In case when this `ULong` value is exactly between two `Double`s, the one with zero at least significant bit of mantissa is selected.  
 @kotlin.internal.InlineOnly  
 public inline fun toDouble(): Double = ulongToDouble(data)  
 public override fun toString(): String = ulongToString(data)  
 /\*\*  
 \* Converts this [Byte] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Byte`.  
 \* The least significant 8 bits of the resulting `ULong` value are the same as the bits of this `Byte` value, whereas the most significant 56 bits are filled with the sign bit of this value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Byte.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Short] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Short`.  
 \* The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `Short` value, whereas the most significant 48 bits are filled with the sign bit of this value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Short.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Int] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Int`.  
 \* The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `Int` value, whereas the most significant 32 bits are filled with the sign bit of this value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Int.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Long] value to [ULong].  
 \* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Long`.  
 \* The resulting `ULong` value has the same binary representation as this `Long` value.  
 @SinceKotlin("1.3")  
 @ExperimentalUnsignedTypes  
 @kotlin.internal.InlineOnly  
 public inline fun Long.toULong(): ULong = ULong(this)  
 /\*\*  
 \* Converts this [Float] value to [ULong].  
 \* The fractional part, if any, is rounded down towards zero.  
 \* Returns zero if this `Float` value is negative or `NaN`, [ULong.MAX\_VALUE] if it's bigger than `ULong.MAX\_VALUE`.  
 @kotlin.internal.InlineOnly  
 public inline fun Float.toULong(): ULong = ULong(this.toLong())  
 /\*\*  
 \* Converts this [Double] value to [ULong].  
 \* The fractional part, if any, is rounded down towards zero.  
 \* Returns zero if this `Double` value is negative or `NaN`, [ULong.MAX\_VALUE] if it's bigger than `ULong.MAX\_VALUE`.  
 @kotlin.internal.InlineOnly  
 public inline fun Double.toULong(): ULong = ULong(this.toLong())

```

*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun
Float.toULong(): ULong = doubleToULong(this.toDouble())^/**^ * Converts this [Double] value to [ULong].^
*^ * The fractional part, if any, is rounded down towards zero.^ * Returns zero if this `Double` value is negative or
`NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.^
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun
Double.toULong(): ULong = doubleToULong(this)^"/**^ * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.^ * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.^ *^@^// Auto-generated file. DO NOT EDIT!^package
kotlin^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public inline class
UShortArray^@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")^@Published
Api^internal constructor(@PublishedApi internal val storage: ShortArray) : Collection<UShort> {^//^
Creates a new array of the specified [size], with all elements initialized to zero.^ *^ public constructor(size: Int) :
this(ShortArray(size))^//^ * Returns the array element at the given [index]. This method can be called
using the index operator.^ *^ * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsExcpetion] except in Kotlin/JS^ * where the behavior is unspecified.^ *^ public
operator fun get(index: Int): UShort = storage[index].toUShort()^//^ * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.^ *^ * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsExcpetion] except in Kotlin/JS^ * where the behavior is
unspecified.^ *^ public operator fun set(index: Int, value: UShort) {^ storage[index] = value.toShort()
}^//^ Returns the number of elements in the array.^ *^ public override val size: Int get() = storage.size^//^
Creates an iterator over the elements of the array.^ *^ public override operator fun iterator(): UShortIterator =
Iterator(storage)^//^ private class Iterator(private val array: ShortArray) : UShortIterator() {^ private var
index = 0^ override fun hasNext() = index < array.size^ override fun nextUShort() = if (index <
array.size) array[index++].toUShort() else throw NoSuchElementException(index.toString())^ }^//^ override
fun contains(element: UShort): Boolean {^ // TODO: Eliminate this check after KT-30016 gets fixed.^ //
Currently JS BE does not generate special bridge method for this method.^ if ((element as Any?) !is UShort)
return false^ return storage.contains(element.toShort())^ }^//^ override fun containsAll(elements:
Collection<UShort>): Boolean {^ return (elements as Collection<*>).all { it is UShort &&
storage.contains(it.toShort()) }^ }^//^ override fun isEmpty(): Boolean = this.storage.size == 0^}^//^/**^
Creates a new array of the specified [size], where each element is calculated by calling the specified^ * [init]
function.^ *^ * The function [init] is called for each array element sequentially starting from the first one.^ * It
should return the value for an array element given its index.^
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun
UShortArray(size: Int, init: (Int) -> UShort): UShortArray {^ return UShortArray(ShortArray(size) { index ->
init(index).toShort()
})^}^//^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun
ushortArrayOf(vararg elements: UShort): UShortArray = elements^"/**^ * Copyright 2010-2019 JetBrains s.r.o.
and Kotlin Programming Language contributors.^ * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.^
*^@^@file:kotlin.jvm.JvmMultifileClass^@file:kotlin.jvm.JvmName("UArraysKt")^@file:kotlin.jvm.JvmPacka
geName("kotlin.collections.unsigned")^package kotlin.collections^// NOTE: THIS FILE IS AUTO-
GENERATED by the GenerateStandardLib.kt^// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib^//^nimport kotlin.random.^*^nimport
kotlin.ranges.contains^nimport kotlin.ranges.reversed^//^/**^ * Returns 1st *element* from the array.^ *^ * If the
size of this array is less than 1, throws an [IndexOutOfBoundsExcpetion] except in Kotlin/JS^ * where the behavior
is unspecified.^
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public
inline operator fun UIntArray.component1(): UInt {^ return get(0)^}^//^/**^ * Returns 1st *element* from the
array.^ *^ * If the size of this array is less than 1, throws an [IndexOutOfBoundsExcpetion] except in Kotlin/JS^

```

\* where the behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
ULongArray.component1(): ULong {\n return get(0)\n}\n\n/\*\*\n \* Returns 1st \*element\* from the array.\n \* \n \*  
If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UByteArray.component1(): UByte {\n return get(0)\n}\n\n/\*\*\n \* Returns 1st \*element\* from the array.\n \* \n \*  
If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.component1(): UShort {\n return get(0)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UIntArray.component2(): UInt {\n return get(1)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
ULongArray.component2(): ULong {\n return get(1)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UByteArray.component2(): UByte {\n return get(1)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.component2(): UShort {\n return get(1)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UIntArray.component3(): UInt {\n return get(2)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
ULongArray.component3(): ULong {\n return get(2)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UByteArray.component3(): UByte {\n return get(2)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.component3(): UShort {\n return get(2)\n}\n\n/\*\*\n \* Returns 4th \*element\* from the array.\n \* \n \*  
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UIntArray.component4(): UInt {\n return get(3)\n}\n\n/\*\*\n \* Returns 4th \*element\* from the array.\n \* \n \*  
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the behavior



is unspecified.

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun ULongArray.component4(): ULong {\n return get(3)\n}\n\n/**\n * Returns 4th *element* from
the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component4(): UByte {\n return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component4(): UShort {\n return get(3)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component5(): UInt {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If
the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun ULongArray.component5(): ULong {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from
the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component5(): UByte {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component5(): UShort {\n return get(4)\n}\n\n/**\n * Returns an element at the given [index] or
throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.elementAt(index: Int):
UInt\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.elementAt(index: Int):
ULong\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.elementAt(index: Int):
UByte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.elementAt(index: Int):
UShort\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the
[index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the

```

result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n \* \n \* @sample  
samples.collections.Collections.Elements.elementAtOrElse\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n return if (index >= 0 && index

<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result

of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample

samples.collections.Collections.Elements.elementAtOrElse\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n return if (index >= 0 &&

index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or

`null` if the [index] is out of bounds of this array.\n * \n * @sample

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UIntArray.elementAtOrNull(index: Int): UInt? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an element

at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

ULongArray.elementAtOrNull(index: Int): ULong? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an

element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UByteArray.elementAtOrNull(index: Int): UByte? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an

element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UShortArray.elementAtOrNull(index: Int): UShort? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns the

first element matching the given [predicate], or `null` if no such element was found.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UIntArray.find(predicate: (UInt) -> Boolean): UInt? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the

first element matching the given [predicate], or `null` if no such element was found.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

ULongArray.find(predicate: (ULong) -> Boolean): ULong? {\n return firstOrNull(predicate)\n}\n\n/**\n *

Returns the first element matching the given [predicate], or `null` if no such element was found.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UByteArray.find(predicate: (UByte) -> Boolean): UByte? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns

the first element matching the given [predicate], or `null` if no such element was found.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UShortArray.find(predicate: (UShort) -> Boolean): UShort? {\n return firstOrNull(predicate)\n}\n\n/**\n *

Returns the last element matching the given [predicate], or `null` if no such element was found.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UIntArray.findLast(predicate: (UInt) -> Boolean): UInt? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the

last element matching the given [predicate], or `null` if no such element was found.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

ULongArray.findLast(predicate: (ULong) -> Boolean): ULong? {\n return lastOrNull(predicate)\n}\n\n/**\n *

Returns the last element matching the given [predicate], or `null` if no such element was found.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UByteArray.findLast(predicate: (UByte) -> Boolean): UByte? {\n return lastOrNull(predicate)\n}\n\n/**\n *

Returns the last element matching the given [predicate], or `null` if no such element was found.\n
```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.findLast(predicate: (UShort) -> Boolean): UShort? {\n return lastOrNull(predicate)\n}\n\n/**\n *
Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(): UInt {\n return storage.first().toUInt()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(): ULong {\n return storage.first().toULong()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(): UByte {\n return storage.first().toUByte()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(): UShort {\n return storage.first().toUShort()\n}\n\n/**\n * Returns the first element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(predicate: (UInt) -> Boolean): UInt {\n for (element in this) if (predicate(element)) return
element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(predicate: (ULong) -> Boolean): ULong {\n for (element in this) if (predicate(element)) return
element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(predicate: (UByte) -> Boolean): UByte {\n for (element in this) if (predicate(element)) return
element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(predicate: (UShort) -> Boolean): UShort {\n for (element in this) if (predicate(element)) return
element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.firstOrNull(): UInt? {\n return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.firstOrNull(): ULong? {\n return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.firstOrNull(): UByte? {\n return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.firstOrNull(): UShort? {\n return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null`
if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.firstOrNull(predicate: (UInt) -> Boolean): UInt? {\n for (element in this) if (predicate(element)) return
element\n return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element
was not found.\n * @SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.firstOrNull(predicate: (ULong) -> Boolean): ULong? {\n for (element in this) if

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(predicate(element)) return element\n return null\n}\n\n/**\n * Returns the first element matching the given
 [predicate], or `null` if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UByteArray.firstOrNull(predicate: (UByte) -> Boolean): UByte? {\n for (element in this) if (predicate(element))
 return element\n return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if
 element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UShortArray.firstOrNull(predicate: (UShort) -> Boolean): UShort? {\n for (element in this) if (predicate(element))
 return element\n return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
 [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UIntArray.getOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n return if (index >= 0 && index <=
 lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
 calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 ULongArray.getOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n return if (index >= 0 && index <=
 lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
 calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UByteArray.getOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n return if (index >= 0 && index <=
 lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
 calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UShortArray.getOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n return if (index >= 0 && index <=
 lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
 [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
 UIntArray.getOrNull(index: Int): UInt? {\n return if (index >= 0 && index <= lastIndex) get(index) else
 null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
 ULongArray.getOrNull(index: Int):
 ULong? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at
 the given [index] or `null` if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
 UByteArray.getOrNull(index: Int): UByte?
 {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
 given [index] or `null` if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
 UShortArray.getOrNull(index: Int):
 UShort? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of
 [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UIntArray.indexOf(element: UInt): Int {\n return storage.indexOf(element.toInt())\n}\n\n/**\n * Returns first
 index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 ULongArray.indexOf(element: ULong): Int {\n return storage.indexOf(element.toLong())\n}\n\n/**\n * Returns
 first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UByteArray.indexOf(element: UByte): Int {\n return storage.indexOf(element.toByte())\n}\n\n/**\n * Returns
 first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
 UShortArray.indexOf(element: UShort): Int {\n return storage.indexOf(element.toShort())\n}\n\n/**\n * Returns

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index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfFirst(predicate: (UInt) -> Boolean): Int {\n return storage.indexOfFirst { predicate(it.toUInt())
}\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain
such element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfFirst(predicate: (ULong) -> Boolean): Int {\n return storage.indexOfFirst {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfFirst(predicate: (UByte) -> Boolean): Int {\n return storage.indexOfFirst {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfFirst(predicate: (UShort) -> Boolean): Int {\n return storage.indexOfFirst {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfLast(predicate: (UInt) -> Boolean): Int {\n return storage.indexOfLast { predicate(it.toUInt())
}\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain
such element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfLast(predicate: (ULong) -> Boolean): Int {\n return storage.indexOfLast {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfLast(predicate: (UByte) -> Boolean): Int {\n return storage.indexOfLast {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfLast(predicate: (UShort) -> Boolean): Int {\n return storage.indexOfLast {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the
array is empty.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.last(): UInt {\n return storage.last().toUInt()\n}\n\n/**\n * Returns the last element.\n *
@throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(): ULong {\n return storage.last().toULong()\n}\n\n/**\n * Returns the last element.\n *
@throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(): UByte {\n return storage.last().toUByte()\n}\n\n/**\n * Returns the last element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(): UShort {\n return storage.last().toUShort()\n}\n\n/**\n * Returns the last element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(predicate: (UInt) -> Boolean): UInt {\n for (index in this.indices.reversed()) {\n val element =
this[index]\n if (predicate(element)) return element\n }\n throw NoSuchElementException("Array contains
no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n *
@throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

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UByteArray.last(predicate: (UByte) -> Boolean): UByte {
 for (index in this.indices.reversed()) {
 val element = this[index]
 if (predicate(element)) return element
 }
 throw NoSuchElementException("Array contains no element matching the predicate.")
}
* Returns the last element matching the given [predicate].
* @throws [NoSuchElementException] if no such element is found.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UByteArray.last(predicate: (UByte) -> Boolean): UByte {
 for (index in this.indices.reversed()) {
 val element = this[index]
 if (predicate(element)) return element
 }
 throw NoSuchElementException("Array contains no element matching the predicate.")
}
* Returns the last element matching the given [predicate].
* @throws [NoSuchElementException] if no such element is found.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UShortArray.last(predicate: (UShort) -> Boolean): UShort {
 for (index in this.indices.reversed()) {
 val element = this[index]
 if (predicate(element)) return element
 }
 throw NoSuchElementException("Array contains no element matching the predicate.")
}
* Returns last index of [element], or -1 if the array does not contain element.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UIntArray.lastIndexOf(element: UInt): Int {
 return storage.lastIndexOf(element.toInt())
}
* Returns last index of [element], or -1 if the array does not contain element.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UByteArray.lastIndexOf(element: UByte): Int {
 return storage.lastIndexOf(element.toByte())
}
* Returns last index of [element], or -1 if the array does not contain element.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UShortArray.lastIndexOf(element: UShort): Int {
 return storage.lastIndexOf(element.toShort())
}
* Returns the last element, or `null` if the array is empty.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n public fun UIntArray.lastOrNull(): UInt? {
 return if (isEmpty()) null else this[size - 1]
}
* Returns the last element, or `null` if the array is empty.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n public fun ULongArray.lastOrNull(): ULong? {
 return if (isEmpty()) null else this[size - 1]
}
* Returns the last element, or `null` if the array is empty.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n public fun UByteArray.lastOrNull(): UByte? {
 return if (isEmpty()) null else this[size - 1]
}
* Returns the last element, or `null` if the array is empty.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n public fun UShortArray.lastOrNull(): UShort? {
 return if (isEmpty()) null else this[size - 1]
}
* Returns the last element matching the given [predicate], or `null` if no such element was found.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UIntArray.lastOrNull(predicate: (UInt) -> Boolean): UInt? {
 for (index in this.indices.reversed()) {
 val element = this[index]
 if (predicate(element)) return element
 }
 return null
}
* Returns the last element matching the given [predicate], or `null` if no such element was found.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UByteArray.lastOrNull(predicate: (UByte) -> Boolean): UByte? {
 for (index in this.indices.reversed()) {
 val element = this[index]
 if (predicate(element)) return element
 }
 return null
}
* Returns the last element matching the given [predicate], or `null` if no such element was found.
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun

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UShortArray.lastOrNull(predicate: (UShort) -> Boolean): UShort? {\n for (index in this.indices.reversed()) {\n
val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns a
random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.random(): UInt {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n
* \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.random(): ULong {\n return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.random(): UByte {\n return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.random(): UShort {\n return random(Random)\n}\n\n/**\n * Returns a random element from this
array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.random(random: Random): UInt
{\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.random(random: Random):
ULong {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.random(random: Random):
UByte {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.random(random: Random):
UShort {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun UIntArray.randomOrNull(): UInt? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun ULongArray.randomOrNull(): ULong? {\n return randomOrNull(Random)\n}\n\n/**\n *
Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun UByteArray.randomOrNull(): UByte? {\n return randomOrNull(Random)\n}\n\n/**\n *
Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun UShortArray.randomOrNull(): UShort? {\n return randomOrNull(Random)\n}\n\n/**\n *
Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.randomOrNull(random: Random): UInt? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.randomOrNull(random: Random): ULong? {\n if (isEmpty())\n return null\n return

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get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.randomOrNull(random: Random): UByte? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.randomOrNull(random: Random): UShort? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(): UInt {\n return storage.single().toUInt()\n}\n\n/**\n * Returns the single element, or throws an
exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(): ULong {\n return storage.single().toULong()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(): UByte {\n return storage.single().toUByte()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(): UShort {\n return storage.single().toUShort()\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(predicate: (UInt) -> Boolean): UInt {\n var single: UInt? = null\n var found = false\n for
(element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n
@Suppress("UNCHECKED_CAST")\n return single as UInt\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(predicate: (ULong) -> Boolean): ULong {\n var single: ULong? = null\n var found = false\n
for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n
@Suppress("UNCHECKED_CAST")\n return single as ULong\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(predicate: (UByte) -> Boolean): UByte {\n var single: UByte? = null\n var found = false\n
for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n
@Suppress("UNCHECKED_CAST")\n return single as UByte\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(predicate: (UShort) -> Boolean): UShort {\n var single: UShort? = null\n var found = false\n
for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n

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@Suppress("UNCHECKED_CAST")\n return single as UShort\n}\n\n/**\n * Returns single element, or `null` if
the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.singleOrNull(): UInt? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.singleOrNull(): ULong? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.singleOrNull(): UByte? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.singleOrNull(): UShort? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single
element matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.singleOrNull(predicate: (UInt) -> Boolean): UInt? {\n var single: UInt? = null\n var found = false\n
for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n
found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.singleOrNull(predicate: (ULong) -> Boolean): ULong? {\n var single: ULong? = null\n var found
= false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single =
element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the
single element matching the given [predicate], or `null` if element was not found or more than one element was
found.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray.singleOrNull(predicate: (UByte) -> Boolean): UByte? {\n var single: UByte? = null\n var found
= false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single =
element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the
single element matching the given [predicate], or `null` if element was not found or more than one element was
found.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UShortArray.singleOrNull(predicate: (UShort) -> Boolean): UShort? {\n var single: UShort? = null\n var
found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single
= element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns a list
containing all elements except first [n] elements.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n *
@sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.drop(n: Int): List<UInt> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n *\n * @throws
IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.drop(n: Int): List<ULong> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n *\n * @throws
IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.drop(n: Int): List<UByte> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n *\n * @throws
IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.drop(n: Int): List<UShort> {\n
 require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.dropLast(n: Int): List<UInt> {\n
 require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.dropLast(n: Int):
List<ULong> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.dropLast(n: Int): List<UByte>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.dropLast(n: Int):
List<UShort> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n for (index in lastIndex downTo 0) {\n
 if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n for (index in lastIndex downTo 0)
{\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n for (index in lastIndex downTo 0)
{\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n for (index in lastIndex downTo
0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropWhile(predicate: (UInt) -> Boolean): List<UInt> {\n var yielding = false\n val list =
ArrayList<UInt>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n
 list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all

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elements except first elements that satisfy the given [predicate].\n \* \n \* @sample  
samples.collections.Collections.Transformations.drop\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropWhile(predicate: (ULong) -> Boolean): List<ULong> {\n var yielding = false\n val list =
ArrayList<ULong>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item))
{\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropWhile(predicate: (UByte) -> Boolean): List<UByte> {\n var yielding = false\n val list =
ArrayList<UByte>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item))
{\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropWhile(predicate: (UShort) -> Boolean): List<UShort> {\n var yielding = false\n val list =
ArrayList<UShort>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item))
{\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing only
elements matching the given [predicate].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filter(predicate: (UInt) -> Boolean): List<UInt> {\n return filterTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filter(predicate: (ULong) -> Boolean): List<ULong> {\n return filterTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filter(predicate: (UByte) -> Boolean): List<UByte> {\n return filterTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filter(predicate: (UShort) -> Boolean): List<UShort> {\n return filterTo(ArrayList<UShort>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterIndexed(predicate: (index: Int, UInt) -> Boolean): List<UInt> {\n return
filterIndexedTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterIndexed(predicate: (index: Int, ULong) -> Boolean): List<ULong> {\n return
filterIndexedTo(ArrayList<ULong>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterIndexed(predicate: (index: Int, UByte) -> Boolean): List<UByte> {\n return
filterIndexedTo(ArrayList<UByte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n
```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterIndexed(predicate: (index: Int, UShort) -> Boolean): List<UShort> {\n return
filterIndexedTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate]
to the given [destination].\n * @param [predicate] function that takes the index of an element and the element
itself\n * and returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterIndexedTo(destination: C, predicate: (index: Int, UInt) -> Boolean): C {
\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n
return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterIndexedTo(destination: C, predicate: (index: Int, ULong) ->
Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element))
destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterIndexedTo(destination: C, predicate: (index: Int, UByte) ->
Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element))
destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterIndexedTo(destination: C, predicate: (index: Int, UShort) ->
Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element))
destination.add(element)\n }\n return destination\n}\n\n/**\n * Returns a list containing all elements not
matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterNot(predicate: (UInt) -> Boolean): List<UInt> {\n return filterNotTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterNot(predicate: (ULong) -> Boolean): List<ULong> {\n return filterNotTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterNot(predicate: (UByte) -> Boolean): List<UByte> {\n return filterNotTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterNot(predicate: (UShort) -> Boolean): List<UShort> {\n return
filterNotTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements not matching the given [predicate]
to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterNotTo(destination: C, predicate: (UInt) -> Boolean): C {\n for
(element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterNotTo(destination: C, predicate: (ULong) -> Boolean): C {\n for
(element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends

```

all elements not matching the given [predicate] to the given [destination].\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UByte>> UByteArray.filterNotTo(destination: C, predicate: (UByte) -> Boolean): C {\n for (element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UShort>> UShortArray.filterNotTo(destination: C, predicate: (UShort) -> Boolean): C {\n for (element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UInt>> UIntArray.filterTo(destination: C, predicate: (UInt) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in ULong>> ULongArray.filterTo(destination: C, predicate: (ULong) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UByte>> UByteArray.filterTo(destination: C, predicate: (UByte) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UShort>> UShortArray.filterTo(destination: C, predicate: (UShort) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: IntRange): List<UInt> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: IntRange): List<ULong> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: IntRange): List<UByte> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: IntRange): List<UShort> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: Iterable<Int>): List<UInt> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<UInt>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: Iterable<Int>): List<ULong> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<ULong>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: Iterable<Int>): List<UByte> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<UByte>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
```

Returns a list containing elements at specified [indices].\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: Iterable<Int>):
List<UShort> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
 ArrayList<UShort>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n *
```

Returns an array containing elements of this array at specified [indices].\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices:
Collection<Int>): UIntArray {\n return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices:
Collection<Int>): ULongArray {\n return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices:
Collection<Int>): UByteArray {\n return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices:
Collection<Int>): UShortArray {\n return UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an
array containing elements at indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices: IntRange):
UIntArray {\n return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at
indices in the specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sliceArray(indices: IntRange): ULongArray {\n return
 ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the
specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.sliceArray(indices: IntRange): UByteArray {\n return
 UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the
specified [indices] range.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.sliceArray(indices: IntRange): UShortArray {\n return
 UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns a list containing first [n] elements.\n
```

@throws IllegalArgumentException if [n] is negative.\n \* \n \* @sample

samples.collections.Collections.Transformations.take\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.take(n: Int): List<UInt> {\n require(n >= 0) { "Requested element count $n is less than zero." }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<UInt>(n)\n for
(item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.take(n: Int): List<ULong> {\n require(n >= 0) { "Requested element count $n is less than zero." }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<ULong>(n)\n for
(item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.take(n: Int): List<UByte> {\n require(n >= 0) { "Requested element count $n is less than zero." }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<UByte>(n)\n for
(item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.take(n: Int): List<UShort> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<UShort>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.takeLast(n: Int): List<UInt> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<UInt>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.takeLast(n: Int): List<ULong> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<ULong>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.takeLast(n: Int): List<UByte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<UByte>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.takeLast(n: Int): List<UShort> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<UShort>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.takeLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index]))\n return drop(index + 1)\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.takeLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n for (index in lastIndex downTo 0)\n if (!predicate(this[index]))\n return drop(index + 1)\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.takeLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n for (index in lastIndex downTo 0)\n if (!predicate(this[index]))\n return drop(index + 1)\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.takeLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n for (index in lastIndex downTo 0)\n if (!predicate(this[index]))\n return drop(index + 1)\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
```

Returns a list containing first elements satisfying the given [predicate].\n \* \n \* @sample  
samples.collections.Collections.Transformations.take\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.takeWhile(predicate: (UInt) -> Boolean): List<UInt> {\n val list = ArrayList<UInt>()\n for (item in
this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list
containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.takeWhile(predicate: (ULong) -> Boolean): List<ULong> {\n val list = ArrayList<ULong>()\n for
(item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n *
Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.takeWhile(predicate: (UByte) -> Boolean): List<UByte> {\n val list = ArrayList<UByte>()\n for
(item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n *
Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.takeWhile(predicate: (UShort) -> Boolean): List<UShort> {\n val list = ArrayList<UShort>()\n for
(item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n *
Reverses elements in the array in-place.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reverse(): Unit {\n storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reverse(): Unit {\n storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reverse(): Unit {\n storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reverse(): Unit {\n storage.reverse()\n}\n\n/**\n * Returns a list with elements in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.reversed(): List<UInt> {\n if
(isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a
list with elements in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.reversed(): List<ULong> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n
list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.reversed(): List<UByte> {\n
if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns
a list with elements in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.reversed(): List<UShort> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n
list.reverse()\n return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reversedArray(): UIntArray {\n return UIntArray(storage.reversedArray())\n}\n\n/**\n * Returns an
array with elements of this array in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reversedArray(): ULongArray {\n return ULongArray(storage.reversedArray())\n}\n\n/**\n * Returns an
array with elements of this array in reversed order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reversedArray(): UByteArray {\n return UByteArray(storage.reversedArray())\n}\n\n/**\n * Returns
an array with elements of this array in reversed order.\n
```



```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reversedArray(): UShortArray {\n return UShortArray(storage.reversedArray())\n}\n\n/**\n * Sorts
elements in the array in-place descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortDescending(): Unit {\n if
(size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending
according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts
elements in the array in-place descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(): Unit {\n if
(size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending
according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Returns a
list of all elements sorted according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sorted(): List<UInt> {\n return
copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort
order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sorted():
List<ULong> {\n return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted
according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.sorted(): List<UByte> {\n return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all
elements sorted according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sorted(): List<UShort> {\n return
copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns an array with all elements of this array sorted
according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.sortedArray(): UIntArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort()
}\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArray(): ULongArray
{\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArray(): UByteArray {\n if
(isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements
of this array sorted according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArray(): UShortArray
{\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArrayDescending():
UIntArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArrayDescending():
ULongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns an array with all elements of this array sorted descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArrayDescending():
UByteArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns an array with all elements of this array sorted descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArrayDescending():
UShortArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns a list of all elements sorted descending according to their natural sort order.\n
*\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedDescending(): List<UInt>

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{\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sortedDescending(): List<ULong> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n *
Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedDescending():
List<UByte> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted
descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve
their order relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.sortedDescending(): List<UShort> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n *
Returns an array of type [ByteArray], which is a view of this array where each element is a signed reinterpretation\n
* of the corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.asByteArray(): ByteArray {\n return storage\n}\n\n/**\n * Returns an array of type [IntArray], which
is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.asIntArray(): IntArray {\n return storage\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.asList():
List<UInt>\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.asList():
List<ULong>\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.asList():
List<UByte>\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.asList():
List<UShort>\n\n/**\n * Returns an array of type [LongArray], which is a view of this array where each element is
a signed reinterpretation\n * of the corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.asLongArray(): LongArray {\n return storage\n}\n\n/**\n * Returns an array of type [ShortArray],
which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.asShortArray(): ShortArray {\n return storage\n}\n\n/**\n * Returns an array of type [UByteArray],
which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of
this array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun ByteArray.asUByteArray(): UByteArray {\n return UByteArray(this)\n}\n\n/**\n * Returns an array of type
[UIntArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.asUIntArray(): UIntArray {\n return UIntArray(this)\n}\n\n/**\n * Returns an array of type
[ULongArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.asULongArray(): ULongArray {\n return ULongArray(this)\n}\n\n/**\n * Returns an array of type
[UShortArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.asUShortArray(): UShortArray {\n return UShortArray(this)\n}\n\n/**\n * Returns `true` if the two
specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the

```

same order.\n \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun  
 UIntArray.contentEquals(other: UIntArray): Boolean {\n return storage.contentEquals(other.storage)\n}\n\n/\*\*\n \*  
 Returns `true` if the two specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of  
 the same elements in the same order.\n \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun  
 ULongArray.contentEquals(other: ULongArray): Boolean {\n return  
 storage.contentEquals(other.storage)\n}\n\n/\*\*\n \* Returns `true` if the two specified arrays are \*structurally\* equal  
 to one another,\n \* i.e. contain the same number of the same elements in the same order.\n  
 \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.contentEquals(other:  
 UByteArray): Boolean {\n return storage.contentEquals(other.storage)\n}\n\n/\*\*\n \* Returns `true` if the two  
 specified arrays are \*structurally\* equal to one another,\n \* i.e. contain the same number of the same elements in the  
 same order.\n \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun  
 UShortArray.contentEquals(other: UShortArray): Boolean {\n return  
 storage.contentEquals(other.storage)\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is  
 [List].\n \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentHashCode(): Int  
 {\n return storage.contentHashCode()\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it  
 is [List].\n \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun  
 ULongArray.contentHashCode(): Int {\n return storage.contentHashCode()\n}\n\n/\*\*\n \* Returns a hash code  
 based on the contents of this array as if it is [List].\n  
 \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentHashCode(): Int {\n  
 return storage.contentHashCode()\n}\n\n/\*\*\n \* Returns a hash code based on the contents of this array as if it is  
 [List].\n \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentHashCode():  
 Int {\n return storage.contentHashCode()\n}\n\n/\*\*\n \* Returns a string representation of the contents of the  
 specified array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentToString(): String {\n  
 return joinToString(", ", "[", "]")\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified  
 array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentToString(): String {\n  
 return joinToString(", ", "[", "]")\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified  
 array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentToString(): String {\n  
 return joinToString(", ", "[", "]")\n}\n\n/\*\*\n \* Returns a string representation of the contents of the specified  
 array as if it is [List].\n \* \n \* @sample samples.collections.Arrays.ContentOperations.contentToString\n  
 \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentToString(): String {\n  
 return joinToString(", ", "[", "]")\n}\n\n/\*\*\n \* Copies this array or its subrange into the [destination] array and  
 returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so  
 that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param  
 destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the  
 beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the  
 subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or  
 [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex  
 > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array  
 starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \*  
 \n \* @return the [destination] array.\n  
 \*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
 UIntArray.copyInto(destination: UIntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):  
 UIntArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n return  
 destination\n}\n\n/\*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \*  
 It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the

destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyInto(destination: ULongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
ULongArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyInto(destination: UByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
UByteArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyInto(destination: UShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
size): UShortArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n return
destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOf(): UIntArray {\n return UIntArray(storage.copyOf())\n}\n\n/**\n * Returns new array which is
a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOf(): ULongArray {\n return ULongArray(storage.copyOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOf(): UByteArray {\n return UByteArray(storage.copyOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOf(): UShortArray {\n return UShortArray(storage.copyOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array, resized to the given [newSize].\n * \n * The copy is either truncated or padded at
```

the end with zero values if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOf(newSize: Int): UIntArray {\n return UIntArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOf(newSize: Int): ULongArray {\n return ULongArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOf(newSize: Int): UByteArray {\n return UByteArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOf(newSize: Int): UShortArray {\n return UShortArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOfRange(fromIndex: Int, toIndex: Int): UIntArray {\n return
 UIntArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOfRange(fromIndex: Int, toIndex: Int): ULongArray {\n return
 ULongArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfRange(fromIndex: Int, toIndex: Int): UByteArray {\n return
 UByteArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOfRange(fromIndex: Int, toIndex: Int): UShortArray {\n return
 UShortArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size of this array by default.\n * \n * @throws
```

```
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
```

```

*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic fun UIntArray.fill(element: UInt, fromIndex:
Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toInt(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array
or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive), 0 by
default.\n * @param toIndex the end of the range (exclusive), size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic fun ULongArray.fill(element: ULong,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toLong(), fromIndex, toIndex)\n}\n\n/**\n
* Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size of this array by default.\n * \n
* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic fun UByteArray.fill(element: UByte,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toByte(), fromIndex, toIndex)\n}\n\n/**\n
* Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive), 0 by default.\n * @param toIndex the end of the range (exclusive), size of this array by default.\n * \n
* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic fun UShortArray.fill(element: UShort,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toShort(), fromIndex, toIndex)\n}\n\n/**\n
* Returns the range of valid indices for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val UIntArray.indices: IntRange\n get()
= storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val ULongArray.indices: IntRange\n
 get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val UByteArray.indices: IntRange\n
 get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val UShortArray.indices: IntRange\n
 get() = storage.indices\n\n/**\n * Returns the last valid index for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val UIntArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val ULongArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val UByteArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic inline val UShortArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UIntArray.plus(element: UInt): UIntArray {\n return UIntArray(storage +
element.toInt())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun ULongArray.plus(element: ULong): ULongArray {\n return ULongArray(storage +
element.toLong())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UByteArray.plus(element: UByte): UByteArray {\n return UByteArray(storage +
element.toByte())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UShortArray.plus(element: UShort): UShortArray {\n return UShortArray(storage +

```

```

element.toShort())\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n * \n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UIntArray.plus(elements: Collection<UInt>): UIntArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toInt()\n return
UIntArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n * \n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun ULongArray.plus(elements: Collection<ULong>): ULongArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toLong()\n return
ULongArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] collection.\n * \n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
operator fun UByteArray.plus(elements: Collection<UByte>): UByteArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toByte()\n return
UByteArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n * \n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UShortArray.plus(elements: Collection<UShort>): UShortArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toShort()\n return
UShortArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] array.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.plus(elements: UIntArray): UIntArray {\n return UIntArray(storage + elements.storage)\n}\n\n/**\n *
Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.plus(elements: ULongArray): ULongArray {\n return ULongArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.plus(elements: UByteArray): UByteArray {\n return UByteArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.plus(elements: UShortArray): UShortArray {\n return UShortArray(storage +
elements.storage)\n}\n\n/**\n * Sorts the array in-place.\n * \n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.sort(): Unit {\n if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-place.\n * \n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun ULongArray.sort(): Unit {\n if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-place.\n * \n * \n *
@sample samples.collections.Arrays.Sorting.sortArray\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(): Unit {\n if (size > 1)
sortArray(this)\n}\n\n/**\n * Sorts the array in-place.\n * \n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.sort(): Unit {\n if (size > 1) sortArray(this)\n}\n\n/**\n * Returns an array of type [ByteArray],
which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n * \n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.toByteArray(): ByteArray {\n return storage.copyOf()\n}\n\n/**\n * Returns an array of type
[IntArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding
element of this array.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.toIntArray(): IntArray {\n return storage.copyOf()\n}\n\n/**\n * Returns an array of type [LongArray],

```

which is a copy of this array where each element is a signed reinterpretation of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ULongArray.toLongArray(): LongArray {
 return storage.copyOf()
}


```

\* Returns an array of type [ShortArray], which is a copy of this array where each element is a signed reinterpretation of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UShortArray.toShortArray(): ShortArray {
 return storage.copyOf()
}


```

\* Returns a typed object array containing all of the elements of this primitive array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UIntArray.toTypedArray(): Array<UInt>
{
 return Array(size) { index -> this[index] }
}


```

\* Returns a typed object array containing all of the elements of this primitive array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UByteArray.toTypedArray(): Array<UByte>
{
 return Array(size) { index -> this[index] }
}


```

\* Returns a typed object array containing all of the elements of this primitive array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UShortArray.toTypedArray():
Array<UShort>
{
 return Array(size) { index -> this[index] }
}


```

\* Returns an array of UByte containing all of the elements of this generic array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ByteArray.toUByteArray(): UByteArray {
 return UByteArray(size) { index -> this[index] }
}


```

\* Returns an array of type [UByteArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ByteArray.toUByteArray(): UByteArray {
 return UByteArray(this.copyOf())
}


```

\* Returns an array of UInt containing all of the elements of this generic array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun Array<out UInt>.toUIntArray(): UIntArray
{
 return UIntArray(size) { index -> this[index] }
}


```

\* Returns an array of type [UIntArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
IntArray.toUIntArray(): UIntArray {
 return UIntArray(this.copyOf())
}


```

\* Returns an array of ULong containing all of the elements of this generic array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun Array<out ULong>.toULongArray():
ULongArray
{
 return ULongArray(size) { index -> this[index] }
}


```

\* Returns an array of type [ULongArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
LongArray.toULongArray(): ULongArray {
 return ULongArray(this.copyOf())
}


```

\* Returns an array of UShort containing all of the elements of this generic array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun Array<out UShort>.toUShortArray():
UShortArray
{
 return UShortArray(size) { index -> this[index] }
}


```

\* Returns an array of type [UShortArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ShortArray.toUShortArray(): UShortArray {
 return UShortArray(this.copyOf())
}


```

\* Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.

```

@sample samples.collections.Collections.Transformations.flatMap
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
UIntArray.flatMap(transform: (UInt) -> Iterable<R>): List<R>
{
 return flatMapTo(ArrayList<R>(),


```



```

transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.flatMap(transform: (ULong) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.flatMap(transform: (UByte) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.flatMap(transform: (UShort) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapTo(destination: C, transform: (UInt) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapTo(destination: C, transform: (ULong) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.flatMapTo(destination: C, transform: (UByte) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.flatMapTo(destination: C, transform: (UShort) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
UIntArray.groupBy(keySelector: (UInt) -> K): Map<K, List<UInt>> {\n return groupByTo(LinkedHashMap<K,
MutableList<UInt>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
UIntArray.groupBy(keySelector: (ULong) -> K): Map<K, List<ULong>> {\n return
groupByTo(LinkedHashMap<K, MutableList<ULong>>(), keySelector)\n}\n\n/**\n * Groups elements of the

```

original array by the key returned by the given [keySelector] function  
\* applied to each element and returns a map where each group key is associated with a list of corresponding elements.  
\* The returned map preserves the entry iteration order of the keys produced from the original array.  
\* @sample

samples.collections.Collections.Transformations.groupBy

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>\nUByteArray.groupBy(keySelector: (UByte) -> K): Map<K, List<UByte>> {\n return\n groupByTo(LinkedHashMap<K, MutableList<UByte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * @sample
```

samples.collections.Collections.Transformations.groupBy

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>\nUShortArray.groupBy(keySelector: (UShort) -> K): Map<K, List<UShort>> {\n return\n groupByTo(LinkedHashMap<K, MutableList<UShort>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array * by the key returned by the given [keySelector] function applied to the element * and returns a map where each group key is associated with a list of corresponding values.\n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * @sample
```

samples.collections.Collections.Transformations.groupByKeysAndValues

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\nUIntArray.groupBy(keySelector: (UInt) -> K, valueTransform: (UInt) -> V): Map<K, List<V>> {\n return\n groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array * by the key returned by the given [keySelector] function applied to the element * and returns a map where each group key is associated with a list of corresponding values.\n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * @sample
```

samples.collections.Collections.Transformations.groupByKeysAndValues

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\nULongArray.groupBy(keySelector: (ULong) -> K, valueTransform: (ULong) -> V): Map<K, List<V>> {\n return\n groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array * by the key returned by the given [keySelector] function applied to the element * and returns a map where each group key is associated with a list of corresponding values.\n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * @sample
```

samples.collections.Collections.Transformations.groupByKeysAndValues

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\nUByteArray.groupBy(keySelector: (UByte) -> K, valueTransform: (UByte) -> V): Map<K, List<V>> {\n return\n groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array * by the key returned by the given [keySelector] function applied to the element * and returns a map where each group key is associated with a list of corresponding values.\n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * @sample
```

samples.collections.Collections.Transformations.groupByKeysAndValues

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\nUShortArray.groupBy(keySelector: (UShort) -> K, valueTransform: (UShort) -> V): Map<K, List<V>> {\n return\n groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * @return The [destination] map.\n * @sample
```

samples.collections.Collections.Transformations.groupBy

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UInt>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K): M {\n
for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<UInt>() }\n list.add(element)\n } \n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<ULong>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K):
M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<ULong>() }\n list.add(element)\n } \n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UByte>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K):
M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<UByte>() }\n list.add(element)\n } \n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UShort>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K):
M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<UShort>() }\n list.add(element)\n } \n return destination\n}\n\n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K,
valueTransform: (UInt) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n } \n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K,
valueTransform: (ULong) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n } \n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K,
valueTransform: (UByte) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list

```

```

= destination.getOrPut(key) { ArrayList<V>() } list.add(valueTransform(element)) } return
destination } }
/**
 * Groups values returned by the [valueTransform] function applied to each element of the
 * original array
 * by the key returned by the given [keySelector] function applied to the element
 * and puts to the
 * [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 *
 * @sample samples.collections.Collections.Transformations.groupByKeyAndValues
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K, valueTransform: (UShort) -> V): M {
 for (element in this) {
 val key = keySelector(element)
 val list = destination.getOrPut(key) { ArrayList<V>() }
 list.add(valueTransform(element))
 }
 return destination
}

/**
 * Returns a list containing the results of applying the given [transform] function
 * to each
 * element in the original array.
 *
 * @sample samples.collections.Collections.Transformations.map
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> UIntArray.map(transform: (UInt) -> R): List<R> {
 return mapTo(ArrayList<R>(size), transform)
}

/**
 * Returns a list containing the results of applying the given [transform] function
 * to each
 * element in the original array.
 *
 * @sample samples.collections.Collections.Transformations.map
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> ULongArray.map(transform: (ULong) -> R): List<R> {
 return mapTo(ArrayList<R>(size), transform)
}

/**
 * Returns a list containing the results of applying the given [transform] function
 * to each
 * element in the original array.
 *
 * @sample samples.collections.Collections.Transformations.map
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> UByteArray.map(transform: (UByte) -> R): List<R> {
 return mapTo(ArrayList<R>(size), transform)
}

/**
 * Returns a list containing the results of applying the given [transform] function
 * to each
 * element in the original array.
 *
 * @sample samples.collections.Collections.Transformations.map
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> UShortArray.map(transform: (UShort) -> R): List<R> {
 return mapTo(ArrayList<R>(size), transform)
}

/**
 * Returns a list containing the results of applying the given [transform] function
 * to each
 * element and its index in the original array.
 *
 * @param [transform] function that takes the index of an element and
 * the element itself
 * and returns the result of the transform applied to the element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> UIntArray.mapIndexed(transform: (index: Int, UInt) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

/**
 * Returns a list containing the results of applying the
 * given [transform] function
 * to each element and its index in the original array.
 *
 * @param [transform] function
 * that takes the index of an element and the element itself
 * and returns the result of the transform applied to the
 * element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> ULongArray.mapIndexed(transform: (index: Int, ULong) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

/**
 * Returns a list containing the results of applying the
 * given [transform] function
 * to each element and its index in the original array.
 *
 * @param [transform] function
 * that takes the index of an element and the element itself
 * and returns the result of the transform applied to the
 * element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> UByteArray.mapIndexed(transform: (index: Int, UByte) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

/**
 * Returns a list containing the results of applying the
 * given [transform] function
 * to each element and its index in the original array.
 *
 * @param [transform] function
 * that takes the index of an element and the element itself
 * and returns the result of the transform applied to the
 * element.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R> UShortArray.mapIndexed(transform: (index: Int, UShort) -> R): List<R> {
 return mapIndexedTo(ArrayList<R>(size), transform)
}

/**
 * Applies the given [transform] function to each
 * element and its index in the original array
 * and appends the results to the given [destination].
 *
 * @param [transform] function that takes the index of an element and the element itself
 * and returns the result of the
 */

```

transform applied to the element.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapIndexedTo(destination: C, transform: (index: Int, UInt) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapIndexedTo(destination: C, transform: (index: Int, ULong) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapIndexedTo(destination: C, transform: (index: Int, UByte) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapIndexedTo(destination: C, transform: (index: Int, UShort) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapTo(destination: C, transform: (UInt) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapTo(destination: C, transform: (ULong) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapTo(destination: C, transform: (UByte) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapTo(destination: C, transform: (UShort) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.withIndex(): Iterable<IndexedValue<UInt>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.withIndex(): Iterable<IndexedValue<ULong>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.withIndex(): Iterable<IndexedValue<UByte>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
```

that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```

*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun UShortArray.withIndex():
Iterable<IndexedValue<UShort>> {\/n return IndexingIterable { iterator() }\/n}\/n\/n**\/n * Returns `true` if all
elements match the given [predicate].\/n *\/n * @sample samples.collections.Collections.Aggregates.all\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UIntArray.all(predicate: (UInt) -> Boolean): Boolean {\/n for (element in this) if (!predicate(element)) return
false\/n return true\/n}\/n\/n**\/n * Returns `true` if all elements match the given [predicate].\/n *\/n * @sample
samples.collections.Collections.Aggregates.all\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
ULongArray.all(predicate: (ULong) -> Boolean): Boolean {\/n for (element in this) if (!predicate(element)) return
false\/n return true\/n}\/n\/n**\/n * Returns `true` if all elements match the given [predicate].\/n *\/n * @sample
samples.collections.Collections.Aggregates.all\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UByteArray.all(predicate: (UByte) -> Boolean): Boolean {\/n for (element in this) if (!predicate(element)) return
false\/n return true\/n}\/n\/n**\/n * Returns `true` if all elements match the given [predicate].\/n *\/n * @sample
samples.collections.Collections.Aggregates.all\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UShortArray.all(predicate: (UShort) -> Boolean): Boolean {\/n for (element in this) if (!predicate(element)) return
false\/n return true\/n}\/n\/n**\/n * Returns `true` if array has at least one element.\/n *\/n * @sample
samples.collections.Collections.Aggregates.any\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UIntArray.any(): Boolean {\/n return storage.any()\/n}\/n\/n**\/n * Returns `true` if array has at least one element.\/n
*\/n * @sample samples.collections.Collections.Aggregates.any\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
ULongArray.any(): Boolean {\/n return storage.any()\/n}\/n\/n**\/n * Returns `true` if array has at least one
element.\/n *\/n * @sample samples.collections.Collections.Aggregates.any\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UByteArray.any(): Boolean {\/n return storage.any()\/n}\/n\/n**\/n * Returns `true` if array has at least one
element.\/n *\/n * @sample samples.collections.Collections.Aggregates.any\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UShortArray.any(): Boolean {\/n return storage.any()\/n}\/n\/n**\/n * Returns `true` if at least one element matches
the given [predicate].\/n *\/n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UIntArray.any(predicate: (UInt) -> Boolean): Boolean {\/n for (element in this) if (predicate(element)) return true\/n
 return false\/n}\/n\/n**\/n * Returns `true` if at least one element matches the given [predicate].\/n *\/n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
ULongArray.any(predicate: (ULong) -> Boolean): Boolean {\/n for (element in this) if (predicate(element)) return
true\/n return false\/n}\/n\/n**\/n * Returns `true` if at least one element matches the given [predicate].\/n *\/n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UByteArray.any(predicate: (UByte) -> Boolean): Boolean {\/n for (element in this) if (predicate(element)) return
true\/n return false\/n}\/n\/n**\/n * Returns `true` if at least one element matches the given [predicate].\/n *\/n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UShortArray.any(predicate: (UShort) -> Boolean): Boolean {\/n for (element in this) if (predicate(element)) return
true\/n return false\/n}\/n\/n**\/n * Returns the number of elements matching the given [predicate].\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun

```

```

UIntArray.count(predicate: (UInt) -> Boolean): Int { \n var count = 0 \n for (element in this) if
(predicate(element)) ++count \n return count \n} \n \n /** \n * Returns the number of elements matching the given
[predicate]. \n */ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public
inline fun ULongArray.count(predicate: (ULong) -> Boolean): Int { \n var count = 0 \n for (element in this) if
(predicate(element)) ++count \n return count \n} \n \n /** \n * Returns the number of elements matching the given
[predicate]. \n */ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public
inline fun UByteArray.count(predicate: (UByte) -> Boolean): Int { \n var count = 0 \n for (element in this) if
(predicate(element)) ++count \n return count \n} \n \n /** \n * Returns the number of elements matching the given
[predicate]. \n */ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public
inline fun UShortArray.count(predicate: (UShort) -> Boolean): Int { \n var count = 0 \n for (element in this) if
(predicate(element)) ++count \n return count \n} \n \n /** \n * Accumulates value starting with [initial] value and
applying [operation] from left to right to current accumulator value and each element. \n
*/ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun <R>
UIntArray.fold(initial: R, operation: (acc: R, UInt) -> R): R { \n var accumulator = initial \n for (element in this)
accumulator = operation(accumulator, element) \n return accumulator \n} \n \n /** \n * Accumulates value starting
with [initial] value and applying [operation] from left to right to current accumulator value and each element. \n
*/ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun <R>
ULongArray.fold(initial: R, operation: (acc: R, ULong) -> R): R { \n var accumulator = initial \n for (element in
this) accumulator = operation(accumulator, element) \n return accumulator \n} \n \n /** \n * Accumulates value
starting with [initial] value and applying [operation] from left to right to current accumulator value and each
element. \n */ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline
fun <R> UByteArray.fold(initial: R, operation: (acc: R, UByte) -> R): R { \n var accumulator = initial \n for
(element in this) accumulator = operation(accumulator, element) \n return accumulator \n} \n \n /** \n * Accumulates
value starting with [initial] value and applying [operation] from left to right to current accumulator value and each
element. \n */ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline
fun <R> UShortArray.fold(initial: R, operation: (acc: R, UShort) -> R): R { \n var accumulator = initial \n for
(element in this) accumulator = operation(accumulator, element) \n return accumulator \n} \n \n /** \n * Accumulates
value starting with [initial] value and applying [operation] from left to right \n * to current accumulator value and
each element with its index in the original array. \n * @param [operation] function that takes the index of an element,
current accumulator value \n * and the element itself, and calculates the next accumulator value. \n
*/ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun <R>
UIntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): R { \n var index = 0 \n var
accumulator = initial \n for (element in this) accumulator = operation(index++, accumulator, element) \n return
accumulator \n} \n \n /** \n * Accumulates value starting with [initial] value and applying [operation] from left to
right \n * to current accumulator value and each element with its index in the original array. \n * @param [operation]
function that takes the index of an element, current accumulator value \n * and the element itself, and calculates the
next accumulator value. \n
*/ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun <R>
ULongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): R { \n var index = 0 \n var
accumulator = initial \n for (element in this) accumulator = operation(index++, accumulator, element) \n return
accumulator \n} \n \n /** \n * Accumulates value starting with [initial] value and applying [operation] from left to
right \n * to current accumulator value and each element with its index in the original array. \n * @param [operation]
function that takes the index of an element, current accumulator value \n * and the element itself, and calculates the
next accumulator value. \n
*/ \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun <R>
UByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): R { \n var index = 0 \n var
accumulator = initial \n for (element in this) accumulator = operation(index++, accumulator, element) \n return
accumulator \n} \n \n /** \n * Accumulates value starting with [initial] value and applying [operation] from left to

```

right\n \* to current accumulator value and each element with its index in the original array.\n \* @param [operation] function that takes the index of an element, current accumulator value\n \* and the element itself, and calculates the next accumulator value.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUIntArray.foldRight(initial: R, operation: (UInt, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nULongArray.foldRight(initial: R, operation: (ULong, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUByteArray.foldRight(initial: R, operation: (UByte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.foldRight(initial: R, operation: (UShort, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUIntArray.foldRightIndexed(initial: R, operation: (index: Int, UInt, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
```

```
* @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nULongArray.foldRightIndexed(initial: R, operation: (index: Int, ULong, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUByteArray.foldRightIndexed(initial: R, operation: (index: Int, UByte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
```



value and applying [operation] from right to left\n \* to each element with its index in the original array and current accumulator value.\n \* @param [operation] function that takes the index of an element, the element itself\n \* and current accumulator value, and calculates the next accumulator value.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.foldRightIndexed(initial: R, operation: (index: Int, UShort, acc: R) -> R): R {\n var index =\n lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index),\n accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Performs the given [action] on each
```

```
element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline\nfun UIntArray.forEach(action: (UInt) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.forEach(action: (ULong) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.forEach(action: (UByte) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.forEach(action: (UShort) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action]
```

```
function that takes the index of an element and the element itself\n * and performs the desired action on the\n element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline\nfun UIntArray.forEachIndexed(action: (index: Int, UInt) -> Unit): Unit {\n var index = 0\n for (item in this)\n action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with\n the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs\n the desired action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.forEachIndexed(action: (index: Int, ULong) -> Unit): Unit {\n var index = 0\n for (item in this)\n action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with\n the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs\n the desired action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.forEachIndexed(action: (index: Int, UByte) -> Unit): Unit {\n var index = 0\n for (item in this)\n action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with\n the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs\n the desired action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.forEachIndexed(action: (index: Int, UShort) -> Unit): Unit {\n var index = 0\n for (item in this)\n action(index++, item)\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.max(): UInt? {\n if (isEmpty())\n return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.max(): ULong? {\n if\n (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max\n = e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.max(): UByte? {\n if\n (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max\n = e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.max(): UShort? {\n if
```

```

(isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.maxBy\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UIntArray.maxBy(selector: (UInt) -> R): UInt? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.maxBy\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ULongArray.maxBy(selector: (ULong) -> R): ULong? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.maxBy\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.maxBy(selector: (UByte) -> R): UByte? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.maxBy\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.maxBy(selector: (UShort) -> R): UShort? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWith(comparator: Comparator<in UInt>): UInt? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxWith(comparator: Comparator<in ULong>): ULong? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxWith(comparator: Comparator<in UByte>): UByte? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxWith(comparator: Comparator<in UShort>): UShort? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.min(): UInt? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n}

```

```

return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun ULongArray.min(): ULong? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UByteArray.min(): UByte? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UShortArray.min(): UShort? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> UIntArray.minBy(selector: (UInt) -> R): UInt? {\n if (isEmpty()) return null\n var minElem =
this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
{\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> ULongArray.minBy(selector: (ULong) -> R): ULong? {\n if (isEmpty()) return null\n var
minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
{\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> UByteArray.minBy(selector: (UByte) -> R): UByte? {\n if (isEmpty()) return null\n var
minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
{\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> UShortArray.minBy(selector: (UShort) -> R): UShort? {\n if (isEmpty()) return null\n var
minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
{\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UIntArray.minWith(comparator:
Comparator<in UInt>): UInt? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun ULongArray.minWith(comparator:
Comparator<in ULong>): ULong? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UByteArray.minWith(comparator:
Comparator<in UByte>): UByte? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n

```

```

 val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minWith(comparator:
Comparator<in UShort>): UShort? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
 val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns
`true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(predicate: (UInt) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(predicate: (ULong) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(predicate: (UByte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(predicate: (UShort) -> Boolean): Boolean {\n for (element in this) if (predicate(element))
return false\n return true\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right to current accumulator value and each element.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduce(operation: (acc: UInt, UInt) -> UInt): UInt {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
value and each element.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduce(operation: (acc: ULong, ULong) -> ULong): ULong {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
value and each element.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ByteArray.reduce(operation: (acc: UByte, UByte) -> UByte): UByte {
 if (isEmpty()) throw
 UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(accumulator, this[index])
 }
 return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
 * value and each element.
 */
@sample samples.collections.Collections.Aggregates.reduce
*
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.reduce(operation: (acc: UShort, UShort) -> UShort): UShort {
 if (isEmpty()) throw
 UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(accumulator, this[index])
 }
 return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right
 * to current
 * accumulator value and each element with its index in the original array.
 */
@param [operation] function that takes
 * the index of an element, current accumulator value
 * and the element itself and calculates the next accumulator
 * value.
 */
@sample samples.collections.Collections.Aggregates.reduce
*
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.reduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt {
 if (isEmpty()) throw
 UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return
 accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to
 * right
 * to current accumulator value and each element with its index in the original array.
 */
@param [operation]
 * function that takes the index of an element, current accumulator value
 * and the element itself and calculates the
 * next accumulator value.
 */
@sample samples.collections.Collections.Aggregates.reduce
*
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ULongArray.reduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong {
 if (isEmpty())
 throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for
 (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return
 accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to
 * right
 * to current accumulator value and each element with its index in the original array.
 */
@param [operation]
 * function that takes the index of an element, current accumulator value
 * and the element itself and calculates the
 * next accumulator value.
 */
@sample samples.collections.Collections.Aggregates.reduce
*
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ByteArray.reduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte {
 if (isEmpty())
 throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for
 (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return
 accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to
 * right
 * to current accumulator value and each element with its index in the original array.
 */
@param [operation]
 * function that takes the index of an element, current accumulator value
 * and the element itself and calculates the
 * next accumulator value.
 */
@sample samples.collections.Collections.Aggregates.reduce
*
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.reduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort {
 if (isEmpty())
 throw UnsupportedOperationException("Empty array can't be reduced.")
 var accumulator = this[0]
 for
 (index in 1..lastIndex) {
 accumulator = operation(index, accumulator, this[index])
 }
 return
 accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to
 * right
 * to current accumulator value and each element. Returns null if the array is empty.
 */
@sample
 * samples.collections.Collections.Aggregates.reduceOrNull
*
@SinceKotlin("1.3")
@ExperimentalStdlibApi
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnl
y
public inline fun
UIntArray.reduceOrNull(operation: (acc: UInt, UInt) -> UInt): UInt? {
 if (isEmpty())
 return null
 var accumulator = this[0]
 for (index in 1..lastIndex) {
 accumulator =
 operation(accumulator, this[index])
 }
 return accumulator
}
/**
 * Accumulates value starting with the
 */

```

first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.

```

@sample samples.collections.Collections.Aggregates.reduceOrNull
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceOrNull(operation: (acc: ULong, ULong) -> ULong): ULong? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n/n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.
@sample samples.collections.Collections.Aggregates.reduceOrNull
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceOrNull(operation: (acc: UByte, UByte) -> UByte): UByte? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n/n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Returns null if the array is empty.
@sample samples.collections.Collections.Aggregates.reduceOrNull
*/n@SinceKotlin("1.3")n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceOrNull(operation: (acc: UShort, UShort) -> UShort): UShort? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n/n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRight
*/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceRight(operation: (UInt, acc: UInt) -> UInt): UInt {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n/n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRight
*/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceRight(operation: (ULong, acc: ULong) -> ULong): ULong {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n/n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRight
*/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceRight(operation: (UByte, acc: UByte) -> UByte): UByte {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n/n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRight
*/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceRight(operation: (UShort, acc: UShort) -> UShort): UShort {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n/n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
@param [operation] function that takes the index of an element, the element itself
and current accumulator value, and calculates the

```

```

next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRightIndexed(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt {\n var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n
 }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from
right to left\n * to each element with its index in the original array and current accumulator value.\n * @param
[operation] function that takes the index of an element, the element itself\n * and current accumulator value, and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceRightIndexed(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong {\n var index =
lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var
accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceRightIndexed(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte {\n var index =
lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var
accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceRightIndexed(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort {\n var index =
lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var
accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left to each element and current accumulator value. Returns null if the array is
empty.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun UIntArray.reduceRightOrNull(operation: (UInt, acc: UInt) -> UInt): UInt? {\n var index =
lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value
starting with last element and applying [operation] from right to left to each element and current accumulator value.
Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun ULongArray.reduceRightOrNull(operation: (ULong, acc: ULong) -> ULong): ULong? {\n var
index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value
starting with last element and applying [operation] from right to left to each element and current accumulator value.
Returns null if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n

```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceRightOrNull(operation: (UByte, acc: UByte) -> UByte): UByte? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value. Returns null if the array is empty.\n */\n * @sample
```

samples.collections.Collections.Aggregates.reduceRightOrNull

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceRightOrNull(operation: (UShort, acc: UShort) -> UShort): UShort? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n */\n * @param
```

[operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* @sample samples.collections.Collections.Aggregates.scan

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scan(initial: R, operation: (acc: R, UInt) -> R): List<R> {\n if (isEmpty())\n return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n */\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample
```

samples.collections.Collections.Aggregates.scan

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scan(initial: R, operation: (acc: R, ULong) -> R): List<R> {\n if (isEmpty())\n return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n */\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample
```

samples.collections.Collections.Aggregates.scan

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scan(initial: R, operation: (acc: R, UByte) -> R): List<R> {\n if (isEmpty())\n return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n */\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample
```

samples.collections.Collections.Aggregates.scan

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scan(initial: R, operation: (acc: R, UShort) -> R): List<R> {\n if
```



```

(isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator =
initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n }\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun <R> UIntArray.scanIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): List<R> {\n
if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator
= initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n }\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun <R> UIntArray.scanIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): List<R> {\n
if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var
accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n }\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun <R> ULongArray.scanIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): List<R>
{\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var
accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n }\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun <R> ULongArray.scanIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): List<R>
{\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var
accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n }\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun <R> UByteArray.scanIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): List<R>
{\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var
accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n }\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun <R> UByteArray.scanIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): List<R>
{\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var
accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n }\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scanReduce\n

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.scanReduce(operation: (acc: UInt, UInt) -> UInt): List<UInt> {\n if (isEmpty())\n return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UInt>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n }\n result.add(accumulator)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.scanReduce\n

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.scanReduce(operation: (acc: ULong, ULong) -> ULong): List<ULong> {\n if (isEmpty())\n return emptyList()\n var accumulator = this[0]\n val result = ArrayList<ULong>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n }\n result.add(accumulator)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.scanReduce\n

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```

*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.scanReduce(operation: (acc: UByte, UByte) -> UByte): List<UByte> {\n if (isEmpty())\n return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UByte>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n }\n result.add(accumulator)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.scanReduce\n

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.scanReduce(operation: (acc: UShort, UShort) -> UShort): List<UShort> {\n if (isEmpty())\n return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UShort>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n }\n result.add(accumulator)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.scanReduce\n

```

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.scanReduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): List<UInt> {\n if (isEmpty())\n return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UInt>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to

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[operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value\n \* and the element itself, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scanReduce\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.scanReduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): List<ULong> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<ULong>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.scanReduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): List<UByte> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UByte>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scanReduce\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.scanReduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): List<UShort> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UShort>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumBy(selector: (UInt) -> UInt): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumBy(selector: (ULong) -> UInt): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumBy(selector: (UByte) -> UInt): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumBy(selector: (UShort) -> UInt): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sumByDouble(selector: (UInt) -> Double): Double {\n var sum: Double = 0.0\n for (element in this)
{\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sumByDouble(selector: (ULong) -> Double): Double {\n var sum: Double = 0.0\n for (element in
this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.sumByDouble(selector: (UByte) -> Double): Double {\n var sum: Double = 0.0\n for (element in
this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sumByDouble(selector: (UShort) -> Double): Double {\n var sum: Double = 0.0\n for (element in
this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Array<out
R>): List<Pair<UInt, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Array<out R>): List<Pair<ULong, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Array<out
R>): List<Pair<UByte, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Array<out R>): List<Pair<UShort, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] array with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Array<out R>, transform: (a: UInt, b: R) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n
}\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Array<out R>, transform: (a: ULong, b: R) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n
}\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n

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*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Array<out R>, transform: (a: UByte, b: R) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Array<out R>, transform: (a: UShort, b: R) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with
the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other:
Iterable<R>): List<Pair<UInt, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Iterable<R>): List<Pair<ULong, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other:
Iterable<R>): List<Pair<UByte, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Iterable<R>): List<Pair<UShort, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] collection with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Iterable<R>, transform: (a: UInt, b: R) -> V): List<V> {\n val arraySize = size\n val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n
if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Iterable<R>, transform: (a: ULong, b: R) -> V): List<V> {\n val arraySize = size\n val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other)
{\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n *
Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Iterable<R>, transform: (a: UByte, b: R) -> V): List<V> {\n val arraySize = size\n val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other)
{\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n *
Returns a

```

list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>\nUShortArray.zip(other: Iterable<R>, transform: (a: UShort, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other)\n {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.zip(other: UIntArray):\nList<Pair<UInt, UInt>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from\n the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest\n collection.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.zip(other: ULongArray):\nList<Pair<ULong, ULong>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built\n from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the\n shortest collection.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.zip(other: UByteArray):\nList<Pair<UByte, UByte>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built\n from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the\n shortest collection.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.zip(other: UShortArray):\nList<Pair<UShort, UShort>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built\n from the elements of `this` array and the [other] array with the same index\n * using the provided [transform]\n function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>\nUIntArray.zip(other: UIntArray, transform: (a: UInt, b: UInt) -> V): List<V> {\n val size = minOf(size,\n other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array\n with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned\n list has length of the shortest array.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>\nULongArray.zip(other: ULongArray, transform: (a: ULong, b: ULong) -> V): List<V> {\n val size = minOf(size,\n other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array\n with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned\n list has length of the shortest array.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>\nUByteArray.zip(other: UByteArray, transform: (a: UByte, b: UByte) -> V): List<V> {\n val size = minOf(size,\n other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array\n with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned\n list has length of the shortest array.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UShortArray.zip(other: UShortArray, transform: (a: UShort, b: UShort) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns the sum of all elements in the array.\n */
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Array<out UInt>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Array<out ULong>.sum(): ULong {\n var sum: ULong = 0uL\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Array<out UByte>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */
*\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Array<out UShort>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sum(): UInt {\n return storage.sum().toUInt()\n}\n\n/**\n * Returns the sum of all elements in the
array.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sum(): ULong {\n return storage.sum().toULong()\n}\n\n/**\n * Returns the sum of all elements in
the array.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray.sum(): UInt {\n return sumBy { it.toUInt() }\n}\n\n/**\n * Returns the sum of all elements in the
array.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sum(): UInt {\n return sumBy { it.toUInt() }\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UCollectionsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an array of UByte containing all of the
elements of this collection.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<UByte>.toUByteArray(): UByteArray {\n val result = UByteArray(size)\n var index = 0\n for
(element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of UInt containing
all of the elements of this collection.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<UInt>.toUIntArray(): UIntArray {\n val result = UIntArray(size)\n var index = 0\n for (element in
this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of ULong containing all of the
elements of this collection.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<ULong>.toULongArray(): ULongArray {\n val result = ULongArray(size)\n var index = 0\n for
(element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of UShort
containing all of the elements of this collection.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<UShort>.toUShortArray():
UShortArray {\n val result = UShortArray(size)\n var index = 0\n for (element in this)\n result[index++] =
element\n return result\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<UInt>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<ULong>.sum(): ULong {\n var sum: ULong = 0uL\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */

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}\n return sum}\n}\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<UByte>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n
return sum}\n}\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<UShort>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n
return sum}\n}\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UComparisonsKt")\n\npackage
kotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\nimport kotlin.random.*\n\n/**\n * Returns the
greater of two values.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UInt, b:
UInt): UInt {\n return if (a >= b) a else b}\n}\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: ULong, b: ULong): ULong {\n
return if (a >= b) a else b}\n}\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte, b: UByte): UByte {\n
return if (a >= b) a else b}\n}\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UShort, b: UShort): UShort {\n
return if (a >= b) a else b}\n}\n/**\n * Returns the greater of three values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
maxOf(a: UInt, b: UInt, c: UInt): UInt {\n return maxOf(a, maxOf(b, c))}\n}\n/**\n * Returns the greater of three
values.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun maxOf(a: ULong, b: ULong, c: ULong): ULong {\n return maxOf(a, maxOf(b, c))}\n}\n/**\n * Returns the
greater of three values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
maxOf(a: UByte, b: UByte, c: UByte): UByte {\n return maxOf(a, maxOf(b, c))}\n}\n/**\n * Returns the greater
of three values.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun maxOf(a: UShort, b: UShort, c: UShort): UShort {\n return maxOf(a, maxOf(b, c))}\n}\n/**\n *
Returns the smaller of two values.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
minOf(a: UInt, b: UInt): UInt {\n return if (a <= b) a else b}\n}\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, b: ULong): ULong {\n
return if (a <= b) a else b}\n}\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte, b: UByte): UByte {\n
return if (a <= b) a else b}\n}\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UShort, b: UShort): UShort {\n
return if (a <= b) a else b}\n}\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
minOf(a: UInt, b: UInt, c: UInt): UInt {\n return minOf(a, minOf(b, c))}\n}\n/**\n * Returns the smaller of three
values.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun minOf(a: ULong, b: ULong, c: ULong): ULong {\n return minOf(a, minOf(b, c))}\n}\n/**\n * Returns the
smaller of three values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
minOf(a: UByte, b: UByte, c: UByte): UByte {\n return minOf(a, minOf(b, c))}\n}\n/**\n * Returns the smaller
of three values.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun minOf(a: UShort, b: UShort, c: UShort): UShort {\n return minOf(a, minOf(b, c))}\n}\n", "/*\n
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("URangesKt")\n\npackage

```



```

kotlin.ranges\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.random.*\n\n/**\n * Returns a
random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntRange.random(): UInt {\n return random(Random)\n}\n\n/**\n * Returns a random element from this range.\n
*\n * @throws IllegalArgumentException if this range is empty.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongRange.random(): ULong {\n return random(Random)\n}\n\n/**\n * Returns a random element from this
range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is
empty.\n *\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntRange.random(random:
Random): UInt {\n try {\n return random.nextUInt(this)\n } catch(e: IllegalArgumentException) {\n
throw NoSuchElementException(e.message)\n }\n}\n\n/**\n * Returns a random element from this range using
the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongRange.random(random: Random):
ULong {\n try {\n return random.nextULong(this)\n } catch(e: IllegalArgumentException) {\n throw
NoSuchElementException(e.message)\n }\n}\n\n/**\n * Returns a random element from this range, or `null` if this
range is empty.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun UIntRange.randomOrNull(): UInt? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns
a random element from this range, or `null` if this range is empty.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnl
y\npublic inline fun ULongRange.randomOrNull(): ULong? {\n return randomOrNull(Random)\n}\n\n/**\n *
Returns a random element from this range using the specified source of randomness, or `null` if this range is
empty.\n *\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\npublic fun
UIntRange.randomOrNull(random: Random): UInt? {\n if (isEmpty())\n return null\n return
random.nextUInt(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of
randomness, or `null` if this range is empty.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\npublic fun
ULongRange.randomOrNull(random: Random): ULong? {\n if (isEmpty())\n return null\n return
random.nextULong(this)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always
returns `false` if the [element] is `null`.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntRange.contains(element: UInt?): Boolean {\n return element != null && contains(element)\n}\n\n/**\n *
Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is
`null`.\n *\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun ULongRange.contains(element: ULong?): Boolean {\n return element != null &&
contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator fun UIntRange.contains(value:
UByte): Boolean {\n return contains(value.toUInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n *\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator fun
ULongRange.contains(value: UByte): Boolean {\n return contains(value.toULong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n *\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
operator fun ULongRange.contains(value: UInt): Boolean {\n return contains(value.toULong())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator fun UIntRange.contains(value:
ULong): Boolean {\n return (value shr UInt.SIZE_BITS) == 0uL && contains(value.toUInt())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n
\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator fun UIntRange.contains(value:

```

UShort): Boolean {  
return contains(value.toUInt())  
} \* Checks if the specified [value] belongs to this range.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public operator fun  
ULongRange.contains(value: UShort): Boolean {  
return contains(value.toULong())  
} \* Returns a progression from this value down to the specified [to] value with the step -1.  
\* The [to] value should be less than or equal to `this` value.  
\* If the [to] value is greater than `this` value the returned progression is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun UByte.downTo(to: UByte):  
UIntProgression {  
return UIntProgression.fromClosedRange(this.toUInt(), to.toUInt(), -1)  
} \* Returns a progression from this value down to the specified [to] value with the step -1.  
\* The [to] value should be less than or equal to `this` value.  
\* If the [to] value is greater than `this` value the returned progression is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun UInt.downTo(to: UInt):  
UIntProgression {  
return UIntProgression.fromClosedRange(this, to, -1)  
} \* Returns a progression from this value down to the specified [to] value with the step -1.  
\* The [to] value should be less than or equal to `this` value.  
\* If the [to] value is greater than `this` value the returned progression is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun ULong.downTo(to: ULong):  
ULongProgression {  
return ULongProgression.fromClosedRange(this, to, -1L)  
} \* Returns a progression from this value down to the specified [to] value with the step -1.  
\* The [to] value should be less than or equal to `this` value.  
\* If the [to] value is greater than `this` value the returned progression is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun UShort.downTo(to: UShort):  
UIntProgression {  
return UIntProgression.fromClosedRange(this.toUInt(), to.toUInt(), -1)  
} \* Returns a progression that goes over the same range in the opposite direction with the same step.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public fun UIntProgression.reversed():  
UIntProgression {  
return UIntProgression.fromClosedRange(last, first, -step)  
} \* Returns a progression that goes over the same range in the opposite direction with the same step.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public fun ULongProgression.reversed():  
ULongProgression {  
return ULongProgression.fromClosedRange(last, first, -step)  
} \* Returns a progression that goes over the same range with the given step.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun UIntProgression.step(step: Int):  
UIntProgression {  
checkStepIsPositive(step > 0, step)  
return UIntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)  
} \* Returns a progression that goes over the same range with the given step.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun ULongProgression.step(step: Long):  
ULongProgression {  
checkStepIsPositive(step > 0, step)  
return ULongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)  
} \* Returns a range from this value up to but excluding the specified [to] value.  
\* If the [to] value is less than or equal to `this` value, then the returned range is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun UByte.until(to: UByte): UIntRange {  
if (to <= UByte.MIN\_VALUE) return UIntRange.EMPTY  
return this.toUInt() .. (to - 1u).toUInt()  
} \* Returns a range from this value up to but excluding the specified [to] value.  
\* If the [to] value is less than or equal to `this` value, then the returned range is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun UInt.until(to: UInt): UIntRange {  
if (to <= UInt.MIN\_VALUE) return UIntRange.EMPTY  
return this .. (to - 1u).toUInt()  
} \* Returns a range from this value up to but excluding the specified [to] value.  
\* If the [to] value is less than or equal to `this` value, then the returned range is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun ULong.until(to: ULong): ULongRange {  
if (to <= ULong.MIN\_VALUE) return ULongRange.EMPTY  
return this .. (to - 1u).toULong()  
} \* Returns a range from this value up to but excluding the specified [to] value.  
\* If the [to] value is less than or equal to `this` value, then the returned range is empty.  
@SinceKotlin("1.3")  
@ExperimentalUnsignedTypes  
public infix fun UShort.until(to: UShort): UIntRange {  
if (to <= UShort.MIN\_VALUE) return UIntRange.EMPTY  
return this.toUInt() .. (to - 1u).toUInt()  
} \* Ensures that this value is not less than the specified [minimumValue].  
\* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.  
\* @sample

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samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceAtLeast(minimumValue: UInt):
UInt {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less
than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]
or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceAtLeast(minimumValue:
ULong): ULong {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this
value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the
[minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceAtLeast(minimumValue:
UByte): UByte {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value
is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the
[minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceAtLeast(minimumValue:
UShort): UShort {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this
value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceAtMost(maximumValue: UInt):
UInt {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceAtMost(maximumValue:
ULong): ULong {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceAtMost(maximumValue:
UByte): UByte {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceAtMost(maximumValue:
UShort): UShort {\n return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range,
or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceIn(minimumValue: UInt,
maximumValue: UInt): UInt {\n if (minimumValue > maximumValue) throw IllegalArgumentException("Cannot
coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.")\n if (this <
minimumValue) return minimumValue\n if (this > maximumValue) return maximumValue\n return
this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n *
@return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample

```

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samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceIn(minimumValue: ULong,
maximumValue: ULong): ULong {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceIn(minimumValue: UByte,
maximumValue: UByte): UByte {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceIn(minimumValue: UShort,
maximumValue: UShort): UShort {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceIn(range: ClosedRange<UInt>):
UInt {\n if (range is ClosedFloatingPointRange) {\n return this.coerceIn<UInt>(range)\n }\n if
(range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n return
when {\n this < range.start -> range.start\n this > range.endInclusive -> range.endInclusive\n else ->
this\n }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the
[range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than
`range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceIn(range:
ClosedRange<ULong>): ULong {\n if (range is ClosedFloatingPointRange) {\n return
this.coerceIn<ULong>(range)\n }\n if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value
to an empty range: $range.")\n return when {\n this < range.start -> range.start\n this >
range.endInclusive -> range.endInclusive\n else -> this\n }\n}\n\n"/**\n * Copyright 2010-2019 JetBrains
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license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("USequencesKt")\n\npackage
kotlin.sequences\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the
sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Sequence<UInt>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n
return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Sequence<ULong>.sum(): ULong {\n var sum: ULong = 0uL\n for (element in this) {\n sum += element\n

```

```

}
return sum
}

/**
 * Returns the sum of all elements in the sequence.
 * The operation is
 terminal
 */
@kotlin.jvm.JvmName("sumOfUByte")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
Sequence<UByte>.sum(): UInt {
 var sum: UInt = 0u
 for (element in this) {
 sum += element
 }
 return sum
}

/**
 * Returns the sum of all elements in the sequence.
 * The operation is
 terminal
 */
@kotlin.jvm.JvmName("sumOfUShort")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
Sequence<UShort>.sum(): UInt {
 var sum: UInt = 0u
 for (element in this) {
 sum += element
 }
 return sum
}

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 */
package
kotlin.collections
import kotlin.internal.PlatformDependent

/**
 * Classes that inherit from this interface can
 be represented as a sequence of elements that can
 * be iterated over.
 * @param T the type of element being
 iterated over. The iterator is covariant on its element type.
 */
public interface Iterable<out T> {
 /**
 * Returns an iterator over the elements of this object.
 */
 public operator fun iterator(): Iterator<T>
}

/**
 * Classes that inherit from this interface can be represented as a sequence of elements that can
 * be iterated over
 and that supports removing elements during iteration.
 * @param T the type of element being iterated over. The
 mutable iterator is invariant on its element type.
 */
public interface MutableIterable<out T> : Iterable<T> {
 /**
 * Returns an iterator over the elements of this sequence that supports removing elements during iteration.
 */
 override fun iterator(): MutableIterator<T>
}

/**
 * A generic collection of elements. Methods in this
 interface support only read-only access to the collection;
 * read/write access is supported through the
 [MutableCollection] interface.
 * @param E the type of elements contained in the collection. The collection is
 covariant on its element type.
 */
public interface Collection<out E> : Iterable<E> {
 // Query Operations
 /**
 * Returns the size of the collection.
 */
 public val size: Int
 /**
 * Returns `true` if the
 collection is empty (contains no elements), `false` otherwise.
 */
 public fun isEmpty(): Boolean
 /**
 * Checks if the specified element is contained in this collection.
 */
 public operator fun contains(element:
 @UnsafeVariance E): Boolean
 override fun iterator(): Iterator<E>
 // Bulk Operations
 /**
 * Checks if all elements in the specified collection are contained in this collection.
 */
 public fun
 containsAll(elements: Collection<@UnsafeVariance E>): Boolean
}

/**
 * A generic collection of elements
 that supports adding and removing elements.
 * @param E the type of elements contained in the collection. The
 mutable collection is invariant on its element type.
 */
public interface MutableCollection<E> : Collection<E>,
 MutableIterable<E> {
 // Query Operations
 override fun iterator(): MutableIterator<E>
 // Modification
 Operations
 /**
 * Adds the specified element to the collection.
 * @return `true` if the element has
 been added, `false` if the collection does not support duplicates
 * and the element is already contained in the
 collection.
 */
 public fun add(element: E): Boolean
 /**
 * Removes a single instance of the
 specified element from this
 * collection, if it is present.
 * @return `true` if the element has been
 successfully removed; `false` if it was not present in the collection.
 */
 public fun remove(element: E):
 Boolean
 // Bulk Modification Operations
 /**
 * Adds all of the elements of the specified collection to
 this collection.
 * @return `true` if any of the specified elements was added to the collection, `false` if the
 collection was not modified.
 */
 public fun addAll(elements: Collection<E>): Boolean
 /**
 * Removes all of this collection's elements that are also contained in the specified collection.
 * @return
 `true` if any of the specified elements was removed from the collection, `false` if the collection was not modified.
 */
 public fun removeAll(elements: Collection<E>): Boolean
 /**
 * Retains only the elements in this
 collection that are contained in the specified collection.
 * @return `true` if any element was removed
 from the collection, `false` if the collection was not modified.
 */
 public fun retainAll(elements:
 Collection<E>): Boolean
 /**
 * Removes all elements from this collection.
 */
 public fun clear():

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Unit\n}\n\n/**\n * A generic ordered collection of elements. Methods in this interface support only read-only access
to the list;\n * read/write access is supported through the [MutableList] interface.\n * @param E the type of elements
contained in the list. The list is covariant on its element type.\n */\npublic interface List<out E> : Collection<E> {\n
// Query Operations\n\n override val size: Int\n override fun isEmpty(): Boolean\n override fun
contains(element: @UnsafeVariance E): Boolean\n override fun iterator(): Iterator<E>\n\n // Bulk Operations\n
override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n\n // Positional Access
Operations\n /**\n * Returns the element at the specified index in the list.\n */\n public operator fun
get(index: Int): E\n\n // Search Operations\n /**\n * Returns the index of the first occurrence of the specified
element in the list, or -1 if the specified\n * element is not contained in the list.\n */\n public fun
indexOf(element: @UnsafeVariance E): Int\n\n /**\n * Returns the index of the last occurrence of the specified
element in the list, or -1 if the specified\n * element is not contained in the list.\n */\n public fun
lastIndexOf(element: @UnsafeVariance E): Int\n\n // List Iterators\n /**\n * Returns a list iterator over the
elements in this list (in proper sequence).\n */\n public fun listIterator(): ListIterator<E>\n\n /**\n * Returns
a list iterator over the elements in this list (in proper sequence), starting at the specified [index].\n */\n public
fun listIterator(index: Int): ListIterator<E>\n\n // View\n /**\n * Returns a view of the portion of this list
between the specified [fromIndex] (inclusive) and [toIndex] (exclusive).\n * The returned list is backed by this
list, so non-structural changes in the returned list are reflected in this list, and vice-versa.\n */\n * Structural
changes in the base list make the behavior of the view undefined.\n */\n public fun subList(fromIndex: Int,
toIndex: Int): List<E>\n}\n\n/**\n * A generic ordered collection of elements that supports adding and removing
elements.\n * @param E the type of elements contained in the list. The mutable list is invariant on its element
type.\n */\npublic interface MutableList<E> : List<E>, MutableCollection<E> {\n // Modification Operations\n
/**\n * Adds the specified element to the end of this list.\n */\n * @return `true` because the list is always
modified as the result of this operation.\n */\n override fun add(element: E): Boolean\n\n override fun
remove(element: E): Boolean\n\n // Bulk Modification Operations\n /**\n * Adds all of the elements of the
specified collection to the end of this list.\n */\n * The elements are appended in the order they appear in the
[elements] collection.\n */\n * @return `true` if the list was changed as the result of the operation.\n */\n
override fun addAll(elements: Collection<E>): Boolean\n\n /**\n * Inserts all of the elements of the specified
collection [elements] into this list at the specified [index].\n */\n * @return `true` if the list was changed as the
result of the operation.\n */\n public fun addAll(index: Int, elements: Collection<E>): Boolean\n\n override
fun removeAll(elements: Collection<E>): Boolean\n\n override fun retainAll(elements: Collection<E>): Boolean\n
override fun clear(): Unit\n\n // Positional Access Operations\n /**\n * Replaces the element at the specified
position in this list with the specified element.\n */\n * @return the element previously at the specified
position.\n */\n public operator fun set(index: Int, element: E): E\n\n /**\n * Inserts an element into the list
at the specified [index].\n */\n public fun add(index: Int, element: E): Unit\n\n /**\n * Removes an element
at the specified [index] from the list.\n */\n * @return the element that has been removed.\n */\n public fun
removeAt(index: Int): E\n\n // List Iterators\n override fun listIterator(): MutableListIterator<E>\n\n override
fun listIterator(index: Int): MutableListIterator<E>\n\n // View\n override fun subList(fromIndex: Int, toIndex:
Int): MutableList<E>\n}\n\n/**\n * A generic unordered collection of elements that does not support duplicate
elements.\n * Methods in this interface support only read-only access to the set;\n * read/write access is supported
through the [MutableSet] interface.\n * @param E the type of elements contained in the set. The set is covariant on
its element type.\n */\npublic interface Set<out E> : Collection<E> {\n // Query Operations\n\n override val size:
Int\n override fun isEmpty(): Boolean\n override fun contains(element: @UnsafeVariance E): Boolean\n
override fun iterator(): Iterator<E>\n\n // Bulk Operations\n override fun containsAll(elements:
Collection<@UnsafeVariance E>): Boolean\n}\n\n/**\n * A generic unordered collection of elements that does not
support duplicate elements, and supports\n * adding and removing elements.\n * @param E the type of elements
contained in the set. The mutable set is invariant on its element type.\n */\npublic interface MutableSet<E> :
Set<E>, MutableCollection<E> {\n // Query Operations\n override fun iterator(): MutableIterator<E>\n\n //
Modification Operations\n\n /**\n * Adds the specified element to the set.\n */\n * @return `true` if the

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element has been added, `false` if the element is already contained in the set.

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 override fun add(element: E): Boolean
 override fun remove(element: E): Boolean
 // Bulk Modification Operations
 override fun addAll(elements: Collection<E>): Boolean
 override fun removeAll(elements: Collection<E>): Boolean
 override fun retainAll(elements: Collection<E>): Boolean
 override fun clear(): Unit
}

/** A collection that holds pairs of objects (keys and values) and supports efficiently retrieving the value corresponding to each key. Map keys are unique; the map holds only one value for each key.
 * Methods in this interface support only read-only access to the map; read-write access is supported through the [MutableMap] interface.
 * @param K the type of map keys. The map is invariant on its key type, as it can accept key as a parameter (of [containsKey] for example) and return it in [keys] set.
 * @param V the type of map values. The map is covariant on its value type.
 */
public interface Map<K, out V> {
 // Query Operations
 /** Returns the number of key/value pairs in the map.
 */
 public val size: Int
 /** Returns `true` if the map is empty (contains no elements), `false` otherwise.
 */
 public fun isEmpty(): Boolean
 /** Returns `true` if the map contains the specified [key].
 */
 public fun containsKey(key: K): Boolean
 /** Returns `true` if the map maps one or more keys to the specified [value].
 */
 public fun containsValue(value: @UnsafeVariance V): Boolean
 /** Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.
 */
 public operator fun get(key: K): V?
 /** Returns the value corresponding to the given [key], or [defaultValue] if such a key is not present in the map.
 */
 @since JDK 1.8
 @SinceKotlin("1.1")
 @PlatformDependent
 public fun getOrDefault(key: K, defaultValue: @UnsafeVariance V): V
 // See default implementation in JDK sources
 return null as V
}

// Views
/** Returns a read-only [Set] of all keys in this map.
 */
public val keys: Set<K>
/** Returns a read-only [Collection] of all values in this map. Note that this collection may contain duplicate values.
 */
public val values: Collection<V>
/** Returns a read-only [Set] of all key/value pairs in this map.
 */
public val entries: Set<Map.Entry<K, V>>
/** Represents a key/value pair held by a [Map].
 */
public interface Entry<out K, out V> {
 /** Returns the key of this key/value pair.
 */
 public val key: K
 /** Returns the value of this key/value pair.
 */
 public val value: V
}

/** A modifiable collection that holds pairs of objects (keys and values) and supports efficiently retrieving the value corresponding to each key. Map keys are unique; the map holds only one value for each key.
 * @param K the type of map keys. The map is invariant on its key type.
 * @param V the type of map values. The mutable map is invariant on its value type.
 */
public interface MutableMap<K, V> : Map<K, V> {
 // Modification Operations
 /** Associates the specified [value] with the specified [key] in the map.
 */
 @return the previous value associated with the key, or `null` if the key was not present in the map.
 public fun put(key: K, value: V): V?
 /** Removes the specified key and its corresponding value from this map.
 */
 @return the previous value associated with the key, or `null` if the key was not present in the map.
 public fun remove(key: K): V?
 /** Removes the entry for the specified key only if it is mapped to the specified value.
 */
 @return true if entry was removed
 @SinceKotlin("1.1")
 @PlatformDependent
 public fun remove(key: K, value: V): Boolean
 // See default implementation in JDK sources
 return true
}

// Bulk Modification Operations
/** Updates this map with key/value pairs from the specified map [from].
 */
public fun putAll(from: Map<out K, V>): Unit
/** Removes all elements from this map.
 */
public fun clear(): Unit
// Views
/** Returns a [MutableSet] of all keys in this map.
 */
override val keys: MutableSet<K>
/** Returns a [MutableCollection] of all values in this map. Note that this collection may contain duplicate values.
 */
override val values: MutableCollection<V>
/** Returns a [MutableSet] of all key/value pairs in this map.
 */
override val entries: MutableSet<MutableMap.MutableEntry<K, V>>
/** Represents a key/value pair held by a [MutableMap].
 */
public interface MutableEntry<K, V> : Map.Entry<K, V> {
 /** Changes the value associated with the key of this entry.
 */
 @return the previous value corresponding to the key.
 public fun setValue(newValue: V): V
}
}

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 */

```

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that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.collections\n\n/** An iterator over a sequence of values of type `Byte`. */\npublic abstract class ByteIterator :
Iterator<Byte> {\n override final fun next() = nextByte()\n\n /** Returns the next value in the sequence without
boxing. */\n public abstract fun nextByte(): Byte\n}\n\n/** An iterator over a sequence of values of type `Char`.
*/\npublic abstract class CharIterator : Iterator<Char> {\n override final fun next() = nextChar()\n\n /** Returns
the next value in the sequence without boxing. */\n public abstract fun nextChar(): Char\n}\n\n/** An iterator over
a sequence of values of type `Short`. */\npublic abstract class ShortIterator : Iterator<Short> {\n override final fun
next() = nextShort()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun
nextShort(): Short\n}\n\n/** An iterator over a sequence of values of type `Int`. */\npublic abstract class IntIterator :
Iterator<Int> {\n override final fun next() = nextInt()\n\n /** Returns the next value in the sequence without
boxing. */\n public abstract fun nextInt(): Int\n}\n\n/** An iterator over a sequence of values of type `Long`.
*/\npublic abstract class LongIterator : Iterator<Long> {\n override final fun next() = nextLong()\n\n /** Returns
the next value in the sequence without boxing. */\n public abstract fun nextLong(): Long\n}\n\n/** An iterator
over a sequence of values of type `Float`. */\npublic abstract class FloatIterator : Iterator<Float> {\n override final
fun next() = nextFloat()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun
nextFloat(): Float\n}\n\n/** An iterator over a sequence of values of type `Double`. */\npublic abstract class
DoubleIterator : Iterator<Double> {\n override final fun next() = nextDouble()\n\n /** Returns the next value in
the sequence without boxing. */\n public abstract fun nextDouble(): Double\n}\n\n/** An iterator over a sequence
of values of type `Boolean`. */\npublic abstract class BooleanIterator : Iterator<Boolean> {\n override final fun
next() = nextBoolean()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun
nextBoolean(): Boolean\n}\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n/** An
iterator over a progression of values of type `Char`. */\n * @property step the number by which the value is
incremented on each step.\n\ninternal class CharProgressionIterator(first: Char, last: Char, val step: Int) :
CharIterator() {\n private val finalElement = last.toInt()\n private var hasNext: Boolean = if (step > 0) first <=
last else first >= last\n private var next = if (hasNext) first.toInt() else finalElement\n\n override fun hasNext():
Boolean = hasNext\n\n override fun nextChar(): Char {\n val value = next\n if (value == finalElement)
{\n if (!hasNext) throw kotlin.NoSuchElementException()\n hasNext = false\n }\n else {\n
 next += step\n }\n return value.toChar()\n }\n}\n\n/** An iterator over a progression of values of
type `Int`. */\n * @property step the number by which the value is incremented on each step.\n\ninternal class
IntProgressionIterator(first: Int, last: Int, val step: Int) : IntIterator() {\n private val finalElement = last\n private
var hasNext: Boolean = if (step > 0) first <= last else first >= last\n private var next = if (hasNext) first else
finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n override fun nextInt(): Int {\n val value =
next\n if (value == finalElement) {\n if (!hasNext) throw kotlin.NoSuchElementException()\n
hasNext = false\n }\n else {\n next += step\n }\n return value\n }\n}\n\n/** An iterator
over a progression of values of type `Long`. */\n * @property step the number by which the value is incremented on
each step.\n\ninternal class LongProgressionIterator(first: Long, last: Long, val step: Long) : LongIterator() {\n private
val finalElement = last\n private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n private
var next = if (hasNext) first else finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n override fun
nextLong(): Long {\n val value = next\n if (value == finalElement) {\n if (!hasNext)
throw kotlin.NoSuchElementException()\n hasNext = false\n }\n else {\n next += step\n
 }\n return value\n }\n}\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport
kotlin.internal.getProgressionLastElement\n\n/** A progression of values of type `Char`. */\n\npublic open class
CharProgression\n internal constructor\n (\n start: Char,\n endInclusive: Char,\n step: Int\n
) : Iterable<Char> {\n init {\n if (step == 0) throw kotlin.IllegalArgumentException("\nStep must be non-

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zero.\")\n if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than
Int.MIN_VALUE to avoid overflow on negation.\")\n }\n\n /**\n * The first element in the progression.\n
*/\n public val first: Char = start\n\n /**\n * The last element in the progression.\n */\n public val last:
Char = getProgressionLastElement(start.toInt(), endInclusive.toInt(), step).toChar()\n\n /**\n * The step of the
progression.\n */\n public val step: Int = step\n\n override fun iterator(): CharIterator =
CharProgressionIterator(first, last, step)\n\n /** Checks if the progression is empty. */\n public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n
other is CharProgression && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last &&
step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * first.toInt() +
last.toInt()) + step)\n\n override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo
$last step ${-step}\"\n\n companion object {\n /**\n * Creates CharProgression within the specified
bounds of a closed range.\n * The progression starts with the [rangeStart] value and goes toward the
[rangeEnd] value not excluding it, with the specified [step].\n * In order to go backwards the [step] must be
negative.\n * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n */\n public fun fromClosedRange(rangeStart: Char, rangeEnd: Char, step: Int): CharProgression =
CharProgression(rangeStart, rangeEnd, step)\n }\n\n /**\n * A progression of values of type `Int`.\n */\n public open class IntProgression\n internal constructor(\n start: Int,\n endInclusive: Int,\n step:
Int\n): Iterable<Int> {\n init {\n if (step == 0) throw kotlin.IllegalArgumentException("Step must be non-
zero.\")\n if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than
Int.MIN_VALUE to avoid overflow on negation.\")\n }\n\n /**\n * The first element in the progression.\n
*/\n public val first: Int = start\n\n /**\n * The last element in the progression.\n */\n public val last: Int =
getProgressionLastElement(start.toInt(), endInclusive.toInt(), step).toInt()\n\n /**\n * The step of the
progression.\n */\n public val step: Int = step\n\n override fun iterator(): IntIterator =
IntProgressionIterator(first, last, step)\n\n /** Checks if the progression is empty. */\n public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n
other is IntProgression && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last &&
step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * first + last) +
step)\n\n override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-
step}\"\n\n companion object {\n /**\n * Creates IntProgression within the specified bounds of a closed
range.\n * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not
excluding it, with the specified [step].\n * In order to go backwards the [step] must be negative.\n * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n */\n public fun
fromClosedRange(rangeStart: Int, rangeEnd: Int, step: Int): IntProgression = IntProgression(rangeStart, rangeEnd,
step)\n }\n\n /**\n * A progression of values of type `Long`.\n */\n public open class LongProgression\n internal constructor(\n start: Long,\n endInclusive: Long,\n step: Long\n):
Iterable<Long> {\n init {\n if (step == 0L) throw kotlin.IllegalArgumentException("Step must be non-
zero.\")\n if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than
Long.MIN_VALUE to avoid overflow on negation.\")\n }\n\n /**\n * The first element in the progression.\n
*/\n public val first: Long = start\n\n /**\n * The last element in the progression.\n */\n public val last:
Long = getProgressionLastElement(start.toLong(), endInclusive.toLong(), step).toLong()\n\n /**\n * The step
of the progression.\n */\n public val step: Long = step\n\n override fun iterator(): LongIterator =
LongProgressionIterator(first, last, step)\n\n /** Checks if the progression is empty. */\n public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n
other is LongProgression && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last &&
step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * (first xor (first ushr
32)) + (last xor (last ushr 32))) + (step xor (step ushr 32))).toInt()\n\n override fun toString(): String = if (step > 0)
=\"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n companion object {\n /**\n *
Creates LongProgression within the specified bounds of a closed range.\n * The progression starts with the

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[rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n * In order
to go backwards the [step] must be negative.\n *\n * [step] must be greater than `Long.MIN_VALUE` and
not equal to zero.\n *\n public fun fromClosedRange(rangeStart: Long, rangeEnd: Long, step: Long):
LongProgression = LongProgression(rangeStart, rangeEnd, step)\n }\n}\n\n"/*\n * Copyright 2010-2019
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.ranges\n\n/**\n *
Represents a range of values (for example, numbers or characters).\n * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/ranges.html) for more information.\n */\n\npublic interface
ClosedRange<T: Comparable<T>> {\n /**\n * The minimum value in the range.\n */\n public val start:
T\n\n /**\n * The maximum value in the range (inclusive).\n */\n public val endInclusive: T\n\n /**\n *
Checks whether the specified [value] belongs to the range.\n */\n public operator fun contains(value: T):
Boolean = value >= start && value <= endInclusive\n\n /**\n * Checks whether the range is empty.\n */\n public fun isEmpty(): Boolean = start > endInclusive\n}\n\n"/*\n * Copyright 2010-2015 JetBrains s.r.o.\n * Licensed under the Apache License, Version 2.0 (the "License");\n * you may not use this file except in
compliance with the License.\n * You may obtain a copy of the License at\n *\n *
http://www.apache.org/licenses/LICENSE-2.0\n *\n * Unless required by applicable law or agreed to in writing,
software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * WITHOUT WARRANTIES
OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language
governing permissions and\n * limitations under the License.\n */\n\npackage kotlin\n\n/**\n * The type with only
one value: the `Unit` object. This type corresponds to the `void` type in Java.\n */\n\npublic object Unit {\n override
fun toString() = "kotlin.Unit"\n}\n\n"/*\n * Copyright 2010-2015 JetBrains s.r.o.\n * Licensed under the
Apache License, Version 2.0 (the "License");\n * you may not use this file except in compliance with the
License.\n * You may obtain a copy of the License at\n *\n *
http://www.apache.org/licenses/LICENSE-2.0\n *\n * Unless required by applicable law or agreed to in writing, software\n * distributed under the License is distributed
on an "AS IS" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.\n * See the License for the specific language governing permissions and\n * limitations under the
License.\n */\n\npackage kotlin.annotation\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * Contains the
list of code elements which are the possible annotation targets\n */\n\npublic enum class AnnotationTarget {\n /**
Class, interface or object, annotation class is also included */\n CLASS,\n /** Annotation class only */\n
ANNOTATION_CLASS,\n /** Generic type parameter (unsupported yet) */\n TYPE_PARAMETER,\n /**
Property */\n PROPERTY,\n /** Field, including property's backing field */\n FIELD,\n /** Local variable
*/\n LOCAL_VARIABLE,\n /** Value parameter of a function or a constructor */\n
VALUE_PARAMETER,\n /** Constructor only (primary or secondary) */\n CONSTRUCTOR,\n /**
Function (constructors are not included) */\n FUNCTION,\n /** Property getter only */\n
PROPERTY_GETTER,\n /** Property setter only */\n PROPERTY_SETTER,\n /** Type usage */\n
TYPE,\n /** Any expression */\n EXPRESSION,\n /** File */\n FILE,\n /** Type alias */\n
@SinceKotlin("1.1")\n TYPEALIAS\n}\n\n/**\n * Contains the list of possible annotation's retentions.\n *\n *
Determines how an annotation is stored in binary output.\n */\n\npublic enum class AnnotationRetention {\n /**
Annotation isn't stored in binary output */\n SOURCE,\n /** Annotation is stored in binary output, but invisible
for reflection */\n BINARY,\n /** Annotation is stored in binary output and visible for reflection (default
retention) */\n RUNTIME\n}\n\n/**\n * This meta-annotation indicates the kinds of code elements which are
possible targets of an annotation.\n *\n * If the target meta-annotation is not present on an annotation declaration,
the annotation is applicable to the following elements:\n * [CLASS], [PROPERTY], [FIELD],
[LOCAL_VARIABLE], [VALUE_PARAMETER], [CONSTRUCTOR], [FUNCTION], [PROPERTY_GETTER],
[PROPERTY_SETTER].\n *\n * @property allowedTargets list of allowed annotation targets\n
*/\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\n@MustBeDocumented\npublic annotation class
Target(vararg val allowedTargets: AnnotationTarget)\n\n/**\n * This meta-annotation determines whether an
annotation is stored in binary output and visible for reflection. By default, both are true.\n *\n * @property value

```

necessary annotation retention (RUNTIME, BINARY or SOURCE)\n

```

*\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Retention(val value:
AnnotationRetention = AnnotationRetention.RUNTIME)\n\n/**\n * This meta-annotation determines that an
annotation is applicable twice or more on a single code element\n
*\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Repeatable\n\n/**\n * This
meta-annotation determines that an annotation is a part of public API and therefore should be included in the
generated\n * documentation for the element to which the annotation is applied.\n
*\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class MustBeDocumented\n"/\n *
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http://www.apache.org/licenses/LICENSE-2.0\n *\n * Unless required by applicable law or agreed to in writing,
software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * WITHOUT WARRANTIES
OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language
governing permissions and\n * limitations under the License.\n */\n\npackage kotlin.internal\n\n/**\n * Specifies
that the corresponding type parameter is not used for unsafe operations such as casts or 'is' checks\n * That means
it's completely safe to use generic types as argument for such parameter.\n
*\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal
annotation class PureReifiable\n\n/**\n * Specifies that the corresponding built-in method exists depending on
platform.\n * Current implementation for JVM looks whether method with same JVM descriptor exists in the
module JDK.\n * For example MutableMap.remove(K, V) available only if corresponding\n * method
'java/util/Map.remove(Ljava/lang/Object;Ljava/lang/Object;)Z' is defined in JDK (i.e. for major versions >= 8)\n
*\n@Target(AnnotationTarget.FUNCTION)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation
class PlatformDependent\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// a mod b (in arithmetical sense)\nprivate fun mod(a:
Int, b: Int): Int {\n val mod = a % b\n return if (mod >= 0) mod else mod + b\n}\n\nprivate fun mod(a: Long, b:
Long): Long {\n val mod = a % b\n return if (mod >= 0) mod else mod + b\n}\n\n// (a - b) mod c\nprivate fun
differenceModulo(a: Int, b: Int, c: Int): Int {\n return mod(mod(a, c) - mod(b, c), c)\n}\n\nprivate fun
differenceModulo(a: Long, b: Long, c: Long): Long {\n return mod(mod(a, c) - mod(b, c), c)\n}\n\n/**\n *
Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in
the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n *
[step].\n * No validation on passed parameters is performed. The given parameters should satisfy the
condition:\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n * @param start
first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or
difference of successive elements in the progression\n * @return the final element of the progression\n *
@suppress\n */\n\n@PublishedApi\ninternal fun getProgressionLastElement(start: Int, end: Int, step: Int): Int = when
{\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n step < 0 -> if (start <= end)
end else end + differenceModulo(start, end, -step)\n else -> throw kotlin.IllegalArgumentException("Step is
zero.")\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the
progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case
of a negative\n * [step].\n * No validation on passed parameters is performed. The given parameters should
satisfy the condition:\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n * @param
start first element of the progression\n * @param end ending bound for the progression\n * @param step
increment, or difference of successive elements in the progression\n * @return the final element of the progression\n *
@suppress\n */\n\n@PublishedApi\ninternal fun getProgressionLastElement(start: Long, end: Long, step: Long):
Long = when {\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n step < 0 -> if
(start <= end) end else end + differenceModulo(start, end, -step)\n else -> throw
kotlin.IllegalArgumentException("Step is zero.")\n}\n"/\n * Copyright 2010-2015 JetBrains s.r.o.\n */

```

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```

package kotlin.reflect

/**
 * Represents a parameter passed to a function or a property getter/setter, including `this` and extension receiver parameters.
 */
public interface KParameter : KAnnotatedElement {
 /**
 * 0-based index of this parameter in the parameter list of its containing callable.
 */
 public val index: Int

 /**
 * Name of this parameter as it was declared in the source code, or `null` if the parameter has no name or its name is not available at runtime.
 * Examples of nameless parameters include `this` instance for member functions, extension receiver for extension functions or properties, parameters of Java methods compiled without the debug information, and others.
 */
 public val name: String?

 /**
 * Type of this parameter. For a `vararg` parameter, this is the type of the corresponding array, not the individual element.
 */
 public val type: KType

 /**
 * Kind of this parameter.
 */
 public val kind: Kind

 /**
 * Kind represents a particular position of the parameter declaration in the source code, such as an instance, an extension receiver parameter or a value parameter.
 */
 public enum class Kind {
 /**
 * Instance required to make a call to the member, or an outer class instance for an inner class constructor.
 */
 INSTANCE,
 /**
 * Extension receiver of an extension function or property.
 */
 EXTENSION_RECEIVER,
 /**
 * Ordinary named value parameter.
 */
 VALUE
 }

 /**
 * `true` if this parameter is optional and can be omitted when making a call via [KCallable.callBy], or `false` otherwise.
 * A parameter is optional in any of the two cases:
 * 1. The default value is provided at the declaration of this parameter.
 * 2. The parameter is declared in a member function and one of the corresponding parameters in the super functions is optional.
 */
 public val isOptional: Boolean

 /**
 * `true` if this parameter is `vararg`.
 * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/functions.html#variable-number-of-arguments-varargs) for more information.
 */
 @SinceKotlin("1.1")
 public val isVararg: Boolean
}

/**
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 */
package kotlin.reflect

/**
 * Represents a type. Type is usually either a class with optional type arguments, or a type parameter of some declaration, plus nullability.
 */
public interface KType : KAnnotatedElement {
 /**
 * The declaration of the classifier used in this type.
 * For example, in the type `List<String>` the classifier would be the [KClass] instance for [List].
 */
 Returns `null` if this type is not denotable in Kotlin, for example if it is an intersection type.
 @SinceKotlin("1.1")
 public val classifier: KClassifier?

 /**
 * Type arguments passed for the parameters of the classifier in this type.
 * For example, in the type `Array<out Number>` the only type argument is `out Number`.
 * In case this type is based on an inner class, the returned list contains the type arguments provided for the innermost class first, then its outer class, and so on.
 * For example, in the type `Outer<A, B>.Inner<C, D>` the returned list is `[C, D, A, B]`.
 */
 @SinceKotlin("1.1")
 public val arguments: List<KTypeProjection>

 /**
 * `true` if this type was marked nullable in the source code.
 * For Kotlin types, it means that `null` value is allowed to be represented by this type.
 * In practice it means that the type was declared with a question mark at the end.
 * For non-Kotlin types, it means the type or the symbol which was declared with this type is annotated with a runtime-retained nullability annotation such as [javax.annotation.Nullable].
 * Note that even if [isMarkedNullable] is false, values of the type can still be `null`.
 * This may happen if it is a type of the type parameter with a nullable upper bound:
 * ```
 * fun <T> foo(t: T) {
 * // isMarkedNullable == false for t's type, but t can be null here when T = "Any?"
 * }
 */
 @SinceKotlin("1.1")
 public val isMarkedNullable: Boolean
}

/**
 * Represents a type projection. Type projection is usually the argument to another type in a type usage.
 * For example, in the type `Array<out Number>`, `out Number` is the covariant projection of the type represented by the class `Number`.
 * Type projection is either the star projection, or an entity consisting of a

```

specific type plus optional variance. See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#type-projections) for more information.

```

@SinceKotlin("1.1")
public data class KTypeProjection constructor(
 /**
 * The use-site variance specified in the projection, or `null` if this is a star projection.
 */
 public val variance: KVariance?,
 /**
 * The type specified in the projection, or `null` if this is a star projection.
 */
 public val type: KType?) {
 public companion object {
 /**
 * Star projection, denoted by the `*` character.
 * For example, in the type `KClass<*>`, `*` is the star projection.
 * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#star-projections) for more information.
 */
 public val STAR: KTypeProjection = KTypeProjection(null, null)
 /**
 * Creates an invariant projection of a given type. Invariant projection is just the type itself, without any use-site variance modifiers applied to it.
 * For example, in the type `Set<String>`, `String` is an invariant projection of the type represented by the class `String`.
 */
 public fun invariant(type: KType): KTypeProjection =
 KTypeProjection(KVariance.INVARIANT, type)
 /**
 * Creates a contravariant projection of a given type, denoted by the `in` modifier applied to a type.
 * For example, in the type `MutableList<in Number>`, `in Number` is a contravariant projection of the type of class `Number`.
 */
 public fun contravariant(type: KType): KTypeProjection =
 KTypeProjection(KVariance.IN, type)
 /**
 * Creates a covariant projection of a given type, denoted by the `out` modifier applied to a type.
 * For example, in the type `Array<out Number>`, `out Number` is a covariant projection of the type of class `Number`.
 */
 public fun covariant(type: KType): KTypeProjection =
 KTypeProjection(KVariance.OUT, type)
 }
}

```

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Represents variance applied to a type parameter on the declaration site (\*declaration-site variance\*), or to a type in a projection (\*use-site variance\*). See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#variance) for more information.

@see [KTypeParameter.variance] @see [KTypeProjection]

```

@SinceKotlin("1.1")
enum class KVariance {
 /**
 * The affected type parameter or type is *invariant*, which means it has no variance applied to it.
 */
 INVARIANT,
 /**
 * The affected type parameter or type is *contravariant*. Denoted by the `in` modifier in the source code.
 */
 IN,
 /**
 * The affected type parameter or type is *covariant*. Denoted by the `out` modifier in the source code.
 */
 OUT,
}

```

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Visibility is an aspect of a Kotlin declaration regulating where that declaration is accessible in the source code. Visibility can be changed with one of the following modifiers: `public`, `protected`, `internal`, `private`. Note that some Java visibilities such as package-private and protected (which also gives access to items from the same package) cannot be represented in Kotlin, so there's no [KVisibility] value corresponding to them. See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/visibility-modifiers.html) for more information.

```

@SinceKotlin("1.1")
enum class KVisibility {
 /**
 * Visibility of declarations marked with the `public` modifier, or with no modifier at all.
 */
 PUBLIC,
 /**
 * Visibility of declarations marked with the `protected` modifier.
 */
 PROTECTED,
 /**
 * Visibility of declarations marked with the `internal` modifier.
 */
 INTERNAL,
 /**
 * Visibility of declarations marked with the `private`

```

```

modifier.\n *^{\n PRIVATE,\n}\n",/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\n@JsName("arrayIterator")\ninternal fun arrayIterator(array: dynamic, type:
String?) = when (type) {\n null -> {\n val arr: Array<dynamic> = array\n object : Iterator<dynamic> {\n
var index = 0\n override fun hasNext() = index < arr.size\n override fun next() = if (index <
arr.size) arr[index++] else throw NoSuchElementException("$index")\n }\n }\n } \n "BooleanArray" ->
booleanArrayIterator(array)\n } \n "ByteArray" -> byteArrayIterator(array)\n } \n "ShortArray" ->
shortArrayIterator(array)\n } \n "CharArray" -> charArrayIterator(array)\n } \n "IntArray" -> intArrayIterator(array)\n
} \n "LongArray" -> longArrayIterator(array)\n } \n "FloatArray" -> floatArrayIterator(array)\n } \n "DoubleArray" ->
doubleArrayIterator(array)\n else -> throw IllegalStateException("Unsupported type argument for arrayIterator:
$type")\n }\n\n\n@JsName("booleanArrayIterator")\ninternal fun booleanArrayIterator(array: BooleanArray) =
object : BooleanIterator() {\n var index = 0\n override fun hasNext() = index < array.size\n override fun
nextBoolean() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("byteArrayIterator")\ninternal fun byteArrayIterator(array:
ByteArray) = object : ByteIterator() {\n var index = 0\n override fun hasNext() = index < array.size\n override
fun nextByte() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("shortArrayIterator")\ninternal fun
shortArrayIterator(array: ShortArray) = object : ShortIterator() {\n var index = 0\n override fun hasNext() =
index < array.size\n override fun nextShort() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("charArrayIterator")\ninternal fun charArrayIterator(array:
CharArray) = object : CharIterator() {\n var index = 0\n override fun hasNext() = index < array.size\n override
fun nextChar() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("intArrayIterator")\ninternal fun intArrayIterator(array:
IntArray) = object : IntIterator() {\n var index = 0\n override fun hasNext() = index < array.size\n override fun
nextInt() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("floatArrayIterator")\ninternal fun
floatArrayIterator(array: FloatArray) = object : FloatIterator() {\n var index = 0\n override fun hasNext() = index
< array.size\n override fun nextFloat() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("doubleArrayIterator")\ninternal fun
doubleArrayIterator(array: DoubleArray) = object : DoubleIterator() {\n var index = 0\n override fun hasNext()
= index < array.size\n override fun nextDouble() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("longArrayIterator")\ninternal fun longArrayIterator(array:
LongArray) = object : LongIterator() {\n var index = 0\n override fun hasNext() = index < array.size\n
override fun nextLong() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n }\n\n\n@JsName("PropertyMetadata")\ninternal class
PropertyMetadata(@JsName("callableName") val name:
String)\n\n\n@JsName("noWhenBranchMatched")\ninternal fun noWhenBranchMatched(): Nothing = throw
NoWhenBranchMatchedException()\n\n\n@JsName("subSequence")\ninternal fun subSequence(c: CharSequence,
startIndex: Int, endIndex: Int): CharSequence {\n if (c is String) {\n return c.substring(startIndex, endIndex)\n
} else {\n return c.asDynamic().`subSequence_vux9f0$`(startIndex, endIndex)\n
}\n}\n\n\n@JsName("captureStack")\ninternal fun captureStack(baseClass: JsClass<in Throwable>, instance:
Throwable) {\n if (js("Error").captureStackTrace) {\n js("Error").captureStackTrace(instance,
instance::class.js);\n } else {\n instance.asDynamic().stack = js("new Error()").stack;\n
}\n}\n\n\n@JsName("newThrowable")\ninternal fun newThrowable(message: String?, cause: Throwable?):
Throwable {\n val throwable = js("new Error()")\n throwable.message = if (jsTypeOf(message) ==
"undefined") {\n if (cause != null) cause.toString() else null\n } else {\n message\n }\n
throwable.cause = cause\n throwable.name = "Throwable"\n return
throwable\n}\n\n\n@JsName("BoxedChar")\ninternal class BoxedChar(val c: Int) : Comparable<Int> {\n override

```

```

fun equals(other: Any?): Boolean {
 return other is BoxedChar && c == other.c
}
override fun hashCode(): Int {
 return c
}
override fun toString(): String {
 return js("this.c").unsafeCast<Char>().toString()
}
override fun compareTo(other: Int): Int {
 return js("this.c - other").unsafeCast<Int>()
}
@JsName("valueOf")
public fun valueOf(): Int {
 return c
}
@kotlin.internal.InlineOnly
internal inline fun <T> concat(args: Array<T>): T {
 val typed = js("Array")(args.size)
 for (i in args.indices) {
 val arr = args[i]
 if (arr !is Array<*>) {
 typed[i] = js("[]").slice.call(arr)
 } else {
 typed[i] = arr
 }
 }
 return js("[]").concat.apply(js("[]"), typed)
}
/** Concat regular Array's and TypedArray's into an Array.
 *
 * @PublishedApi
 * @JsName("arrayConcat")
 * @Suppress("UNUSED_PARAMETER")
 * internal fun <T> arrayConcat(a: T, b: T): T {
 return concat(js("arguments"))
}
/** Concat primitive arrays. Main use:
 * prepare vararg arguments.
 * For compatibility with 1.1.0 the arguments may be a mixture of Array's and
 * TypedArray's.
 * If the first argument is TypedArray (Byte-, Short-, Char-, Int-, Float-, and DoubleArray)
 * returns a TypedArray, otherwise an Array.
 * If the first argument has the $type$ property (Boolean-, Char-, and
 * LongArray) copy its value to result.$type$.
 * If the first argument is a regular Array without the $type$ property
 * default to arrayConcat.
 *
 * @PublishedApi
 * @JsName("primitiveArrayConcat")
 * @Suppress("UNUSED_PARAMETER")
 * internal fun <T> primitiveArrayConcat(a: T, b: T): T {
 val args: Array<T> = js("arguments")
 if (a is Array<*> &&
 a.asDynamic().`$type$` === undefined) {
 return concat(args)
 } else {
 var size = 0
 for (i in
 args.indices) {
 size += args[i].asDynamic().length as Int
 }
 val result = js("new
 a.constructor(size)")
 kotlin.copyArrayType(a, result)
 size = 0
 for (i in args.indices) {
 val
 arr = args[i].asDynamic()
 for (j in 0 until arr.length) {
 result[size++] = arr[j]
 }
 }
 return result
 }
 }
}
@JsName("booleanArrayOf")
internal fun booleanArrayOf() =
 withType("BooleanArray", js("[]").slice.call(arguments))
}
@JsName("charArrayOf") // The arguments have
to be slice'd here because of Rhino (see KT-16974)
internal fun charArrayOf() = withType("CharArray", js("new
 Uint16Array([]).slice.call(arguments)))
}
@JsName("longArrayOf")
internal fun longArrayOf() =
 withType("LongArray",
 js("[]").slice.call(arguments))
}
@JsName("withType")
@kotlin.internal.InlineOnly
internal inline fun
withType(type: String, array: dynamic): dynamic {
 array.`$type$` = type
 return array
}
"/
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by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlin.js
/**
 * Function corresponding to JavaScript's `typeof` operator
 *
 * @kotlin.internal.InlineOnly
 * @Suppress("UNUSED_PARAMETER")
 * public inline fun jsTypeOf(a: Any?):
String = js("typeof a")
"/
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license/LICENSE.txt file.
 */
@file:Suppress("UNUSED_PARAMETER",
 "NOTHING_TO_INLINE")
package kotlin
/**
 * Returns an empty array of the specified type [T].
 *
 * @public inline fun <T> emptyArray(): Array<T> = js("[]")
 *
 * @library
 * @public fun <T> arrayOf(vararg
elements: T): Array<T> = definedExternally
 *
 * @library
 * @public fun doubleArrayOf(vararg elements: Double):
DoubleArray = definedExternally
 *
 * @library
 * @public fun floatArrayOf(vararg elements: Float): FloatArray =
definedExternally
 *
 * @library
 * @public fun longArrayOf(vararg elements: Long): LongArray =
definedExternally
 *
 * @library
 * @public fun intArrayOf(vararg elements: Int): IntArray =
definedExternally
 *
 * @library
 * @public fun charArrayOf(vararg elements: Char): CharArray =
definedExternally
 *
 * @library
 * @public fun shortArrayOf(vararg elements: Short): ShortArray =
definedExternally
 *
 * @library
 * @public fun byteArrayOf(vararg elements: Byte): ByteArray =
definedExternally
 *
 * @library
 * @public fun booleanArrayOf(vararg elements: Boolean): BooleanArray =
definedExternally
 */
/**
 * Creates a new instance of the [Lazy] that uses the specified initialization function
 [initializer].
 *
 * @public actual fun <T> lazy(initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)
 */
/**
 * Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].
 *
 * @public
 * The [mode]

```

```

parameter is ignored. */
public actual fun <T> lazy(mode: LazyThreadSafetyMode, initializer: () -> T): Lazy<T> =
 UnsafeLazyImpl(initializer)
/*
 * Creates a new instance of the [Lazy] that uses the specified initialization
function [initializer].
 * The [lock] parameter is ignored.
 */
public actual fun <T> lazy(lock: Any?,
initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)
internal fun fillFrom(src: dynamic, dst: dynamic):
dynamic {
 val srcLen: Int = src.length
 val dstLen: Int = dst.length
 var index: Int = 0
 while (index <
srcLen && index < dstLen) dst[index] = src[index++]
 return dst
}
internal fun arrayCopyResize(source:
dynamic, newSize: Int, defaultValue: Any?): dynamic {
 val result = source.slice(0, newSize)
 copyArrayType(source, result)
 var index: Int = source.length
 if (newSize > index) {
 result.length =
newSize
 while (index < newSize) result[index++] = defaultValue
 }
 return result
}
internal fun
<T> arrayPlusCollection(array: dynamic, collection: Collection<T>): dynamic {
 val result = array.slice()
 result.length += collection.size
 copyArrayType(array, result)
 var index: Int = array.length
 for (element in
collection) result[index++] = element
 return result
}
internal fun <T> fillFromCollection(dst: dynamic,
startIndex: Int, collection: Collection<T>): dynamic {
 val index = startIndex
 for (element in collection)
dst[index++] = element
 return dst
}
internal inline fun copyArrayType(from: dynamic, to: dynamic) {
 if (from.`$type$` !== undefined) {
 to.`$type$` = from.`$type$`
 }
}
internal inline fun jsIsType(obj:
dynamic, jsClass: dynamic) = js("Kotlin").isType(obj, jsClass),
/*
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Kotlin Programming Language contributors.
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can be found in the license/LICENSE.txt file.
 */
package kotlin.coroutines
import
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED
@SinceKotlin("1.3")
@JsName("CoroutineImpl")
internal abstract class CoroutineImpl(private val resultContinuation: Continuation<Any?>) : Continuation<Any?> {
 protected var state = 0
 protected var exceptionState = 0
 protected var result: Any? = null
 protected
var exception: Throwable? = null
 protected var finallyPath: Array<Int>? = null
 public override val context:
CoroutineContext = resultContinuation.context
 private var intercepted_: Continuation<Any?>? = null
 public fun intercepted(): Continuation<Any?> =
 intercepted_ ?:
(context[ContinuationInterceptor]?.interceptContinuation(this) ?: this)
 .also { intercepted_ = it }
 override fun resumeWith(result: Result<Any?>) {
 var current = this
 var currentResult: Any? =
result.getOrNull()
 var currentException: Throwable? = result.exceptionOrNull()
 // This loop unrolls
recursion in current.resumeWith(param) to make saner and shorter stack traces on resume
 while (true) {
 with(current) {
 val completion = resultContinuation
 // Set result and exception fields in
the current continuation
 if (currentException == null) {
 this.result = currentResult
 } else {
 state = exceptionState
 exception = currentException
 }
 }
 try {
 val outcome = doResume()
 if (outcome === COROUTINE_SUSPENDED)
return
 currentResult = outcome
 currentException = null
 } catch (exception:
dynamic) { // Catch all exceptions
 currentResult = null
 currentException =
exception.unsafeCast<Throwable>()
 }
 releaseIntercepted() // this state machine instance is
terminating
 if (completion is CoroutineImpl) {
 // unrolling recursion via loop
 current = completion
 } else {
 // top-level completion reached -- invoke and return
 currentException?.let {
 completion.resumeWithException(it)
 }
 }
 completion.resume(currentResult)
 return
 }
 }
 private fun
releaseIntercepted() {
 val intercepted = intercepted_
 if (intercepted != null && intercepted !== this) {
 context[ContinuationInterceptor]!!.releaseInterceptedContinuation(intercepted)
 }
 this.intercepted_
= CompletedContinuation // just in case
 }
 protected abstract fun doResume(): Any?
 internal object
CompletedContinuation : Continuation<Any?> {
 override val context: CoroutineContext
 get() =
error("This continuation is already complete")
 override fun resumeWith(result: Result<Any?>) {
 error("This continuation is already complete")
 }
 override fun toString(): String = "This continuation is
already complete"
 }
/*
 * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.
 */
@file:Suppress("UNCHECKED_CAST",

```



```

\RedundantVisibilityModifier\)\n\npackage kotlin\n\nimport kotlin.contracts.*\nimport
kotlin.internal.InlineOnly\nimport kotlin.jvm.JvmField\n\n/**\n * A discriminated union that encapsulates a
successful outcome with a value of type [T]\n * or a failure with an arbitrary [Throwable] exception.\n
*\n\n@Suppress(\NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\)\n@SinceKotlin("1.3\)\n
\npublic inline class Result<out T> @PublishedApi internal constructor(\n @PublishedApi\n internal val value:
Any?)\n): Serializable {\n // discovery\n\n /**\n * Returns `true` if this instance represents a successful
outcome.\n * In this case [isFailure] returns `false`.\n *\n * public val isSuccess: Boolean get() = value !is
Failure\n\n /**\n * Returns `true` if this instance represents a failed outcome.\n * In this case [isSuccess]
returns `false`.\n *\n * public val isFailure: Boolean get() = value is Failure\n\n // value & exception
retrieval\n\n /**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or
`null`\n * if it is [failure][Result.isFailure].\n *\n * This function is a shorthand for `getOrElse { null }` (see
[getOrElse]) or\n * `fold(onSuccess = { it }, onFailure = { null })` (see [fold]).\n *\n * @InlineOnly\n public
inline fun getOrNull(): T? =\n when {\n isFailure -> null\n else -> value as T\n }\n\n /**\n * Returns the
encapsulated [Throwable] exception if this instance represents [failure][isFailure] or `null`\n * if it
is [success][isSuccess].\n *\n * This function is a shorthand for `fold(onSuccess = { null }, onFailure = { it })`
(see [fold]).\n *\n * public fun exceptionOrNull(): Throwable? =\n when (value) {\n is Failure ->
value.exception\n else -> null\n }\n\n /**\n * Returns a string `Success(v)` if this instance represents
[success][Result.isSuccess]\n * where `v` is a string representation of the value or a string `Failure(x)` if\n * it
is [failure][isFailure] where `x` is a string representation of the exception.\n *\n * public override fun toString():
String =\n when (value) {\n is Failure -> value.toString() // "Failure($exception)" \n else ->
"Success($value)" \n }\n\n // companion with constructors\n\n /**\n * Companion object for [Result]
class that contains its constructor functions\n * [success] and [failure].\n *\n * public companion object {\n
/**\n * Returns an instance that encapsulates the given [value] as successful value.\n *\n * @InlineOnly\n public
inline fun <T> success(value: T): Result<T> =\n Result(value)\n\n /**\n * Returns an instance that encapsulates the
given [Throwable] [exception] as failure.\n *\n * @InlineOnly\n public
inline fun <T> failure(exception: Throwable): Result<T> =\n Result(createFailure(exception))\n\n }\n\n internal
class Failure(\n @JvmField\n val exception: Throwable\n): Serializable {\n override
fun equals(other: Any?): Boolean = other is Failure && exception == other.exception\n override fun
hashCode(): Int = exception.hashCode()\n override fun toString(): String = "Failure($exception)" \n
}\n\n /**\n * Creates an instance of internal marker [Result.Failure] class to\n * make sure that this class is not
exposed in ABI.\n *\n * @PublishedApi\n * @SinceKotlin("1.3\)\n\ninternal fun createFailure(exception: Throwable):
Any =\n Result.Failure(exception)\n\n /**\n * Throws exception if the result is failure. This internal function
minimizes\n * inlined bytecode for [getOrThrow] and makes sure that in the future we can\n * add some exception-
augmenting logic here (if needed).\n *\n * @PublishedApi\n * @SinceKotlin("1.3\)\n\ninternal fun
Result<*>.throwOnFailure() {\n if (value is Result.Failure) throw value.exception\n}\n\n /**\n * Calls the
specified function [block] and returns its encapsulated result if invocation was successful,\n * catching any
[Throwable] exception that was thrown from the [block] function execution and encapsulating it as a failure.\n
*\n * @InlineOnly\n * @SinceKotlin("1.3\)\n\npublic inline fun <R> runCatching(block: () -> R): Result<R> {\n
return try {\n Result.success(block())\n } catch (e: Throwable) {\n Result.failure(e)\n }\n}\n\n /**\n * Calls
the specified function [block] with `this` value as its receiver and returns its encapsulated result if invocation
was successful,\n * catching any [Throwable] exception that was thrown from the [block] function execution and
encapsulating it as a failure.\n *\n * @InlineOnly\n * @SinceKotlin("1.3\)\n\npublic inline fun <T, R>
T.runCatching(block: T.() -> R): Result<R> {\n return try {\n Result.success(block())\n } catch (e:
Throwable) {\n Result.failure(e)\n }\n}\n\n // -- extensions ---\n\n /**\n * Returns the encapsulated value if this
instance represents [success][Result.isSuccess] or throws the encapsulated [Throwable] exception\n * if it is
[failure][Result.isFailure].\n *\n * This function is a shorthand for `getOrElse { throw it }` (see [getOrElse]).\n
*\n * @InlineOnly\n * @SinceKotlin("1.3\)\n\npublic inline fun <T> Result<T>.getOrThrow(): T {\n
throwOnFailure()\n return value as T\n}\n\n /**\n * Returns the encapsulated value if this instance represents

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[success][Result.isSuccess] or the\n \* result of [onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n \* Note, that this function rethrows any [Throwable] exception thrown by [onFailure] function.\n \* This function is a shorthand for `fold(onSuccess = { it }, onFailure = onFailure)` (see [fold]).\n \*  
`@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.getOrElse(onFailure: (exception: Throwable) -> R): R {\n contract {\n callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> value as T\n else -> onFailure(exception)\n }\n}\n`\n \* Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n \* [defaultValue] if it is [failure][Result.isFailure].\n \* This function is a shorthand for `getOrElse { defaultValue }` (see [getOrElse]).\n \*  
`@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.getOrElseDefault(defaultValue: R): R {\n if (isFailure) return defaultValue\n return value as T\n}\n`\n \* Returns the result of [onSuccess] for the encapsulated value if this instance represents [success][Result.isSuccess]\n \* or the result of [onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n \* Note, that this function rethrows any [Throwable] exception thrown by [onSuccess] or by [onFailure] function.\n \*  
`@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.fold(\n onSuccess: (value: T) -> R,\n onFailure: (exception: Throwable) -> R): R {\n contract {\n callsInPlace(onSuccess, InvocationKind.AT_MOST_ONCE)\n callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> onSuccess(value as T)\n else -> onFailure(exception)\n }\n}\n`\n \* Returns the encapsulated result of the given [transform] function applied to the encapsulated value\n \* if this instance represents [success][Result.isSuccess] or the\n \* original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n \* Note, that this function rethrows any [Throwable] exception thrown by [transform] function.\n \* See [mapCatching] for an alternative that encapsulates exceptions.\n \*  
`@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.map(transform: (value: T) -> R): Result<R> {\n contract {\n callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when {\n isSuccess -> Result.success(transform(value as T))\n else -> Result(value)\n }\n}\n`\n \* Returns the encapsulated result of the given [transform] function applied to the encapsulated value\n \* if this instance represents [success][Result.isSuccess] or the\n \* original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n \* This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure.\n \* See [map] for an alternative that rethrows exceptions from `transform` function.\n \*  
`@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.mapCatching(transform: (value: T) -> R): Result<R> {\n return when {\n isSuccess -> runCatching { transform(value as T) }\n else -> Result(value)\n }\n}\n`\n \* Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception\n \* if this instance represents [failure][Result.isFailure] or the\n \* original encapsulated value if it is [success][Result.isSuccess].\n \* Note, that this function rethrows any [Throwable] exception thrown by [transform] function.\n \* See [recoverCatching] for an alternative that encapsulates exceptions.\n \*  
`@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.recover(transform: (exception: Throwable) -> R): Result<R> {\n contract {\n callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> this\n else -> Result.success(transform(exception))\n }\n}\n`\n \* Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception\n \* if this instance represents [failure][Result.isFailure] or the\n \* original encapsulated value if it is [success][Result.isSuccess].\n \* This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure.\n \* See [recover] for an alternative that rethrows exceptions.\n \*  
`@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.recoverCatching(transform: (exception: Throwable) -> R): Result<R> {\n val value = value // workaround for inline classes BE bug\n return when (val exception = exceptionOrNull()) {\n null -> this\n else -> runCatching { transform(exception) }\n }\n}\n`\n \* "peek" onto value/exception and pipe\n \* Performs the given [action] on the encapsulated [Throwable] exception if this instance represents

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[failure][Result.isFailure].\n * Returns the original `Result` unchanged.\n
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onFailure(action: (exception:
Throwable) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n
}\n exceptionOrNull()?.let { action(it) }\n return this\n}\n\n/**\n * Performs the given [action] on the
encapsulated value if this instance represents [success][Result.isSuccess].\n * Returns the original `Result`
unchanged.\n *\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onSuccess(action: (value:
T) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n }\n if
(isSuccess) action(value as T)\n return this\n}\n\n// -----\n"/\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.internal.InlineOnly\n\n/**\n * Interface representing a continuation after
a suspension point that returns a value of type `T`.\n *\n@SinceKotlin("1.3")\npublic interface Continuation<in
T> {\n /**\n * The context of the coroutine that corresponds to this continuation.\n *\n public val context:
CoroutineContext\n\n /**\n * Resumes the execution of the corresponding coroutine passing a successful or
failed [result] as the\n * return value of the last suspension point.\n *\n public fun resumeWith(result:
Result<T>)\n}\n\n/**\n * Classes and interfaces marked with this annotation are restricted when used as receivers
for extension\n * `suspend` functions. These `suspend` extensions can only invoke other member or extension
`suspend` functions on this particular\n * receiver and are restricted from calling arbitrary suspension functions.\n
*\n@SinceKotlin("1.3")\n@Target(AnnotationTarget.CLASS)\n@Retention(AnnotationRetention.BINARY)\npublic
annotation class RestrictsSuspension\n\n/**\n * Resumes the execution of the corresponding coroutine passing
[value] as the return value of the last suspension point.\n *\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline
fun <T> Continuation<T>.resume(value: T): Unit =\n resumeWith(Result.success(value))\n}\n\n/**\n * Resumes the
execution of the corresponding coroutine so that the [exception] is re-thrown right after the\n * last suspension
point.\n *\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun <T>
Continuation<T>.resumeWithException(exception: Throwable): Unit =\n resumeWith(Result.failure(exception))\n}\n\n/**\n * Creates a [Continuation] instance with the given [context] and
implementation of [resumeWith] method.\n *\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun <T>
Continuation(\n context: CoroutineContext,\n crossinline resumeWith: (Result<T>) -> Unit\n): Continuation<T>
=\n object : Continuation<T> {\n override val context: CoroutineContext\n get() = context\n\n override fun resumeWith(result: Result<T>) =\n resumeWith(result)\n }\n}\n\n/**\n * Creates a coroutine
without a receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable
computation every time it is invoked.\n * To start executing the created coroutine, invoke `resume(Unit)` on the
returned [Continuation] instance.\n * The [completion] continuation is invoked when the coroutine completes with a
result or an exception.\n * Subsequent invocation of any resume function on the resulting continuation will produce
an [IllegalStateException].\n *\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T>
(suspend () -> T).createCoroutine(\n completion: Continuation<T>)\n): Continuation<Unit> =\n SafeContinuation(createCoroutineUnintercepted(completion).intercepted(), COROUTINE_SUSPENDED)\n}\n\n/**\n * Creates a coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh instance of
suspendable computation every time it is invoked.\n * To start executing the created coroutine, invoke
`resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the
coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the resulting
continuation will produce an [IllegalStateException].\n
*\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend R.() ->
T).createCoroutine(\n receiver: R,\n completion: Continuation<T>)\n): Continuation<Unit> =\n SafeContinuation(createCoroutineUnintercepted(receiver, completion).intercepted(),
COROUTINE_SUSPENDED)\n}\n\n/**\n * Starts a coroutine without a receiver and with result type [T].\n * This
function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The
[completion] continuation is invoked when the coroutine completes with a result or an exception.\n

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*\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T> (suspend () ->
T).startCoroutine(\n completion: Continuation<T>)\n) {\n
createCoroutineUnintercepted(completion).intercepted().resume(Unit)\n}\n\n/**\n * Starts a coroutine with receiver
type [R] and result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation
every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result or
an exception.\n *\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend
R.() -> T).startCoroutine(\n receiver: R,\n completion: Continuation<T>)\n) {\n
createCoroutineUnintercepted(receiver, completion).intercepted().resume(Unit)\n}\n\n/**\n * Obtains the current
continuation instance inside suspend functions and suspends\n * the currently running coroutine.\n *\n *\n * In this
function both [Continuation.resume] and [Continuation.resumeWithException] can be used either synchronously
in\n * the same stack-frame where the suspension function is run or asynchronously later in the same thread or\n *
from a different thread of execution. Subsequent invocation of any resume function will produce an
[IllegalStateException].\n *\n@SinceKotlin("1.3")\n@InlineOnly\npublic suspend inline fun <T>
suspendCoroutine(crossinline block: (Continuation<T>) -> Unit): T =\n suspendCoroutineUninterceptedOrReturn
{ c: Continuation<T> ->\n val safe = SafeContinuation(c.intercepted())\n block(safe)\n
safe.getOrThrow()\n }\n\n/**\n * Returns the context of the current coroutine.\n
*\n@SinceKotlin("1.3")\n@Suppress("WRONG_MODIFIER_TARGET")\n@InlineOnly\npublic suspend inline
val coroutineContext: CoroutineContext\n get() {\n throw NotImplementedError("Implemented as
intrinsic")\n }\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
\n\npackage kotlin.coroutines.intrinsics\nimport kotlin.coroutines.\nimport kotlin.internal.InlineOnly\n\n/**\n *
Starts an unintercepted coroutine without a receiver and with result type [T] and executes it until its first
suspension.\n * Returns the result of the coroutine or throws its exception if it does not suspend or
[COROUTINE_SUSPENDED] if it suspends.\n * In the latter case, the [completion] continuation is invoked when
the coroutine completes with a result or an exception.\n *\n *\n * The coroutine is started directly in the invoker's thread
without going through the [ContinuationInterceptor] that might\n * be present in the completion's
[CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation\n * context is established.\n
*\n *\n * This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the
execution of the suspended\n * coroutine using a reference to the suspending function.\n
*\n@SinceKotlin("1.3")\n@InlineOnly\npublic actual inline fun <T> (suspend () ->
T).startCoroutineUninterceptedOrReturn(\n completion: Continuation<T>)\n): Any? =
this.asDynamic()(completion, false)\n\n/**\n * Starts an unintercepted coroutine with receiver type [R] and result
type [T] and executes it until its first suspension.\n * Returns the result of the coroutine or throws its exception if
it does not suspend or [COROUTINE_SUSPENDED] if it suspends.\n * In the latter case, the [completion]
continuation is invoked when the coroutine completes with a result or an exception.\n *\n *\n * The coroutine is started
directly in the invoker's thread without going through the [ContinuationInterceptor] that might\n * be present in the
completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation\n * context is
established.\n *\n *\n * This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn]
to resume the execution of the suspended\n * coroutine using a reference to the suspending function.\n
*\n@SinceKotlin("1.3")\n@InlineOnly\npublic actual inline fun <R, T> (suspend R.() ->
T).startCoroutineUninterceptedOrReturn(\n receiver: R,\n completion: Continuation<T>)\n): Any? =
this.asDynamic()(receiver, completion, false)\n\n/**\n * Creates unintercepted coroutine without receiver and with
result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is
invoked.\n *\n *\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation]
instance.\n * The [completion] continuation is invoked when coroutine completes with result or exception.\n *\n *\n *
This function returns unintercepted continuation.\n * Invocation of `resume(Unit)` starts coroutine immediately in
the invoker's call stack without going through the\n * [ContinuationInterceptor] that might be present in the
completion's [CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation context is

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established.  
 \* Note that [completion] of this function may get invoked in an arbitrary context.  
 \* [Continuation.intercepted] can be used to acquire the intercepted continuation.  
 \* Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of both the coroutine and [completion] happens in the invocation context established by [ContinuationInterceptor].  
 \* Repeated invocation of any resume function on the resulting continuation corrupts the state machine of the coroutine and may result in arbitrary behaviour or exception.  
 \* Since Kotlin("1.3")  
 public actual fun <T> (suspend () -> T).createCoroutineUnintercepted(completion: Continuation<T>): Continuation<Unit> =  
 // Kotlin/JS suspend lambdas have an extra parameter `suspended`  
 if (this.asDynamic().length == 2) {  
 // When `suspended` is true the continuation is created, but not executed  
 this.asDynamic()(completion, true)  
 } else {  
 createCoroutineFromSuspendFunction(completion) {  
 this.asDynamic()(completion)  
 }  
 }  
 \* Creates unintercepted coroutine with receiver type [R] and result type [T].  
 \* This function creates a new, fresh instance of suspendable computation every time it is invoked.  
 \* To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.  
 \* The [completion] continuation is invoked when coroutine completes with result or exception.  
 \* This function returns unintercepted continuation.  
 \* Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext].  
 \* It is the invoker's responsibility to ensure that a proper invocation context is established.  
 \* Note that [completion] of this function may get invoked in an arbitrary context.  
 \* [Continuation.intercepted] can be used to acquire the intercepted continuation.  
 \* Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of both the coroutine and [completion] happens in the invocation context established by [ContinuationInterceptor].  
 \* Repeated invocation of any resume function on the resulting continuation corrupts the state machine of the coroutine and may result in arbitrary behaviour or exception.  
 \* Since Kotlin("1.3")  
 public actual fun <R, T> (suspend R.() -> T).createCoroutineUnintercepted(receiver: R, completion: Continuation<T>): Continuation<Unit> =  
 // Kotlin/JS suspend lambdas have an extra parameter `suspended`  
 if (this.asDynamic().length == 3) {  
 // When `suspended` is true the continuation is created, but not executed  
 this.asDynamic()(receiver, completion, true)  
 } else {  
 createCoroutineFromSuspendFunction(completion) {  
 this.asDynamic()(receiver, completion)  
 }  
 }  
 \* Intercepts this continuation with [ContinuationInterceptor].  
 \* This function shall be used on the immediate result of [createCoroutineUnintercepted] or [suspendCoroutineUninterceptedOrReturn], in which case it checks for [ContinuationInterceptor] in the continuation's [context][Continuation.context], invokes [ContinuationInterceptor.interceptContinuation], caches and returns the result.  
 \* If this function is invoked on other [Continuation] instances it returns `this` continuation unchanged.  
 \* Since Kotlin("1.3")  
 public actual fun <T> Continuation<T>.intercepted(): Continuation<T> =  
 (this as? CoroutineImpl)?.intercepted() ?:  
 this  
 private inline fun <T> createCoroutineFromSuspendFunction(completion: Continuation<T>,  
 crossinline block: () -> Any?): Continuation<Unit> {  
 @Suppress("UNCHECKED\_CAST")  
 return object : CoroutineImpl(completion as Continuation<Any?>) {  
 override fun doResume(): Any? {  
 exception?.let { throw it }  
 return block()  
 }  
 }  
 }  
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 \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.  
 \* package kotlin.js  
 // Mirrors signature from JS IR BE  
 // Used for js.translator/testData/box/number/mulInt32.kt  
 @library  
 @JsName("imulEmulated")  
 internal fun imul(x: Int, y: Int): Int = definedExternally  
 internal inline fun isArrayish(o: dynamic) = js("Kotlin").isArrayish(o),  
 \* Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license  
 \* that can be found in the license/LICENSE.txt file.  
 \* @file: Suppress("UNUSED\_PARAMETER")  
 package kotlin.js  
 @kotlin.internal  
 internal inline fun jsDeleteProperty(obj: Any, property: Any) {  
 js("delete obj[property]")  
 }  
 @kotlin.internal  
 internal inline fun jsBitwiseOr(lhs: Any?, rhs: Any?): Int =  
 js("lhs | rhs").unsafeCast<Int>(),  
 \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.  
 \* Use of this source code is governed by the Apache 2.0 license that can be found in the

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license/LICENSE.txt file.\n *\/npackage kotlin.math\n\n/**\n * Returns this value with the sign bit same as of the
[sign] value.\n *\/n * If [sign] is `NaN` the sign of the result is undefined.\n *\/n@SinceKotlin("1.2")\npublic actual
fun Double.withSign(sign: Double): Double {\n val thisSignBit =
js("Kotlin").doubleSignBit(this).unsafeCast<Int>()\n val newSignBit =
js("Kotlin").doubleSignBit(sign).unsafeCast<Int>()\n return if (thisSignBit == newSignBit) this else -
this\n}"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\/n\npackage kotlin\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n *
according to the IEEE 754 floating-point `double format` bit layout.\n
*\/n@SinceKotlin("1.2")\n@library("doubleToBits")\npublic actual fun Double.toBits(): Long =
definedExternally\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n *
according to the IEEE 754 floating-point `double format` bit layout,\n * preserving `NaN` values exact layout.\n
*\/n@SinceKotlin("1.2")\n@library("doubleToRawBits")\npublic actual fun Double.toRawBits(): Long =
definedExternally\n\n/**\n * Returns the [Double] value corresponding to a given bit representation.\n
*\/n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Double.Companion.fromBits(bits:
Long): Double = js("Kotlin").doubleFromBits(bits).unsafeCast<Double>()\n\n/**\n * Returns a bit representation
of the specified floating-point value as [Int]\n * according to the IEEE 754 floating-point `single format` bit
layout.\n * Note that in Kotlin/JS [Float] range is wider than `single format` bit layout can represent,\n * so
some [Float] values may overflow, underflow or loose their accuracy after conversion to bits and back.\n
*\/n@SinceKotlin("1.2")\n@library("floatToBits")\npublic actual fun Float.toBits(): Int =
definedExternally\n\n/**\n * Returns a bit representation of the specified floating-point value as [Int]\n * according
to the IEEE 754 floating-point `single format` bit layout,\n * preserving `NaN` values exact layout.\n * Note
that in Kotlin/JS [Float] range is wider than `single format` bit layout can represent,\n * so some [Float] values
may overflow, underflow or loose their accuracy after conversion to bits and back.\n
*\/n@SinceKotlin("1.2")\n@library("floatToRawBits")\npublic actual fun Float.toRawBits(): Int =
definedExternally\n\n/**\n * Returns the [Float] value corresponding to a given bit representation.\n
*\/n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Float.Companion.fromBits(bits:
Int): Float = js("Kotlin").floatFromBits(bits).unsafeCast<Float>()\n\n\ninternal inline fun Long(low: Int, high: Int)
= js("Kotlin").Long.fromBits(low, high).unsafeCast<Long>()\n\ninternal inline val Long.low: Int get() =
this.asDynamic().getLowBits().unsafeCast<Int>()\n\ninternal inline val Long.high: Int get() =
this.asDynamic().getHighBits().unsafeCast<Int>()"/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\/n\npackage kotlin.text\n\n/**\n * Returns a string representation of this
[Long] value in the specified [radix].\n *\/n * @throws IllegalArgumentException when [radix] is not a valid radix
for number to string conversion.\n *\/n@SinceKotlin("1.2")\npublic actual fun Long.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))"/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\/n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Reverses elements in the list in-
place.\n *\/npublic actual fun <T> MutableList<T>.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if
(midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n
 this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n"/**\n *
Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\/n\npackage
kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.js.*\n\n/**\n * Returns a
character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char

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sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun
CharSequence.elementAt(index: Int): Char {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, length: $length}") }\n}\n\n", "*/\n * Copyright 2010-2019 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/\n\n// NOTE: THIS
FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.js.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an element at the given [index] or throws
an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.elementAt(index: Int):
UInt {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n */\n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun ULongArray.elementAt(index: Int):
ULong {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n */\n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UByteArray.elementAt(index: Int):
UByte {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n */\n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UShortArray.elementAt(index: Int):
UShort {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n
}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.asList(): List<UInt> {\n
return object : AbstractList<UInt>(), RandomAccess {\n override val size: Int get() = this@asList.size\n
override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: UInt): Boolean =
this@asList.contains(element)\n override fun get(index: Int): UInt {\n
AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun
indexOf(element: UInt): Int {\n if ((element as Any?) !is UInt) return -1\n return
this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UInt): Int {\n if ((element as
Any?) !is UInt) return -1\n return this@asList.lastIndexOf(element)\n }\n}\n}\n\n/**\n * Returns a
[List] that wraps the original array.\n */\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun
ULongArray.asList(): List<ULong> {\n return object : AbstractList<ULong>(), RandomAccess {\n override
val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n override
fun contains(element: ULong): Boolean = this@asList.contains(element)\n override fun get(index: Int): ULong
{\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override
fun indexOf(element: ULong): Int {\n if ((element as Any?) !is ULong) return -1\n return
this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: ULong): Int {\n if ((element
as Any?) !is ULong) return -1\n return this@asList.lastIndexOf(element)\n }\n}\n}\n\n/**\n * Returns
a [List] that wraps the original array.\n */\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual
fun UByteArray.asList(): List<UByte> {\n return object : AbstractList<UByte>(), RandomAccess {\n
override val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n
override fun contains(element: UByte): Boolean = this@asList.contains(element)\n override fun get(index: Int):
UByte {\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n
override fun indexOf(element: UByte): Int {\n if ((element as Any?) !is UByte) return -1\n return
this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UByte): Int {\n if ((element

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as Any?) !is UByte) return -1\n return this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns
a [List] that wraps the original array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual
fun UShortArray.asList(): List<UShort> {\n return object : AbstractList<UShort>(), RandomAccess {\n
override val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n
override fun contains(element: UShort): Boolean = this@asList.contains(element)\n override fun get(index:
Int): UShort {\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n
override fun indexOf(element: UShort): Int {\n if ((element as Any?) !is UShort) return -1\n return
this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UShort): Int {\n if ((element
as Any?) !is UShort) return -1\n return this@asList.lastIndexOf(element)\n }\n }\n}\n\n", "@file:
Suppress("DEPRECATION")\npackage jquery.ui\n\n//jquery UI\nimport jquery.JQuery\nimport
kotlin.js.Json\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery'
package instead.")\npublic inline fun JQuery.buttonset(): JQuery = asDynamic().buttonset()\n\n@Deprecated("Use
declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.")\npublic inline fun
JQuery.dialog(): JQuery = asDynamic().dialog()\n\n@Deprecated("Use declarations from
'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.")\npublic inline fun JQuery.dialog(params:
Json): JQuery = asDynamic().dialog(params)\n\n@Deprecated("Use declarations from
'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.")\npublic inline fun JQuery.dialog(mode:
String, param: String): Any? = asDynamic().dialog(mode, param)\n\n@Deprecated("Use declarations from
'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.")\npublic inline fun JQuery.dialog(mode:
String): JQuery = asDynamic().dialog(mode)\n\n@Deprecated("Use declarations from
'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.")\npublic inline fun JQuery.dialog(mode:
String, param: String, value: Any?): JQuery = asDynamic().dialog(mode, param, value)\n\n@Deprecated("Use
declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.")\npublic inline fun
JQuery.button(): JQuery = asDynamic().button()\n\n@Deprecated("Use declarations from
'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.")\npublic inline fun JQuery.accordion():
JQuery = asDynamic().accordion()\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-
externals/kotlin-js-jquery' package instead.")\npublic inline fun JQuery.draggable(params: Json): JQuery =
asDynamic().draggable(params)\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-
externals/kotlin-js-jquery' package instead.")\npublic inline fun JQuery.selectable(): JQuery =
asDynamic().selectable()\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport
kotlin.annotation.AnnotationTarget.*\n\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR,
VALUE_PARAMETER, PROPERTY_GETTER, PROPERTY_SETTER)\n@Deprecated("Use `external` modifier
instead", level = DeprecationLevel.ERROR)\npublic annotation class native(public val name: String =
"")\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body using dynamic")\npublic
annotation class nativeGetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body
using dynamic")\npublic annotation class nativeSetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline
extension function with body using dynamic")\npublic annotation class nativeInvoke\n\n@Target(CLASS,
FUNCTION, PROPERTY)\ninternal annotation class library(public val name: String =
"")\n\n@Target(CLASS)\ninternal annotation class marker\n\n/**\n * Gives a declaration (a function, a property or
a class) specific name in JavaScript.\n *\n * This may be useful in the following cases:\n *\n * * There are two
functions for which the compiler gives same name in JavaScript, you can\n * mark one with `@JsName(...)` to
prevent the compiler from reporting error.\n *\n * * You are writing a JavaScript library in Kotlin. The compiler
produces mangled names\n * for functions with parameters, which is unnatural for usual JavaScript developer.\n *
\n * You can put `@JsName(...)` on functions you want to be available from JavaScript.\n *\n * * For some reason you
want to rename declaration, e.g. there's common term in JavaScript\n * for a concept provided by the declaration,
which is uncommon in Kotlin.\n *\n * Example:\n *\n * ``` kotlin\n * class Person(val name: String) {\n * fun

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hello() {
 println("Hello $name!")
}

@JsName("helloWithGreeting") fun
hello(greeting: String) {
 println("$greeting $name!")
}

// It's required
// to denote a valid JavaScript identifier.
// @Retention(AnnotationRetention.BINARY)
// @Target(CLASS,
// FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)
// public actual
// annotation class JsName(actual val name: String) {
// // Denotes an `external` declaration that must be imported
// // from native JavaScript library.
// // The compiler produces the code relevant for the target module system, for
// // example, in case of CommonJS, it will import the declaration via the `require(...)`
// // function.
// // The
// // annotation can be used on top-level external declarations (classes, properties,
// // functions) and files.
// // In case of file
// // (which can't be `external`) the following rule applies: all the declarations in
// // the file must be `external`. By
// // applying `@JsModule(...)` on a file you tell the compiler to import a
// // JavaScript object that contain all the
// // declarations from the file.
// // Example:
// // ```kotlin
// // @JsModule("jquery")
// // external abstract class
// // JQuery() {
// // // some declarations here
// // }
// // @JsModule("jquery")
// // external fun JQuery(element:
// // Element): JQuery
// // ```
// // @property import name of a module to import declaration from.
// // It is not
// // interpreted by the Kotlin compiler, it's passed as is directly to the target
// // module system.
// // @see
// JsNonModule
// // @Retention(AnnotationRetention.BINARY)
// // @Target(CLASS, PROPERTY, FUNCTION,
// // FILE)
// // public annotation class JsModule(val import: String) {
// // // Denotes an `external` declaration that can be
// // // used without module system.
// // // By default, an `external` declaration is available regardless your
// // // target module
// // // system.
// // // However, by applying [JsModule] annotation you can make a declaration
// // // unavailable to *plain* module
// // // system.
// // // Some JavaScript libraries are distributed both as a standalone
// // // downloadable piece of JavaScript and as a
// // // module available
// // // as an npm package.
// // // To tell the Kotlin compiler to accept both cases, you can augment
// // // [JsModule] with the `@JsNonModule` annotation.
// // // For example:
// // // ```kotlin
// // // @JsModule("jquery")
// // // @JsNonModule
// // // @JsName("$")
// // // external abstract class JQuery() {
// // // // some declarations here
// // // }
// // // @JsModule("jquery")
// // // @JsNonModule
// // // @JsName("$")
// // // external
// // // fun JQuery(element: Element): JQuery
// // // ```
// // // @see JsModule
// // //
// // // @Retention(AnnotationRetention.BINARY)
// // // @Target(CLASS, PROPERTY, FUNCTION, FILE)
// // // public
// // // annotation class JsNonModule {
// // // // Adds prefix to `external` declarations in a source file.
// // // // JavaScript
// // // // does not have concept of packages (namespaces). They are usually
// // // // emulated by nested objects.
// // // // The compiler
// // // // turns references to `external` declarations either to plain
// // // // unprefixed names (in case of *plain* modules)
// // // // or to
// // // // plain imports.
// // // // However, if a JavaScript library provides its declarations in
// // // // packages, you won't be satisfied with
// // // // this.
// // // // You can tell the compiler to generate additional prefix before
// // // // references to `external` declarations using the
// // // // `@JsQualifier(...)` annotation.
// // // // Note that a file marked with the `@JsQualifier(...)`
// // // // annotation can't
// // // // contain non-`external` declarations.
// // // // Example:
// // // // ```
// // // // @file:JsQualifier("my.jsPackageName")
// // // // package some.kotlinPackage
// // // // external fun foo(x: Int)
// // // // external fun bar(): String
// // // // ```
// // // // @property value the qualifier to add to the declarations in the
// // // // generated code.
// // // // It must be a sequence of
// // // // valid JavaScript identifiers separated by the `.` character.
// // // // Examples of valid qualifiers are: `foo`,
// // // // `bar.Baz`, `_.$.f`.
// // // // @see JsModule
// // //
// // // @Retention(AnnotationRetention.BINARY)
// // // @Target(AnnotationTarget.FILE)
// // // public annotation class
// // // JsQualifier(val value: String) {
// // // // Marks experimental JS export annotations.
// // // // Note that behaviour of
// // // // these annotations will likely be changed in the future.
// // // // Usages of such annotations will be reported as
// // // // warnings unless an explicit opt-in with
// // // // the [OptIn] annotation, e.g. `@OptIn(ExperimentalJsExport::class)`,
// // // // or with the
// // // // `-Xopt-in=kotlin.js.ExperimentalJsExport` compiler option is
// // // // given.
// // //
// // // @Suppress("DEPRECATION")
// // // @Experimental(level =
// // // Experimental.Level.WARNING)
// // // @RequiresOptIn(level =
// // // RequiresOptIn.Level.WARNING)
// // // @SinceKotlin("1.3")
// // // public annotation class ExperimentalJsExport {
// // // // Exports top-level declaration.
// // // // Used in future IR-based
// // // // backend.
// // // // Has no effect in current JS
// // // // backend.
// // //
// // // @ExperimentalJsExport
// // // @SinceKotlin("1.3")
// // // @Retention(AnnotationRetention.BINARY)
// // // @Target(CLA
// // // SS, PROPERTY, FUNCTION, FILE)
// // // public annotation class JsExport {
// // // // Copyright 2010-2018 JetBrains

```

s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\npackage kotlin.jvm\n\n// these are used in common generated code in stdlib\n\n// TODO: find how to deprecate these

ones\n\n@Target(AnnotationTarget.FIELD)\n@Retention(AnnotationRetention.SOURCE)\npublic actual annotation class Volatile\n\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY\_GETTER, AnnotationTarget.PROPERTY\_SETTER)\n@Retention(AnnotationRetention.SOURCE)\npublic actual annotation class Synchronized\n", "/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\npackage kotlin.collections\n\n/\*\*\n \* Provides a skeletal implementation of the [MutableCollection] interface.\n \* \n \* @param E the type of elements contained in the collection. The collection is invariant on its element type.\n \*/\npublic actual abstract class AbstractMutableCollection<E> protected actual constructor() : AbstractCollection<E>(), MutableCollection<E> {\n\n actual abstract override fun add(element: E): Boolean\n\n actual override fun remove(element: E): Boolean {\n val iterator = iterator()\n while (iterator.hasNext()) {\n if (iterator.next() == element) {\n iterator.remove()\n return true\n }\n }\n return false\n }\n\n actual override fun addAll(elements: Collection<E>): Boolean {\n var modified = false\n for (element in elements) {\n if (add(element)) modified = true\n }\n return modified\n }\n\n actual override fun removeAll(elements: Collection<E>): Boolean = (this as MutableIterable<E>).removeAll { it in elements }\n\n actual override fun retainAll(elements: Collection<E>): Boolean = (this as MutableIterable<E>).removeAll { it !in elements }\n\n actual override fun clear(): Unit {\n val iterator = this.iterator()\n while (iterator.hasNext()) {\n iterator.next()\n iterator.remove()\n }\n }\n\n @JsName("toJSON")\n open fun toJSON(): Any = this.toArray()\n\n", "/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\n \* Based on GWT AbstractList\n \* Copyright 2007 Google Inc.\n \*/\n\npackage kotlin.collections\n\n/\*\*\n \* Provides a skeletal implementation of the [MutableList] interface.\n \* \n \* @param E the type of elements contained in the list. The list is invariant on its element type.\n \*/\npublic actual abstract class AbstractMutableList<E> protected actual constructor() : AbstractMutableCollection<E>(), MutableList<E> {\n protected var modCount: Int = 0\n\n abstract override fun add(index: Int, element: E): Unit\n\n abstract override fun removeAt(index: Int): E\n\n abstract override fun set(index: Int, element: E): E\n\n /\*\*\n \* Adds the specified element to the end of this list.\n \* \n \* @return `true` because the list is always modified as the result of this operation.\n \*/\n actual override fun add(element: E): Boolean {\n add(size, element)\n return true\n }\n\n actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n var \_index = index\n var changed = false\n for (e in elements) {\n add(\_index++, e)\n changed = true\n }\n return changed\n }\n\n actual override fun clear() {\n removeRange(0, size)\n }\n\n actual override fun removeAll(elements: Collection<E>): Boolean = removeAll { it in elements }\n\n actual override fun retainAll(elements: Collection<E>): Boolean = removeAll { it !in elements }\n\n actual override fun iterator(): MutableIterator<E> = IteratorImpl()\n\n actual override fun contains(element: E): Boolean = indexOf(element) >= 0\n\n actual override fun indexOf(element: E): Int {\n for (index in 0..lastIndex) {\n if (get(index) == element) {\n return index\n }\n }\n return -1\n }\n\n actual override fun lastIndexOf(element: E): Int {\n for (index in lastIndex downTo 0) {\n if (get(index) == element) {\n return index\n }\n }\n return -1\n }\n\n actual override fun listIterator(): MutableListIterator<E> = listIterator(0)\n\n actual override fun listIterator(index: Int): MutableListIterator<E> = ListIteratorImpl(index)\n\n\n actual override fun subList(fromIndex: Int, toIndex: Int): MutableList<E> = SubList(this, fromIndex, toIndex)\n\n /\*\*\n \* Removes the range of elements from this list starting from [fromIndex] and ending with but not including [toIndex].\n \*/\n protected open fun removeRange(fromIndex: Int, toIndex: Int) {\n val iterator = listIterator(fromIndex)\n repeat(toIndex - fromIndex) {\n iterator.next()\n iterator.remove()\n }\n }\n\n /\*\*\n \* Compares this list with another list instance with the ordered structural equality.\n \* \n \* @return true, if [other] instance is a [List] of the same size, which contains the same elements in the same order.\n \*/\n override fun equals(other: Any?):

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Boolean {
 if (other == this) return true
 if (other !is List<*>) return false
}

return
AbstractList.orderedEquals(this, other)
}

/**
 * Returns the hash code value for this list.
 */
override fun hashCode(): Int = AbstractList.orderedHashCode(this)

private open inner class IteratorImpl :
MutableIterator<E> {
 /** the index of the item that will be returned on the next call to [next]() */
 protected var index = 0
 /** the index of the item that was returned on the previous call to [next]()
 * or [ListIterator.previous]() (for `ListIterator`),
 * -1 if no such item exists
 */
 protected var last = -1

 override fun hasNext(): Boolean = index < size
 override fun next(): E {
 if (!hasNext())
 throw NoSuchElementException()
 last = index++
 return get(last)
 }

 override fun remove() {
 check(last != -1) { "Call next() or previous() before removing element from the iterator." }
 removeAt(last)
 index = last
 last = -1
 }
}

/**
 * Implementation of
 * `MutableListIterator` for abstract lists.
 */
private inner class ListIteratorImpl(index: Int) : IteratorImpl(),
MutableListIterator<E> {
 init {
 AbstractList.checkPositionIndex(index,
this@AbstractMutableList.size)
 this.index = index
 }

 override fun hasPrevious(): Boolean =
index > 0
 override fun nextIndex(): Int = index
 override fun previous(): E {
 if (!hasPrevious())
 throw NoSuchElementException()
 last = --index
 return get(last)
 }

 override fun previousIndex(): Int = index - 1
 override fun add(element: E) {
 add(index, element)
 index++
 last = -1
 }

 override fun set(element: E) {
 check(last != -1) { "Call
next() or previous() before updating element value with the iterator." }
 this@AbstractMutableList[last] =
element
 }
}

private class SubList<E>(private val list: AbstractMutableList<E>, private val
fromIndex: Int, toIndex: Int) : AbstractMutableList<E>(), RandomAccess {
 private var _size: Int = 0
 init {
 AbstractList.checkRangeIndexes(fromIndex, toIndex, list.size)
 this._size = toIndex -
fromIndex
 }

 override fun add(index: Int, element: E) {
 AbstractList.checkPositionIndex(index, _size)
 list.add(fromIndex + index, element)
 _size++
 }

 override fun get(index: Int): E {
 AbstractList.checkElementIndex(index, _size)
 return list[fromIndex + index]
 }

 override fun removeAt(index: Int): E {
 AbstractList.checkElementIndex(index, _size)
 val result = list.removeAt(fromIndex + index)
 _size--
 return result
 }

 override fun set(index: Int, element: E): E {
 AbstractList.checkElementIndex(index, _size)
 return list.set(fromIndex + index, element)
 }

 override val size: Int get() = _size
}

}

"/**
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found in the license/LICENSE.txt file.
 */
/*
 * Based on GWT AbstractMap
 * Copyright 2007 Google Inc.
 */
package kotlin.collections

/**
 * Provides a skeletal implementation of the [MutableMap] interface.
 */
/*
 * The implementor is required to implement [entries] property, which should return mutable set of map entries, and
[put] function.
 */
/*
 * @param K the type of map keys. The map is invariant on its key type.
 */
/*
 * @param V the type
of map values. The map is invariant on its value type.
 */
public actual abstract class AbstractMutableMap<K, V>
protected actual constructor() : AbstractMap<K, V>(), MutableMap<K, V> {
 /**
 * A mutable
[Map.Entry] shared by several [Map] implementations.
 */
 internal open class SimpleEntry<K, V>(override
val key: K, value: V) : MutableMap.MutableEntry<K, V> {
 constructor(entry: Map.Entry<K, V>) :
this(entry.key, entry.value)
 private var _value = value
 override val value: V get() = _value
 override fun setValue(newValue: V): V {
 val oldValue = this._value
 this._value = newValue
 return oldValue
 }

 override fun hashCode(): Int = entryHashCode(this)
 override fun toString():
String = entryToString(this)
 override fun equals(other: Any?): Boolean = entryEquals(this, other)
 }

 actual override fun clear() {
 entries.clear()
 }

 private var _keys: MutableSet<K>? = null
 actual
override val keys: MutableSet<K>
get() {
 if (_keys == null) {
 _keys = object :
AbstractMutableSet<K>() {
 override fun add(element: K): Boolean = throw
UnsupportedOperationException("Add is not supported on keys")
 }
 this@AbstractMutableMap.clear()
 }
 return _keys
}

 override operator fun contains(element: K):
Boolean = containsKey(element)
 override operator fun iterator(): MutableIterator<K> {

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 val entryIterator = entries.iterator()\n return object : MutableIterator<K> {\n
override fun hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): K =
entryIterator.next().key\n override fun remove() = entryIterator.remove()\n }\n
 }\n\n override fun remove(element: K): Boolean {\n if (containsKey(element)) {\n
 this@AbstractMutableMap.remove(element)\n return true\n }\n
 return false\n }\n\n override val size: Int get() = this@AbstractMutableMap.size\n
}\n }\n return _keys!!\n }\n\n actual abstract override fun put(key: K, value: V): V?\n
actual override fun putAll(from: Map<out K, V>) {\n for ((key, value) in from) {\n put(key, value)\n
}\n }\n\n private var _values: MutableCollection<V>? = null\n actual override val values:
MutableCollection<V>\n get() {\n if (_values == null) {\n _values = object :
AbstractMutableCollection<V>()\n override fun add(element: V): Boolean = throw
UnsupportedOperationException("Add is not supported on values")\n override fun clear() =
this@AbstractMutableMap.clear()\n override operator fun contains(element: V): Boolean =
containsValue(element)\n override operator fun iterator(): MutableIterator<V> {\n val
entryIterator = entries.iterator()\n return object : MutableIterator<V> {\n override fun
hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): V = entryIterator.next().value\n
 override fun remove() = entryIterator.remove()\n }\n }\n\n
 override val size: Int get() = this@AbstractMutableMap.size\n // TODO: should we implement them
this way? Currently it's unspecified in JVM\n override fun equals(other: Any?): Boolean {\n
 if (this === other) return true\n if (other !is Collection<*>) return false\n return
AbstractList.orderedEquals(this, other)\n }\n\n override fun hashCode(): Int =
AbstractList.orderedHashCode(this)\n }\n }\n return _values!!\n }\n\n actual override
fun remove(key: K): V? {\n val iter = entries.iterator()\n while (iter.hasNext()) {\n val entry =
iter.next()\n val k = entry.key\n if (key == k) {\n val value = entry.value\n
iter.remove()\n return value\n }\n }\n return null\n }\n\n}\n\n}"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n *
Provides a skeletal implementation of the [MutableSet] interface.\n */\n * @param E the type of elements contained
in the set. The set is invariant on its element type.\n */\npublic actual abstract class AbstractMutableSet<E>
protected actual constructor() : AbstractMutableCollection<E>(), MutableSet<E> {\n\n /**\n * Compares this
set with another set instance with the unordered structural equality.\n *\n * @return `true`, if [other] instance is
a [Set] of the same size, all elements of which are contained in this set.\n */\n override fun equals(other: Any?):
Boolean {\n if (other === this) return true\n if (other !is Set<*>) return false\n return
AbstractSet.setEquals(this, other)\n }\n\n /**\n * Returns the hash code value for this set.\n */\n override
fun hashCode(): Int = AbstractSet.unorderedHashCode(this)\n}\n\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n * Provides a [MutableList]
implementation, which uses a resizable array as its backing storage.\n */\n * This implementation doesn't provide a
way to manage capacity, as backing JS array is resizable itself.\n * There is no speed advantage to pre-allocating
array sizes in JavaScript, so this implementation does not include any of the\n * capacity and "growth increment"
concepts.\n */\npublic actual open class ArrayList<E> internal constructor(private var array: Array<Any?>) :
AbstractMutableList<E>(), MutableList<E>, RandomAccess {\n\n /**\n * Creates an empty [ArrayList].\n */\n *
public actual constructor() : this(emptyArray()) {\n\n /**\n * Creates an empty [ArrayList].\n */
@param initialCapacity initial capacity (ignored)\n */\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual
constructor(initialCapacity: Int = 0) : this(emptyArray()) {\n\n /**\n * Creates an [ArrayList] filled from the
[elements] collection.\n */\n public actual constructor(elements: Collection<E>) :
this(elements.toArray<Any?>()) {\n\n /**\n * Does nothing in this ArrayList implementation.\n */\n public

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actual fun trimToSize() {} \n \n /** Does nothing in this ArrayList implementation. */ \n public actual fun
ensureCapacity(minCapacity: Int) {} \n \n actual override val size: Int get() = array.size \n
@Suppress("UNCHECKED_CAST") \n actual override fun get(index: Int): E = array[rangeCheck(index)] as E \n
actual override fun set(index: Int, element: E): E { \n rangeCheck(index) \n
@Suppress("UNCHECKED_CAST") \n return array[index].apply { array[index] = element } as E \n } \n \n
actual override fun add(element: E): Boolean { \n array.asDynamic().push(element) \n modCount++ \n
return true \n } \n \n actual override fun add(index: Int, element: E): Unit { \n
array.asDynamic().splice(insertionRangeCheck(index), 0, element) \n modCount++ \n } \n \n actual override
fun addAll(elements: Collection<E>): Boolean { \n if (elements.isEmpty()) return false \n \n array +=
elements.toArray<Any?>() \n modCount++ \n return true \n } \n \n actual override fun addAll(index:
Int, elements: Collection<E>): Boolean { \n insertionRangeCheck(index) \n \n if (index == size) return
addAll(elements) \n if (elements.isEmpty()) return false \n when (index) { \n size -> return
addAll(elements) \n 0 -> array = elements.toArray<Any?>() + array \n else -> array =
array.copyOfRange(0, index).asDynamic().concat(elements.toArray<Any?>(), array.copyOfRange(index,
size)) \n } \n \n modCount++ \n return true \n } \n \n actual override fun removeAt(index: Int): E { \n
rangeCheck(index) \n modCount++ \n return if (index == lastIndex) \n array.asDynamic().pop() \n
else \n array.asDynamic().splice(index, 1)[0] \n } \n \n actual override fun remove(element: E): Boolean { \n
for (index in array.indices) { \n if (array[index] == element) { \n array.asDynamic().splice(index,
1) \n modCount++ \n return true \n } \n } \n return false \n } \n \n override fun
removeRange(fromIndex: Int, toIndex: Int) { \n modCount++ \n array.asDynamic().splice(fromIndex,
toIndex - fromIndex) \n } \n \n actual override fun clear() { \n array = emptyArray() \n modCount++ \n
} \n \n \n actual override fun indexOf(element: E): Int = array.indexOf(element) \n \n actual override fun
lastIndexOf(element: E): Int = array.lastIndexOf(element) \n \n override fun toString() = arrayToString(array) \n
override fun toArray(): Array<Any?> = js("{}").slice.call(array) \n \n \n private fun rangeCheck(index: Int) =
index.apply { \n AbstractList.checkElementIndex(index, size) \n } \n \n private fun
insertionRangeCheck(index: Int) = index.apply { \n AbstractList.checkPositionIndex(index, size) \n } \n }", "/* \n
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is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. \n */ \n \n \n package
kotlin.collections \n \n internal fun <T> sortArrayWith(array: Array<out T>, comparison: (T, T) -> Int) { \n if
(getStableSortingIsSupported()) { \n array.asDynamic().sort(comparison) \n } else { \n
mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, Comparator(comparison)) \n } \n } \n \n \n internal fun
<T> sortArrayWith(array: Array<out T>, comparator: Comparator<in T>) { \n if (getStableSortingIsSupported())
{ \n val comparison = { a: T, b: T -> comparator.compare(a, b) } \n array.asDynamic().sort(comparison) \n
} else { \n mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, comparator) \n } \n } \n \n \n internal fun
<T : Comparable<T>> sortArray(array: Array<out T>) { \n if (getStableSortingIsSupported()) { \n val
comparison = { a: T, b: T -> a.compareTo(b) } \n array.asDynamic().sort(comparison) \n } else { \n
mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, naturalOrder()) \n } \n } \n \n \n private var
_stableSortingIsSupported: Boolean? = null \n private fun getStableSortingIsSupported(): Boolean { \n
_stableSortingIsSupported?.let { return it } \n _stableSortingIsSupported = false \n \n val array =
js("{}").unsafeCast<Array<Int>>() \n // known implementations may use stable sort for arrays of up to 512
elements \n // so we create slightly more elements to test stability \n for (index in 0 until 600)
array.asDynamic().push(index) \n val comparison = { a: Int, b: Int -> (a and 3) - (b and 3) } \n
array.asDynamic().sort(comparison) \n for (index in 1 until array.size) { \n val a = array[index - 1] \n val b
= array[index] \n if ((a and 3) == (b and 3) && a >= b) return false \n } \n _stableSortingIsSupported = true \n
return true \n } \n \n \n private fun <T> mergeSort(array: Array<T>, start: Int, endInclusive: Int, comparator:
Comparator<in T>) { \n val buffer = arrayOfNulls<Any?>(array.size).unsafeCast<Array<T>>() \n val result =
mergeSort(array, buffer, start, endInclusive, comparator) \n if (result !== array) { \n result.forEachIndexed { i,
v -> array[i] = v } \n } \n } \n \n \n // Both start and end are inclusive indices. \n private fun <T> mergeSort(array:

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Array<T>, buffer: Array<T>, start: Int, end: Int, comparator: Comparator<in T>): Array<T> {
 if (start == end)
 return array
 val median = (start + end) / 2
 val left = mergeSort(array, buffer, start, median, comparator)
 val right = mergeSort(array, buffer, median + 1, end, comparator)
 val target = if (left === buffer) array else buffer
 // Merge.
 var leftIndex = start
 var rightIndex = median + 1
 for (i in start..end) {
 when {
 leftIndex <= median && rightIndex <= end -> {
 val leftValue = left[leftIndex]
 val rightValue = right[rightIndex]
 if (comparator.compare(leftValue, rightValue) <= 0)
 target[i] = leftValue
 leftIndex++
 } else {
 target[i] = rightValue
 rightIndex++
 }
 }
 leftIndex <= median -> {
 target[i] = left[leftIndex]
 leftIndex++
 }
 else /* rightIndex <= end */ -> {
 target[i] = right[rightIndex]
 rightIndex++
 }
 }
 }
 return target
}
}

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 * license/LICENSE.txt file.
 */
package
kotlin.collections
@UseExperimental(ExperimentalUnsignedTypes::class)
@SinceKotlin("1.3")
@kotlin.js.JsName("contentDeepHashCodeImpl")
internal fun <T> Array<out T>.contentDeepHashCodeImpl(): Int {
 var result = 1
 for (element in this) {
 val elementHash = when {
 element == null -> 0
 isArrayish(element) -> (element.unsafeCast<Array<*>>()).contentDeepHashCodeImpl()
 element is UByteArray -> element.contentHashCode()
 element is UShortArray -> element.contentHashCode()
 element is UIntArray -> element.contentHashCode()
 element is ULongArray -> element.contentHashCode()
 else -> element.hashCode()
 }
 result = 31 * result + elementHash
 }
 return result
}

/*
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 * license/LICENSE.txt file.
 */
package kotlin.collections
internal interface EqualityComparator {
 /**
 * Subclasses must override to return a value indicating whether or not two keys or values are equal.
 */
 abstract fun equals(value1: Any?, value2: Any?): Boolean

 /**
 * Subclasses must override to return the hash code of a given key.
 */
 abstract fun getHashCode(value: Any?): Int
}

object HashCode : EqualityComparator {
 override fun equals(value1: Any?, value2: Any?): Boolean = value1 == value2
 override fun getHashCode(value: Any?): Int = value?.hashCode() ?: 0
}

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 * license/LICENSE.txt file.
 */
/*
 * Based on GWT
 */
AbstractHashMap
/*
 * Copyright 2008 Google Inc.
 */
package kotlin.collections
import
kotlin.collections.MutableMap.MutableEntry

/**
 * Hash table based implementation of the [MutableMap] interface.
 *
 * This implementation makes no guarantees regarding the order of enumeration of [keys], [values] and [entries] collections.
 */
public actual open class HashMap<K, V> : AbstractMutableMap<K, V>, MutableMap<K, V> {
 private inner class EntrySet : AbstractMutableSet<MutableEntry<K, V>>() {
 override fun add(element: MutableEntry<K, V>): Boolean = throw UnsupportedOperationException("Add is not supported on entries")
 override fun clear() {
 this@HashMap.clear()
 }
 override operator fun contains(element: MutableEntry<K, V>): Boolean = containsEntry(element)
 override operator fun iterator(): MutableIterator<MutableEntry<K, V>> = internalMap.iterator()
 override fun remove(element: MutableEntry<K, V>): Boolean {
 if (contains(element)) {
 this@HashMap.remove(element.key)
 return true
 }
 return false
 }
 }

 override val size: Int get() = this@HashMap.size
}

/**
 * Internal implementation of the map: either string-based or hashcode-based.
 */
private val internalMap: InternalMap<K, V>
private val equality: EqualityComparator

internal constructor(internalMap: InternalMap<K, V>) : super() {
 this.internalMap = internalMap
 this.equality = internalMap.equality
}

/**
 * Constructs an empty [HashMap] instance.
 */
actual constructor() : this(InternalHashMap(EqualityComparator.HashCode))

/**
 * Constructs an empty [HashMap] instance.
 *
 * @param initialCapacity the initial capacity (ignored)
 * @param loadFactor the load factor (ignored)
 * @throws IllegalArgumentException if the initial

```

```

capacity or load factor are negative\n */\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n actual constructor(initialCapacity:
Int, loadFactor: Float = 0.0f) : this() {\n // This implementation of HashMap has no need of load factors or
capacities.\n require(initialCapacity >= 0) { "Negative initial capacity: $initialCapacity" }\n
require(loadFactor >= 0) { "Non-positive load factor: $loadFactor" }\n }\n\n actual constructor(initialCapacity:
Int) : this(initialCapacity, 0.0f)\n\n /**\n * Constructs an instance of [HashMap] filled with the contents of the
specified [original] map.\n */\n actual constructor(original: Map<out K, V>) : this() {\n
this.putAll(original)\n }\n\n actual override fun clear() {\n internalMap.clear()\n//
structureChanged(this)\n }\n\n actual override fun containsKey(key: K): Boolean =
internalMap.containsKey(key)\n\n actual override fun containsValue(value: V): Boolean = internalMap.any {
equality.equals(it.value, value) }\n\n private var _entries: MutableSet<MutableMap.MutableEntry<K, V>>? =
null\n actual override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n get() {\n if
(_entries == null) {\n _entries = createEntrySet()\n }\n return _entries!!\n }\n\n
protected open fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n actual
override operator fun get(key: K): V? = internalMap.get(key)\n\n actual override fun put(key: K, value: V): V? =
internalMap.put(key, value)\n\n actual override fun remove(key: K): V? = internalMap.remove(key)\n\n actual
override val size: Int get() = internalMap.size\n}\n\n/**\n * Constructs the specialized implementation of
[HashMap] with [String] keys, which stores the keys as properties of\n * JS object without hashing them.\n
*/\npublic fun <V> stringMapOf(vararg pairs: Pair<String, V>): HashMap<String, V> {\n return
HashMap<String, V>(InternalStringMap(EqualityComparator.HashCode)).apply { putAll(pairs) }\n}\n", "/*\n *
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n * Based on GWT
HashSet\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the
[MutableSet] interface, backed by a [HashMap] instance.\n */\npublic actual open class HashSet<E> :
AbstractMutableSet<E>, MutableSet<E> {\n\n private val map: HashMap<E, Any>\n\n /**\n * Constructs a
new empty [HashSet].\n */\n actual constructor() {\n map = HashMap<E, Any>()\n }\n\n /**\n *
Constructs a new [HashSet] filled with the elements of the specified collection.\n */\n actual
constructor(elements: Collection<E>) {\n map = HashMap<E, Any>(elements.size)\n addAll(elements)\n
 }\n\n /**\n * Constructs a new empty [HashSet].\n */\n * @param initialCapacity the initial capacity
(ignored)\n * @param loadFactor the load factor (ignored)\n * @throws IllegalArgumentException if
the initial capacity or load factor are negative\n */\n\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n actual constructor(initialCapacity:
Int, loadFactor: Float = 0.0f) {\n map = HashMap<E, Any>(initialCapacity, loadFactor)\n }\n\n actual
constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n /**\n * Protected constructor to specify the
underlying map. This is used by\n * LinkedHashSet.\n */\n * @param map underlying map to use.\n */\n internal constructor(map: HashMap<E, Any>) {\n this.map = map\n }\n\n actual override fun add(element:
E): Boolean {\n val old = map.put(element, this)\n return old == null\n }\n\n actual override fun clear()
{\n map.clear()\n }\n\n// public override fun clone(): Any {\n// return HashSet<E>(this)\n// }\n\n actual override operator fun contains(element: E): Boolean = map.containsKey(element)\n\n actual override fun
isEmpty(): Boolean = map.isEmpty()\n\n actual override fun iterator(): MutableIterator<E> =
map.keys.iterator()\n\n actual override fun remove(element: E): Boolean = map.remove(element) != null\n\n actual
override val size: Int get() = map.size\n}\n\n/**\n * Creates a new instance of the specialized
implementation of [HashSet] with the specified [String] elements,\n * which elements the keys as properties of JS
object without hashing them.\n */\npublic fun stringSetOf(vararg elements: String): HashSet<String> {\n return
HashSet(stringMapOf<Any>()).apply { addAll(elements) }\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n * Based on GWT InternalHashCodeMap\n * Copyright
2008 Google Inc.\n */\n\npackage kotlin.collections\n\nimport

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kotlin.collections.MutableMap.MutableEntry\nimport kotlin.collections.AbstractMutableMap.SimpleEntry\n\n/**\n * A simple wrapper around JavaScriptObject to provide [java.util.Map]-like semantics for any\n * key type.\n *\n * Implementation notes:\n * * A key's hashCode is the index in backingMap which should contain that\n * key. Since several keys may\n * have the same hash, each value in hashCodeMap is actually an array containing all\n * entries whose\n * keys share the same hash.\n */\ninternal class InternalHashMap<K, V>(override val equality:\n EqualityComparator) : InternalMap<K, V> {\n private var backingMap: dynamic = createJsMap()\n override\n var size: Int = 0\n private set\n override fun put(key: K, value: V): V? {\n val hashCode =\n equality.getHashCode(key)\n val chainOrEntry = getChainOrEntryOrNull(hashCode)\n if (chainOrEntry\n == null) {\n // This is a new chain, put it to the map.\n backingMap[hashCode] = SimpleEntry(key,\n value)\n } else {\n if (chainOrEntry !is Array<*>) {\n // It is an entry\n val entry:\n SimpleEntry<K, V> = chainOrEntry\n if (equality.equals(entry.key, key)) {\n return\n entry.setValue(value)\n } else {\n backingMap[hashCode] = arrayOf(entry, SimpleEntry(key,\n value))\n size++\n return null\n } else {\n // Chain already\n exists, perhaps key also exists.\n val chain: Array<MutableEntry<K, V>> = chainOrEntry\n val\n entry = chain.findEntryInChain(key)\n if (entry != null) {\n return entry.setValue(value)\n }\n chain.asDynamic().push(SimpleEntry(key, value))\n } size++\n //\n structureChanged(host)\n return null\n }\n override fun remove(key: K): V? {\n val hashCode =\n equality.getHashCode(key)\n val chainOrEntry = getChainOrEntryOrNull(hashCode)?: return null\n if\n (chainOrEntry !is Array<*>) {\n val entry: MutableEntry<K, V> = chainOrEntry\n if\n (equality.equals(entry.key, key)) {\n jsDeleteProperty(backingMap, hashCode)\n size--\n return entry.value\n } else {\n return null\n } else {\n val chain:\n Array<MutableEntry<K, V>> = chainOrEntry\n for (index in chain.indices) {\n val entry =\n chain[index]\n if (equality.equals(key, entry.key)) {\n if (chain.size == 1) {\n chain.asDynamic().length = 0\n // remove the whole array\n jsDeleteProperty(backingMap, hashCode)\n } else {\n // splice out the entry we're\n removing\n chain.asDynamic().splice(index, 1)\n } size--\n structureChanged(host)\n return entry.value\n }\n }\n return null\n }\n }\n override fun clear() {\n backingMap = createJsMap()\n size = 0\n }\n override fun contains(key: K):\n Boolean = getEntry(key) != null\n override fun get(key: K): V? = getEntry(key)?.value\n private fun\n getEntry(key: K): MutableEntry<K, V>? {\n val chainOrEntry =\n getChainOrEntryOrNull(equality.getHashCode(key))?: return null\n if (chainOrEntry !is Array<*>) {\n val entry: MutableEntry<K, V> = chainOrEntry\n if (equality.equals(entry.key, key)) {\n return\n entry\n } else {\n return null\n } else {\n val chain: Array<MutableEntry<K,\n V>> = chainOrEntry\n return chain.findEntryInChain(key)\n }\n }\n private fun\n Array<MutableEntry<K, V>>.findEntryInChain(key: K): MutableEntry<K, V>? =\n firstOrNull { entry ->\n equality.equals(entry.key, key) }\n override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n return object : MutableIterator<MutableEntry<K, V>> {\n var state = -1 // -1 not ready, 0 - ready, 1 -\n done\n val keys: Array<String> = js("Object").keys(backingMap)\n var keyIndex = -1\n var chainOrEntry: dynamic = null\n var isChain = false\n var itemIndex = -1\n var lastEntry:\n MutableEntry<K, V>? = null\n private fun computeNext(): Int {\n if (chainOrEntry != null &&\n isChain) {\n val chainSize: Int = chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>().size\n if (++itemIndex < chainSize)\n return 0\n }\n if (++keyIndex < keys.size)\n {\n chainOrEntry = backingMap[keys[keyIndex]]\n isChain = chainOrEntry is Array<*>\n itemIndex = 0\n return 0\n } else {\n chainOrEntry = null\n return 1\n }\n }\n override fun hasNext(): Boolean {\n if (state == -1)\n state = computeNext()\n return state == 0\n }\n override fun next(): MutableEntry<K, V>\n {\n if (!hasNext()) throw NoSuchElementException()\n val lastEntry = if (isChain) {\n chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>()[itemIndex]\n } else {\n
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chainOrEntry.unsafeCast<MutableEntry<K, V>>()\n }\n this.lastEntry = lastEntry\nstate = -1\n return lastEntry\n }\n override fun remove() {\ncheckNotNull(lastEntry)\n this@InternalHashMap.remove(lastEntry!!.key)\n lastEntry =\nnull\n // the chain being iterated just got modified by InternalHashMap.remove\n itemIndex-\n }\n }\n }\n private fun getChainOrEntryOrNull(hashCode: Int): dynamic {\n val\nchainOrEntry = backingMap[hashCode]\n return if (chainOrEntry === undefined) null else chainOrEntry\n}\n}\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of\nthis source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n*/\n\npackage kotlin.collections\n\n/**\n * The common interface of [InternalStringMap] and\n[InternalHashMap].\n * \n * internal interface InternalMap<K, V> :\nMutableIterable<MutableMap.MutableEntry<K, V>> {\n val equality: EqualityComparator\n val size: Int\n operator fun contains(key: K): Boolean\n operator fun get(key: K): V?\n fun put(key: K, value: V): V?\n fun\nremove(key: K): V?\n fun clear(): Unit\n fun createJsMap(): dynamic {\n val result =\njs("Object.create(null)")\n // force to switch object representation to dictionary mode\n result["foo"] =\n1\n jsDeleteProperty(result, "foo")\n return result\n }\n}\n"/\n * Copyright 2010-2018 JetBrains s.r.o.\nand Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license\nthat can be found in the license/LICENSE.txt file.\n * \n * Based on GWT InternalStringMap\n * Copyright\n2008 Google Inc.\n * \n * package kotlin.collections\n * \n * import kotlin.collections.MutableMap.MutableEntry\n * \n * \n * A simple wrapper around JavaScript Map for key type is string.\n * \n * Though this map is instantiated only with\nK=String, the K type is not fixed to String statically,\n * because we want to have it erased to Any? in order not to\ngenerate type-safe override bridges for\n * [get], [contains], [remove] etc, if they ever are generated.\n * \n * internal\nclass InternalStringMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V> {\n private var\nbackingMap: dynamic = createJsMap()\n override var size: Int = 0\n private set\n // \n * \n * A mod\ncount to track 'value' replacements in map to ensure that the 'value' that we have in the\n * \n * iterator entry is\nguaranteed to be still correct.\n * \n * This is to optimize for the common scenario where the values are not modified\nduring\n * \n * iterations where the entries are never stale.\n * \n * \n * private var valueMod: Int = 0\n override\noperator fun contains(key: K): Boolean {\n if (key !is String) return false\n return backingMap[key] !==\nundefined\n }\n override operator fun get(key: K): V? {\n if (key !is String) return null\n val value =\nbackingMap[key]\n return if (value !== undefined) value.unsafeCast<V>() else null\n }\n override fun\nput(key: K, value: V): V? {\n require(key is String)\n val oldValue = backingMap[key]\n backingMap[key] = value\n if (oldValue === undefined) {\n size++\n structureChanged(host)\n return null\n } else {\n valueMod++\n return\noldValue.unsafeCast<V>()\n }\n }\n override fun remove(key: K): V? {\n if (key !is String) return\nnull\n val value = backingMap[key]\n if (value !== undefined) {\n jsDeleteProperty(backingMap,\nkey)\n size--\n structureChanged(host)\n return value.unsafeCast<V>()\n } else {\n valueMod++\n return null\n }\n }\n override fun clear() {\n backingMap = createJsMap()\n size = 0\n }\n override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n return object :\nMutableIterator<MutableEntry<K, V>> {\n private val keys: Array<String> =\njs("Object").keys(backingMap)\n private val iterator = keys.iterator()\n private var lastKey: String? =\nnull\n override fun hasNext(): Boolean = iterator.hasNext()\n override fun next():\nMutableEntry<K, V> {\n val key = iterator.next()\n lastKey = key\n @Suppress("UNCHECKED_CAST")\n return newMapEntry(key as K)\n }\n override\nfun remove() {\n @Suppress("UNCHECKED_CAST")\n this@InternalStringMap.remove(checkNotNull(lastKey) as K)\n }\n }\n private fun\nnewMapEntry(key: K): MutableEntry<K, V> = object : MutableEntry<K, V> {\n override val key: K get() =\nkey\n override val value: V get() = this@InternalStringMap[key].unsafeCast<V>()\n override fun\nsetValue(newValue: V): V = this@InternalStringMap.put(key, newValue).unsafeCast<V>()\n override fun\nhashCode(): Int = AbstractMap.entryHashCode(this)\n override fun toString(): String =

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AbstractMap.entryToString(this)\n override fun equals(other: Any?): Boolean = AbstractMap.entryEquals(this,
other)\n }\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n * Based on GWT LinkedHashMap\n * Copyright 2008 Google Inc.\n */\npackage
kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based
implementation of the [MutableMap] interface, which additionally preserves the insertion order\n * of entries during
the iteration.\n * The insertion order is preserved by maintaining a doubly-linked list of all of its entries.\n
*/\n\npublic actual open class LinkedHashMap<K, V> : HashMap<K, V>, MutableMap<K, V> {\n\n /**\n * The
entry we use includes next/prev pointers for a doubly-linked circular\n * list with a head node. This reduces the
special cases we have to deal with\n * in the list operations.\n * Note that we duplicate the key from the
underlying hash map so we can find\n * the eldest entry. The alternative would have been to modify HashMap so
more\n * of the code was directly usable here, but this would have added some\n * overhead to HashMap, or to
reimplement most of the HashMap code here with\n * small modifications. Paying a small storage cost only if
you use\n * LinkedHashMap and minimizing code size seemed like a better tradeoff\n */\n private class
ChainEntry<K, V>(key: K, value: V) : AbstractMutableMap.SimpleEntry<K, V>(key, value) {\n internal var
next: ChainEntry<K, V>? = null\n internal var prev: ChainEntry<K, V>? = null\n }\n\n private inner class
EntrySet : AbstractMutableSet<MutableEntry<K, V>>() {\n private inner class EntryIterator :
MutableIterator<MutableEntry<K, V>> {\n // The last entry that was returned from this iterator.\n
private var last: ChainEntry<K, V>? = null\n // The next entry to return from this iterator.\n private
var next: ChainEntry<K, V>? = null\n init {\n next = head\n }\n override fun
hasNext(): Boolean {\n return
next != null\n }\n override fun next(): MutableEntry<K, V> {\n checkStructuralChange(map, this)\n if (!hasNext()) throw NoSuchElementException()\n val
current = next!!\n last = current\n next = current.next.takeIf { it != head }\n return
current\n }\n override fun remove() {\n check(last != null)\n }\n checkStructuralChange(map, this)\n last!!.remove()\n map.remove(last!!.key)\n recordLastKnownStructure(map, this)\n last = null\n }\n }\n\n override fun add(element:
MutableEntry<K, V>): Boolean = throw UnsupportedOperationException("Add is not supported on entries")\n\n override fun clear() {\n this@LinkedHashMap.clear()\n }\n\n override operator fun
contains(element: MutableEntry<K, V>): Boolean = containsEntry(element)\n\n override operator fun iterator():
MutableIterator<MutableEntry<K, V>> = EntryIterator()\n\n override fun remove(element: MutableEntry<K,
V>): Boolean {\n if (contains(element)) {\n this@LinkedHashMap.remove(element.key)\n }\n return true\n }\n\n return false\n }\n\n override val size: Int get() = this@LinkedHashMap.size\n
}\n\n /**\n * The head of the insert order chain, which is a doubly-linked circular\n * list.\n * The most
recently inserted node is at the end of the chain, ie.\n * chain.prev.\n */\n private var head: ChainEntry<K, V>?
= null\n\n /**\n * Add this node to the end of the chain.\n */\n private fun ChainEntry<K, V>.addToEnd()\n {\n // This entry is not in the list.\n check(next == null && prev == null)\n val _head = head\n if
(_head == null) {\n head = this\n next = this\n prev = this\n } else {\n // Chain is
valid.\n val _tail = checkNotNull(_head.prev)\n // Update me.\n prev = _tail\n next =
_head\n // Update my new siblings: current head and old tail\n _head.prev = this\n _tail.next =
this\n }\n }\n\n /**\n * Remove this node from the chain it is a part of.\n */\n private fun
ChainEntry<K, V>.remove() {\n if (this.next === this) {\n // if this is single element, remove head\n
 head = null\n } else {\n if (head === this) {\n // if this is first element, move head to next\n
 head = next\n }\n next!!.prev = prev\n prev!!.next = next\n }\n next = null\n prev = null\n }\n\n /**\n * The hashmap that keeps track of our entries and the chain. Note that we\n *
duplicate the key here to eliminate changes to HashMap and minimize the\n * code here, at the expense of
additional space.\n */\n private val map: HashMap<K, ChainEntry<K, V>>\n\n /**\n * Constructs an empty
[LinkedHashMap] instance.\n */\n actual constructor() : super() {\n map = HashMap<K, ChainEntry<K,

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V>>() } internal constructor(backingMap: HashMap<K, Any>) : super() {
@Suppress("UNCHECKED_CAST") // expected to work due to erasure
map = backingMap as
HashMap<K, ChainEntry<K, V>> } /**
 * Constructs an empty [LinkedHashMap] instance.
 * @param initialCapacity the initial capacity (ignored)
 * @param loadFactor the load factor (ignored)
 * @throws IllegalArgumentException if the initial capacity or load factor are negative
 */
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
actual constructor(initialCapacity:
Int, loadFactor: Float = 0.0f) : super(initialCapacity, loadFactor) {
map = HashMap<K, ChainEntry<K,
V>>() }
actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f) /**
 * Constructs an
instance of [LinkedHashMap] filled with the contents of the specified [original] map.
 */
actual
constructor(original: Map<out K, V>) {
map = HashMap<K, ChainEntry<K, V>>()
this.putAll(original) }
actual override fun clear() {
map.clear()
head = null }
actual override fun clone(): Any {
return LinkedHashMap(this) }
actual override fun containsKey(key:
K): Boolean = map.containsKey(key)
actual override fun containsValue(value: V): Boolean {
var node:
ChainEntry<K, V> = head ?: return false
do {
if (node.value == value)
return true
}
node = node.next!! } while (node !== head)
return false }
actual override fun
createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()
actual override operator fun
get(key: K): V? = map.get(key)?.value
actual override fun put(key: K, value: V): V? {
val old =
map.get(key)
if (old == null) {
val newEntry = ChainEntry(key, value)
map.put(key,
newEntry)
newEntry.addToEnd()
return null
} else {
return old.setValue(value)
}
}
actual override fun remove(key: K): V? {
val entry = map.remove(key)
if (entry != null)
entry.remove()
return entry.value
}
return null }
actual override val size:
Int get() = map.size }
/**
 * Constructs the specialized implementation of [LinkedHashMap] with [String]
keys, which stores the keys as properties of
 * JS object without hashing them.
 */
public fun <V>
linkedStringMapOf(vararg pairs: Pair<String, V>): LinkedHashMap<String, V> {
return
LinkedHashMap<String, V>(stringMapOf<Any>()).apply { putAll(pairs) } }
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JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
/* Based on GWT LinkedHashMap
 * Copyright 2008 Google Inc.
 */
package kotlin.collections
/**
 * The implementation of the [MutableSet]
interface, backed by a [LinkedHashMap] instance.
 * This implementation preserves the insertion order of
elements during the iteration.
 */
public actual open class LinkedHashMap<E> : HashSet<E>, MutableSet<E>
{
internal constructor(map: LinkedHashMap<E, Any>) : super(map) /**
 * Constructs a new empty
[LinkedHashSet].
 */
actual constructor() : super(LinkedHashMap<E, Any>()) /**
 * Constructs a
new [LinkedHashSet] filled with the elements of the specified collection.
 */
actual constructor(elements:
Collection<E>) : super(LinkedHashMap<E, Any>()) {
addAll(elements) }
/**
 * Constructs a
new empty [LinkedHashSet].
 * @param initialCapacity the initial capacity (ignored)
 * @param
loadFactor the load factor (ignored)
 * @throws IllegalArgumentException if the initial capacity or
load factor are negative
 */
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
actual constructor(initialCapacity: Int, loadFactor: Float = 0.0f) : super(LinkedHashMap<E, Any>(initialCapacity,
loadFactor))
actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)
public override fun
clone(): Any {
return LinkedHashSet(this) }
/**
 * Creates a new instance of the specialized
implementation of [LinkedHashSet] with the specified [String] elements,
 * which elements the keys as properties
of JS object without hashing them.
 */
public fun linkedStringSetOf(vararg elements: String):
LinkedHashSet<String> {
return LinkedHashSet(linkedStringMapOf<Any>()).apply { addAll(elements)
} }
/* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlin
import kotlin.contracts.*
@Deprecated("Do not use Synchronized annotation in pure
Kotlin/JS code", level = DeprecationLevel.ERROR)
public typealias Synchronized =
kotlin.jvm.Synchronized
@Deprecated("Do not use Volatile annotation in pure Kotlin/JS code", level =

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DeprecationLevel.ERROR)\npublic typealias Volatile = kotlin.jvm.Volatile\n\n@kotlin.internal.InlineOnly\npublic
actual inline fun <R> synchronized(lock: Any, block: () -> R): R {\n contract {\n callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n }\n return block()\n}\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.io\n\ninternal abstract class BaseOutput {\n
open fun println() {\n print("\n")\n }\n\n open fun println(message: Any?) {\n print(message)\n
println()\n }\n\n abstract fun print(message: Any?)\n\n open fun flush() {} }\n\n/** JsName used to make the
declaration available outside of module to test it */\n\n@JsName("NodeJsOutput")\n\ninternal class NodeJsOutput(val
outputStream: dynamic) : BaseOutput() {\n override fun print(message: Any?) {\n // TODO: Using local
variable because of bug in block decomposition lowering in IR backend\n val messageString =
String(message)\n outputStream.write(messageString)\n }\n}\n\n/** JsName used to make the declaration
available outside of module to test it */\n\n@JsName("OutputToConsoleLog")\n\ninternal class OutputToConsoleLog
: BaseOutput() {\n override fun print(message: Any?) {\n console.log(message)\n }\n\n override fun
println(message: Any?) {\n console.log(message)\n }\n\n override fun println() {\n console.log("\n")\n
}\n}\n\n/** JsName used to make the declaration available outside of module to test it and use at try.kotl.in
*/\n\n@JsName("BufferedOutput")\n\ninternal open class BufferedOutput : BaseOutput() {\n var buffer = ""\n\n
override fun print(message: Any?) {\n buffer += String(message)\n }\n\n override fun flush() {\n buffer
= ""\n }\n}\n\n/** JsName used to make the declaration available outside of module to test it
*/\n\n@JsName("BufferedOutputToConsoleLog")\n\ninternal class BufferedOutputToConsoleLog : BufferedOutput()\n
{\n override fun print(message: Any?) {\n var s = String(message)\n val i = s.nativeLastIndexOf("\n",
0)\n if (i >= 0) {\n buffer += s.substring(0, i)\n flush()\n s = s.substring(i + 1)\n }\n
buffer += s\n }\n\n override fun flush() {\n console.log(buffer)\n buffer = ""\n }\n}\n\n/** JsName
used to make the declaration available outside of module to test it and use at try.kotl.in
*/\n\n@JsName("output")\n\ninternal var output = run {\n val isNode: Boolean = js("typeof process !== 'undefined'
&& process.versions && !process.versions.node")\n if (isNode) NodeJsOutput(js("process.stdout")) else
BufferedOutputToConsoleLog()\n}\n\n@kotlin.internal.InlineOnly\n\nprivate inline fun String(value: Any?): String =
js("String")(value)\n\n/** Prints the line separator to the standard output stream. */\n\npublic actual fun println() {\n
output.println()\n}\n\n/** Prints the given [message] and the line separator to the standard output stream. */\n\npublic
actual fun println(message: Any?) {\n output.println(message)\n}\n\n/** Prints the given [message] to the standard
output stream. */\n\npublic actual fun print(message: Any?) {\n output.print(message)\n}\n"/\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@PublishedApi\n@SinceKotlin("1.3")\n\ninternal
actual class SafeContinuation<in T>\n\ninternal actual constructor(\n private val delegate: Continuation<T>,\n
initialResult: Any?\n) : Continuation<T> {\n @PublishedApi\n internal actual constructor(delegate:
Continuation<T>) : this(delegate, UNDECIDED)\n\n public actual override val context: CoroutineContext\n
get() = delegate.context\n\n private var result: Any? = initialResult\n\n public actual override fun
resumeWith(result: Result<T>) {\n val cur = this.result\n when {\n cur === UNDECIDED -> {\n
this.result = result.value\n }\n cur === COROUTINE_SUSPENDED -> {\n this.result =
RESUMED\n delegate.resumeWith(result)\n }\n else -> throw
IllegalStateException("Already resumed")\n }\n }\n\n @PublishedApi\n internal actual fun
getOrThrow(): Any? {\n if (result === UNDECIDED) {\n result = COROUTINE_SUSPENDED\n }\n return
COROUTINE_SUSPENDED\n }\n\n val result = this.result\n return when {\n result ===
RESUMED -> COROUTINE_SUSPENDED // already called continuation, indicate COROUTINE_SUSPENDED
upstream\n result is Result.Failure -> throw result.exception\n else -> result // either
COROUTINE_SUSPENDED or data\n }\n}\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be

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found in the license/LICENSE.txt file.\n *\n\npackage kotlin.coroutines.js.internal\n\nimport
kotlin.coroutines.Continuation\n\nimport
kotlin.coroutines.EmptyCoroutineContext\n\n@PublishedApi\n\n@SinceKotlin("1.3")\n\ninternal val
EmptyContinuation = Continuation<Any?>(EmptyCoroutineContext) { result ->\n result.getOrThrow()\n}\n\n/*\n
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is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage
kotlin.js\n\n/**\n
* Exposes the [Date API](https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/Date) to Kotlin.\n
*\n\n@Suppress("NOT_DOCUMENTED")\n\npublic external class Date() {\n
 public constructor(milliseconds:
Number)\n
 public constructor(dateString: String)\n
 public constructor(year: Int, month: Int)\n
 public constructor(year: Int, month: Int, day: Int)\n
 public constructor(year: Int, month: Int, day: Int, hour: Int)\n
 public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int)\n
 public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int)\n
 public constructor(year: Int, month: Int, day: Int, hour: Int,
minute: Int, second: Int, millisecond: Number)\n
 public fun getDate(): Int\n
 public fun getDay(): Int\n
 public fun getFullYear(): Int\n
 public fun getHours(): Int\n
 public fun getMilliseconds(): Int\n
 public fun getMinutes(): Int\n
 public fun getMonth(): Int\n
 public fun getSeconds(): Int\n
 public fun getTime():
Double\n
 public fun getTimezoneOffset(): Int\n
 public fun getUTCDate(): Int\n
 public fun
getUTCDay(): Int\n
 public fun getUTCFullYear(): Int\n
 public fun getUTCHours(): Int\n
 public fun
getUTCMilliseconds(): Int\n
 public fun getUTCMinutes(): Int\n
 public fun getUTCMonth(): Int\n
 public
fun getUTCSeconds(): Int\n
 public fun toDateString(): String\n
 public fun toISOString(): String\n
 public
fun toJSON(): Json\n
 public fun toLocaleDateString(locales: Array<String> = definedExternally, options:
LocaleOptions = definedExternally): String\n
 public fun toLocaleDateString(locales: String, options:
LocaleOptions = definedExternally): String\n
 public fun toLocaleString(locales: Array<String> =
definedExternally, options: LocaleOptions = definedExternally): String\n
 public fun toLocaleString(locales:
String, options: LocaleOptions = definedExternally): String\n
 public fun toLocaleTimeString(locales:
Array<String> = definedExternally, options: LocaleOptions = definedExternally): String\n
 public fun
toLocaleTimeString(locales: String, options: LocaleOptions = definedExternally): String\n
 public fun
toTimeString(): String\n
 public fun toUTCString(): String\n
 public companion object {\n
 public fun
now(): Double\n
 public fun parse(dateString: String): Double\n
 public fun UTC(year: Int, month: Int):
Double\n
 public fun UTC(year: Int, month: Int, day: Int): Double\n
 public fun UTC(year: Int, month:
Int, day: Int, hour: Int): Double\n
 public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int):
Double\n
 public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int): Double\n
 public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number): Double\n
 }\n
 public interface LocaleOptions {\n
 public var localeMatcher: String?\n
 public var timeZone:
String?\n
 public var hour12: Boolean?\n
 public var formatMatcher: String?\n
 public var weekday:
String?\n
 public var era: String?\n
 public var year: String?\n
 public var month: String?\n
 public var day: String?\n
 public var hour: String?\n
 public var minute: String?\n
 public var
second: String?\n
 public var timeZoneName: String?\n
 }\n
 public inline fun dateLocaleOptions(init:
Date.LocaleOptions.() -> Unit): Date.LocaleOptions {\n
 val result = js("new
Object()\n").unsafeCast<Date.LocaleOptions>()\n
 init(result)\n
 return result\n
}\n\n/*\n
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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.dom\n\nimport
org.w3c.dom.*\n\n/**\n
* Creates a new element with the specified [name].\n
*\n
* The element is initialized with
the speicified [init] function.\n
*\n\npublic fun Document.createElement(name: String, init: Element.() -> Unit):
Element = createElement(name).apply(init)\n\n/**\n
* Appends a newly created element with the specified [name]
to this element.\n
*\n
* The element is initialized with the speicified [init] function.\n
*\n\npublic fun
Element.appendChild(name: String, init: Element.() -> Unit): Element =\n
ownerDocument!!.createElement(name, init).also { appendChild(it) }\n\n"}\n\n/*\n
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```

s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\npackage kotlin.dom\n\nimport org.w3c.dom.\*\n\n/\*\* Returns true if the element has the given CSS class style in its 'class' attribute \*/\nfun Element.hasClass(cssClass: String): Boolean =\n className.matches("\\\\\\"(\\^).\*\\|s+)\$cssClass(\\|\\|s+.\*)"\\.toRegex())\n\n/\*\* Adds CSS class to element. Has no effect if all specified classes are already in class attribute of the element\n \* @return true if at least one class has been added\n \*/\nfun Element.addClass(vararg cssClasses: String): Boolean {\n val missingClasses = cssClasses.filterNot { hasClass(it) }\n if (missingClasses.isNotEmpty()) {\n val presentClasses = className.trim()\n className = buildString {\n append(presentClasses)\n if (!presentClasses.isEmpty()) {\n append(" ")\n }\n missingClasses.joinTo(this, " ")\n }\n return true\n }\n return false\n}\n\n/\*\* Removes all [cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element\n \* @return true if at least one class has been removed\n \*/\nfun Element.removeClass(vararg cssClasses: String): Boolean {\n if (cssClasses.any { hasClass(it) }) {\n val toBeRemoved = cssClasses.toSet()\n className =\n className.trim().split("\\\\|s+\\.toRegex()).filter { it !in toBeRemoved }.joinToString(" ")\n return true\n }\n return false\n}\n\n"/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage kotlin.text\n\n/\*\*\n \* Converts the string into a regular expression [Regex] with the default options.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(): Regex = Regex(this)\n\n/\*\*\n \* Converts the string into a regular expression [Regex] with the specified single [option].\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(option: RegexOption): Regex = Regex(this, option)\n\n/\*\*\n \* Converts the string into a regular expression [Regex] with the specified set of [options].\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(options: Set<RegexOption>): Regex = Regex(this, options)\n\n"/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage kotlin.text\n\n/\*\*\n \* A mutable sequence of characters.\n \* String builder can be used to efficiently perform multiple string manipulation operations.\n \*/\nexpect class StringBuilder : Appendable, CharSequence {\n /\*\*\n \* Constructs an empty string builder.\n \*/\n constructor()\n\n /\*\*\n \* Constructs an empty string builder with the specified initial [capacity].\n \*/\n constructor(capacity: Int)\n\n /\*\*\n \* Constructs a string builder that contains the same characters as the specified [content] char sequence.\n \*/\n constructor(content: CharSequence)\n\n /\*\*\n \* Constructs a string builder that contains the same characters as the specified [content] string.\n \*/\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n constructor(content: String)\n\n override val length: Int\n\n override fun get(index: Int): Char\n\n override fun subSequence(startIndex: Int, endIndex: Int): CharSequence\n\n override fun append(value: Char): StringBuilder\n\n override fun append(value: CharSequence?): StringBuilder\n\n override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder\n\n /\*\*\n \* Reverses the contents of this string builder and returns this instance.\n \* Surrogate pairs included in this string builder are treated as single characters.\n \* Therefore, the order of the high-low surrogates is never reversed.\n \* Note that the reverse operation may produce new surrogate pairs that were unpaired low-surrogates and high-surrogates before the operation.\n \* For example, reversing `\\uDC00\\uD800` produces `\\uD800\\uDC00` which is a valid surrogate pair.\n \*/\n fun reverse(): StringBuilder\n\n /\*\*\n \* Appends the string representation of the specified object [value] to this string builder and returns this instance.\n \* The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n \* and then that string was appended to this string builder.\n \*/\n fun append(value: Any?): StringBuilder\n\n /\*\*\n \* Appends the string representation of the specified boolean [value] to this string builder and returns this instance.\n \* The overall effect is exactly as if the [value] were

converted to a string by the `value.toString()` method,  
and then that string was appended to this string  
builder.  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun append(value: Boolean):`  
`StringBuilder`  
`/**`  
`* Appends characters in the specified character array [value] to this string builder and`  
`returns this instance.`  
`* Characters are appended in order, starting at the index 0.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun append(value: CharArray):`  
`StringBuilder`  
`/**`  
`* Appends the specified string [value] to this string builder and returns this instance.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun append(value: String):`  
`StringBuilder`  
`/**`  
`* Returns the current capacity of this string builder.`  
`* The capacity is the maximum length this string`  
`builder can have before an allocation occurs.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`capacity():`  
`Int`  
`/**`  
`* Ensures that the capacity of this string builder is at least equal to the specified`  
`[minimumCapacity].`  
`* If the current capacity is less than the [minimumCapacity], a new backing storage`  
`is allocated with greater capacity.`  
`* Otherwise, this method takes no action and simply returns.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`ensureCapacity(minimumCapacity: Int)`  
`/**`  
`* Returns the index within this string builder of the first occurrence of the specified [string].`  
`* Returns -1`  
`if the specified [string] does not occur in this string builder.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`indexOf(string: String):`  
`Int`  
`/**`  
`* Returns the index within this string`  
`builder of the first occurrence of the specified [string],`  
`* starting at the specified [startIndex].`  
`* Returns -1`  
`if the specified [string] does not occur in this string builder starting at the specified [startIndex].`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`indexOf(string: String, startIndex: Int):`  
`Int`  
`/**`  
`* Returns the index within this string builder of the last occurrence of the specified [string].`  
`* The last`  
`occurrence of empty string "" is considered to be at the index equal to this.length.`  
`* Returns -1`  
`if`  
`the specified [string] does not occur in this string builder.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`lastIndexOf(string: String):`  
`Int`  
`/**`  
`* Returns the index within this string`  
`builder of the last occurrence of the specified [string],`  
`* starting from the specified [startIndex] toward the`  
`beginning.`  
`* Returns -1`  
`if the specified [string] does not occur in this string builder starting at the`  
`specified [startIndex].`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`lastIndexOf(string:`  
`String, startIndex: Int):`  
`Int`  
`/**`  
`* Inserts the string representation of the specified boolean [value] into this`  
`string builder at the specified [index] and returns this instance.`  
`* The overall effect is exactly as if the`  
`[value] were converted to a string by the value.toString() method,`  
`* and then that string was inserted into this`  
`string builder at the specified [index].`  
`* @throws IndexOutOfBoundsException if [index] is less than`  
`zero or greater than the length of this string builder.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`insert(index: Int, value: Boolean):`  
`StringBuilder`  
`/**`  
`* Inserts the`  
`specified character [value] into this string builder at the specified [index] and returns this instance.`  
`* Returns -1`  
`if the specified [string] does not occur in this string builder starting at the`  
`specified [startIndex].`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`insert(index: Int, value: Char):`  
`StringBuilder`  
`/**`  
`* Inserts characters in the specified character array [value] into this string builder at the specified [index]`  
`and returns this instance.`  
`* The inserted characters go in same order as in the [value] character array,`  
`starting at [index].`  
`* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the`  
`length of this string builder.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`insert(index: Int,`  
`value: CharArray):`  
`StringBuilder`  
`/**`  
`* Inserts characters in the specified character sequence [value] into`  
`this string builder at the specified [index] and returns this instance.`  
`* The inserted characters go in the`  
`same order as in the [value] character sequence, starting at [index].`  
`* @param index the position in this`  
`string builder to insert at.`  
`* @param value the character sequence from which characters are inserted. If [value]`  
`is null, then the four characters "\null" are inserted.`  
`* @throws IndexOutOfBoundsException if`  
`[index] is less than zero or greater than the length of this string builder.`  
`*/`  
`@SinceKotlin("1.3")`  
`@ExperimentalStdlibApi`  
`fun`  
`insert(index: Int, value: CharSequence?):`  
`StringBuilder`  
`/**`  
`* Inserts the`  
`string representation of the specified object [value] into this string builder at the specified [index] and returns this`  
`instance.`  
`* The overall effect is exactly as if the [value] were converted to a string by the`

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`value.toString()` method,\n * and then that string was inserted into this string builder at the specified [index].\n
*\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string
builder.\n *^\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n fun insert(index: Int, value: Any?):
StringBuilder\n\n /**\n * Inserts the string [value] into this string builder at the specified [index] and returns this
instance.\n *^\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n *^\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n fun insert(index: Int, value:
String): StringBuilder\n\n /**\n * Sets the length of this string builder to the specified [newLength].\n *^\n
* If the [newLength] is less than the current length, it is changed to the specified [newLength].\n * Otherwise,
null characters '\u0000' are appended to this string builder until its length is less than the [newLength].\n *^\n *
Note that in Kotlin/JS [set] operator function has non-constant execution time complexity.\n * Therefore,
increasing length of this string builder and then updating each character by index may slow down your program.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n fun setLength(newLength: Int)\n\n /**\n *
Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [length]
(exclusive).\n *^\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the
length of this string builder.\n *^\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n fun
substring(startIndex: Int): String\n\n /**\n * Returns a new [String] that contains characters in this string builder
at [startIndex] (inclusive) and up to the [endIndex] (exclusive).\n *^\n * @throws IndexOutOfBoundsException
or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when
`startIndex > endIndex`.\n *^\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n fun
substring(startIndex: Int, endIndex: Int): String\n\n /**\n * Attempts to reduce storage used for this string
builder.\n *^\n * If the backing storage of this string builder is larger than necessary to hold its current
contents,\n * then it may be resized to become more space efficient.\n * Calling this method may, but is not
required to, affect the value of the [capacity] property.\n *^\n @SinceKotlin("1.3")\n
@ExperimentalStdlibApi\n fun trimToSize()\n\n\n/**\n * Clears the content of this string builder making it
empty and returns this instance.\n *^\n * @sample samples.text.Strings.clearStringBuilder\n
*\n@SinceKotlin("1.3")\n\npublic expect fun StringBuilder.clear(): StringBuilder\n\n/**\n * Sets the character at
the specified [index] to the specified [value].\n *^\n * @throws IndexOutOfBoundsException if [index] is out of
bounds of this string builder.\n *^\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n\npublic expect operator fun
StringBuilder.set(index: Int, value: Char)\n\n\n/**\n * Replaces characters in the specified range of this string builder
with characters in the specified string [value] and returns this instance.\n *^\n * @param startIndex the beginning
(inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to replace.\n * @param
value the string to replace with.\n *^\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if
[startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n\npublic expect fun StringBuilder.setRange(startIndex: Int,
endIndex: Int, value: String): StringBuilder\n\n\n/**\n * Removes the character at the specified [index] from this
string builder and returns this instance.\n *^\n * If the `Char` at the specified [index] is part of a supplementary code
point, this method does not remove the entire supplementary character.\n *^\n * @param index the index of `Char`
to remove.\n *^\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n\npublic expect fun StringBuilder.deleteAt(index: Int):
StringBuilder\n\n\n/**\n * Removes characters in the specified range from this string builder and returns this
instance.\n *^\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end
(exclusive) of the range to remove.\n *^\n * @throws IndexOutOfBoundsException or [IllegalArgumentException]
when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n\npublic expect fun StringBuilder.deleteRange(startIndex: Int,
endIndex: Int): StringBuilder\n\n\n/**\n * Copies characters from this string builder into the [destination] character
array.\n *^\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to
copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n *

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@param endIndex the end (exclusive) of the range to copy, length of this string builder by default.
   
 @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.
   
 @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],
   
 or when that index is out of the [destination] array indices range.
   
 @SinceKotlin("1.3")
   
 @ExperimentalStdlibApi
   
 public expect fun StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length)
   
 Appends characters in a subarray of the specified character array [value] to this string builder and returns this instance.
   
 Characters are appended in order, starting at specified [startIndex].
   
 @param value the array from which characters are appended.
   
 @param startIndex the beginning (inclusive) of the subarray to append.
   
 @param endIndex the end (exclusive) of the subarray to append.
   
 @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.
   
 @SinceKotlin("1.3")
   
 @ExperimentalStdlibApi
   
 public expect fun StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder
   
 Appends a subsequence of the specified character sequence [value] to this string builder and returns this instance.
   
 @param value the character sequence from which a subsequence is appended. If [value] is `null`,
   
 then characters are appended as if [value] contained the four characters `"\null"`.
   
 @param startIndex the beginning (inclusive) of the subsequence to append.
   
 @param endIndex the end (exclusive) of the subsequence to append.
   
 @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.
   
 @SinceKotlin("1.3")
   
 @ExperimentalStdlibApi
   
 public expect fun StringBuilder.appendRange(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder
   
 Inserts characters in a subarray of the specified character array [value] into this string builder at the specified [index] and returns this instance.
   
 The inserted characters go in same order as in the [value] array, starting at [index].
   
 @param index the position in this string builder to insert at.
   
 @param value the array from which characters are inserted.
   
 @param startIndex the beginning (inclusive) of the subarray to insert.
   
 @param endIndex the end (exclusive) of the subarray to insert.
   
 @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.
   
 @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.
   
 @SinceKotlin("1.3")
   
 @ExperimentalStdlibApi
   
 public expect fun StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder
   
 Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified [index] and returns this instance.
   
 The inserted characters go in the same order as in the [value] character sequence, starting at [index].
   
 @param index the position in this string builder to insert at.
   
 @param value the character sequence from which a subsequence is inserted. If [value] is `null`,
   
 then characters will be inserted as if [value] contained the four characters `"\null"`.
   
 @param startIndex the beginning (inclusive) of the subsequence to insert.
   
 @param endIndex the end (exclusive) of the subsequence to insert.
   
 @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.
   
 @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.
   
 @SinceKotlin("1.3")
   
 @ExperimentalStdlibApi
   
 public expect fun StringBuilder.insertRange(index: Int, value: CharSequence?, startIndex: Int, endIndex: Int):
   
 StringBuilder
   
 @Suppress("EXTENSION\_SHADOWED\_BY\_MEMBER")
   
 @Deprecated("Use append(value: Any?) instead", ReplaceWith("append(value = obj)"),
   
 DeprecationLevel.WARNING)
   
 @kotlin.internal.InlineOnly
   
 public inline fun StringBuilder.append(obj: Any?):
   
 StringBuilder = this.append(obj)
   
 Builds new string by populating newly created [StringBuilder] using provided [builderAction]
   
 and then converting it to [String].
   
 @kotlin.internal.InlineOnly
   
 public inline fun buildString(builderAction: StringBuilder.() -> Unit): String =
   
 StringBuilder().apply(builderAction).toString()
   
 Builds new string by populating newly created

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[StringBuilder] initialized with the given [capacity]\n * using provided [builderAction] and then converting it to
[String].\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun buildString(capacity: Int,
builderAction: StringBuilder.() -> Unit): String =\n
StringBuilder(capacity).apply(builderAction).toString()\n\n/**\n * Appends all arguments to the given
StringBuilder.\n *\npublic fun StringBuilder.append(vararg value: String?): StringBuilder {\n for (item in
value)\n append(item)\n return this\n}\n\n/**\n * Appends all arguments to the given StringBuilder.\n
*\npublic fun StringBuilder.append(vararg value: Any?): StringBuilder {\n for (item in value)\n
append(item)\n return this\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\npackage kotlin.dom\n\nimport org.w3c.dom.*\n\n/**\n * Gets a value indicating
whether this node is a TEXT_NODE or a CDATA_SECTION_NODE.\n *\npublic val Node.isText: Boolean\n
get() = nodeType == Node.TEXT_NODE || nodeType == Node.CDATA_SECTION_NODE\n\n/**\n * Gets a value
indicating whether this node is an [Element].\n *\npublic val Node.isElement: Boolean\n get() = nodeType ==
Node.ELEMENT_NODE\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\npackage org.w3c.dom.events\n\npublic fun EventListener(handler: (Event) ->
Unit): EventListener = EventListenerHandler(handler)\n\nprivate class EventListenerHandler(private val handler:
(Event) -> Unit) : EventListener {\n public override fun handleEvent(event: Event) {\n handler(event)\n
}\n\n public override fun toString(): String = "EventListenerHandler($handler)"\n}\n\n", "/*\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\npackage org.w3c.dom\n\npublic
external interface ItemArrayLike<out T> {\n val length: Int\n fun item(index: Int): T?\n}\n\n/**\n * Returns the
view of this `ItemArrayLike<T>` collection as `List<T>`\n *\npublic fun <T> ItemArrayLike<T>.asList(): List<T>
= object : AbstractList<T>() {\n override val size: Int get() = this@asList.length\n\n override fun get(index: Int):
T = when (index) {\n in 0..lastIndex -> this@asList.item(index).unsafeCast<T>()\n else -> throw
IndexOutOfBoundsException("index $index is not in range [0..$lastIndex]")\n }\n}\n", "/*\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\npackage kotlin.dom\n\nimport
org.w3c.dom.*\n\n/**\n * Removes all the children from this node. *\npublic fun Node.clear() {\n while
(hasChildNodes()) {\n removeChild(firstChild!!)\n }\n}\n\n/**\n * Creates text node and append it to the
element.\n *\n * @return this element\n *\nfun Element.appendText(text: String): Element {\n
appendChild(ownerDocument!!.createTextNode(text))\n return this\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\npackage kotlin.js\n\n/**\n * Reinterprets this value
as a value of the [dynamic type](/docs/reference/dynamic-type.html).\n *\n@kotlin.internal.InlineOnly\npublic
inline fun Any?.asDynamic(): dynamic = this\n\n/**\n * Reinterprets this value as a value of the specified type [T]
without any actual type checking.\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Any?.unsafeCast():
@kotlin.internal.NoInfer T = this.asDynamic()\n\n/**\n * Reinterprets this `dynamic` value as a value of the
specified type [T] without any actual type checking.\n
*\n@kotlin.internal.DynamicExtension\n@JsName("unsafeCastDynamic")\n@kotlin.internal.InlineOnly\npublic
inline fun <T> dynamic.unsafeCast(): @kotlin.internal.NoInfer T = this\n\n/**\n * Allows to iterate this `dynamic`
object in the following cases:\n * - when it has an `iterator` function,\n * - when it is an array\n * - when it is an
instance of [kotlin.collections.Iterable]\n *\n@kotlin.internal.DynamicExtension\npublic operator fun
dynamic.iterator(): Iterator<dynamic> {\n val r: Any? = this\n return when {\n this["iterator"] != null -
->\n this["iterator"]()\n isArrayish(r) ->\n r.unsafeCast<Array<*>>().iterator()\n else ->\n
 (r as Iterable<*>).iterator()\n }\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\npackage // a package is omitted to get declarations directly under the

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module\n\n@JsName("\throwNPE")\ninternal fun throwNPE(message: String) {\n throw
NullPointerException(message)\n}\n\n@JsName("\throwCCE")\ninternal fun throwCCE() {\n throw
ClassCastException("\Illegal cast")\n}\n\n@JsName("\throwISE")\ninternal fun throwISE(message: String) {\n
throw IllegalStateException(message)\n}\n\n@JsName("\throwUPAE")\ninternal fun throwUPAE(propertyName:
String) {\n throw UninitializedPropertyAccessException("\lateinit property ${propertyName} has not been
initialized")\n}\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin\n\n// NOTE: Do not author your exceptions as they are written in this file, instead use this
template:\n\n/*\npublic open class MyException : Exception {\n constructor() : super()\n constructor(message:
String?) : super(message)\n constructor(message: String?, cause: Throwable?) : super(message, cause)\n
constructor(cause: Throwable?) : super(cause)\n}\n*/\n\n// TODO: remove workarounds for KT-22053 from
direct Throwable inheritors\n// TODO: remove primary constructors, make all secondary KT-
22055\n\n@Suppress("\USELESS_ELVIS_RIGHT_IS_NULL")\npublic actual open class Error actual
constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n actual constructor() :
this(null, null) {\n Error::class.js.asDynamic().call(this, null, null)\n }\n\n actual constructor(message:
String?) : this(message, null) {\n Error::class.js.asDynamic().call(this, message, null)\n }\n\n actual
constructor(cause: Throwable?) : this(undefine, cause) {\n Error::class.js.asDynamic().call(this, undefine,
cause)\n }\n}\n\n@Suppress("\USELESS_ELVIS_RIGHT_IS_NULL")\npublic actual open class Exception
actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n actual
constructor() : this(null, null) {\n Exception::class.js.asDynamic().call(this, null, null)\n }\n\n actual
constructor(message: String?) : this(message, null) {\n Exception::class.js.asDynamic().call(this, message,
null)\n }\n\n actual constructor(cause: Throwable?) : this(undefine, cause) {\n
Exception::class.js.asDynamic().call(this, undefine, cause)\n }\n}\n\npublic actual open class RuntimeException
actual constructor(message: String?, cause: Throwable?) : Exception(message, cause) {\n actual constructor() :
this(null, null)\n actual constructor(message: String?) : this(message, null)\n actual constructor(cause:
Throwable?) : this(undefine, cause)\n}\n\npublic actual open class IllegalArgumentException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n actual constructor() :
this(null, null)\n actual constructor(message: String?) : this(message, null)\n actual constructor(cause:
Throwable?) : this(undefine, cause)\n}\n\npublic actual open class IllegalStateException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n actual constructor() :
this(null, null)\n actual constructor(message: String?) : this(message, null)\n actual constructor(cause:
Throwable?) : this(undefine, cause)\n}\n\npublic actual open class IndexOutOfBoundsException actual
constructor(message: String?) : RuntimeException(message) {\n actual constructor() : this(null)\n}\n\npublic
actual open class ConcurrentModificationException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n actual constructor() : this(null, null)\n actual constructor(message:
String?) : this(message, null)\n actual constructor(cause: Throwable?) : this(undefine, cause)\n}\n\npublic actual
open class UnsupportedOperationException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n actual constructor() : this(null, null)\n actual constructor(message:
String?) : this(message, null)\n actual constructor(cause: Throwable?) : this(undefine, cause)\n}\n\npublic
actual open class NumberFormatException actual constructor(message: String?) :
IllegalArgumentException(message) {\n actual constructor() : this(null)\n}\n\npublic actual open class
NullPointerException actual constructor(message: String?) : RuntimeException(message) {\n actual constructor() :
this(null)\n}\n\npublic actual open class ClassCastException actual constructor(message: String?) :
RuntimeException(message) {\n actual constructor() : this(null)\n}\n\npublic actual open class AssertionError
private constructor(message: String?, cause: Throwable?) : Error(message, cause) {\n actual constructor() :
this(null)\n constructor(message: String?) : this(message, null)\n actual constructor(message: Any?) :
this(message.toString(), message as? Throwable)\n}\n\npublic actual open class NoSuchElementException actual
constructor(message: String?) : RuntimeException(message) {\n actual constructor() :

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this(null)\n}\n\n@SinceKotlin("1.3")\npublic actual open class ArithmeticException actual constructor(message:
String?) : RuntimeException(message) {\n actual constructor(): this(null)\n}\n\npublic actual open class
NoWhenBranchMatchedException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n actual constructor(): this(null, null)\n actual constructor(message:
String?): this(message, null)\n actual constructor(cause: Throwable?): this(undefiend, cause)\n}\n\npublic actual
open class UninitializedPropertyAccessException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n actual constructor(): this(null, null)\n actual constructor(message:
String?): this(message, null)\n actual constructor(cause: Throwable?): this(undefiend, cause)\n}\n\n"/*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage
kotlin.collections\n\n/**\n * Groups elements from the [Grouping] source by key and counts elements in each
group.\n * @return a [Map] associating the key of each group with the count of element in the group.\n
*/\n\n@SinceKotlin("1.1")\npublic actual fun <T, K> Grouping<T, K>.eachCount(): Map<K, Int> =\n fold(0) {
acc, _ -> acc + 1 }\n\n"/*\n * Groups elements from the [Grouping] source by key and sums values provided by
the [valueSelector] function for elements in each group.\n * @return a [Map] associating the key of each group
with the count of element in the group.\n */\n\n@SinceKotlin("1.1")\npublic inline fun <T, K> Grouping<T,
K>.eachSumOf(valueSelector: (T) -> Int): Map<K, Int> =\n fold(0) { acc, e -> acc + valueSelector(e)
}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("\nGroupingKt")\n\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin.collections\n\n/**\n * Represents a source of elements with a [keyOf] function, which can be applied to each
element to get its key.\n * A [Grouping] structure serves as an intermediate step in group-and-fold operations:\n
* they group elements by their keys and then fold each group with some aggregating operation.\n * It is created
by attaching `keySelector: (T) -> K` function to a source of elements.\n * To get an instance of [Grouping] use one
of `groupingBy` extension functions:\n * - [Iterable.groupingBy]\n * - [Sequence.groupingBy]\n * -
[Array.groupingBy]\n * - [CharSequence.groupingBy]\n * For the list of group-and-fold operations available,
see the [extension functions](#extension-functions) for `Grouping`.\n */\n\n@SinceKotlin("1.1")\npublic interface
Grouping<T, out K> {\n /** Returns an [Iterator] over the elements of the source of this grouping. */\n fun
sourceIterator(): Iterator<T>\n /** Extracts the key of an [element]. */\n fun keyOf(element: T): K\n}\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group
sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the
results in a new map.\n * The key for each element is provided by the [Grouping.keyOf] function.\n * @param operation function is invoked on each element with the following parameters:\n * - `key`: the key of the
group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null`
if it's the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n
* - `first`: indicates whether it's the first `element` encountered in the group.\n */\n * @return a [Map] associating
the key of each group with the result of aggregation of the group elements.\n * @sample
samples.collections.Grouping.aggregateByRadix\n */\n\n@SinceKotlin("1.1")\npublic inline fun <T, K, R>
Grouping<T, K>.aggregate(\n operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R): Map<K,
R> {\n return aggregateTo(mutableMapOf<K, R>(), operation)\n}\n\n/**\n * Groups elements from the
[Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the
previously accumulated value and the current element as arguments,\n * and stores the results in the given
[destination] map.\n * The key for each element is provided by the [Grouping.keyOf] function.\n * @param
operation a function that is invoked on each `element` with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null` if it's
the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n * -
`first`: indicates whether it's the first `element` encountered in the group.\n */\n * If the [destination] map already has
a value corresponding to some key,\n * then the elements being aggregated for that key are never considered as

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`first`.n *n * @return the [destination] map associating the key of each group with the result of aggregation of the
group elements.n * @sample samples.collections.Grouping.aggregateByRadixTo\n
*/n@SinceKotlin("1.1")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T,
K>.aggregateTo(\n destination: M,\n operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): M
{\n for (e in this.sourceIterator()) {\n val key = keyOf(e)\n val accumulator = destination[key]\n
destination[key] = operation(key, accumulator, e, accumulator == null && !destination.containsKey(key))\n }
}\n return destination\n}\n/n/n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the
elements of each group sequentially,\n * passing the previously accumulated value and the current element as
arguments, and stores the results in a new map.\n * An initial value of accumulator is provided by
[initialValueSelector] function.\n * @param initialValueSelector a function that provides an initial value of
accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the group;\n * - `element`: the
first element being encountered in that group.\n * @param operation a function that is invoked on each element
with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the
current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n
*\n * @return a [Map] associating the key of each group with the result of accumulating the group elements.\n *
@sample samples.collections.Grouping.foldByEvenLengthWithComputedInitialValue\n
*/n@SinceKotlin("1.1")\npublic inline fun <T, K, R> Grouping<T, K>.fold(\n initialValueSelector: (key: K,
element: T) -> R,\n operation: (key: K, accumulator: R, element: T) -> R\n): Map<K, R> =\n
@Suppress("UNCHECKED_CAST")\n aggregate { key, acc, e, first -> operation(key, if (first)
initialValueSelector(key, e) else acc as R, e) }\n/n/n/**\n * Groups elements from the [Grouping] source by key and
applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the
current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of
accumulator is provided by [initialValueSelector] function.\n * @param initialValueSelector a function that
provides an initial value of accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the
group;\n * - `element`: the first element being encountered in that group.\n * @param operation a function that is
invoked on each element with the following parameters:\n * - `key`: the key of the group this element belongs to;\n
* - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source
being accumulated.\n * @return the [destination] map associating the key of each group with the result of
accumulating the group elements.\n * @sample
samples.collections.Grouping.foldByEvenLengthWithComputedInitialValueTo\n
*/n@SinceKotlin("1.1")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n destination: M,\n
initialValueSelector: (key: K, element: T) -> R,\n operation: (key: K, accumulator: R, element: T) -> R\n): M =\n
@Suppress("UNCHECKED_CAST")\n aggregateTo(destination) { key, acc, e, first -> operation(key, if (first)
initialValueSelector(key, e) else acc as R, e) }\n/n/n/**\n * Groups elements from the [Grouping] source by key and
applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the
current element as arguments, and stores the results in a new map.\n * An initial value of accumulator is the same
[initialValue] for each group.\n * @param operation a function that is invoked on each element with the
following parameters:\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the
element from the source being accumulated.\n * @return a [Map] associating the key of each group with the
result of accumulating the group elements.\n * @sample
samples.collections.Grouping.foldByEvenLengthWithConstantInitialValue\n
*/n@SinceKotlin("1.1")\npublic inline fun <T, K, R> Grouping<T, K>.fold(\n initialValue: R,\n operation: (accumulator: R, element: T) -> R\n):
Map<K, R> =\n @Suppress("UNCHECKED_CAST")\n aggregate { _, acc, e, first -> operation(if (first)
initialValue else acc as R, e) }\n/n/n/**\n * Groups elements from the [Grouping] source by key and applies
[operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current
element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of accumulator is

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the same [initialValue] for each group.\n \* \n \* If the [destination] map already has a value corresponding to the key of some group,\n \* that value is used as an initial value of the accumulator for that group.\n \* \n \* @param operation a function that is invoked on each element with the following parameters:\n \* - `accumulator`: the current value of the accumulator of the group;\n \* - `element`: the element from the source being accumulated.\n \* \n \* @return the [destination] map associating the key of each group with the result of accumulating the group elements.\n \* \n \* @sample samples.collections.Grouping.foldByEvenLengthWithConstantInitialValueTo

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*\n@SinceKotlin("1.1")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n
destination: M,\n initialValue: R,\n operation: (accumulator: R, element: T) -> R)\n: M =\n
@Suppress("UNCHECKED_CAST")\n aggregateTo(destination) { _, acc, e, first -> operation(if (first)
initialValue else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies the
reducing [operation] to the elements of each group\n * sequentially starting from the second element of the group,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in a new
map.\n * An initial value of accumulator is the first element of the group.\n * \n * @param operation a function that
is invoked on each subsequent element of the group with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the
element from the source being accumulated.\n * \n * @return a [Map] associating the key of each group with the
result of accumulating the group elements.\n * \n * @sample samples.collections.Grouping.reduceByMaxVowels
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*\n@SinceKotlin("1.1")\npublic inline fun <S, T : S, K> Grouping<T, K>.reduce(\n operation: (key: K,
accumulator: S, element: T) -> S)\n: Map<K, S> =\n aggregate { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n }\n\n/**\n * Groups
elements from the [Grouping] source by key and applies the reducing [operation] to the elements of each group\n *
sequentially starting from the second element of the group,\n * passing the previously accumulated value and the
current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of
accumulator is the first element of the group.\n * \n * If the [destination] map already has a value corresponding
to the key of some group,\n * that value is used as an initial value of the accumulator for that group and the first
element of that group is also\n * subjected to the [operation].\n * \n * @param operation a function that is invoked
on each subsequent element of the group with the following parameters:\n * - `accumulator`: the current value of the
accumulator of the group;\n * - `element`: the element from the source being folded;\n * \n * @return the
[destination] map associating the key of each group with the result of accumulating the group elements.\n * \n *
@sample samples.collections.Grouping.reduceByMaxVowelsTo
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*\n@SinceKotlin("1.1")\npublic inline fun <S,
T : S, K, M : MutableMap<in K, S>> Grouping<T, K>.reduceTo(\n destination: M,\n operation: (key: K,
accumulator: S, element: T) -> S)\n: M =\n aggregateTo(destination) { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n }\n\n/**\n * Groups
elements from the [Grouping] source by key and counts elements in each group to the given [destination] map.\n * \n *
If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an
initial value of the counter for that group.\n * \n * @return the [destination] map associating the key of each group
with the count of elements in the group.\n * \n * @sample samples.collections.Grouping.groupingByEachCount
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*\n@SinceKotlin("1.1")\npublic fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachCountTo(destination: M): M =\n foldTo(destination, 0) { acc, _ -> acc + 1 }\n\n/**\n * Groups
elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements
in each group\n * to the given [destination] map.\n * \n * \n * If the [destination] map already has a value
corresponding to the key of some group,\n * that value is used as an initial value of the sum for that group.\n * \n *
@return the [destination] map associating the key of each group with the sum of elements in the group.\n * \n *
*\n@SinceKotlin("1.1")\npublic inline fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachSumOfTo(destination: M, valueSelector: (T) -> Int): M =\n foldTo(destination, 0) { acc, e -> acc +
valueSelector(e) }\n\n*/\n\n// TODO: sum by long and by double overloads\n\npublic inline fun <T, K, M :
MutableMap<in K, Long>> Grouping<T, K>.sumEachByLongTo(destination: M, valueSelector: (T) -> Long): M
=\n foldTo(destination, 0L) { acc, e -> acc + valueSelector(e) }\n\npublic inline fun <T, K> Grouping<T,
```

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K>.sumEachByLong(valueSelector: (T) -> Long): Map<K, Long> =\n fold(0L) { acc, e -> acc +
valueSelector(e)}\n\npublic inline fun <T, K, M : MutableMap<in K, Double>> Grouping<T,
K>.sumEachByDoubleTo(destination: M, valueSelector: (T) -> Double): M =\n foldTo(destination, 0.0) { acc, e
-> acc + valueSelector(e)}\n\npublic inline fun <T, K> Grouping<T, K>.sumEachByDouble(valueSelector: (T) ->
Double): Map<K, Double> =\n fold(0.0) { acc, e -> acc + valueSelector(e)}\n*/\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Exposes
the JavaScript [Math object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Math)
to Kotlin.\n */\n@Deprecated("Use top-level functions from kotlin.math package instead.", level =
DeprecationLevel.WARNING)\npublic external object Math {\n @Deprecated("Use kotlin.math.PI instead.",
ReplaceWith("PI", "kotlin.math.PI"), level = DeprecationLevel.ERROR)\n public val PI: Double\n @Deprecated("Use Random.nextDouble instead", ReplaceWith("kotlin.random.Random.nextDouble()"),
"kotlin.random.Random"), level = DeprecationLevel.WARNING)\n public fun random(): Double\n @Deprecated("Use kotlin.math.abs instead.", ReplaceWith("abs(value)", "kotlin.math.abs"), level =
DeprecationLevel.ERROR)\n public fun abs(value: Double): Double\n @Deprecated("Use kotlin.math.acos
instead.", ReplaceWith("acos(value)", "kotlin.math.acos"), level = DeprecationLevel.ERROR)\n public fun
acos(value: Double): Double\n @Deprecated("Use kotlin.math.asin instead.", ReplaceWith("asin(value)",
"kotlin.math.asin"), level = DeprecationLevel.ERROR)\n public fun asin(value: Double): Double\n @Deprecated("Use kotlin.math.atan instead.", ReplaceWith("atan(value)", "kotlin.math.atan"), level =
DeprecationLevel.ERROR)\n public fun atan(value: Double): Double\n @Deprecated("Use kotlin.math.atan2
instead.", ReplaceWith("atan2(y, x)", "kotlin.math.atan2"), level = DeprecationLevel.ERROR)\n public fun
atan2(y: Double, x: Double): Double\n @Deprecated("Use kotlin.math.cos instead.",
ReplaceWith("cos(value)", "kotlin.math.cos"), level = DeprecationLevel.ERROR)\n public fun cos(value:
Double): Double\n @Deprecated("Use kotlin.math.sin instead.", ReplaceWith("sin(value)", "kotlin.math.sin"),
level = DeprecationLevel.ERROR)\n public fun sin(value: Double): Double\n @Deprecated("Use
kotlin.math.exp instead.", ReplaceWith("exp(value)", "kotlin.math.exp"), level = DeprecationLevel.ERROR)\n
public fun exp(value: Double): Double\n @Deprecated("Use maxOf or kotlin.math.max instead", level =
DeprecationLevel.ERROR)\n public fun max(vararg values: Int): Int\n @Deprecated("Use maxOf or
kotlin.math.max instead", level = DeprecationLevel.ERROR)\n public fun max(vararg values: Float): Float\n
 @Deprecated("Use maxOf or kotlin.math.max instead", level = DeprecationLevel.ERROR)\n public fun
max(vararg values: Double): Double\n @Deprecated("Use minOf or kotlin.math.min instead", level =
DeprecationLevel.ERROR)\n public fun min(vararg values: Int): Int\n @Deprecated("Use minOf or
kotlin.math.min instead", level = DeprecationLevel.ERROR)\n public fun min(vararg values: Float): Float\n
 @Deprecated("Use minOf or kotlin.math.min instead", level = DeprecationLevel.ERROR)\n public fun
min(vararg values: Double): Double\n @Deprecated("Use kotlin.math.sqrt instead.",
ReplaceWith("sqrt(value)", "kotlin.math.sqrt"), level = DeprecationLevel.ERROR)\n public fun sqrt(value:
Double): Double\n @Deprecated("Use kotlin.math.tan instead.", ReplaceWith("tan(value)",
"kotlin.math.tan"), level = DeprecationLevel.ERROR)\n public fun tan(value: Double): Double\n @Deprecated("Use kotlin.math.ln instead.", ReplaceWith("ln(value)", "kotlin.math.ln"), level =
DeprecationLevel.ERROR)\n public fun log(value: Double): Double\n @Deprecated("Use kotlin.math.pow
instead.", ReplaceWith("base.pow(exp)", "kotlin.math.pow"), level = DeprecationLevel.ERROR)\n public fun
pow(base: Double, exp: Double): Double\n @Deprecated("Use kotlin.math.round instead.",
ReplaceWith("round(value)", "kotlin.math.round"), level = DeprecationLevel.ERROR)\n public fun
round(value: Number): Int\n @Deprecated("Use kotlin.math.floor instead.", ReplaceWith("floor(value)",
"kotlin.math.floor"), level = DeprecationLevel.ERROR)\n public fun floor(value: Number): Int\n @Deprecated("Use kotlin.math.ceil instead.", ReplaceWith("ceil(value)", "kotlin.math.ceil"), level =
DeprecationLevel.ERROR)\n public fun ceil(value: Number): Int\n\n @PublishedApi\n internal fun
trunc(value: Number): Double\n @PublishedApi\n internal fun sign(value: Number): Double\n}

```

```

@PublishedApi internal fun sinh(value: Double): Double @PublishedApi internal fun cosh(value:
Double): Double @PublishedApi internal fun tanh(value: Double): Double @PublishedApi internal
fun asinh(value: Double): Double @PublishedApi internal fun acosh(value: Double): Double
@PublishedApi internal fun atanh(value: Double): Double @PublishedApi internal fun hypot(x:
Double, y: Double): Double @PublishedApi internal fun expm1(value: Double): Double
@PublishedApi internal fun log10(value: Double): Double @PublishedApi internal fun log2(value:
Double): Double @PublishedApi internal fun log1p(value: Double): Double @PublishedApi
internal fun clz32(value: Int): Int /** Returns the smaller of two values.
*/
@Suppress("DEPRECATION") @Deprecated("Use minOf or kotlin.math.min instead",
ReplaceWith("minOf(a, b)"), level = DeprecationLevel.ERROR) public fun Math.min(a: Long, b: Long): Long =
if (a <= b) a else b /** Returns the greater of two values.
*/
@Suppress("DEPRECATION") @Deprecated("Use maxOf or kotlin.math.max instead",
ReplaceWith("maxOf(a, b)"), level = DeprecationLevel.ERROR) public fun Math.max(a: Long, b: Long): Long =
if (a >= b) a else b /** Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors. Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.
*/
package kotlin.js /** An interface for indexing access to a collection of
key-value pairs, where type of key is [String] and type of value is [Any?][Any].
*/
public external interface Json {
/** Calls to the function will be translated to indexing operation (square brackets) on the receiver with
[propertyName] as the argument.
*/
/* E.g. for next code:
*/
`kotlin`
fun test(j: Json, p: String) =
j["prop"] + j.get(p)
/* will be generated:
*/
`js`
function test(j, p) {
return
j["prop"] + j[p];
}
/*
*/
operator fun get(propertyName: String): Any? /** Calls
of the function will be translated to an assignment of [value] to the receiver indexed (with square brackets/index
operation) with [propertyName].
*/
/* E.g. for the following code:
*/
`kotlin`
fun test(j: Json, p:
String, newValue: Any) {
j["prop"] = 1
j.set(p, newValue)
}
/* will be
generated:
*/
`js`
function test(j, p, newValue) {
j["prop"] = 1;
j[p] = newValue;
}
/*
*/
operator fun set(propertyName: String, value: Any?): Unit /** Returns a
simple JavaScript object (as [Json]) using provided key-value pairs as names and values of its properties.
*/
public fun json(vararg pairs: Pair<String, Any?>): Json {
val res: dynamic = js("{}")
for ((name,
value) in pairs) {
res[name] = value
}
return res
} /** Adds key-value pairs from [other] to
[this]. Returns the original receiver.
*/
public fun Json.add(other: Json): Json {
val keys: Array<String> =
js("Object").keys(other)
for (key in keys) {
if (other.asDynamic().hasOwnProperty(key)) {
this[key] = other[key];
}
}
return this
} /** Exposes the JavaScript [JSON
object](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/JSON) to Kotlin.
*/
@Suppress("NOT_DOCUMENTED") public external object JSON {
public fun stringify(o: Any?):
String
public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?): String
public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: Int): String
public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: String): String
public fun stringify(o: Any?, replacer: Array<String>): String
public fun stringify(o: Any?, replacer:
Array<String>, space: Int): String
public fun stringify(o: Any?, replacer: Array<String>, space: String):
String
public fun <T> parse(text: String): T
public fun <T> parse(text: String, reviver: ((key: String, value:
Any?) -> Any?): T) /** Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors. Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.
*/
@file:Suppress("DEPRECATION", "DEPRECATION_ERROR") package
kotlin.math
import kotlin.internal.InlineOnly
import kotlin.js.Math as nativeMath // region
===== Double Math =====
/** Computes the
sine of the angle [x] given in radians.
*/
/* Special cases:
*/
- `sin(NaN|+Inf|-Inf)` is `NaN`
*/
@SinceKotlin("1.2") @InlineOnly public actual inline fun sin(x: Double): Double =
nativeMath.sin(x) /** Computes the cosine of the angle [x] given in radians.
*/
/* Special cases:
*/
-

```



```

`cos(NaN|+Inf|-Inf)` is `NaN`

Double = nativeMath.cos(x)

** Computes the tangent of the angle [x] given in radians.

Special cases:

* - `tan(NaN|+Inf|-Inf)` is `NaN`

`tan(x)` is `NaN`

Double = nativeMath.tan(x)

** Computes the arc sine of the value [x];

the returned value is an angle in the range from $-\pi/2$ to $\pi/2$ radians.

Special cases:

* - `asin(x)` is `NaN`, when $abs(x) > 1$ or x is `NaN`

`asin(x)` is `NaN`

Double = nativeMath.asin(x)

** Computes the arc cosine of the value [x];

the returned value is an angle in the range from 0.0 to π radians.

Special cases:

* - `acos(x)` is `NaN`, when $abs(x) > 1$ or x is `NaN`

`acos(x)` is `NaN`

Double = nativeMath.acos(x)

** Computes the arc tangent of the value [x];

the returned value is an angle in the range from $-\pi/2$ to $\pi/2$ radians.

Special cases:

* - `atan(NaN)` is `NaN`

`atan(x)` is `NaN`

Double = nativeMath.atan(x)

** Returns the angle θ of the polar coordinates (r, theta) that correspond to the rectangular coordinates (x, y) by computing the arc tangent of the value [y] / [x];

the returned value is an angle in the range from $-\pi$ to π radians.

Special cases:

* - `atan2(0.0, 0.0)` is 0.0

* - `atan2(0.0, x)` is 0.0 for $x > 0$ and π for $x < 0$

* - `atan2(-0.0, x)` is -0.0 for $x > 0$ and $-\pi$ for $x < 0$

* - `atan2(y, +Inf)` is 0.0 for $0 < y < +Inf$ and -0.0 for $-\pi < y < 0$

* - `atan2(y, -Inf)` is π for $0 < y < +Inf$ and $-\pi$ for $-\pi < y < 0$

* - `atan2(y, 0.0)` is $\pi/2$ for $y > 0$ and $-\pi/2$ for $y < 0$

* - `atan2(+Inf, x)` is $\pi/2$ for finite x

* - `atan2(-Inf, x)` is $-\pi/2$ for finite x

* - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`

`atan2(y, x)` is `NaN`

Double = nativeMath.atan2(y, x)

** Computes the hyperbolic sine of the value [x].

Special cases:

* - `sinh(NaN)` is `NaN`

* - `sinh(+Inf)` is $+Inf$

* - `sinh(-Inf)` is $-Inf$

`sinh(x)` is `NaN`

Double = nativeMath.sinh(x)

** Computes the hyperbolic cosine of the value [x].

Special cases:

* - `cosh(NaN)` is `NaN`

* - `cosh(+Inf|-Inf)` is $+Inf$

`cosh(x)` is `NaN`

Double = nativeMath.cosh(x)

** Computes the hyperbolic tangent of the value [x].

Special cases:

* - `tanh(NaN)` is `NaN`

* - `tanh(+Inf)` is 1.0

* - `tanh(-Inf)` is -1.0

`tanh(x)` is `NaN`

Double = nativeMath.tanh(x)

** Computes the inverse hyperbolic sine of the value [x].

The returned value is `y` such that $\sinh(y) == x$.

Special cases:

* - `asinh(NaN)` is `NaN`

* - `asinh(+Inf)` is $+Inf$

* - `asinh(-Inf)` is $-Inf$

`asinh(x)` is `NaN`

Double = nativeMath.asinh(x)

** Computes the inverse hyperbolic cosine of the value [x].

The returned value is positive `y` such that $\cosh(y) == x$.

Special cases:

* - `acosh(NaN)` is `NaN`

* - `acosh(x)` is `NaN` when $x < 1$

* - `acosh(+Inf)` is $+Inf$

`acosh(x)` is `NaN`

Double = nativeMath.acosh(x)

** Computes the inverse hyperbolic tangent of the value [x].

The returned value is `y` such that $\tanh(y) == x$.

Special cases:

* - `atanh(NaN)` is `NaN`

* - `atanh(x)` is `NaN` when $x > 1$ or $x < -1$

* - `atanh(1.0)` is $+Inf$

* - `atanh(-1.0)` is $-Inf$

`atanh(x)` is `NaN`

Double = nativeMath.atanh(x)

** Computes $\sqrt{x^2 + y^2}$ without intermediate overflow or underflow.

Special cases:

* - returns $+Inf$ if any of arguments is infinite

* - returns `NaN` if any of arguments is `NaN` and the other is not infinite

`hypot(x, y)` is `NaN`

Double = nativeMath.hypot(x, y)

** Computes the positive square root of the value [x].

Special cases:

* - `sqrt(x)` is `NaN` when $x < 0$ or x is `NaN`

`sqrt(x)` is `NaN`

Double = nativeMath.sqrt(x)

** Computes Euler's number `e` raised to the power of the value [x].

Special cases:

* - `exp(NaN)` is `NaN`

* - `exp(+Inf)` is $+Inf$

* - `exp(-Inf)` is 0.0

`exp(x)` is `NaN`

Double = nativeMath.exp(x)

** Computes $\exp(x) - 1$.

This function can be implemented to produce more

```

precise result for [x] near zero.  
Special cases:  
 $\text{expm1}(\text{NaN})$  is  $\text{NaN}$   
 $\text{expm1}(+\text{Inf})$  is  $+\text{Inf}$   
 $\text{expm1}(-\text{Inf})$  is  $-1.0$   
@see [exp] function.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun expm1(x: Double): Double = nativeMath.expm1(x)  
Computes the logarithm of the value [x] to the given [base].  
Special cases:  
 $\log(x, b)$  is  $\text{NaN}$  if either  $x$  or  $b$  are  $\text{NaN}$   
 $\log(x, b)$  is  $\text{NaN}$  when  $x < 0$  or  $b \leq 0$  or  $b == 1.0$   
 $\log(+\text{Inf}, +\text{Inf})$  is  $\text{NaN}$   
 $\log(+\text{Inf}, b)$  is  $+\text{Inf}$  for  $b > 1$  and  $-\text{Inf}$  for  $b < 1$   
 $\log(0.0, b)$  is  $-\text{Inf}$  for  $b > 1$  and  $+\text{Inf}$  for  $b > 1$   
See also logarithm functions for common fixed bases: [ln], [log10] and [log2].  
@SinceKotlin("1.2")  
public actual fun log(x: Double, base: Double): Double {  
if (base <= 0.0 || base == 1.0) return Double.NaN  
return nativeMath.log(x) / nativeMath.log(base)  
}
Computes the natural logarithm (base  $E$ ) of the value [x].  
Special cases:  
 $\ln(\text{NaN})$  is  $\text{NaN}$   
 $\ln(x)$  is  $\text{NaN}$  when  $x < 0.0$   
 $\ln(+\text{Inf})$  is  $+\text{Inf}$   
 $\ln(0.0)$  is  $-\text{Inf}$   
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun ln(x: Double): Double = nativeMath.log(x)
Computes the common logarithm (base 10) of the value [x].  
@see [ln] function for special cases.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun log10(x: Double): Double = nativeMath.log10(x)
Computes the binary logarithm (base 2) of the value [x].  
@see [ln] function for special cases.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun log2(x: Double): Double = nativeMath.log2(x)
Computes  $\ln(x + 1)$ .  
This function can be implemented to produce more precise result for [x] near zero.  
Special cases:  
 $\ln1p(\text{NaN})$  is  $\text{NaN}$   
 $\ln1p(x)$  is  $\text{NaN}$  where  $x < -1.0$   
 $\ln1p(-1.0)$  is  $-\text{Inf}$   
 $\ln1p(+\text{Inf})$  is  $+\text{Inf}$   
@see [ln] function  
@see [expm1] function  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun ln1p(x: Double): Double = nativeMath.log1p(x)
Rounds the given value [x] to an integer towards positive infinity.  
@return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.  
Special cases:  
 $\text{ceil}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun ceil(x: Double): Double = nativeMath.ceil(x).unsafeCast<Double>() // TODO: Remove unsafe cast after removing public js.math
Rounds the given value [x] to an integer towards negative infinity.  
@return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.  
Special cases:  
 $\text{floor}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun floor(x: Double): Double = nativeMath.floor(x).unsafeCast<Double>()
Rounds the given value [x] to an integer towards zero.  
@return the value [x] having its fractional part truncated.  
Special cases:  
 $\text{truncate}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun truncate(x: Double): Double = nativeMath.trunc(x)
Rounds the given value [x] towards the closest integer with ties rounded towards even integer.  
Special cases:  
 $\text{round}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
@SinceKotlin("1.2")  
public actual fun round(x: Double): Double {  
if (x % 0.5 != 0.0) {  
return nativeMath.round(x).unsafeCast<Double>()  
}  
val floor = floor(x)  
return if (floor % 2 == 0.0) floor else ceil(x)
}
Returns the absolute value of the given value [x].  
Special cases:  
 $\text{abs}(\text{NaN})$  is  $\text{NaN}$   
@see absoluteValue extension property for [Double]  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun abs(x: Double): Double = nativeMath.abs(x)
Returns the sign of the given value [x]:  
 $-1.0$  if the value is negative,  
 $0.0$  if the value is zero,  
 $1.0$  if the value is positive  
Special case:  
 $\text{sign}(\text{NaN})$  is  $\text{NaN}$   
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun sign(x: Double): Double = nativeMath.sign(x)
Returns the smaller of two values.  
If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun min(a: Double, b: Double): Double = nativeMath.min(a, b)
Returns the greater of two values.  
If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun max(a: Double, b: Double): Double = nativeMath.max(a, b)
// extensions
Raises this value to the power [x].  
Special cases:  
 $b.\text{pow}(0.0)$  is  $1.0$   
 $b.\text{pow}(1.0) == b$   
 $b.\text{pow}(\text{NaN})$  is  $\text{NaN}$   
 $\text{NaN}.\text{pow}(x)$  is  $\text{NaN}$  for  $x != 0.0$   
 $b.\text{pow}(\text{Inf})$  is  $\text{NaN}$  for  $\text{abs}(b) == 1.0$   
 $b.\text{pow}(x)$  is  $\text{NaN}$  for  $b < 0$  and  $x$  is finite and not

```

an integer\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.pow(x: Double): Double =
nativeMath.pow(this, x)\n\n/**\n * Raises this value to the integer power [n].\n *\n * See the other overload of
[pow] for details.\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.pow(n: Int): Double
= nativeMath.pow(this, n.toDouble())\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n *
- `NaN.absoluteValue` is `NaN`\n *\n * @see abs function\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic
actual inline val Double.absoluteValue: Double get() = nativeMath.abs(this)\n\n/**\n * Returns the sign of this
value:\n * - `1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n *
Special case:\n * - `NaN.sign` is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val
Double.sign: Double get() = nativeMath.sign(this)\n\n/**\n * Returns this value with the sign bit same as of the
[sign] value.\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.withSign(sign: Int):
Double = this.withSign(sign.toDouble())\n\n/**\n * Returns the ulp (unit in the last place) of this value.\n *\n * An
ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.\n *\n * Special
Cases:\n * - `NaN.ulp` is `NaN`\n * - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf`\n * - `0.0.ulp` is
`Double.MIN_VALUE`\n *\n@SinceKotlin("1.2")\npublic actual val Double.ulp: Double get() = when {\n this
< 0 -> (-this).ulp\n this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n this ==
Double.MAX_VALUE -> this - this.nextDown()\n else -> this.nextUp() - this}\n\n/**\n * Returns the [Double]
value nearest to this value in direction of positive infinity.\n *\n@SinceKotlin("1.2")\npublic actual fun
Double.nextUp(): Double = when {\n this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n this == 0.0
-> Double.MIN_VALUE\n else -> Double.fromBits(this.toRawBits() + if (this > 0) 1 else -1)}\n\n/**\n *
Returns the [Double] value nearest to this value in direction of negative infinity.\n
*\n@SinceKotlin("1.2")\npublic actual fun Double.nextDown(): Double = when {\n this.isNaN() || this ==
Double.NEGATIVE_INFINITY -> this\n this == 0.0 -> -Double.MIN_VALUE\n else ->
Double.fromBits(this.toRawBits() + if (this > 0) -1 else 1)}\n\n/**\n * Returns the [Double] value nearest to this
value in direction from this value towards the value [to].\n *\n * Special cases:\n * - `x.nextTowards(y)` is `NaN` if
either `x` or `y` are `NaN`\n * - `x.nextTowards(x) == x`\n *\n@SinceKotlin("1.2")\npublic actual fun
Double.nextTowards(to: Double): Double = when {\n this.isNaN() || to.isNaN() -> Double.NaN\n to == this ->
to\n to > this -> this.nextUp()\n else /* to < this */ -> this.nextDown()\n}\n\n/**\n * Rounds this [Double]
value to the nearest integer and converts the result to [Int].\n *\n * Ties are rounded towards positive infinity.\n *\n *
Special cases:\n * - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * - `x.roundToInt()
== Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is
`NaN`\n *\n@SinceKotlin("1.2")\npublic actual fun Double.roundToInt(): Int = when {\n isNaN() -> throw
IllegalArgumentException("Cannot round NaN value.")\n this > Int.MAX_VALUE -> Int.MAX_VALUE\n
this < Int.MIN_VALUE -> Int.MIN_VALUE\n else ->
nativeMath.round(this).unsafeCast<Double>().toInt()\n}\n\n/**\n * Rounds this [Double] value to the nearest
integer and converts the result to [Long].\n *\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n * -
`x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * - `x.roundToLong() ==
Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value
is `NaN`\n *\n@SinceKotlin("1.2")\npublic actual fun Double.roundToLong(): Long = when {\n isNaN() ->
throw IllegalArgumentException("Cannot round NaN value.")\n this > Long.MAX_VALUE ->
Long.MAX_VALUE\n this < Long.MIN_VALUE -> Long.MIN_VALUE\n else ->
nativeMath.round(this).unsafeCast<Double>().toLong()\n}\n\n// endregion\n\n// region =====
Float Math =====\n\n/**\n * Computes the sine of the angle [x] given
in radians.\n *\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sin(x: Float): Float =
nativeMath.sin(x.toDouble()).toFloat()\n\n/**\n * Computes the cosine of the angle [x] given in radians.\n *\n * Special
cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun
cos(x: Float): Float = nativeMath.cos(x.toDouble()).toFloat()\n\n/**\n * Computes the tangent of the angle [x] given in
radians.\n *\n * Special cases:\n * - `tan(NaN|+Inf|-Inf)` is `NaN`\n

```

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*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun tan(x: Float): Float =
nativeMath.tan(x.toDouble()).toFloat()\n\n**\n * Computes the arc sine of the value [x];\n * the returned value is
an angle in the range from $-\pi/2$ to $\pi/2$ radians.\n * Special cases:\n * $-\text{asin}(x)$ is NaN , when $|\text{abs}(x)| > 1$ or x is NaN \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun asin(x: Float): Float =
nativeMath.asin(x.toDouble()).toFloat()\n\n**\n * Computes the arc cosine of the value [x];\n * the returned value
is an angle in the range from 0.0 to π radians.\n * Special cases:\n * $-\text{acos}(x)$ is NaN , when $|\text{abs}(x)| > 1$ or x is NaN \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun acos(x: Float): Float =
nativeMath.acos(x.toDouble()).toFloat()\n\n**\n * Computes the arc tangent of the value [x];\n * the returned value
is an angle in the range from $-\pi/2$ to $\pi/2$ radians.\n * Special cases:\n * $-\text{atan}(\text{NaN})$ is NaN \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun atan(x: Float): Float =
nativeMath.atan(x.toDouble()).toFloat()\n\n**\n * Returns the angle θ of the polar coordinates (r, θ) that
correspond\n * to the rectangular coordinates (x, y) by computing the arc tangent of the value y / x ;\n * the
returned value is an angle in the range from $-\pi$ to π radians.\n * Special cases:\n * $-\text{atan2}(0.0, 0.0)$ is
 0.0 \n * $-\text{atan2}(0.0, x)$ is 0.0 for $x > 0$ and π for $x < 0$ \n * $-\text{atan2}(-0.0, x)$ is -0.0 for $x > 0$ and $-\pi$
for $x < 0$ \n * $-\text{atan2}(y, +\text{Inf})$ is 0.0 for $0 < y < +\text{Inf}$ and -0.0 for $-\text{Inf} < y < 0$ \n * $-\text{atan2}(y, -\text{Inf})$ is π
for $0 < y < +\text{Inf}$ and $-\pi$ for $-\text{Inf} < y < 0$ \n * $-\text{atan2}(y, 0.0)$ is $\pi/2$ for $y > 0$ and $-\pi/2$ for $y < 0$ \n *
 $-\text{atan2}(+\text{Inf}, x)$ is $\pi/2$ for finite x \n * $-\text{atan2}(-\text{Inf}, x)$ is $-\pi/2$ for finite x \n * $-\text{atan2}(\text{NaN}, x)$ and
 $-\text{atan2}(y, \text{NaN})$ is NaN \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun atan2(y: Float, x:
Float): Float = nativeMath.atan2(y.toDouble(), x.toDouble()).toFloat()\n\n**\n * Computes the hyperbolic sine of
the value [x].\n * Special cases:\n * $-\text{sinh}(\text{NaN})$ is NaN \n * $-\text{sinh}(+\text{Inf})$ is $+\text{Inf}$ \n * $-\text{sinh}(-\text{Inf})$ is $-\text{Inf}$ \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun sinh(x: Float): Float =
nativeMath.sinh(x.toDouble()).toFloat()\n\n**\n * Computes the hyperbolic cosine of the value [x].\n * Special
cases:\n * $-\text{cosh}(\text{NaN})$ is NaN \n * $-\text{cosh}(+\text{Inf}-\text{Inf})$ is $+\text{Inf}$ \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun cosh(x: Float): Float =
nativeMath.cosh(x.toDouble()).toFloat()\n\n**\n * Computes the hyperbolic tangent of the value [x].\n * Special
cases:\n * $-\text{tanh}(\text{NaN})$ is NaN \n * $-\text{tanh}(+\text{Inf})$ is 1.0 \n * $-\text{tanh}(-\text{Inf})$ is -1.0 \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun tanh(x: Float): Float =
nativeMath.tanh(x.toDouble()).toFloat()\n\n**\n * Computes the inverse hyperbolic sine of the value [x].\n * Special
cases:\n * $-\text{asinh}(\text{NaN})$ is NaN \n * $-\text{asinh}(+\text{Inf})$ is $+\text{Inf}$ \n * $-\text{asinh}(-\text{Inf})$ is $-\text{Inf}$ \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun asinh(x: Float): Float = nativeMath.asinh(x.toDouble()).toFloat()\n\n**\n * Computes the inverse hyperbolic
cosine of the value [x].\n * The returned value is positive y such that $\cosh(y) == x$.\n * Special cases:\n *
 $-\text{acosh}(\text{NaN})$ is NaN \n * $-\text{acosh}(x)$ is NaN when $x < 1$ \n * $-\text{acosh}(+\text{Inf})$ is $+\text{Inf}$ \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun acosh(x: Float): Float =
nativeMath.acosh(x.toDouble()).toFloat()\n\n**\n * Computes the inverse hyperbolic tangent of the value [x].\n *
The returned value is y such that $\tanh(y) == x$.\n * Special cases:\n * $-\text{tanh}(\text{NaN})$ is NaN \n *
 $-\text{tanh}(x)$ is NaN when $x > 1$ or $x < -1$ \n * $-\text{tanh}(1.0)$ is $+\text{Inf}$ \n * $-\text{tanh}(-1.0)$ is $-\text{Inf}$ \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun atanh(x: Float): Float =
nativeMath.atanh(x.toDouble()).toFloat()\n\n**\n * Computes $\sqrt{x^2 + y^2}$ without intermediate overflow or
underflow.\n * Special cases:\n * - returns $+\text{Inf}$ if any of arguments is infinite\n * - returns NaN if any of
arguments is NaN and the other is not infinite\n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun hypot(x: Float, y: Float): Float = nativeMath.hypot(x.toDouble(), y.toDouble()).toFloat()\n\n**\n * Computes the
positive square root of the value [x].\n * Special cases:\n * $-\text{sqrt}(x)$ is NaN when $x < 0$ or x is NaN \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun sqrt(x: Float): Float =
nativeMath.sqrt(x.toDouble()).toFloat()\n\n**\n * Computes Euler's number e raised to the power of the value
[x].\n * Special cases:\n * $-\text{exp}(\text{NaN})$ is NaN \n * $-\text{exp}(+\text{Inf})$ is $+\text{Inf}$ \n * $-\text{exp}(-\text{Inf})$ is 0.0 \n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun exp(x: Float): Float =
nativeMath.exp(x.toDouble()).toFloat()\n\n**\n * Computes $\exp(x) - 1$.\n * This function can be implemented

```

to produce more precise result for [x] near zero.  
 \* Special cases:  
`expm1(NaN)` is `NaN`  
`expm1(+Inf)` is `+Inf`  
`expm1(-Inf)` is `-1.0`  
 @see [exp] function

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun expm1(x: Float): Float =
 nativeMath.expm1(x.toDouble()).toFloat()

```

\* Computes the logarithm of the value [x] to the given [base].  
 \* Special cases:  
`log(x, b)` is `NaN` if either `x` or `b` are `NaN`  
`log(x, b)` is `NaN` when `x < 0`  
 or `b <= 0` or `b == 1.0`  
`log(+Inf, +Inf)` is `NaN`  
`log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`  
`log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`  
 \* See also logarithm functions for common fixed bases: [ln], [log10] and [log2].

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun log(x: Float, base: Float): Float =
 log(x.toDouble(), base.toDouble()).toFloat()

```

\* Computes the natural logarithm (base 'E') of the value [x].  
 \* Special cases:  
`ln(NaN)` is `NaN`  
`ln(x)` is `NaN` when `x < 0.0`  
`ln(+Inf)` is `+Inf`  
`ln(0.0)` is `-Inf`

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun ln(x: Float): Float =
 nativeMath.log(x.toDouble()).toFloat()

```

\* Computes the common logarithm (base 10) of the value [x].  
 @see [ln] function for special cases.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun log10(x: Float): Float =
 nativeMath.log10(x.toDouble()).toFloat()

```

\* Computes the binary logarithm (base 2) of the value [x].  
 @see [ln] function for special cases.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun log2(x: Float): Float =
 nativeMath.log2(x.toDouble()).toFloat()

```

\* Computes `ln(a + 1)`.  
 \* This function can be implemented to produce more precise result for [x] near zero.  
 \* Special cases:  
`ln1p(NaN)` is `NaN`  
`ln1p(x)` is `NaN` where `x < -1.0`  
`ln1p(-1.0)` is `-Inf`  
`ln1p(+Inf)` is `+Inf`  
 @see [ln] function  
 @see [expm1] function

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun ln1p(x: Float): Float =
 nativeMath.log1p(x.toDouble()).toFloat()

```

\* Rounds the given value [x] to an integer towards positive infinity.  
 @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.  
 \* Special cases:  
`ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun ceil(x: Float): Float =
 nativeMath.ceil(x.toDouble()).toFloat()

```

\* Rounds the given value [x] to an integer towards negative infinity.  
 @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.  
 \* Special cases:  
`floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun floor(x: Float): Float =
 nativeMath.floor(x.toDouble()).toFloat()

```

\* Rounds the given value [x] to an integer towards zero.  
 @return the value [x] having its fractional part truncated.  
 \* Special cases:  
`truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun truncate(x: Float): Float =
 truncate(x.toDouble()).toFloat()

```

\* Rounds the given value [x] towards the closest integer with ties rounded towards even integer.  
 \* Special cases:  
`round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun round(x: Float): Float =
 round(x.toDouble()).toFloat()

```

\* Returns the absolute value of the given value [x].  
 \* Special cases:  
`abs(NaN)` is `NaN`  
 @see absoluteValue extension property for [Float]

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun abs(x: Float): Float =
 nativeMath.abs(x.toDouble()).toFloat()

```

\* Returns the sign of the given value [x]:  
`-1.0` if the value is negative,  
 zero if the value is zero,  
`1.0` if the value is positive  
 \* Special case:  
`sign(NaN)` is `NaN`

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun sign(x: Float): Float =
 nativeMath.sign(x.toDouble()).toFloat()

```

\* Returns the smaller of two values.  
 \* If either value is `NaN`, then the result is `NaN`.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun min(a: Float, b: Float): Float =
 nativeMath.min(a, b)

```

\* Returns the greater of two values.  
 \* If either value is `NaN`, then the result is `NaN`.

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun max(a: Float, b: Float): Float =
 nativeMath.max(a, b)

```

// extensions  
 \* Raises this value to the power [x].  
 \* Special cases:  
`b.pow(0.0)` is `1.0`  
`b.pow(1.0) == b`  
`b.pow(NaN)` is `NaN`  
`NaN.pow(x)` is `NaN` for `x != 0.0`  
`b.pow(Inf)` is `NaN` for `abs(b) == 1.0`  
`b.pow(x)` is `NaN` for `b < 0` and `x` is

```

finite and not an integer\n *^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.pow(x: Float):
Float = nativeMath.pow(this.toDouble(), x.toDouble()).toFloat()\n\n/**\n * Raises this value to the integer power
[n].\n * See the other overload of [pow] for details.\n *^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual
inline fun Float.pow(n: Int): Float = nativeMath.pow(this.toDouble(), n.toDouble()).toFloat()\n\n/**\n * Returns the
absolute value of this value.\n * Special cases:\n * - `NaN.absoluteValue` is `NaN`\n * - `@see abs function`\n
*^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Float.absoluteValue: Float get() =
nativeMath.abs(this.toDouble()).toFloat()\n\n/**\n * Returns the sign of this value:\n * - `-1.0` if the value is
negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n * Special case:\n * - `NaN.sign` is
`NaN`\n *^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Float.sign: Float get() =
nativeMath.sign(this.toDouble()).toFloat()\n\n/**\n * Returns this value with the sign bit same as of the [sign]
value.\n * If [sign] is `NaN` the sign of the result is undefined.\n
*^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.withSign(sign: Float): Float =
this.toDouble().withSign(sign.toDouble()).toFloat()\n\n/**\n * Returns this value with the sign bit same as of the
[sign] value.\n *^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.withSign(sign: Int): Float =
this.toDouble().withSign(sign.toDouble()).toFloat()\n\n/**\n * Rounds this [Float] value to the nearest integer and
converts the result to [Int].\n * Ties are rounded towards positive infinity.\n * Special cases:\n * -
`x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * - `x.roundToInt() == Int.MIN_VALUE`
when `x < Int.MIN_VALUE`\n * @throws IllegalArgumentException when this value is `NaN`\n
*^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToInt(): Int =
toDouble().roundToInt()\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to
[Long].\n * Ties are rounded towards positive infinity.\n * Special cases:\n * - `x.roundToLong() ==
Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * - `x.roundToLong() == Long.MIN_VALUE` when `x
< Long.MIN_VALUE`\n * @throws IllegalArgumentException when this value is `NaN`\n
*^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToLong(): Long =
toDouble().roundToLong()\n\n// endregion\n\n// Integer Math
=====\n\n/**\n * Returns the absolute value of the given value
[n].\n * Special cases:\n * - `abs(Int.MIN_VALUE)` is `Int.MIN_VALUE` due to an overflow\n * - `@see
absoluteValue` extension property for [Int]\n *^n// TODO: remove manual 'or' when KT-19290 is
fixed\n@SinceKotlin("1.2")\npublic actual fun abs(n: Int): Int = if (n < 0) (-n or 0) else n\n\n/**\n * Returns the
smaller of two values.\n *^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun min(a: Int, b: Int): Int =
nativeMath.min(a, b)\n\n/**\n * Returns the greater of two values.\n
*^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun max(a: Int, b: Int): Int = nativeMath.max(a,
b)\n\n/**\n * Returns the absolute value of this value.\n * Special cases:\n * -
`Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n * - `@see abs function`\n
*^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Int.absoluteValue: Int get() = abs(this)\n\n/**\n *
Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the
value is positive\n *^n@SinceKotlin("1.2")\npublic actual val Int.sign: Int get() = when {\n this < 0 -> -1\n this > 0 -
> 1\n else -> 0\n}\n\n/**\n * Returns the absolute value of the given value [n].\n * Special cases:\n * -
`abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n * - `@see absoluteValue` extension
property for [Long]\n *^n@SinceKotlin("1.2")\npublic actual fun abs(n: Long): Long = if (n < 0) -n else
n\n\n/**\n * Returns the smaller of two values.\n
*^n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun min(a: Long, b:
Long): Long = if (a <= b) a else b\n\n/**\n * Returns the greater of two values.\n
*^n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun max(a: Long, b:
Long): Long = if (a >= b) a else b\n\n/**\n * Returns the absolute value of this value.\n * Special cases:\n * -
`Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n * - `@see abs function`\n
*^n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Long.absoluteValue: Long get() =
abs(this)\n\n/**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n

```

```

* - `1` if the value is positive\n * \n@SinceKotlin("1.2")\npublic actual val Long.sign: Int get() = when {\n this
< 0 -> -1\n this > 0 -> 1\n else -> 0\n}\n\n// endregion\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n * \n\npackage kotlin\n\n/**\n * Returns `true` if the specified
number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n * \n\npublic actual fun Double.isNaN(): Boolean =
this != this\n\n/**\n * Returns `true` if the specified number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n
*\n\npublic actual fun Float.isNaN(): Boolean = this != this\n\n/**\n * Returns `true` if this value is infinitely large in
magnitude.\n * \n\npublic actual fun Double.isInfinite(): Boolean = this == Double.POSITIVE_INFINITY || this ==
Double.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if this value is infinitely large in magnitude.\n * \n\npublic
actual fun Float.isInfinite(): Boolean = this == Float.POSITIVE_INFINITY || this ==
Float.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if the argument is a finite floating-point value; returns
`false` otherwise (for `NaN` and infinity arguments).\n * \n\npublic actual fun Double.isFinite(): Boolean =
!isInfinite() && !isNaN()\n\n/**\n * Returns `true` if the argument is a finite floating-point value; returns `false`
otherwise (for `NaN` and infinity arguments).\n * \n\npublic actual fun Float.isFinite(): Boolean = !isInfinite() &&
!isNaN()\n\n/**\n * Counts the number of set bits in the binary representation of this [Int] number.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Int.countOneBits(): Int {\n // Hacker's
Delight 5-1 algorithm\n var v = this\n v = (v and 0x55555555) + (v.ushr(1) and 0x55555555)\n v = (v and
0x33333333) + (v.ushr(2) and 0x33333333)\n v = (v and 0x0F0F0F0F) + (v.ushr(4) and 0x0F0F0F0F)\n v = (v
and 0x00FF00FF) + (v.ushr(8) and 0x00FF00FF)\n v = (v and 0x0000FFFF) + (v.ushr(16))\n return
v\n}\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of
this [Int] number.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@Suppress("DEPRECATION")\n@kotlin.internal.InlineO
nly\npublic actual inline fun Int.countLeadingZeroBits(): Int = kotlin.js.Math.clz32(this)\n\n/**\n * Counts the
number of consecutive least significant bits that are zero in the binary representation of this [Int] number.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Int.countTrailingZeroBits(): Int =\n //
Hacker's Delight 5-4 algorithm for expressing countTrailingZeroBits with countLeadingZeroBits\n Int.SIZE_BITS
- (this or -this).inv().countLeadingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of
the most significant set bit of this [Int] number, \n * or zero, if this number is zero.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Int.takeHighestOneBit(): Int =\n if (this
== 0) 0 else 1.shl(Int.SIZE_BITS - 1 - countLeadingZeroBits())\n\n/**\n * Returns a number having a single bit set
in the position of the least significant set bit of this [Int] number, \n * or zero, if this number is zero.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Int.takeLowestOneBit(): Int =\n //
Hacker's Delight 2-1 algorithm for isolating rightmost 1-bit\n this and -this\n\n/**\n * Rotates the binary
representation of this [Int] number left by the specified [bitCount] number of bits.\n * The most significant bits
pushed out from the left side reenter the number as the least significant bits on the right side.\n * \n * Rotating the
number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-
n) == number.rotateRight(n)`\n * \n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns the same number, or
more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Int.rotateLeft(bitCount: Int): Int =\n
shl(bitCount) or ushr(Int.SIZE_BITS - bitCount)\n\n/**\n * Rotates the binary representation of this [Int] number
right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter
the number as the most significant bits on the left side.\n * \n * Rotating the number right by a negative bit count is
the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * \n
* Rotating by a multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 32)`\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Int.rotateRight(bitCount: Int): Int =\n
shl(Int.SIZE_BITS - bitCount) or ushr(bitCount)\n\n/**\n * Counts the number of set bits in the binary
representation of this [Long] number.\n * \n\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun

```

```

Long.countOneBits(): Int =\n high.countOneBits() + low.countOneBits()\n\n/**\n * Counts the number of\n consecutive most significant bits that are zero in the binary representation of this [Long] number.\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Long.countLeadingZeroBits(): Int =\nwhen (val high = this.high) {\n 0 -> Int.SIZE_BITS + low.countLeadingZeroBits()\n else ->\nhigh.countLeadingZeroBits()\n}\n\n/**\n * Counts the number of consecutive least significant bits that are zero in\n the binary representation of this [Long] number.\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic\n actual fun Long.countTrailingZeroBits(): Int =\nwhen (val low = this.low) {\n 0 -> Int.SIZE_BITS +\nhigh.countTrailingZeroBits()\n else -> low.countTrailingZeroBits()\n}\n\n/**\n * Returns a number having a\n single bit set in the position of the most significant set bit of this [Long] number,\n * or zero, if this number is\n zero.\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Long.takeHighestOneBit(): Long\n =\nwhen (val high = this.high) {\n 0 -> Long(low.takeHighestOneBit(), 0)\n else -> Long(0,\nhigh.takeHighestOneBit())\n}\n\n/**\n * Returns a number having a single bit set in the position of the least\n significant set bit of this [Long] number,\n * or zero, if this number is zero.\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Long.takeLowestOneBit(): Long =\nwhen (val low = this.low) {\n 0 -> Long(0, high.takeLowestOneBit())\n else ->\nLong(low.takeLowestOneBit(), 0)\n}\n\n/**\n * Rotates the binary representation of this [Long] number left by\n the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the\n number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the\n same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic actual fun Long.rotateLeft(bitCount: Int): Long {\nif ((bitCount and 31) != 0) {\n val low = this.low\n val high = this.high\n val newLow =\nlow.shl(bitCount) or high.ushr(-bitCount)\n val newHigh = high.shl(bitCount) or low.ushr(-bitCount)\nreturn if ((bitCount and 32) == 0) Long(newLow, newHigh) else Long(newHigh, newLow)\n} else {\nreturn\nif ((bitCount and 32) == 0) this else Long(high, low)\n}\n}\n\n/**\n * Rotates the binary representation of this\n [Long] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the\n right side reenter the number as the most significant bits on the left side.\n * Rotating the number right by a\n negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) ==\nnumber.rotateLeft(n)`\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more\n generally\n * `number.rotateRight(n) == number.rotateRight(n % 64)`\n\n*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic actual inline fun\nLong.rotateRight(bitCount: Int): Long = rotateLeft(-bitCount)\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and\n Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that\n can be found in the license/LICENSE.txt file.\n\n*/\n\npackage kotlin.js\n\nimport\nkotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Exposes the JavaScript [Promise\n object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Promise) to Kotlin.\n\n*/\n@Suppress("NOT_DOCUMENTED")\npublic open external class Promise<out T>(executor: (resolve: (T) ->\nUnit, reject: (Throwable) -> Unit) -> Unit) {\n @LowPriorityInOverloadResolution\n public open fun <S>\nthen(onFulfilled: ((T) -> S)?): Promise<S>\n\n @LowPriorityInOverloadResolution\n public open fun <S>\nthen(onFulfilled: ((T) -> S)?, onRejected: ((Throwable) -> S)?): Promise<S>\n\n public open fun <S>\ncatch(onRejected: (Throwable) -> S): Promise<S>\n\n companion object {\n public fun <S> all(promise:\nArray<out Promise<S>>): Promise<Array<out S>>\n\n public fun <S> race(promise: Array<out\nPromise<S>>): Promise<S>\n\n public fun reject(e: Throwable): Promise<Nothing>\n\n public fun <S>\nresolve(e: S): Promise<S>\n\n public fun <S> resolve(e: Promise<S>): Promise<S>\n }\n}\n\n// It's workaround\nfor KT-19672 since we can fix it properly until KT-11265 isn't fixed.\n\ninline fun <T, S>\nPromise<Promise<T>>.then(\n noinline onFulfilled: ((T) -> S)?\n): Promise<S> {\nreturn\nthis.unsafeCast<Promise<T>>().then(onFulfilled)\n}\n\ninline fun <T, S> Promise<Promise<T>>.then(\n noinline

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onFulfilled: ((T) -> S)?,\n noinline onRejected: ((Throwable) -> S)?\n): Promise<S> {\n return
this.unsafeCast<Promise<T>>().then(onFulfilled, onRejected)\n}\n",/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\nimport
kotlin.math.pow\n\ninternal actual fun defaultPlatformRandom(): Random =\n Random(js("(Math.random() *
Math.pow(2, 32)) | 0").unsafeCast<Int>())\n\nprivate val INV_2_26: Double = 2.0.pow(-26)\nprivate val
INV_2_53: Double = 2.0.pow(-53)\n\ninternal actual fun doubleFromParts(hi26: Int, low27: Int): Double =\n hi26 *
INV_2_26 + low27 * INV_2_53",/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport getKClass\nimport kotlin.reflect.KClass\nimport
kotlin.reflect.js.internal.KClassImpl\n\n/**\n * Represents the constructor of a class. Instances of `JsClass` can be
passed to JavaScript APIs that expect a constructor reference.\n */\n\nexternal interface JsClass<T : Any> {\n /**\n * Returns the unqualified name of the class represented by this instance.\n */\n val name:
String\n}\n\n@Deprecated("Use class literal and extension property `js` instead.", replaceWith =
ReplaceWith("T::class.js"), level = DeprecationLevel.ERROR)\n\nexternal fun <T : Any> jsClass():
JsClass<T>\n\n@Deprecated("Use class literal and extension property `js` instead.", replaceWith =
ReplaceWith("this::class.js"), level = DeprecationLevel.ERROR)\n\nval <T : Any> T.jsClass: JsClass<T>\n get()
= when (jsTypeOf(this)) {\n "string" -> js("String")\n "number" -> js("Number")\n "boolean" ->
js("Boolean")\n else -> js("Object").getPrototypeOf(this).constructor\n }\n\n/**\n * Obtains a constructor
reference for the given `KClass`.\n */\n\nval <T : Any> KClass<T>.js: JsClass<T>\n get() = (this as
KClassImpl<T>).jClass\n\n/**\n * Obtains a `KClass` instance for the given constructor reference.\n */\n\nval <T :
Any> JsClass<T>.kotlin: KClass<T>\n get() = getKClass(this)\n",/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport
kotlin.reflect.*\n\ninternal abstract class KClassImpl<T : Any>(\n internal open val jClass: JsClass<T>\n) :
KClass<T> {\n override val annotations: List<Annotation>\n get() = TODO()\n override val constructors:
Collection<KFunction<T>>\n get() = TODO()\n override val isAbstract: Boolean\n get() = TODO()\n override val isCompanion: Boolean\n get() = TODO()\n override val isData: Boolean\n get() = TODO()\n override val isFinal: Boolean\n get() = TODO()\n override val isInner: Boolean\n get() = TODO()\n override val isOpen: Boolean\n get() = TODO()\n override val isSealed: Boolean\n get() = TODO()\n override val members: Collection<KCallable<*>>\n get() = TODO()\n override val nestedClasses:
Collection<KClass<*>>\n get() = TODO()\n override val objectInstance: T?\n get() = TODO()\n override val qualifiedName: String?\n get() = TODO()\n override val supertypes: List<KType>\n get() =
TODO()\n override val typeParameters: List<KTypeParameter>\n get() = TODO()\n override val
sealedSubclasses: List<KClass<out T>>\n get() = TODO()\n override val visibility: KVisibility?\n get() =
TODO()\n\n override fun equals(other: Any?): Boolean {\n return other is KClassImpl<*> && jClass ==
other.jClass\n }\n\n // TODO: use FQN\n override fun hashCode(): Int = simpleName?.hashCode() ?: 0\n\n override fun toString(): String {\n // TODO: use FQN\n return "class $simpleName"\n }\n\n\ninternal
class SimpleKClassImpl<T : Any>(jClass: JsClass<T>) : KClassImpl<T>(jClass) {\n override val simpleName:
String? = jClass.asDynamic().`$metadata$`.simpleName.unsafeCast<String?>()\n\n override fun
isInstance(value: Any?): Boolean {\n return jsIsType(value, jClass)\n }\n\n\ninternal class
PrimitiveKClassImpl<T : Any>(\n jClass: JsClass<T>,\n private val givenSimpleName: String,\n private val
isInstanceFunction: (Any?) -> Boolean\n) : KClassImpl<T>(jClass) {\n override fun equals(other: Any?): Boolean
{\n if (other !is PrimitiveKClassImpl<*>) return false\n return super.equals(other) && givenSimpleName
== other.givenSimpleName\n }\n\n override val simpleName: String? get() = givenSimpleName\n\n override
fun isInstance(value: Any?): Boolean {\n return isInstanceFunction(value)\n }\n\n\ninternal object
NothingKClassImpl : KClassImpl<Nothing>(js("Object")) {\n override val simpleName: String =
"Nothing"\n\n override fun isInstance(value: Any?): Boolean = false\n\n override val jClass:

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JsClass<Nothing>\n get() = throw UnsupportedOperationException("There's no native JS class for Nothing
type")\n\n override fun equals(other: Any?): Boolean = other === this\n\n override fun hashCode(): Int =
0\n}", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a
package is omitted to get declarations directly under the module\n\n// TODO: Remove once
JsReflectionAPICallChecker supports more reflection types\n\n@file:Suppress("Unsupported")\n\nimport
kotlin.reflect.*\nimport kotlin.reflect.js.internal.*\n\n@JsName("createKType")\n\ninternal fun createKType(\n
classifier: KClassifier,\n arguments: Array<KTypeProjection>,\n isMarkedNullable: Boolean)\n =\n KTypeImpl(classifier, arguments.asList(), isMarkedNullable)\n\n\n@JsName("createDynamicKType")\n\ninternal fun
createDynamicKType(): KType = DynamicKType\n\n\n@JsName("markKTypeNullable")\n\ninternal fun
markKTypeNullable(kType: KType) = KTypeImpl(kType.classifier!!, kType.arguments,
true)\n\n\n@JsName("createKTypeParameter")\n\ninternal fun createKTypeParameter(\n name: String,\n
upperBounds: Array<KType>,\n variance: String)\n : KTypeParameter {\n val kVariance = when (variance) {\n
 "in" -> KVariance.IN\n "out" -> KVariance.OUT\n else -> KVariance.INVARIANT\n }\n\n return
KTypeParameterImpl(name, upperBounds.asList(), kVariance,
false)\n }\n\n\n@JsName("getStarKTypeProjection")\n\ninternal fun getStarKTypeProjection(): KTypeProjection =\n
KTypeProjection.STAR\n\n\n@JsName("createCovariantKTypeProjection")\n\ninternal fun
createCovariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.covariant(type)\n\n\n@JsName("createInvariantKTypeProjection")\n\ninternal fun
createInvariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.invariant(type)\n\n\n@JsName("createContravariantKTypeProjection")\n\ninternal fun
createContravariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.contravariant(type)\n\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\n\ninternal class
KTypeImpl(\n override val classifier: KClassifier,\n override val arguments: List<KTypeProjection>,\n
 override val isMarkedNullable: Boolean)\n : KType {\n override val annotations: List<Annotation>\n get() =
emptyList()\n\n override fun equals(other: Any?): Boolean =\n other is KTypeImpl &&\n classifier
== other.classifier && arguments == other.arguments && isMarkedNullable == other.isMarkedNullable\n\n
 override fun hashCode(): Int =\n (classifier.hashCode() * 31 + arguments.hashCode()) * 31 +
isMarkedNullable.hashCode()\n\n override fun toString(): String {\n val kClass = (classifier as? KClass<*>)\n
 val classifierName = when {\n kClass == null -> classifier.toString()\n kClass.simpleName != null
-> kClass.simpleName\n } else -> "(non-denotable type)"\n }\n\n val args =\n if
(arguments.isEmpty()) ""\n else arguments.joinToString(", ", "<", ">") { it.asString() }\n\n val
nullable = if (isMarkedNullable) "?"\n else ""\n\n return classifierName + args + nullable\n }\n\n // TODO:
this should be the implementation of KTypeProjection.toString, see KT-30071\n private fun
KTypeProjection.asString(): String {\n if (variance == null) return "*" \n return variance.prefixString() +
type.toString()\n }\n }\n\n\ninternal object DynamicKType : KType {\n override val classifier: KClassifier? =
null\n override val arguments: List<KTypeProjection> = emptyList()\n override val isMarkedNullable: Boolean =
false\n override val annotations: List<Annotation> = emptyList()\n override fun toString(): String =
"dynamic"\n\n\ninternal fun KVariance.prefixString() =\n when (this) {\n KVariance.INVARIANT ->
""\n KVariance.IN -> "in "\n KVariance.OUT -> "out "\n }\n}", /*\n * Copyright 2010-2019 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport
kotlin.reflect.*\n\n\ninternal data class KTypeParameterImpl(\n override val name: String,\n override val
upperBounds: List<KType>,\n override val variance: KVariance,\n override val isReified: Boolean)\n :
KTypeParameter {\n override fun toString(): String = name\n }\n}", /*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that

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can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport
kotlin.js.JsClass\n\n@JsName("PrimitiveClasses")\n\ninternal object PrimitiveClasses {\n
@JsName("anyClass")\n val anyClass = PrimitiveKClassImpl(js("Object").unsafeCast<JsClass<Any>>(),
"Any", { it is Any })\n\n @JsName("numberClass")\n val numberClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Number>>(), "Number", { it is Number })\n\n
@JsName("nothingClass")\n val nothingClass = NothingKClassImpl\n\n @JsName("booleanClass")\n val
booleanClass = PrimitiveKClassImpl(js("Boolean").unsafeCast<JsClass<Boolean>>(), "Boolean", { it is Boolean
})\n\n @JsName("byteClass")\n val byteClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Byte>>(), "Byte", { it is Byte })\n\n
@JsName("shortClass")\n val shortClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Short>>(),
"Short", { it is Short })\n\n @JsName("intClass")\n val intClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Int>>(), "Int", { it is Int })\n\n
@JsName("floatClass")\n val floatClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Float>>(),
"Float", { it is Float })\n\n @JsName("doubleClass")\n val doubleClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Double>>(), "Double", { it is Double })\n\n
@JsName("arrayClass")\n val arrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<Array<*>>>(), "Array", { it is Array<*> })\n\n
@JsName("stringClass")\n val stringClass = PrimitiveKClassImpl(js("String").unsafeCast<JsClass<String>>(),
"String", { it is String })\n\n @JsName("throwableClass")\n val throwableClass =
PrimitiveKClassImpl(js("Error").unsafeCast<JsClass<Throwable>>(), "Throwable", { it is Throwable })\n\n
@JsName("booleanArrayClass")\n val booleanArrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<BooleanArray>>(), "BooleanArray", { it is BooleanArray
})\n\n @JsName("charArrayClass")\n val charArrayClass =
PrimitiveKClassImpl(js("Uint16Array").unsafeCast<JsClass<CharArray>>(), "CharArray", { it is CharArray
})\n\n @JsName("byteArrayClass")\n val byteArrayClass =
PrimitiveKClassImpl(js("Int8Array").unsafeCast<JsClass<ByteArray>>(), "ByteArray", { it is ByteArray })\n\n
@JsName("shortArrayClass")\n val shortArrayClass =
PrimitiveKClassImpl(js("Int16Array").unsafeCast<JsClass<ShortArray>>(), "ShortArray", { it is ShortArray
})\n\n @JsName("intArrayClass")\n val intArrayClass =
PrimitiveKClassImpl(js("Int32Array").unsafeCast<JsClass<IntArray>>(), "IntArray", { it is IntArray })\n\n
@JsName("longArrayClass")\n val longArrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<LongArray>>(), "LongArray", { it is LongArray })\n\n
@JsName("floatArrayClass")\n val floatArrayClass =
PrimitiveKClassImpl(js("Float32Array").unsafeCast<JsClass<FloatArray>>(), "FloatArray", { it is FloatArray
})\n\n @JsName("doubleArrayClass")\n val doubleArrayClass =
PrimitiveKClassImpl(js("Float64Array").unsafeCast<JsClass<DoubleArray>>(), "DoubleArray", { it is
DoubleArray })\n\n @JsName("functionClass")\n fun functionClass(arity: Int): KClassImpl<Any> {\n
return functionClasses.get(arity) ?: run {\n val result =
PrimitiveKClassImpl(js("Function").unsafeCast<JsClass<Any>>(), "Function$arity",\n
 { jsTypeOf(it) === "function" && it.asDynamic().length === arity })\n functionClasses.asDynamic()[arity]
= result\n result\n }\n\n private val functionClasses =
arrayOfNulls<KClassImpl<Any>>(0), "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the module\n\nimport
kotlin.reflect.*\n\nimport kotlin.reflect.js.internal.*\n\n@JsName("getKClass")\n\ninternal fun <T : Any>
getKClass(jClass: JsClass<T>): KClass<T> =
getOrCreateKClass(jClass)\n\n@JsName("getKClassFromExpression")\n\ninternal fun <T : Any>
getKClassFromExpression(e: T): KClass<T> =\n when (jsTypeOf(e)) {\n "string" ->

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PrimitiveClasses.stringClass\n \"number\" -> if (jsBitwiseOr(e, 0).asDynamic() === e)
PrimitiveClasses.intClass else PrimitiveClasses.doubleClass\n \"boolean\" -> PrimitiveClasses.booleanClass\n
 \"function\" -> PrimitiveClasses.functionClass(e.asDynamic().length)\n else -> {\n when {\n e
is BooleanArray -> PrimitiveClasses.booleanArrayClass\n e is CharArray ->
PrimitiveClasses.charArrayClass\n e is ByteArray -> PrimitiveClasses.byteArrayClass\n e is
ShortArray -> PrimitiveClasses.shortArrayClass\n e is IntArray -> PrimitiveClasses.intArrayClass\n
 e is LongArray -> PrimitiveClasses.longArrayClass\n e is FloatArray ->
PrimitiveClasses.floatArrayClass\n e is DoubleArray -> PrimitiveClasses.doubleArrayClass\n e is
KClass<*> -> KClass::class\n e is Array<*> -> PrimitiveClasses.arrayClass\n else -> {\n
 val constructor = js(\"Object\").getPrototypeOf(e).constructor\n when {\n constructor
=== js(\"Object\") -> PrimitiveClasses.anyClass\n constructor === js(\"Error\") ->
PrimitiveClasses.throwableClass\n else -> {\n val jsClass: JsClass<T> =
constructor\n getOrCreateKClass(jsClass)\n }\n }\n }\n
 }\n }.unsafeCast<KClass<T>>()\n\nprivate fun <T : Any> getOrCreateKClass(jClass: JsClass<T>):
KClass<T> {\n if (jClass === js(\"String\")) return PrimitiveClasses.stringClass.unsafeCast<KClass<T>>()\n\nval metadata = jClass.asDynamic().`$metadata$\`\n\n return if (metadata != null) {\n if (metadata.`$kClass$\`
== null) {\n val kClass = SimpleKClassImpl(jClass)\n metadata.`$kClass$\` = kClass\n kClass\n
 } else {\n metadata.`$kClass$\`\n }\n } else {\n SimpleKClassImpl(jClass)\n }\n}\n\n\"/*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\n/*\n * Exposes the JavaScript [RegExp
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/RegExp) to Kotlin.\n
*\n\n@Suppress(\"NOT_DOCUMENTED\")\npublic external class RegExp(pattern: String, flags: String? =
definedExternally) {\n\n public fun test(str: String): Boolean\n\n public fun exec(str: String): RegExpMatch?\n\n
 public override fun toString(): String\n\n /*\n * The lastIndex is a read/write integer property of regular
expressions that specifies the index at which to start the next match.\n */\n\n public var lastIndex: Int\n\n public
val global: Boolean\n public val ignoreCase: Boolean\n public val multiline: Boolean\n}\n\n/*\n * Resets the
regular expression so that subsequent [RegExp.test] and [RegExp.exec] calls will match starting with the beginning
of the input string.\n */\n\npublic fun RegExp.reset() {\n lastIndex = 0\n}\n\n// TODO: Inherit from array or
introduce asArray() extension\n\n/*\n * Represents the return value of [RegExp.exec].\n
*\n\n@Suppress(\"NOT_DOCUMENTED\")\npublic external interface RegExpMatch {\n public val index: Int\n
public val input: String\n public val length: Int\n}\n\n/*\n * Returns the entire text matched by [RegExp.exec] if
the [index] parameter is 0, or the text matched by the capturing parenthesis\n * at the given index.\n */\n\npublic inline
operator fun RegExpMatch.get(index: Int): String? = asDynamic()[index]\n\n/*\n * Converts the result of
[RegExp.exec] to an array where the first element contains the entire matched text and each subsequent\n * element
is the text matched by each capturing parenthesis.\n */\n\npublic inline fun RegExpMatch.asArray(): Array<out
String?> = unsafeCast<Array<out String?>>()\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.sequences\n\ninternal actual class
ConstrainedOnceSequence<T> actual constructor(sequence: Sequence<T>) : Sequence<T> {\n private var
sequenceRef: Sequence<T>? = sequence\n\n actual override fun iterator(): Iterator<T> {\n val sequence =
sequenceRef ?: throw IllegalStateException(\"This sequence can be consumed only once.\")\n sequenceRef =
null\n return sequence.iterator()\n }\n}\n\n\"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/*\n * The exception thrown when a
character encoding or decoding error occurs.\n */\n\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic actual
open class CharacterCodingException(message: String?) : Exception(message) {\n actual constructor() :
this(null)\n}\n\n\"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
*/

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```

package kotlin.text

/**
 * A mutable sequence of characters.
 *
 * String builder can be used to efficiently perform multiple string manipulation operations.
 *
 * public actual class StringBuilder actual constructor(content: String) : Appendable, CharSequence {
 * /**
 * * Constructs an empty string builder with the specified initial [capacity].
 * *
 * * In Kotlin/JS implementation of StringBuilder the initial capacity has no effect on the further performance of operations.
 * *
 * * actual constructor(capacity: Int) : this() {
 * * this.asDynamic()._capacity = capacity
 * * }
 * /**
 * * Constructs a string builder that contains the same characters as the specified [content] char sequence.
 * *
 * * actual constructor(content: CharSequence) : this(content.toString()) {}
 * /**
 * * Constructs an empty string builder.
 * *
 * * actual constructor() : this("")
 * private var string: String = if (content !== undefined) content else ""
 * actual override val length: Int get() = string.asDynamic().length
 * actual override fun get(index: Int): Char = string.getOrElse(index) { throw IndexOutOfBoundsException("index: $index, length: $length") }
 * actual override fun subSequence(startIndex: Int, endIndex: Int): CharSequence = string.substring(startIndex, endIndex)
 * actual override fun append(value: Char): StringBuilder {
 * string += value
 * return this
 * }
 * actual override fun append(value: CharSequence?): StringBuilder {
 * string += value.toString()
 * return this
 * }
 * @UseExperimental(ExperimentalStdlibApi::class)
 * actual override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder = this.appendRange(value, startIndex, endIndex)
 * /**
 * * Reverses the contents of this string builder and returns this instance.
 * *
 * * Surrogate pairs included in this string builder are treated as single characters.
 * *
 * * Therefore, the order of the high-low surrogates is never reversed.
 * *
 * * Note that the reverse operation may produce new surrogate pairs that were unpaired low-surrogates and high-surrogates before the operation.
 * *
 * * For example, reversing "\uDC00uD800" produces "\uD800\uDC00" which is a valid surrogate pair.
 * *
 * * actual fun reverse(): StringBuilder {
 * var reversed = ""
 * var index = string.length - 1
 * while (index >= 0) {
 * val low = string[index--]
 * if (low.isLowSurrogate() && index >= 0) {
 * val high = string[index--]
 * if (high.isHighSurrogate()) {
 * reversed = reversed + high + low
 * } else {
 * reversed = reversed + low + high
 * }
 * } else {
 * reversed += low
 * }
 * }
 * string = reversed
 * return this
 * }
 * /**
 * * Appends the string representation of the specified object [value] to this string builder and returns this instance.
 * *
 * * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,
 * * and then that string was appended to this string builder.
 * *
 * * actual fun append(value: Any?): StringBuilder {
 * string += value.toString()
 * return this
 * }
 * /**
 * * Appends the string representation of the specified boolean [value] to this string builder and returns this instance.
 * *
 * * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,
 * * and then that string was appended to this string builder.
 * *
 * * @SinceKotlin("1.3")
 * @ExperimentalStdlibApi
 * actual fun append(value: Boolean): StringBuilder {
 * string += value
 * return this
 * }
 * /**
 * * Appends characters in the specified character array [value] to this string builder and returns this instance.
 * *
 * * Characters are appended in order, starting at the index 0.
 * *
 * * @SinceKotlin("1.3")
 * @ExperimentalStdlibApi
 * actual fun append(value: CharArray): StringBuilder {
 * string += value.concatToString()
 * return this
 * }
 * /**
 * * Appends the specified string [value] to this string builder and returns this instance.
 * *
 * * @SinceKotlin("1.3")
 * @ExperimentalStdlibApi
 * actual fun append(value: String): StringBuilder {
 * this.string += value
 * return this
 * }
 * /**
 * * Returns the current capacity of this string builder.
 * *
 * * The capacity is the maximum length this string builder can have before an allocation occurs.
 * *
 * * In Kotlin/JS implementation of StringBuilder the value returned from this method may not indicate the actual size of the backing storage.
 * *
 * * @SinceKotlin("1.3")
 * @ExperimentalStdlibApi
 * actual fun capacity(): Int = if (this.asDynamic()._capacity !== undefined)
 * maxOf(this.asDynamic()._capacity, length) else length
 * /**
 * * Ensures that the capacity of this string builder is at least equal to the specified [minimumCapacity].
 * *
 * * If the current capacity is less than the [minimumCapacity], a new backing storage is allocated with greater capacity.
 * *
 * * Otherwise, this method takes no action and simply returns.
 * *
 * * In Kotlin/JS implementation of StringBuilder the size of the backing

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storage is not extended to comply the given [minimumCapacity],\n \* thus calling this method has no effect on the further performance of operations.\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun ensureCapacity(minimumCapacity: Int) {\n if (minimumCapacity > capacity()) {\n this.asDynamic().\_capacity = minimumCapacity\n }\n }\n\n /\*\*\n \* Returns the index within this string builder of the first occurrence of the specified [string].\n \*\n \* Returns -1 if the specified [string] does not occur in this string builder.\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun indexOf(string: String): Int = this.string.asDynamic().indexOf(string)\n\n /\*\*\n \* Returns the index within this string builder of the first occurrence of the specified [string],\n \* starting at the specified [startIndex].\n \*\n \* Returns -1 if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun indexOf(string: String, startIndex: Int): Int = this.string.asDynamic().indexOf(string, startIndex)\n\n /\*\*\n \* Returns the index within this string builder of the last occurrence of the specified [string].\n \* The last occurrence of empty string `""` is considered to be at the index equal to `this.length`.\n \*\n \* Returns -1 if the specified [string] does not occur in this string builder.\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun lastIndexOf(string: String): Int = this.string.asDynamic().lastIndexOf(string)\n\n /\*\*\n \* Returns the index within this string builder of the last occurrence of the specified [string],\n \* starting from the specified [startIndex] toward the beginning.\n \*\n \* Returns -1 if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun lastIndexOf(string: String, startIndex: Int): Int {\n if (string.isEmpty() && startIndex < 0) return -1\n return this.string.asDynamic().lastIndexOf(string, startIndex)\n }\n\n /\*\*\n \* Inserts the string representation of the specified boolean [value] into this string builder at the specified [index] and returns this instance.\n \*\n \* The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n \* and then that string was inserted into this string builder at the specified [index].\n \*\n \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun insert(index: Int, value: Boolean): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value + string.substring(index)\n return this\n }\n\n /\*\*\n \* Inserts the specified character [value] into this string builder at the specified [index] and returns this instance.\n \*\n \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun insert(index: Int, value: Char): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value + string.substring(index)\n return this\n }\n\n /\*\*\n \* Inserts characters in the specified character array [value] into this string builder at the specified [index] and returns this instance.\n \*\n \* The inserted characters go in same order as in the [value] character array, starting at [index].\n \*\n \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun insert(index: Int, value: CharArray): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value.concatToString() + string.substring(index)\n return this\n }\n\n /\*\*\n \* Inserts characters in the specified character sequence [value] into this string builder at the specified [index] and returns this instance.\n \*\n \* The inserted characters go in the same order as in the [value] character sequence, starting at [index].\n \*\n \* @param index the position in this string builder to insert at.\n \* @param value the character sequence from which characters are inserted. If [value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are inserted.\n \*\n \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n \*^n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun insert(index: Int, value: CharSequence?): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value.toString() + string.substring(index)\n return this\n }\n\n /\*\*\n \* Inserts the string representation of the specified object [value] into this string builder at the specified [index] and returns this instance.\n \*\n \* The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n \* and then that string was inserted into this string builder at the specified [index].\n \*\n \* @throws

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IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n
@SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun insert(index: Int, value: Any?): StringBuilder {\n
 AbstractList.checkPositionIndex(index, length)\n string = string.substring(0, index) + value.toString() +\n string.substring(index)\n return this\n }\n /**\n * Inserts the string [value] into this string builder at the\n * specified [index] and returns this instance.\n * \n * @throws IndexOutOfBoundsException if [index] is less than\n * zero or greater than the length of this string builder.\n * \n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun insert(index: Int, value: String): StringBuilder {\n
 AbstractList.checkPositionIndex(index, length)\n this.string = this.string.substring(0, index) + value +\n this.string.substring(index)\n return this\n }\n /**\n * Sets the length of this string builder to the\n * specified [newLength].\n * \n * If the [newLength] is less than the current length, it is changed to the specified\n * [newLength].\n * \n * Otherwise, null characters '\u0000' are appended to this string builder until its length is less\n * than the [newLength].\n * \n * Note that in Kotlin/JS [set] operator function has non-constant execution time\n * complexity.\n * \n * Therefore, increasing length of this string builder and then updating each character by index may\n * slow down your program.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if\n * [newLength] is less than zero.\n * \n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun\n setLength(newLength: Int) {\n if (newLength < 0) {\n throw IllegalArgumentException("Negative new\n length: $newLength.")\n }\n if (newLength <= length) {\n string = string.substring(0,\n newLength)\n } else {\n for (i in length until newLength) {\n string += "\u0000"\n }\n }\n }\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex]\n * (inclusive) and up to the [length] (exclusive).\n * \n * @throws IndexOutOfBoundsException if [startIndex] is\n * less than zero or greater than the length of this string builder.\n * \n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun substring(startIndex: Int): String {\n
 AbstractList.checkPositionIndex(startIndex, length)\n return string.substring(startIndex)\n }\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the\n * [endIndex] (exclusive).\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when\n * [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * \n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun substring(startIndex: Int, endIndex: Int): String\n {\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n return string.substring(startIndex,\n endIndex)\n }\n /**\n * Attempts to reduce storage used for this string builder.\n * \n * If the backing\n * storage of this string builder is larger than necessary to hold its current contents,\n * \n * then it may be resized to\n * become more space efficient.\n * \n * Calling this method may, but is not required to, affect the value of the [capacity]\n * property.\n * \n * In Kotlin/JS implementation of String Builder the size of the backing storage is always equal\n * to the length of the string builder.\n * \n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n actual fun\n trimToSize() {\n if (this.asDynamic()._capacity !== undefined) {\n this.asDynamic()._capacity =\n length\n }\n }\n override fun toString(): String = string\n /**\n * Clears the content of this string\n * builder making it empty and returns this instance.\n * \n * @sample samples.text.Strings.clearStringBuilder\n * \n */\n @SinceKotlin("1.3")\n public fun clear(): String Builder {\n string = ""\n return this\n }\n /**\n * Sets the character at the specified [index] to the specified [value].\n * \n * @throws\n * IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n * \n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public operator fun set(index: Int, value: Char) {\n
 AbstractList.checkElementIndex(index, length)\n string = string.substring(0, index) + value +\n string.substring(index + 1)\n }\n /**\n * Replaces characters in the specified range of this string builder with\n * characters in the specified string [value] and returns this instance.\n * \n * @param startIndex the beginning\n * (inclusive) of the range to replace.\n * \n * @param endIndex the end (exclusive) of the range to replace.\n * \n * @param value the string to replace with.\n * \n * @throws IndexOutOfBoundsException or\n * [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or\n * `startIndex > endIndex`.\n * \n */\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public fun\n setRange(startIndex: Int, endIndex: Int, value: String): String Builder {\n checkReplaceRange(startIndex,

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endIndex, length)\n\n this.string = this.string.substring(0, startIndex) + value + this.string.substring(endIndex)\n return this\n }\n\n private fun checkReplaceRange(startIndex: Int, endIndex: Int, length: Int) {\n if\n (startIndex < 0 || startIndex > length) {\n throw IndexOutOfBoundsException("startIndex: $startIndex,\n length: $length")\n }\n if (startIndex > endIndex) {\n throw\n IllegalArgumentException("startIndex($startIndex) > endIndex($endIndex)")\n }\n }\n\n /**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n * If the\n * `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire\n * supplementary character.\n * @param index the index of `Char` to remove.\n * @throws\n * IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n * @SinceKotlin("1.3")\n * @ExperimentalStdlibApi\n */\n public fun deleteAt(index: Int): String Builder {\n\n AbstractList.checkElementIndex(index, length)\n\n string = string.substring(0, index) + string.substring(index +\n 1)\n return this\n }\n\n /**\n * Removes characters in the specified range from this string builder and\n * returns this instance.\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end (exclusive) of the range to remove.\n * @throws IndexOutOfBoundsException\n * or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex >\n * endIndex`.\n * @SinceKotlin("1.3")\n * @ExperimentalStdlibApi\n */\n public fun deleteRange(startIndex:\n Int, endIndex: Int): String Builder {\n checkReplaceRange(startIndex, endIndex, length)\n\n string =\n string.substring(0, startIndex) + string.substring(endIndex)\n return this\n }\n\n /**\n * Copies characters\n * from this string builder into the [destination] character array.\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the\n * beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to\n * copy, length of this string builder by default.\n * @throws IndexOutOfBoundsException or\n * [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when\n * `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the\n * [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination]\n * array indices range.\n * @SinceKotlin("1.3")\n * @ExperimentalStdlibApi\n */\n public fun\n toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length) {\n\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n\n AbstractList.checkBoundsIndexes(destinationOffset, destinationOffset + endIndex - startIndex, destination.size)\n\n var dstIndex = destinationOffset\n for (index in startIndex until endIndex) {\n destination[dstIndex++]\n } = string[index]\n }\n\n /**\n * Appends characters in a subarray of the specified character array\n * [value] to this string builder and returns this instance.\n * Characters are appended in order, starting at\n * specified [startIndex].\n * @param value the array from which characters are appended.\n * @param\n * startIndex the beginning (inclusive) of the subarray to append.\n * @param endIndex the end (exclusive) of the\n * subarray to append.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when\n * [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n * @SinceKotlin("1.3")\n * @ExperimentalStdlibApi\n */\n public fun appendRange(value: CharArray, startIndex: Int,\n endIndex: Int): String Builder {\n string += value.concatToString(startIndex, endIndex)\n return this\n }\n\n /**\n * Appends a subsequence of the specified character sequence [value] to this string builder and\n * returns this instance.\n * @param value the character sequence from which a subsequence is appended. If\n * [value] is `null`,\n * then characters are appended as if [value] contained the four characters `\\null`.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n * @param endIndex the end\n * (exclusive) of the subsequence to append.\n * @throws IndexOutOfBoundsException or\n * [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence\n * indices or when `startIndex > endIndex`.\n * @SinceKotlin("1.3")\n * @ExperimentalStdlibApi\n */\n public\n fun appendRange(value: CharSequence?, startIndex: Int, endIndex: Int): String Builder {\n val stringCsq =\n value.toString()\n AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)\n\n string +=\n stringCsq.substring(startIndex, endIndex)\n return this\n }\n\n /**\n * Inserts characters in a subarray of

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the specified character array [value] into this string builder at the specified [index] and returns this instance.

- \* The inserted characters go in same order as in the [value] array, starting at [index].
- \* @param index the position in this string builder to insert at.
- \* @param value the array from which characters are inserted.
- \* @param startIndex the beginning (inclusive) of the subarray to insert.
- \* @param endIndex the end (exclusive) of the subarray to insert.
- \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.
- \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.

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*^
@SinceKotlin("1.3")
@ExperimentalStdlibApi
public fun insertRange(index: Int, value: CharArray,
startIndex: Int, endIndex: Int): StringBuilder {
 AbstractList.checkPositionIndex(index, this.length)
 string = string.substring(0, index) + value.concatToString(startIndex, endIndex) + string.substring(index)
 return this
}
/**
 * Inserts characters in a subsequence of the specified character sequence [value] into
this string builder at the specified [index] and returns this instance.
 * The inserted characters go in the
same order as in the [value] character sequence, starting at [index].
 * @param index the position in this
string builder to insert at.
 * @param value the character sequence from which a subsequence is inserted. If
[value] is `null`,
 * then characters will be inserted as if [value] contained the four characters `"\null"`.
 * @param startIndex the beginning (inclusive) of the subsequence to insert.
 * @param endIndex the end
(exclusive) of the subsequence to insert.
 * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence
indices or when `startIndex > endIndex`.
 * @throws IndexOutOfBoundsException if [index] is less than zero or
greater than the length of this string builder.
*/
@SinceKotlin("1.3")
@ExperimentalStdlibApi
public fun insertRange(index: Int, value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder {
 AbstractList.checkPositionIndex(index, length)
 val stringCsq = value.toString()
 AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)
 string = string.substring(0, index)
+ stringCsq.substring(startIndex, endIndex) + string.substring(index)
 return this
}
}
/**
 * Clears
the content of this string builder making it empty and returns this instance.
 * @sample
samples.text.Strings.clearStringBuilder
*/
@SinceKotlin("1.3")
@Suppress("EXTENSION_SHADOWED_BY_MEMBER",
"NOTHING_TO_INLINE")
public actual inline fun StringBuilder.clear(): StringBuilder = this.clear()
/**
 * Sets the character at the specified [index] to the specified [value].
 * @throws IndexOutOfBoundsException if
[index] is out of bounds of this string builder.
*/
@SinceKotlin("1.3")
@ExperimentalStdlibApi
@Suppress("EXTENSION_SHADOWED_BY_MEMBER",
"NOTHING_TO_INLINE")
public actual inline operator fun StringBuilder.set(index: Int, value: Char) =
this.set(index, value)
/**
 * Replaces characters in the specified range of this string builder with characters in
the specified string [value] and returns this instance.
 * @param startIndex the beginning (inclusive) of the
range to replace.
 * @param endIndex the end (exclusive) of the range to replace.
 * @param value the string to
replace with.
 * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less
than zero, greater than the length of this string builder, or `startIndex > endIndex`.
*/
@SinceKotlin("1.3")
@ExperimentalStdlibApi
@Suppress("EXTENSION_SHADOWED_BY_MEMBER",
"NOTHING_TO_INLINE")
public actual inline fun StringBuilder.setRange(startIndex: Int, endIndex: Int,
value: String): StringBuilder =
this.setRange(startIndex, endIndex, value)
/**
 * Removes the character at
the specified [index] from this string builder and returns this instance.
 * If the `Char` at the specified [index] is
part of a supplementary code point, this method does not remove the entire supplementary character.
 * @param index the index of `Char` to remove.
 * @throws IndexOutOfBoundsException if [index] is out of
bounds of this string builder.
*/
@SinceKotlin("1.3")
@ExperimentalStdlibApi
@Suppress("EXTENSION_SHADOWED_BY_MEMBER",
"NOTHING_TO_INLINE")
public actual inline fun StringBuilder.deleteAt(index: Int): StringBuilder =
this.deleteAt(index)
/**
 * Removes characters in the specified range from this string builder and returns this
instance.
 * @param startIndex the beginning (inclusive) of the range to remove.
 * @param endIndex the end

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(exclusive) of the range to remove.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.deleteRange(startIndex: Int, endIndex: Int):
StringBuilder = this.deleteRange(startIndex, endIndex)\n\n/**\n * Copies characters from this string builder into the
[destination] character array.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the
position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0
by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out
of range of this string builder indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException
when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when
that index is out of the [destination] array indices range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE", "ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual
inline fun StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0,
endIndex: Int = this.length) =\n this.toCharArray(destination, destinationOffset, startIndex, endIndex)\n\n/**\n *
Appends characters in a subarray of the specified character array [value] to this string builder and returns this
instance.\n * \n * Characters are appended in order, starting at specified [startIndex].\n * \n * @param value the array
from which characters are appended.\n * @param startIndex the beginning (inclusive) of the subarray to append.\n *
@param endIndex the end (exclusive) of the subarray to append.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when
`startIndex > endIndex`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.appendRange(value: CharArray, startIndex:
Int, endIndex: Int): StringBuilder =\n this.appendRange(value, startIndex, endIndex)\n\n/**\n * Appends a
subsequence of the specified character sequence [value] to this string builder and returns this instance.\n * \n *
@param value the character sequence from which a subsequence is appended. If [value] is `null`,\n * then
characters are appended as if [value] contained the four characters `null`.\n * @param startIndex the beginning
(inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out
of range of the [value] character sequence indices or when `startIndex > endIndex`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.appendRange(value: CharSequence?,
startIndex: Int, endIndex: Int): StringBuilder =\n this.appendRange(value, startIndex, endIndex)\n\n/**\n * Inserts
characters in a subarray of the specified character array [value] into this string builder at the specified [index] and
returns this instance.\n * \n * The inserted characters go in same order as in the [value] array, starting at [index].\n
*\n * @param index the position in this string builder to insert at.\n * @param value the array from which characters
are inserted.\n * @param startIndex the beginning (inclusive) of the subarray to insert.\n * @param endIndex the
end (exclusive) of the subarray to insert.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when
`startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the
length of this string builder.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.insertRange(index: Int, value: CharArray,
startIndex: Int, endIndex: Int): StringBuilder =\n this.insertRange(index, value, startIndex, endIndex)\n\n/**\n *
Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified
[index] and returns this instance.\n * \n * The inserted characters go in the same order as in the [value] character
sequence, starting at [index].\n * \n * @param index the position in this string builder to insert at.\n * @param value

```

the character sequence from which a subsequence is inserted. If [value] is `null`, \n \* then characters will be inserted as if [value] contained the four characters `"\null"`. \n \* @param startIndex the beginning (inclusive) of the subsequence to insert. \n \* @param endIndex the end (exclusive) of the subsequence to insert. \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`. \n \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder. \n

```
\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.insertRange(index: Int, value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder =\n this.insertRange(index, value, startIndex, endIndex)\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
```

```
\n\npackage kotlin.text\n\n// actually \s is enough to match all whitespace, but \xA0 added because of different regex behavior of Rhino used in Selenium tests\npublic actual fun Char.isWhitespace(): Boolean =\n toString().matches("[\\s\\xA0]")\n\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.toLowerCase(): Char =
```

```
js("String.fromCharCode")(toInt()).toLowerCase().charCodeAt(0).unsafeCast<Int>().toChar()\n\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.toUpperCase(): Char =
```

```
js("String.fromCharCode")(toInt()).toUpperCase().charCodeAt(0).unsafeCast<Int>().toChar()\n\n/**\n * Returns `true` if this character is a Unicode high-surrogate code unit (also known as leading-surrogate code unit).\n
```

```
*/\npublic actual fun Char.isHighSurrogate(): Boolean = this in
```

```
Char.MIN_HIGH_SURROGATE..Char.MAX_HIGH_SURROGATE\n\n/**\n * Returns `true` if this character is a Unicode low-surrogate code unit (also known as trailing-surrogate code unit).\n */\npublic actual fun
```

```
Char.isLowSurrogate(): Boolean = this in
```

```
Char.MIN_LOW_SURROGATE..Char.MAX_LOW_SURROGATE\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
```

```
license that can be found in the license/LICENSE.txt file.\n\npackage kotlin.text\n\n/**\n * Returns `true` if the contents of this string is equal to the word `true`, ignoring case, and `false` otherwise.\n */\npublic actual fun String.toBoolean(): Boolean = toLowerCase() == "true"\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n
```

```
*/\npublic actual fun String.toByte(): Byte = toByteOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun String.toByte(radix: Int): Byte = toByteOrNull(radix) ?:
```

```
numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun
```

```
String.toShort(): Short = toShortOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
```

```
*/\npublic actual fun String.toShort(radix: Int): Short = toShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun String.toInt(): Int = toIntOrNull() ?:
```

```
numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws
```

```
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun String.toInt(radix: Int): Int = toIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun String.toLong(): Long = toLongOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not
```

a valid representation of a number.

```

 * @throws IllegalArgumentException when [radix] is not a valid radix for
string to number conversion.
 * public actual fun String.toLong(radix: Int): Long = toLongOrNull(radix) ?:
numberFormatError(this)
 * Parses the string as a [Double] number and returns the result.
 * @throws
NumberFormatException if the string is not a valid representation of a number.
 * public actual fun
String.toDouble(): Double = (+this.asDynamic()).unsafeCast<Double>().also {
 if (it.isNaN() && !this.isNaN()
 || it == 0.0 && this.isBlank())
 numberFormatError(this)
}
 * Parses the string as a [Float] number
and returns the result.
 * @throws NumberFormatException if the string is not a valid representation of a
number.
 * @kotlin.internal.InlineOnly
 * public actual inline fun String.toFloat(): Float =
toDouble().unsafeCast<Float>()
 * Parses the string as a [Double] number and returns the result
 * or `null`
if the string is not a valid representation of a number.
 * public actual fun String.toDoubleOrNull(): Double? =
(+this.asDynamic()).unsafeCast<Double>().takeIf {
 !(it.isNaN() && !this.isNaN() || it == 0.0 &&
 this.isBlank())
}
 * Parses the string as a [Float] number and returns the result
 * or `null` if the string is
not a valid representation of a number.
 * @kotlin.internal.InlineOnly
 * public actual inline fun
String.toFloatOrNull(): Float? = toDoubleOrNull().unsafeCast<Float?>()
 * Returns a string representation
of this [Byte] value in the specified [radix].
 * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.
 * @SinceKotlin("1.2")
 * @kotlin.internal.InlineOnly
 * public actual
inline fun Byte.toString(radix: Int): String = this.toInt().toString(radix)
 * Returns a string representation of
this [Short] value in the specified [radix].
 * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.
 * @SinceKotlin("1.2")
 * @kotlin.internal.InlineOnly
 * public actual
inline fun Short.toString(radix: Int): String = this.toInt().toString(radix)
 * Returns a string representation of
this [Int] value in the specified [radix].
 * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.
 * @SinceKotlin("1.2")
 * public actual fun Int.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))
 * private fun String.isNaN(): Boolean = when (this.toLowerCase()) {
 "nan", "+nan", "-nan" -> true
 else -> false
}
 * Checks whether the given [radix] is valid radix for
string to number and number to string conversion.
 * @PublishedApi
 * internal actual fun checkRadix(radix: Int):
Int {
 if (radix !in 2..36) {
 throw IllegalArgumentException("radix $radix was not in valid range 2..36")
 }
 return radix
}
 * internal actual fun digitOf(char: Char, radix: Int): Int = when {
 char >= '0' && char <=
'9' -> char - '0'
 char >= 'A' && char <= 'Z' -> char - 'A' + 10
 char >= 'a' && char <= 'z' -> char - 'a' + 10
 else -> -1
}.let { if (it >= radix) -1 else it }
 * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.
 * package kotlin.text
 * nimport kotlin.js.RegExp
 * Provides
enumeration values to use to set regular expression options.
 * public actual enum class RegexOptions(val value:
String) {
 /** Enables case-insensitive matching. */
 IGNORE_CASE("i"),
 /** Enables multiline
mode.
 * In multiline mode the expressions `^` and `$` match just after or just before,
 * respectively, a
line terminator or the end of the input sequence. */
 MULTILINE("m")
}
 * Represents the results
from a single capturing group within a [MatchResult] of [Regex].
 * @param value The value of captured
group.
 * public actual data class MatchGroup(actual val value: String)
 * Represents a compiled
regular expression.
 * Provides functions to match strings in text with a pattern, replace the found occurrences and
split text around matches.
 * For pattern syntax reference see [MDN RegExp](https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/RegExp#Special_characters_meaning_in_regular_expressions)
 * and
[http://www.w3schools.com/jsref/jsref_obj_regexp.asp](https://www.w3schools.com/jsref/jsref_obj_regexp.asp).
 * @constructor Creates a regular expression from the specified [pattern] string and the specified set of
[options].
 * public actual class Regex actual constructor(pattern: String, options: Set<RegexOption>) {
 /**
Creates a regular expression from the specified [pattern] string and the specified single [option].
 * public actual
constructor(pattern: String, option: RegexOptions) : this(pattern, setOf(option))
 /** Creates a regular expression
from the specified [pattern] string and the default options.
 * public actual constructor(pattern: String) :
this(pattern, emptySet())
 /** The pattern string of this regular expression.
 * public actual val pattern:

```

```

String = pattern\n /** The set of options that were used to create this regular expression. *\n public actual val
options: Set<RegexOption> = options.toSet()\n private val nativePattern: RegExp = RegExp(pattern, options.map
{ it.value }.joinToString(separator = "\\") + "g")\n\n /** Indicates whether the regular expression matches the
entire [input]. *\n public actual infix fun matches(input: CharSequence): Boolean {\n nativePattern.reset()\n val match = nativePattern.exec(input.toString())\n return match != null && match.index == 0 &&
nativePattern.lastIndex == input.length\n }\n\n /** Indicates whether the regular expression can find at least one
match in the specified [input]. *\n public actual fun containsMatchIn(input: CharSequence): Boolean {\n
nativePattern.reset()\n return nativePattern.test(input.toString())\n }\n\n /** Returns the first match of a
regular expression in the [input], beginning at the specified [startIndex].\n *\n * @param startIndex An index to
start search with, by default 0. Must be not less than zero and not greater than `input.length()`\n * @return An
instance of [MatchResult] if match was found or `null` otherwise.\n *\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun find(input:
CharSequence, startIndex: Int = 0): MatchResult? = nativePattern.findNext(input.toString(), startIndex)\n\n /**\n * Returns a sequence of all occurrences of a regular expression within the [input] string, beginning at the specified
[startIndex].\n *\n * @sample samples.text.Regexps.findAll\n *\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun findAll(input:
CharSequence, startIndex: Int = 0): Sequence<MatchResult> =\n generateSequence({ find(input, startIndex) },
{ match -> match.next() })\n\n /**\n * Attempts to match the entire [input] CharSequence against the pattern.\n
*\n * @return An instance of [MatchResult] if the entire input matches or `null` otherwise.\n *\n public
actual fun matchEntire(input: CharSequence): MatchResult? {\n if (pattern.startsWith('^') &&
pattern.endsWith('$'))\n return find(input)\n else\n return
Regex("^${pattern.trimStart('^').trimEnd('$')}\$", options).find(input)\n }\n\n /**\n * Replaces all
occurrences of this regular expression in the specified [input] string with specified [replacement] expression.\n *\n
 * @param replacement A replacement expression that can include substitutions. See
[String.prototype.replace](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/replace) function docs for details.\n *\n public
actual fun replace(input: CharSequence, replacement: String): String = input.toString().nativeReplace(nativePattern,
replacement)\n\n /**\n * Replaces all occurrences of this regular expression in the specified [input] string with
the result of\n * the given function [transform] that takes [MatchResult] and returns a string to be used as a\n *
replacement for that match.\n *\n public actual inline fun replace(input: CharSequence, transform:
(MatchResult) -> CharSequence): String {\n var match = find(input)\n if (match == null) return
input.toString()\n var lastStart = 0\n val length = input.length\n val sb = StringBuilder(length)\n
do {\n val foundMatch = match!!\n sb.append(input, lastStart, foundMatch.range.start)\n
sb.append(transform(foundMatch))\n lastStart = foundMatch.range.endInclusive + 1\n match =
foundMatch.next()\n } while (lastStart < length && match != null)\n if (lastStart < length) {\n
sb.append(input, lastStart, length)\n }\n return sb.toString()\n }\n\n /**\n * Replaces the first
occurrence of this regular expression in the specified [input] string with specified [replacement] expression.\n *\n
 * @param replacement A replacement expression that can include substitutions. See
[String.prototype.replace](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/replace) function docs for details.\n *\n public
actual fun replaceFirst(input: CharSequence, replacement: String): String {\n val nonGlobalOptions =
options.map { it.value }.joinToString(separator = "\\")\n return input.toString().nativeReplace(RegExp(pattern,
nonGlobalOptions), replacement)\n }\n\n /**\n * Splits the [input] CharSequence around matches of this
regular expression.\n *\n * @param limit Non-negative value specifying the maximum number of substrings
the string can be split to.\n * Zero by default means no limit is set.\n *\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun split(input:
CharSequence, limit: Int = 0): List<String> {\n require(limit >= 0) { "Limit must be non-negative, but was
$limit" }\n val matches = findAll(input).let { if (limit == 0) it else it.take(limit - 1) }\n val result =

```

```

mutableListOf<String>()\n var lastStart = 0\n for (match in matches) {\n
result.add(input.subSequence(lastStart, match.range.start).toString())\n lastStart = match.range.endInclusive +
1\n }\n result.add(input.subSequence(lastStart, input.length).toString())\n return result\n }\n\n
/**\n * Returns the string representation of this regular expression, namely the [pattern] of this regular
expression.\n *\n * Note that another regular expression constructed from the same pattern string may have
different [options]\n * and may match strings differently.\n */\n public override fun toString(): String =
nativePattern.toString()\n\n actual companion object {\n /**\n * Returns a regular expression that
matches the specified [literal] string literally.\n * No characters of that string will have special meaning when
searching for an occurrence of the regular expression.\n */\n public actual fun fromLiteral(literal: String):
Regex = Regex(escape(literal))\n\n /**\n * Returns a regular expression pattern string that matches the
specified [literal] string literally.\n * No characters of that string will have special meaning when searching for
an occurrence of the regular expression.\n */\n public actual fun escape(literal: String): String =
literal.nativeReplace(patternEscape, "\\|\\$&\\")\n\n /**\n * Returns a literal replacement expression for the
specified [literal] string.\n * No characters of that string will have special meaning when it is used as a
replacement string in [Regex.replace] function.\n */\n public actual fun escapeReplacement(literal: String):
String = literal.nativeReplace(replacementEscape, "\\$\\$\\$\\$")\n\n private val patternEscape = RegExp("\\|\\$\\$\\$\\$|
\\\\\\^\\$*+?.()|\\[\\]{}|\\\"\\\"|\\'\\'|\\\\g\\")\n private val replacementEscape = RegExp("\\|\\$\\$\\$\\$|\\'\\'|\\\\g\\")
}\n\n}\n\n/**
Creates a regular expression from the specified [pattern] string and the specified single [option].
*/\n@Deprecated("Provided for binary compatibility", level =
DeprecationLevel.HIDDEN)\n@JsName("Regex_sb3q2\\$\\$")\npublic fun Regex_0(pattern: String, option:
RegexOption): Regex = Regex(pattern, setOf(option))\n\n/** Creates a regular expression from the specified
[pattern] string and the default options. */\n@Deprecated("Provided for binary compatibility", level =
DeprecationLevel.HIDDEN)\n@JsName("Regex_6l3poe\\$\\$")\npublic fun Regex_1(pattern: String): Regex =
Regex(pattern, emptySet())\n\n\n\nprivate fun RegExp.findNext(input: String, from: Int): MatchResult? {\n
this.lastIndex = from\n val match = exec(input)\n if (match == null) return null\n val range =
match.index..lastIndex - 1\n return object : MatchResult {\n override val range: IntRange = range\n
override val value: String\n get() = match[0]!!\n override val groups: MatchGroupCollection = object :
MatchGroupCollection, AbstractCollection<MatchGroup?>() {\n override val size: Int get() = match.length\n
 override fun iterator(): Iterator<MatchGroup?> = indices.asSequence().map { this[it] }.iterator()\n
 override fun get(index: Int): MatchGroup? = match[index]?.let { MatchGroup(it) }\n }\n\n
 private var
groupValues_: List<String>? = null\n override val groupValues: List<String>\n get() {\n
 if
(groupValues_ == null) {\n groupValues_ = object : AbstractList<String>() {\n override
val size: Int get() = match.length\n override fun get(index: Int): String = match[index] ?: \\\"\\\"
 }\n }\n return groupValues_!!\n }\n }
 override fun next(): MatchResult? =
this@findNext.findNext(input, if (range.isEmpty()) range.start + 1 else range.endInclusive + 1)\n }\n\n}\n\n}\n\n
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.text\nimport kotlin.js.RegExp\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun
String.nativeIndexOf(ch: Char, fromIndex: Int): Int = nativeIndexOf(ch.toString(),
fromIndex)\n\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(ch: Char,
fromIndex: Int): Int = nativeLastIndexOf(ch.toString(), fromIndex)\n\n\n/** Returns `true` if this string starts with
the specified prefix.\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun String.startsWith(prefix: String, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return
nativeStartsWith(prefix, 0)\n else\n return regionMatches(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n}\n\n/**
Returns `true` if a substring of this string starting at the specified offset [startIndex] starts with the specified prefix.\n
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String.startsWith(prefix: String, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return
nativeStartsWith(prefix, startIndex)\n else\n return regionMatches(startIndex, prefix, 0, prefix.length,

```



```

pair is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFromSurrogate(string: String, high:
Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (high !in 0xD800..0xDBFF || index >=
endIndex) {\n return malformed(0, index, throwOnMalformed)\n }\n val low = string[index].toInt()\n if
(low !in 0xDC00..0xDFFF) {\n return malformed(0, index, throwOnMalformed)\n }\n return 0x10000 +
((high and 0x3FF) shl 10) or (low and 0x3FF)\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of
two bytes,\n * where the first byte of the sequence is the [byte1] and the second byte is in the [bytes] array at the
[index].\n * Returns zero if the sequence is malformed and [throwOnMalformed] is false.\n * @throws
CharacterCodingException if the sequence of two bytes is malformed and [throwOnMalformed] is true.\n
*/\nprivate fun codePointFrom2(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed:
Boolean): Int {\n if (byte1 and 0x1E == 0 || index >= endIndex) {\n return malformed(0, index,
throwOnMalformed)\n }\n val byte2 = bytes[index].toInt()\n if (byte2 and 0xC0 != 0x80) {\n return
malformed(0, index, throwOnMalformed)\n }\n return (byte1 shl 6) xor byte2 xor 0xF80\n}\n\n/**\n * Returns
code point corresponding to UTF-8 sequence of three bytes,\n * where the first byte of the sequence is the [byte1]
and the others are in the [bytes] array starting from the [index].\n * Returns a non-positive value indicating number
of bytes from [bytes] included in malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is
false.\n * @throws CharacterCodingException if the sequence of three bytes is malformed and
[throwOnMalformed] is true.\n */\nprivate fun codePointFrom3(bytes: ByteArray, byte1: Int, index: Int, endIndex:
Int, throwOnMalformed: Boolean): Int {\n if (index >= endIndex) {\n return malformed(0, index,
throwOnMalformed)\n }\n val byte2 = bytes[index].toInt()\n if (byte1 and 0xF == 0) {\n if (byte2 and
0xE0 != 0xA0) {\n // Non-shortest form\n return malformed(0, index, throwOnMalformed)\n }\n
 } else if (byte1 and 0xF == 0xD) {\n if (byte2 and 0xE0 != 0x80) {\n // Surrogate code point\n
return malformed(0, index, throwOnMalformed)\n }\n } else if (byte2 and 0xC0 != 0x80) {\n return
malformed(0, index, throwOnMalformed)\n }\n if (index + 1 == endIndex) {\n return malformed(1, index,
throwOnMalformed)\n }\n val byte3 = bytes[index + 1].toInt()\n if (byte3 and 0xC0 != 0x80) {\n return
malformed(1, index, throwOnMalformed)\n }\n return (byte1 shl 12) xor (byte2 shl 6) xor byte3 xor -
0x1E080\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of four bytes,\n * where the first byte
of the sequence is the [byte1] and the others are in the [bytes] array starting from the [index].\n * Returns a non-
positive value indicating number of bytes from [bytes] included in malformed sequence\n * if the sequence is
malformed and [throwOnMalformed] is false.\n * @throws CharacterCodingException if the sequence of four
bytes is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFrom4(bytes: ByteArray, byte1:
Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (index >= endIndex) {\n malformed(0,
index, throwOnMalformed)\n }\n val byte2 = bytes[index].toInt()\n if (byte1 and 0xF == 0x0) {\n if
(byte2 and 0xF0 <= 0x80) {\n // Non-shortest form\n return malformed(0, index,
throwOnMalformed)\n }\n } else if (byte1 and 0xF == 0x4) {\n if (byte2 and 0xF0 != 0x80) {\n //
Out of Unicode code points domain (larger than U+10FFFF)\n return malformed(0, index,
throwOnMalformed)\n }\n } else if (byte1 and 0xF > 0x4) {\n return malformed(0, index,
throwOnMalformed)\n } else if (byte2 and 0xC0 != 0x80) {\n return malformed(0, index,
throwOnMalformed)\n }\n if (index + 1 == endIndex) {\n return malformed(1, index,
throwOnMalformed)\n }\n val byte3 = bytes[index + 1].toInt()\n if (byte3 and 0xC0 != 0x80) {\n return
malformed(1, index, throwOnMalformed)\n }\n if (index + 2 == endIndex) {\n return malformed(2, index,
throwOnMalformed)\n }\n val byte4 = bytes[index + 2].toInt()\n if (byte4 and 0xC0 != 0x80) {\n return
malformed(2, index, throwOnMalformed)\n }\n return (byte1 shl 18) xor (byte2 shl 12) xor (byte3 shl 6) xor
byte4 xor 0x381F80\n}\n\n/**\n * Maximum number of bytes needed to encode a single char.\n * Code points in
`0..0x7F` are encoded in a single byte.\n * Code points in `0x80..0x7FF` are encoded in two bytes.\n * Code points
in `0x800..0xD7FF` or in `0xE000..0xFFFF` are encoded in three bytes.\n * Surrogate code points in
`0xD800..0xDFFF` are not Unicode scalar values, therefore aren't encoded.\n * Code points in
`0x10000..0x10FFFF` are represented by a pair of surrogate `Char`s and are encoded in four bytes.\n */\nprivate
const val MAX_BYTES_PER_CHAR = 3\n\n/**\n * The byte sequence a malformed UTF-16 char sequence is

```



```

replaced by.\n *\nprivate val REPLACEMENT_BYTE_SEQUENCE: ByteArray = byteArrayOf(0xEF.toByte(),
0xBF.toByte(), 0xBD.toByte())\n\n/**\n * Encodes the [string] using UTF-8 and returns the resulting [ByteArray].\n
*\n * @param string the string to encode.\n * @param startIndex the start offset (inclusive) of the substring to
encode.\n * @param endIndex the end offset (exclusive) of the substring to encode.\n * @param
throwOnMalformed whether to throw on malformed char sequence or replace by the
[REPLACEMENT_BYTE_SEQUENCE].\n *\n * @throws CharacterCodingException if the char sequence is
malformed and [throwOnMalformed] is true.\n *\ninternal fun encodeUtf8(string: String, startIndex: Int, endIndex:
Int, throwOnMalformed: Boolean): ByteArray {\n require(startIndex >= 0 && endIndex <= string.length &&
startIndex <= endIndex)\n val bytes = ByteArray((endIndex - startIndex) * MAX_BYTES_PER_CHAR)\n var
byteIndex = 0\n var charIndex = startIndex\n while (charIndex < endIndex) {\n val code =
string[charIndex++].toInt()\n when {\n code < 0x80 ->\n bytes[byteIndex++] = code.toByte()\n
 code < 0x800 -> {\n bytes[byteIndex++] = ((code shr 6) or 0xC0).toByte()\n
 bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n }\n code < 0xD800 || code >= 0xE000 ->
{\n bytes[byteIndex++] = ((code shr 12) or 0xE0).toByte()\n bytes[byteIndex++] = (((code shr 6)
and 0x3F) or 0x80).toByte()\n bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n }\n
 else -> { // Surrogate char value\n val codePoint = codePointFromSurrogate(string, code, charIndex,
endIndex, throwOnMalformed)\n if (codePoint <= 0) {\n bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[0]\n bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[1]\n bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[2]\n } else {\n bytes[byteIndex++] = ((codePoint shr
18) or 0xF0).toByte()\n bytes[byteIndex++] = (((codePoint shr 12) and 0x3F) or 0x80).toByte()\n
 bytes[byteIndex++] = (((codePoint shr 6) and 0x3F) or 0x80).toByte()\n bytes[byteIndex++] =
((codePoint and 0x3F) or 0x80).toByte()\n charIndex++\n }\n }\n }\n }\n return if (bytes.size == byteIndex) bytes else bytes.copyOf(byteIndex)\n}\n\n/**\n * The character a malformed
UTF-8 byte sequence is replaced by.\n *\nprivate const val REPLACEMENT_CHAR = "\uFFFF"\n\n/**\n *
Decodes the UTF-8 [bytes] array and returns the resulting [String].\n *\n * @param bytes the byte array to decode.\n
* @param startIndex the start offset (inclusive) of the array to be decoded.\n * @param endIndex the end offset
(exclusive) of the array to be encoded.\n * @param throwOnMalformed whether to throw on malformed byte
sequence or replace by the [REPLACEMENT_CHAR].\n *\n * @throws CharacterCodingException if the array is
malformed UTF-8 byte sequence and [throwOnMalformed] is true.\n *\ninternal fun decodeUtf8(bytes: ByteArray,
startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): String {\n require(startIndex >= 0 && endIndex <=
bytes.size && startIndex <= endIndex)\n var byteIndex = startIndex\n val stringBuilder = StringBuilder()\n while (byteIndex < endIndex) {\n val byte = bytes[byteIndex++].toInt()\n when {\n byte >= 0 ->\n stringBuilder.append(byte.toChar())\n byte shr 5 == -2 -> {\n val code =
codePointFrom2(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n if (code <= 0) {\n
 stringBuilder.append(REPLACEMENT_CHAR)\n byteIndex += -code\n } else {\n
 stringBuilder.append(code.toChar())\n byteIndex += 1\n }\n }\n byte shr 4 == -2 -
> {\n val code = codePointFrom3(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n if
(code <= 0) {\n stringBuilder.append(REPLACEMENT_CHAR)\n byteIndex += -code\n
 } else {\n stringBuilder.append(code.toChar())\n byteIndex += 2\n }\n
 }\n byte shr 3 == -2 -> {\n val code = codePointFrom4(bytes, byte, byteIndex, endIndex,
throwOnMalformed)\n if (code <= 0) {\n stringBuilder.append(REPLACEMENT_CHAR)\n
 byteIndex += -code\n } else {\n val high = (code - 0x10000) shr 10 or 0xD800\n
 val low = (code and 0x3FF) or 0xDC00\n stringBuilder.append(high.toChar())\n
 stringBuilder.append(low.toChar())\n byteIndex += 3\n }\n }\n else -> {\n
 malformed(0, byteIndex, throwOnMalformed)\n stringBuilder.append(REPLACEMENT_CHAR)\n
 }\n }\n }\n return stringBuilder.toString()\n}\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be

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found in the license/LICENSE.txt file.\n *\n\npackage
kotlin.time\n\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic actual enum class DurationUnit(internal val
scale: Double) {\n /**\n * Time unit representing one nanosecond, which is 1/1000 of a microsecond.\n *\n
NANOSECONDS(1e0),\n /**\n * Time unit representing one microsecond, which is 1/1000 of a millisecond.\n
*\n
MICROSECONDS(1e3),\n /**\n * Time unit representing one millisecond, which is 1/1000 of a
second.\n *\n
MILLISECONDS(1e6),\n /**\n * Time unit representing one second.\n *\n
SECONDS(1e9),\n /**\n * Time unit representing one minute.\n *\n
MINUTES(60e9),\n /**\n * Time
unit representing one hour.\n *\n
HOURS(3600e9),\n /**\n * Time unit representing one day, which is
always equal to 24 hours.\n *\n
DAYS(86400e9);\n}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal
actual fun convertDurationUnit(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double {\n
val sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n return when {\n
sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale)\n sourceCompareTarget < 0 -> value /
(targetUnit.scale / sourceUnit.scale)\n else -> value\n }\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.time\n\nimport
org.w3c.performance.GlobalPerformance\n\nimport
org.w3c.performance.Performance\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal actual object
MonotonicTimeSource : TimeSource {\n\n private val actualSource: TimeSource = run {\n val isNode:
Boolean = js("typeof process !== 'undefined' && process.versions && !process.versions.node")\n if
(isNode)\n HrTimeSource(js("process").unsafeCast<Process>())\n else\n
js("self").unsafeCast<GlobalPerformance?>()?.performance?.let(::PerformanceTimeSource)\n }:\n
DateNowTimeSource\n}\n\n override fun markNow(): TimeMark = actualSource.markNow()\n}\n\ninternal
external interface Process {\n fun hrtime(time: Array<Double> = definedExternally):
Array<Double>\n}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal class HrTimeSource(val process:
Process) : TimeSource {\n\n override fun markNow(): TimeMark = object : TimeMark() {\n val startedAt =
process.hrtime()\n override fun elapsedNow(): Duration =\n process.hrtime(startedAt).let { (seconds,
nanos) -> seconds.seconds + nanos.nanoseconds }\n }\n\n override fun toString(): String =
"TimeSource(process.hrtime())"\n}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal class
PerformanceTimeSource(val performance: Performance) : AbstractDoubleTimeSource(unit =
DurationUnit.MILLISECONDS) {\n override fun read(): Double = performance.now()\n override fun toString():
String = "TimeSource(self.performance.now())"\n}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal
object DateNowTimeSource : AbstractDoubleTimeSource(unit = DurationUnit.MILLISECONDS) {\n override
fun read(): Double = kotlin.js.Date.now()\n override fun toString(): String = "TimeSource(Date.now())"\n}"/*\n
* Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage
kotlin.time\n\nimport kotlin.js.json\nimport kotlin.math.*\n\ninternal actual fun formatToExactDecimals(value:
Double, decimals: Int): String {\n val rounded = if (decimals == 0) {\n value\n } else {\n val pow =
10.0.pow(decimals)\n @Suppress("DEPRECATION", "DEPRECATION_ERROR")\n
kotlin.js.Math.round(abs(value) * pow) / pow * sign(value)\n }\n return
rounded.asDynamic().toFixed(decimals).unsafeCast<String>()\n}\n\ninternal actual fun
formatUpToDecimals(value: Double, decimals: Int): String {\n return value.asDynamic().toLocaleString("en-us",
json("maximumFractionDigits" to decimals)).unsafeCast<String>()\n}\n\ninternal actual fun
formatScientific(value: Double): String {\n return
value.asDynamic().toExponential(2).unsafeCast<String>()\n}"/*\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n\npackage org.w3c.dom\n\n@Deprecated("Use
UnionMessagePortOrWindowProxy instead.", ReplaceWith("UnionMessagePortOrWindowProxy"))\ntypealias
UnionMessagePortOrWindow = UnionMessagePortOrWindowProxy\n\n@Deprecated("Use `as` instead.",

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ReplaceWith("`as`"))\nvar HTMLLinkElement.as_ get() = `as`\n set(value) {\n `as` = value\n
}\n\n@Deprecated("Use `is` instead.", ReplaceWith("`is`"))\nvar ElementCreationOptions.is_ get() = `is`\n
set(value) {\n `is` = value\n }"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n See
github.com/kotlin/dukat for details\n\npackage org.khronos.webgl\n\nimport kotlin.js.*\nimport
org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport
org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport
org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport
org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external interface
WebGLContextAttributes {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n set(value) =
definedExternally\n var depth: Boolean? /* = true */\n get() = definedExternally\n set(value) =
definedExternally\n var stencil: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var antialias: Boolean? /* = true */\n get() = definedExternally\n set(value) =
definedExternally\n var premultipliedAlpha: Boolean? /* = true */\n get() = definedExternally\n
set(value) = definedExternally\n var preserveDrawingBuffer: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var preferLowPowerToHighPerformance: Boolean? /* =
false */\n get() = definedExternally\n set(value) = definedExternally\n var failIfMajorPerformanceCaveat:
Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun WebGLContextAttributes(alpha: Boolean? =
true, depth: Boolean? = true, stencil: Boolean? = false, antialias: Boolean? = true, premultipliedAlpha: Boolean? =
true, preserveDrawingBuffer: Boolean? = false, preferLowPowerToHighPerformance: Boolean? = false,
failIfMajorPerformanceCaveat: Boolean? = false): WebGLContextAttributes {\n val o = js("{}")\n
o["alpha"] = alpha\n o["depth"] = depth\n o["stencil"] = stencil\n o["antialias"] = antialias\n
o["premultipliedAlpha"] = premultipliedAlpha\n o["preserveDrawingBuffer"] = preserveDrawingBuffer\n
o["preferLowPowerToHighPerformance"] = preferLowPowerToHighPerformance\n
o["failIfMajorPerformanceCaveat"] = failIfMajorPerformanceCaveat\n return o}\n\npublic external abstract
class WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLBuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLBuffer) to Kotlin\n */\n\npublic external
abstract class WebGLBuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLFramebuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLFramebuffer) to Kotlin\n */\n\npublic
external abstract class WebGLFramebuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLProgram](https://developer.mozilla.org/en/docs/Web/API/WebGLProgram) to Kotlin\n */\n\npublic external
abstract class WebGLProgram : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLRenderbuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderbuffer) to Kotlin\n */\n\npublic
external abstract class WebGLRenderbuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLShader](https://developer.mozilla.org/en/docs/Web/API/WebGLShader) to Kotlin\n */\n\npublic external
abstract class WebGLShader : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLTexture](https://developer.mozilla.org/en/docs/Web/API/WebGLTexture) to Kotlin\n */\n\npublic external
abstract class WebGLTexture : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLUniformLocation](https://developer.mozilla.org/en/docs/Web/API/WebGLUniformLocation) to Kotlin\n
*/\n\npublic external abstract class WebGLUniformLocation\n\n/**\n * Exposes the JavaScript
[WebGLActiveInfo](https://developer.mozilla.org/en/docs/Web/API/WebGLActiveInfo) to Kotlin\n */\n\npublic
external abstract class WebGLActiveInfo {\n open val size: Int\n open val type: Int\n open val name:
String\n}\n\n/**\n * Exposes the JavaScript
[WebGLShaderPrecisionFormat](https://developer.mozilla.org/en/docs/Web/API/WebGLShaderPrecisionFormat) to
Kotlin\n */\n\npublic external abstract class WebGLShaderPrecisionFormat {\n open val rangeMin: Int\n open val

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rangeMax: Int\n open val precision:

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Int\n}\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface
WebGLRenderingContextBase {\n val canvas: HTMLCanvasElement\n val drawingBufferWidth: Int\n val
drawingBufferHeight: Int\n fun getContextAttributes(): WebGLContextAttributes?\n fun isContextLost():
Boolean\n fun getSupportedExtensions(): Array<String>?\n fun getExtension(name: String): dynamic\n fun
activeTexture(texture: Int)\n fun attachShader(program: WebGLProgram?, shader: WebGLShader?)\n fun
bindAttribLocation(program: WebGLProgram?, index: Int, name: String)\n fun bindBuffer(target: Int, buffer:
WebGLBuffer?)\n fun bindFramebuffer(target: Int, framebuffer: WebGLFramebuffer?)\n fun
bindRenderbuffer(target: Int, renderbuffer: WebGLRenderbuffer?)\n fun bindTexture(target: Int, texture:
WebGLTexture?)\n fun blendColor(red: Float, green: Float, blue: Float, alpha: Float)\n fun
blendEquation(mode: Int)\n fun blendEquationSeparate(modeRGB: Int, modeAlpha: Int)\n fun
blendFunc(sfactor: Int, dfactor: Int)\n fun blendFuncSeparate(srcRGB: Int, dstRGB: Int, srcAlpha: Int, dstAlpha:
Int)\n fun bufferData(target: Int, size: Int, usage: Int)\n fun bufferData(target: Int, data: BufferDataSource?,
usage: Int)\n fun bufferSubData(target: Int, offset: Int, data: BufferDataSource?)\n fun
checkFramebufferStatus(target: Int): Int\n fun clear(mask: Int)\n fun clearColor(red: Float, green: Float, blue:
Float, alpha: Float)\n fun clearDepth(depth: Float)\n fun clearStencil(s: Int)\n fun colorMask(red: Boolean,
green: Boolean, blue: Boolean, alpha: Boolean)\n fun compileShader(shader: WebGLShader?)\n fun
compressedTexImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, data:
ArrayBufferView)\n fun compressedTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int,
height: Int, format: Int, data: ArrayBufferView)\n fun copyTexImage2D(target: Int, level: Int, internalformat: Int,
x: Int, y: Int, width: Int, height: Int, border: Int)\n fun copyTexSubImage2D(target: Int, level: Int, xoffset: Int,
yoffset: Int, x: Int, y: Int, width: Int, height: Int)\n fun createBuffer(): WebGLBuffer?\n fun createFramebuffer():
WebGLFramebuffer?\n fun createProgram(): WebGLProgram?\n fun createRenderbuffer():
WebGLRenderbuffer?\n fun createShader(type: Int): WebGLShader?\n fun createTexture(): WebGLTexture?\n
fun cullFace(mode: Int)\n fun deleteBuffer(buffer: WebGLBuffer?)\n fun deleteFramebuffer(framebuffer:
WebGLFramebuffer?)\n fun deleteProgram(program: WebGLProgram?)\n fun deleteRenderbuffer(renderbuffer:
WebGLRenderbuffer?)\n fun deleteShader(shader: WebGLShader?)\n fun deleteTexture(texture:
WebGLTexture?)\n fun depthFunc(func: Int)\n fun depthMask(flag: Boolean)\n fun depthRange(zNear: Float,
zFar: Float)\n fun detachShader(program: WebGLProgram?, shader: WebGLShader?)\n fun disable(cap: Int)\n
fun disableVertexAttribArray(index: Int)\n fun drawArrays(mode: Int, first: Int, count: Int)\n fun
drawElements(mode: Int, count: Int, type: Int, offset: Int)\n fun enable(cap: Int)\n fun
enableVertexAttribArray(index: Int)\n fun finish()\n fun flush()\n fun framebufferRenderbuffer(target: Int,
attachment: Int, renderbuffertarget: Int, renderbuffer: WebGLRenderbuffer?)\n fun framebufferTexture2D(target:
Int, attachment: Int, textarget: Int, texture: WebGLTexture?, level: Int)\n fun frontFace(mode: Int)\n fun
generateMipmap(target: Int)\n fun getActiveAttrib(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n
fun getActiveUniform(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n fun
getAttachedShaders(program: WebGLProgram?): Array<WebGLShader>?\n fun getAttribLocation(program:
WebGLProgram?, name: String): Int\n fun getBufferParameter(target: Int, pname: Int): Any?\n fun
getParameter(pname: Int): Any?\n fun getError(): Int\n fun getFramebufferAttachmentParameter(target: Int,
attachment: Int, pname: Int): Any?\n fun getProgramParameter(program: WebGLProgram?, pname: Int): Any?\n
fun getProgramInfoLog(program: WebGLProgram?): String?\n fun getRenderbufferParameter(target: Int, pname:
Int): Any?\n fun getShaderParameter(shader: WebGLShader?, pname: Int): Any?\n fun
getShaderPrecisionFormat(shadertype: Int, precisiontype: Int): WebGLShaderPrecisionFormat?\n fun
getShaderInfoLog(shader: WebGLShader?): String?\n fun getShaderSource(shader: WebGLShader?): String?\n
fun getTexParameter(target: Int, pname: Int): Any?\n fun getUniform(program: WebGLProgram?, location:
WebGLUniformLocation?): Any?\n fun getUniformLocation(program: WebGLProgram?, name: String):
WebGLUniformLocation?\n fun getVertexAttrib(index: Int, pname: Int): Any?\n fun
getVertexAttribOffset(index: Int, pname: Int): Int\n fun hint(target: Int, mode: Int)\n fun isBuffer(buffer:
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WebGLBuffer?): Boolean\n fun isEnabled(cap: Int): Boolean\n fun isFramebuffer(framebuffer:
WebGLFramebuffer?): Boolean\n fun isProgram(program: WebGLProgram?): Boolean\n fun
isRenderbuffer(renderbuffer: WebGLRenderbuffer?): Boolean\n fun isShader(shader: WebGLShader?): Boolean\n
fun isTexture(texture: WebGLTexture?): Boolean\n fun lineWidth(width: Float)\n fun linkProgram(program:
WebGLProgram?)\n fun pixelStorei(pname: Int, param: Int)\n fun polygonOffset(factor: Float, units: Float)\n
fun readPixels(x: Int, y: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun
renderbufferStorage(target: Int, internalformat: Int, width: Int, height: Int)\n fun sampleCoverage(value: Float,
invert: Boolean)\n fun scissor(x: Int, y: Int, width: Int, height: Int)\n fun shaderSource(shader: WebGLShader?,
source: String)\n fun stencilFunc(func: Int, ref: Int, mask: Int)\n fun stencilFuncSeparate(face: Int, func: Int, ref:
Int, mask: Int)\n fun stencilMask(mask: Int)\n fun stencilMaskSeparate(face: Int, mask: Int)\n fun
stencilOp(fail: Int, zfail: Int, zpass: Int)\n fun stencilOpSeparate(face: Int, fail: Int, zfail: Int, zpass: Int)\n fun
texImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, format: Int, type: Int, pixels:
ArrayBufferView?)\n fun texImage2D(target: Int, level: Int, internalformat: Int, format: Int, type: Int, source:
TexImageSource?)\n fun texParameterf(target: Int, pname: Int, param: Float)\n fun texParameteri(target: Int,
pname: Int, param: Int)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int,
format: Int, type: Int, pixels: ArrayBufferView?)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset:
Int, format: Int, type: Int, source: TexImageSource?)\n fun uniform1f(location: WebGLUniformLocation?, x:
Float)\n fun uniform1fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform1fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform1i(location: WebGLUniformLocation?, x: Int)\n fun
uniform1iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform1iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform2f(location: WebGLUniformLocation?, x: Float, y:
Float)\n fun uniform2fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform2fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform2i(location: WebGLUniformLocation?, x: Int, y: Int)\n
fun uniform2iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform2iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform3f(location: WebGLUniformLocation?, x: Float, y: Float,
z: Float)\n fun uniform3fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform3fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform3i(location: WebGLUniformLocation?, x: Int, y: Int, z:
Int)\n fun uniform3iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform3iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform4f(location: WebGLUniformLocation?, x: Float, y: Float,
z: Float, w: Float)\n fun uniform4fv(location: WebGLUniformLocation?, v: Float32Array)\n fun
uniform4fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform4i(location:
WebGLUniformLocation?, x: Int, y: Int, z: Int, w: Int)\n fun uniform4iv(location: WebGLUniformLocation?, v:
Int32Array)\n fun uniform4iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun
uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
useProgram(program: WebGLProgram?)\n fun validateProgram(program: WebGLProgram?)\n fun
vertexAttrib1f(index: Int, x: Float)\n fun vertexAttrib1fv(index: Int, values: dynamic)\n fun
vertexAttrib2f(index: Int, x: Float, y: Float)\n fun vertexAttrib2fv(index: Int, values: dynamic)\n fun
vertexAttrib3f(index: Int, x: Float, y: Float, z: Float)\n fun vertexAttrib3fv(index: Int, values: dynamic)\n fun
vertexAttrib4f(index: Int, x: Float, y: Float, z: Float, w: Float)\n fun vertexAttrib4fv(index: Int, values: dynamic)\n
fun vertexAttribPointer(index: Int, size: Int, type: Int, normalized: Boolean, stride: Int, offset: Int)\n fun
viewport(x: Int, y: Int, width: Int, height: Int)\n companion object {\n val DEPTH_BUFFER_BIT: Int\n
val STENCIL_BUFFER_BIT: Int\n val COLOR_BUFFER_BIT: Int\n val POINTS: Int\n val LINES:
Int\n val LINE_LOOP: Int\n val LINE_STRIP: Int\n val TRIANGLES: Int\n val

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TRIANGLE\_STRIP: Int\n val TRIANGLE\_FAN: Int\n val ZERO: Int\n val ONE: Int\n val  
 SRC\_COLOR: Int\n val ONE\_MINUS\_SRC\_COLOR: Int\n val SRC\_ALPHA: Int\n val  
 ONE\_MINUS\_SRC\_ALPHA: Int\n val DST\_ALPHA: Int\n val ONE\_MINUS\_DST\_ALPHA: Int\n  
 val DST\_COLOR: Int\n val ONE\_MINUS\_DST\_COLOR: Int\n val SRC\_ALPHA\_SATURATE: Int\n  
 val FUNC\_ADD: Int\n val BLEND\_EQUATION: Int\n val BLEND\_EQUATION\_RGB: Int\n val  
 BLEND\_EQUATION\_ALPHA: Int\n val FUNC\_SUBTRACT: Int\n val FUNC\_REVERSE\_SUBTRACT:  
 Int\n val BLEND\_DST\_RGB: Int\n val BLEND\_SRC\_RGB: Int\n val BLEND\_DST\_ALPHA: Int\n  
 val BLEND\_SRC\_ALPHA: Int\n val CONSTANT\_COLOR: Int\n val  
 ONE\_MINUS\_CONSTANT\_COLOR: Int\n val CONSTANT\_ALPHA: Int\n val  
 ONE\_MINUS\_CONSTANT\_ALPHA: Int\n val BLEND\_COLOR: Int\n val ARRAY\_BUFFER: Int\n  
 val ELEMENT\_ARRAY\_BUFFER: Int\n val ARRAY\_BUFFER\_BINDING: Int\n val  
 ELEMENT\_ARRAY\_BUFFER\_BINDING: Int\n val STREAM\_DRAW: Int\n val STATIC\_DRAW: Int\n  
 val DYNAMIC\_DRAW: Int\n val BUFFER\_SIZE: Int\n val BUFFER\_USAGE: Int\n val  
 CURRENT\_VERTEX\_ATTRIB: Int\n val FRONT: Int\n val BACK: Int\n val FRONT\_AND\_BACK:  
 Int\n val CULL\_FACE: Int\n val BLEND: Int\n val DITHER: Int\n val STENCIL\_TEST: Int\n  
 val DEPTH\_TEST: Int\n val SCISSOR\_TEST: Int\n val POLYGON\_OFFSET\_FILL: Int\n val  
 SAMPLE\_ALPHA\_TO\_COVERAGE: Int\n val SAMPLE\_COVERAGE: Int\n val NO\_ERROR: Int\n  
 val INVALID\_ENUM: Int\n val INVALID\_VALUE: Int\n val INVALID\_OPERATION: Int\n val  
 OUT\_OF\_MEMORY: Int\n val CW: Int\n val CCW: Int\n val LINE\_WIDTH: Int\n val  
 ALIASED\_POINT\_SIZE\_RANGE: Int\n val ALIASED\_LINE\_WIDTH\_RANGE: Int\n val  
 CULL\_FACE\_MODE: Int\n val FRONT\_FACE: Int\n val DEPTH\_RANGE: Int\n val  
 DEPTH\_WRITEMASK: Int\n val DEPTH\_CLEAR\_VALUE: Int\n val DEPTH\_FUNC: Int\n val  
 STENCIL\_CLEAR\_VALUE: Int\n val STENCIL\_FUNC: Int\n val STENCIL\_FAIL: Int\n val  
 STENCIL\_PASS\_DEPTH\_FAIL: Int\n val STENCIL\_PASS\_DEPTH\_PASS: Int\n val STENCIL\_REF:  
 Int\n val STENCIL\_VALUE\_MASK: Int\n val STENCIL\_WRITEMASK: Int\n val  
 STENCIL\_BACK\_FUNC: Int\n val STENCIL\_BACK\_FAIL: Int\n val  
 STENCIL\_BACK\_PASS\_DEPTH\_FAIL: Int\n val STENCIL\_BACK\_PASS\_DEPTH\_PASS: Int\n val  
 STENCIL\_BACK\_REF: Int\n val STENCIL\_BACK\_VALUE\_MASK: Int\n val  
 STENCIL\_BACK\_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR\_BOX: Int\n val  
 COLOR\_CLEAR\_VALUE: Int\n val COLOR\_WRITEMASK: Int\n val UNPACK\_ALIGNMENT: Int\n  
 val PACK\_ALIGNMENT: Int\n val MAX\_TEXTURE\_SIZE: Int\n val MAX\_VIEWPORT\_DIMS: Int\n  
 val SUBPIXEL\_BITS: Int\n val RED\_BITS: Int\n val GREEN\_BITS: Int\n val BLUE\_BITS: Int\n  
 val ALPHA\_BITS: Int\n val DEPTH\_BITS: Int\n val STENCIL\_BITS: Int\n val  
 POLYGON\_OFFSET\_UNITS: Int\n val POLYGON\_OFFSET\_FACTOR: Int\n val  
 TEXTURE\_BINDING\_2D: Int\n val SAMPLE\_BUFFERS: Int\n val SAMPLES: Int\n val  
 SAMPLE\_COVERAGE\_VALUE: Int\n val SAMPLE\_COVERAGE\_INVERT: Int\n val  
 COMPRESSED\_TEXTURE\_FORMATS: Int\n val DONT\_CARE: Int\n val FASTEST: Int\n val  
 NICEST: Int\n val GENERATE\_MIPMAP\_HINT: Int\n val BYTE: Int\n val UNSIGNED\_BYTE:  
 Int\n val SHORT: Int\n val UNSIGNED\_SHORT: Int\n val INT: Int\n val UNSIGNED\_INT: Int\n  
 val FLOAT: Int\n val DEPTH\_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val  
 RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE\_ALPHA: Int\n val  
 UNSIGNED\_SHORT\_4\_4\_4\_4: Int\n val UNSIGNED\_SHORT\_5\_5\_5\_1: Int\n val  
 UNSIGNED\_SHORT\_5\_6\_5: Int\n val FRAGMENT\_SHADER: Int\n val VERTEX\_SHADER: Int\n  
 val MAX\_VERTEX\_ATTRIBS: Int\n val MAX\_VERTEX\_UNIFORM\_VECTORS: Int\n val  
 MAX\_VARYING\_VECTORS: Int\n val MAX\_COMBINED\_TEXTURE\_IMAGE\_UNITS: Int\n val  
 MAX\_VERTEX\_TEXTURE\_IMAGE\_UNITS: Int\n val MAX\_TEXTURE\_IMAGE\_UNITS: Int\n val  
 MAX\_FRAGMENT\_UNIFORM\_VECTORS: Int\n val SHADER\_TYPE: Int\n val DELETE\_STATUS:  
 Int\n val LINK\_STATUS: Int\n val VALIDATE\_STATUS: Int\n val ATTACHED\_SHADERS: Int\n

val ACTIVE\_UNIFORMS: Int\n val ACTIVE\_ATTRIBUTES: Int\n val  
 SHADING\_LANGUAGE\_VERSION: Int\n val CURRENT\_PROGRAM: Int\n val NEVER: Int\n val  
 LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n  
 val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n  
 val DECR: Int\n val INVERT: Int\n val INCR\_WRAP: Int\n val DECR\_WRAP: Int\n val  
 VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR:  
 Int\n val NEAREST\_MIPMAP\_NEAREST: Int\n val LINEAR\_MIPMAP\_NEAREST: Int\n val  
 NEAREST\_MIPMAP\_LINEAR: Int\n val LINEAR\_MIPMAP\_LINEAR: Int\n val  
 TEXTURE\_MAG\_FILTER: Int\n val TEXTURE\_MIN\_FILTER: Int\n val TEXTURE\_WRAP\_S: Int\n  
 val TEXTURE\_WRAP\_T: Int\n val TEXTURE\_2D: Int\n val TEXTURE: Int\n val  
 TEXTURE\_CUBE\_MAP: Int\n val TEXTURE\_BINDING\_CUBE\_MAP: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_X: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_X: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Y: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Y: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Z: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Z: Int\n val  
 MAX\_CUBE\_MAP\_TEXTURE\_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val  
 TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val  
 TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val  
 TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val  
 TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val  
 TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val  
 TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val  
 TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val  
 TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE\_TEXTURE: Int\n val REPEAT: Int\n  
 val CLAMP\_TO\_EDGE: Int\n val MIRRORED\_REPEAT: Int\n val FLOAT\_VEC2: Int\n val  
 FLOAT\_VEC3: Int\n val FLOAT\_VEC4: Int\n val INT\_VEC2: Int\n val INT\_VEC3: Int\n val  
 INT\_VEC4: Int\n val BOOL: Int\n val BOOL\_VEC2: Int\n val BOOL\_VEC3: Int\n val  
 BOOL\_VEC4: Int\n val FLOAT\_MAT2: Int\n val FLOAT\_MAT3: Int\n val FLOAT\_MAT4: Int\n  
 val SAMPLER\_2D: Int\n val SAMPLER\_CUBE: Int\n val VERTEX\_ATTRIB\_ARRAY\_ENABLED:  
 Int\n val VERTEX\_ATTRIB\_ARRAY\_SIZE: Int\n val VERTEX\_ATTRIB\_ARRAY\_STRIDE: Int\n  
 val VERTEX\_ATTRIB\_ARRAY\_TYPE: Int\n val VERTEX\_ATTRIB\_ARRAY\_NORMALIZED: Int\n  
 val VERTEX\_ATTRIB\_ARRAY\_POINTER: Int\n val VERTEX\_ATTRIB\_ARRAY\_BUFFER\_BINDING:  
 Int\n val IMPLEMENTATION\_COLOR\_READ\_TYPE: Int\n val  
 IMPLEMENTATION\_COLOR\_READ\_FORMAT: Int\n val COMPILE\_STATUS: Int\n val  
 LOW\_FLOAT: Int\n val MEDIUM\_FLOAT: Int\n val HIGH\_FLOAT: Int\n val LOW\_INT: Int\n  
 val MEDIUM\_INT: Int\n val HIGH\_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:  
 Int\n val RGBA4: Int\n val RGB5\_A1: Int\n val RGB565: Int\n val DEPTH\_COMPONENT16:  
 Int\n val STENCIL\_INDEX: Int\n val STENCIL\_INDEX8: Int\n val DEPTH\_STENCIL: Int\n val  
 RENDERBUFFER\_WIDTH: Int\n val RENDERBUFFER\_HEIGHT: Int\n val  
 RENDERBUFFER\_INTERNAL\_FORMAT: Int\n val RENDERBUFFER\_RED\_SIZE: Int\n val  
 RENDERBUFFER\_GREEN\_SIZE: Int\n val RENDERBUFFER\_BLUE\_SIZE: Int\n val  
 RENDERBUFFER\_ALPHA\_SIZE: Int\n val RENDERBUFFER\_DEPTH\_SIZE: Int\n val  
 RENDERBUFFER\_STENCIL\_SIZE: Int\n val FRAMEBUFFER\_ATTACHMENT\_OBJECT\_TYPE: Int\n  
 val FRAMEBUFFER\_ATTACHMENT\_OBJECT\_NAME: Int\n val  
 FRAMEBUFFER\_ATTACHMENT\_TEXTURE\_LEVEL: Int\n val  
 FRAMEBUFFER\_ATTACHMENT\_TEXTURE\_CUBE\_MAP\_FACE: Int\n val COLOR\_ATTACHMENT0:  
 Int\n val DEPTH\_ATTACHMENT: Int\n val STENCIL\_ATTACHMENT: Int\n val  
 DEPTH\_STENCIL\_ATTACHMENT: Int\n val NONE: Int\n val FRAMEBUFFER\_COMPLETE: Int\n  
 val FRAMEBUFFER\_INCOMPLETE\_ATTACHMENT: Int\n val

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FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n val
FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n val FRAMEBUFFER_UNSUPPORTED: Int\n
val FRAMEBUFFER_BINDING: Int\n val RENDERBUFFER_BINDING: Int\n val
MAX_RENDERBUFFER_SIZE: Int\n val INVALID_FRAMEBUFFER_OPERATION: Int\n val
UNPACK_FLIP_Y_WEBGL: Int\n val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n val
CONTEXT_LOST_WEBGL: Int\n val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n val
BROWSER_DEFAULT_WEBGL: Int\n }\n}\n\n/**\n * Exposes the JavaScript
[WebGLRenderingContext](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderingContext) to Kotlin\n
*\npublic external abstract class WebGLRenderingContext : WebGLRenderingContextBase, RenderingContext {\n
companion object {\n val DEPTH_BUFFER_BIT: Int\n val STENCIL_BUFFER_BIT: Int\n val
COLOR_BUFFER_BIT: Int\n val POINTS: Int\n val LINES: Int\n val LINE_LOOP: Int\n val
LINE_STRIP: Int\n val TRIANGLES: Int\n val TRIANGLE_STRIP: Int\n val TRIANGLE_FAN:
Int\n val ZERO: Int\n val ONE: Int\n val SRC_COLOR: Int\n val ONE_MINUS_SRC_COLOR:
Int\n val SRC_ALPHA: Int\n val ONE_MINUS_SRC_ALPHA: Int\n val DST_ALPHA: Int\n val
ONE_MINUS_DST_ALPHA: Int\n val DST_COLOR: Int\n val ONE_MINUS_DST_COLOR: Int\n
val SRC_ALPHA_SATURATE: Int\n val FUNC_ADD: Int\n val BLEND_EQUATION: Int\n val
BLEND_EQUATION_RGB: Int\n val BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT:
Int\n val FUNC_REVERSE_SUBTRACT: Int\n val BLEND_DST_RGB: Int\n val
BLEND_SRC_RGB: Int\n val BLEND_DST_ALPHA: Int\n val BLEND_SRC_ALPHA: Int\n val
CONSTANT_COLOR: Int\n val ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA:
Int\n val ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val
ARRAY_BUFFER: Int\n val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING:
Int\n val ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val
STATIC_DRAW: Int\n val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val
BUFFER_USAGE: Int\n val CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK:
Int\n val FRONT_AND_BACK: Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER:
Int\n val STENCIL_TEST: Int\n val DEPTH_TEST: Int\n val SCISSOR_TEST: Int\n val
POLYGON_OFFSET_FILL: Int\n val SAMPLE_ALPHA_TO_COVERAGE: Int\n val
SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n val INVALID_ENUM: Int\n val
INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val OUT_OF_MEMORY: Int\n val CW:
Int\n val CCW: Int\n val LINE_WIDTH: Int\n val ALIASED_POINT_SIZE_RANGE: Int\n val
ALIASED_LINE_WIDTH_RANGE: Int\n val CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n
val DEPTH_RANGE: Int\n val DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val
DEPTH_FUNC: Int\n val STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val
STENCIL_FAIL: Int\n val STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS:
Int\n val STENCIL_REF: Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK:
Int\n val STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n val
STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n val
STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val
STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val
COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n
val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n
val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n
val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val
POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val
TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val
SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val
COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE: Int\n val FASTEST: Int\n val

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NICEST: Int\n val GENERATE\_MIPMAP\_HINT: Int\n val BYTE: Int\n val UNSIGNED\_BYTE:  
 Int\n val SHORT: Int\n val UNSIGNED\_SHORT: Int\n val INT: Int\n val UNSIGNED\_INT: Int\n  
 val FLOAT: Int\n val DEPTH\_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val  
 RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE\_ALPHA: Int\n val  
 UNSIGNED\_SHORT\_4\_4\_4\_4: Int\n val UNSIGNED\_SHORT\_5\_5\_5\_1: Int\n val  
 UNSIGNED\_SHORT\_5\_6\_5: Int\n val FRAGMENT\_SHADER: Int\n val VERTEX\_SHADER: Int\n  
 val MAX\_VERTEX\_ATTRIBS: Int\n val MAX\_VERTEX\_UNIFORM\_VECTORS: Int\n val  
 MAX\_VARYING\_VECTORS: Int\n val MAX\_COMBINED\_TEXTURE\_IMAGE\_UNITS: Int\n val  
 MAX\_VERTEX\_TEXTURE\_IMAGE\_UNITS: Int\n val MAX\_TEXTURE\_IMAGE\_UNITS: Int\n val  
 MAX\_FRAGMENT\_UNIFORM\_VECTORS: Int\n val SHADER\_TYPE: Int\n val DELETE\_STATUS:  
 Int\n val LINK\_STATUS: Int\n val VALIDATE\_STATUS: Int\n val ATTACHED\_SHADERS: Int\n  
 val ACTIVE\_UNIFORMS: Int\n val ACTIVE\_ATTRIBUTES: Int\n val  
 SHADING\_LANGUAGE\_VERSION: Int\n val CURRENT\_PROGRAM: Int\n val NEVER: Int\n val  
 LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n  
 val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n  
 val DECR: Int\n val INVERT: Int\n val INCR\_WRAP: Int\n val DECR\_WRAP: Int\n val  
 VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR:  
 Int\n val NEAREST\_MIPMAP\_NEAREST: Int\n val LINEAR\_MIPMAP\_NEAREST: Int\n val  
 NEAREST\_MIPMAP\_LINEAR: Int\n val LINEAR\_MIPMAP\_LINEAR: Int\n val  
 TEXTURE\_MAG\_FILTER: Int\n val TEXTURE\_MIN\_FILTER: Int\n val TEXTURE\_WRAP\_S: Int\n  
 val TEXTURE\_WRAP\_T: Int\n val TEXTURE\_2D: Int\n val TEXTURE: Int\n val  
 TEXTURE\_CUBE\_MAP: Int\n val TEXTURE\_BINDING\_CUBE\_MAP: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_X: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_X: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Y: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Y: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Z: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Z: Int\n val  
 MAX\_CUBE\_MAP\_TEXTURE\_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val  
 TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val  
 TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val  
 TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val  
 TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val  
 TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val  
 TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val  
 TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val  
 TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE\_TEXTURE: Int\n val REPEAT: Int\n  
 val CLAMP\_TO\_EDGE: Int\n val MIRRORED\_REPEAT: Int\n val FLOAT\_VEC2: Int\n val  
 FLOAT\_VEC3: Int\n val FLOAT\_VEC4: Int\n val INT\_VEC2: Int\n val INT\_VEC3: Int\n val  
 INT\_VEC4: Int\n val BOOL: Int\n val BOOL\_VEC2: Int\n val BOOL\_VEC3: Int\n val  
 BOOL\_VEC4: Int\n val FLOAT\_MAT2: Int\n val FLOAT\_MAT3: Int\n val FLOAT\_MAT4: Int\n  
 val SAMPLER\_2D: Int\n val SAMPLER\_CUBE: Int\n val VERTEX\_ATTRIB\_ARRAY\_ENABLED:  
 Int\n val VERTEX\_ATTRIB\_ARRAY\_SIZE: Int\n val VERTEX\_ATTRIB\_ARRAY\_STRIDE: Int\n  
 val VERTEX\_ATTRIB\_ARRAY\_TYPE: Int\n val VERTEX\_ATTRIB\_ARRAY\_NORMALIZED: Int\n  
 val VERTEX\_ATTRIB\_ARRAY\_POINTER: Int\n val VERTEX\_ATTRIB\_ARRAY\_BUFFER\_BINDING:  
 Int\n val IMPLEMENTATION\_COLOR\_READ\_TYPE: Int\n val  
 IMPLEMENTATION\_COLOR\_READ\_FORMAT: Int\n val COMPILE\_STATUS: Int\n val  
 LOW\_FLOAT: Int\n val MEDIUM\_FLOAT: Int\n val HIGH\_FLOAT: Int\n val LOW\_INT: Int\n  
 val MEDIUM\_INT: Int\n val HIGH\_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:  
 Int\n val RGBA4: Int\n val RGB5\_A1: Int\n val RGB565: Int\n val DEPTH\_COMPONENT16:  
 Int\n val STENCIL\_INDEX: Int\n val STENCIL\_INDEX8: Int\n val DEPTH\_STENCIL: Int\n val

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RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n val
RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val
RENDERBUFFER_GREEN_SIZE: Int\n val RENDERBUFFER_BLUE_SIZE: Int\n val
RENDERBUFFER_ALPHA_SIZE: Int\n val RENDERBUFFER_DEPTH_SIZE: Int\n val
RENDERBUFFER_STENCIL_SIZE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n
val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n val
FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n val
FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n val COLOR_ATTACHMENT0:
Int\n val DEPTH_ATTACHMENT: Int\n val STENCIL_ATTACHMENT: Int\n val
DEPTH_STENCIL_ATTACHMENT: Int\n val NONE: Int\n val FRAMEBUFFER_COMPLETE: Int\n
val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n val
FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n val
FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n val FRAMEBUFFER_UNSUPPORTED: Int\n
val FRAMEBUFFER_BINDING: Int\n val RENDERBUFFER_BINDING: Int\n val
MAX_RENDERBUFFER_SIZE: Int\n val INVALID_FRAMEBUFFER_OPERATION: Int\n val
UNPACK_FLIP_Y_WEBGL: Int\n val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n val
CONTEXT_LOST_WEBGL: Int\n val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n val
BROWSER_DEFAULT_WEBGL: Int\n }\n}\n\n/**\n * Exposes the JavaScript
[WebGLContextEvent](https://developer.mozilla.org/en/docs/Web/API/WebGLContextEvent) to Kotlin\n
*/\npublic external open class WebGLContextEvent(type: String, eventInit: WebGLContextEventInit =
definedExternally) : Event {\n open val statusMessage: String\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface WebGLContextEventInit : EventInit {\n var statusMessage: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline
fun WebGLContextEventInit(statusMessage: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): WebGLContextEventInit {\n val o = js("{}")\n o["statusMessage"] =
statusMessage\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ArrayBuffer](https://developer.mozilla.org/en/docs/Web/API/ArrayBuffer) to Kotlin\n
*/\npublic external open
class ArrayBuffer(length: Int) : BufferDataSource {\n open val byteLength: Int\n fun slice(begin: Int, end: Int =
definedExternally): ArrayBuffer\n\n companion object {\n fun isView(value: Any?): Boolean\n }\n}\n\n/**\n * Exposes the JavaScript
[ArrayBufferView](https://developer.mozilla.org/en/docs/Web/API/ArrayBufferView) to Kotlin\n
*/\npublic
external interface ArrayBufferView : BufferDataSource {\n val buffer: ArrayBuffer\n val byteOffset: Int\n val
byteLength: Int\n}\n\n/**\n * Exposes the JavaScript
[Int8Array](https://developer.mozilla.org/en/docs/Web/API/Int8Array) to Kotlin\n
*/\npublic external open class
Int8Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Int8Array)\n constructor(array:
Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Int8Array, offset: Int = definedExternally)\n fun set(array:
Array<Byte>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Int8Array\n\n companion
object {\n val BYTES_PER_ELEMENT: Int\n }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun Int8Array.get(index: Int): Byte = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
Int8Array.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint8Array](https://developer.mozilla.org/en/docs/Web/API/Uint8Array) to Kotlin\n
*/\npublic external open class
Uint8Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Uint8Array)\n
constructor(array: Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset:

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Int\n override val byteLength: Int\n fun set(array: Uint8Array, offset: Int = definedExternally)\n fun set(array:
Array<Byte>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Uint8Array\n\n companion
object {\n val BYTES_PER_ELEMENT: Int\n }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun Uint8Array.get(index: Int): Byte = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun Uint8Array.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint8ClampedArray](https://developer.mozilla.org/en/docs/Web/API/Uint8ClampedArray) to Kotlin\n */\npublic
external open class Uint8ClampedArray : ArrayBufferView {\n constructor(length: Int)\n constructor(array:
Uint8ClampedArray)\n constructor(array: Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int =
definedExternally, length: Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n
override val byteOffset: Int\n override val byteLength: Int\n fun set(array: Uint8ClampedArray, offset: Int =
definedExternally)\n fun set(array: Array<Byte>, offset: Int = definedExternally)\n fun subarray(start: Int, end:
Int): Uint8ClampedArray\n\n companion object {\n val BYTES_PER_ELEMENT: Int\n }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8ClampedArray.get(index: Int): Byte =
asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8ClampedArray.set(index: Int,
value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Int16Array](https://developer.mozilla.org/en/docs/Web/API/Int16Array) to Kotlin\n */\npublic external open class
Int16Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Int16Array)\n
constructor(array: Array<Short>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset:
Int\n override val byteLength: Int\n fun set(array: Int16Array, offset: Int = definedExternally)\n fun set(array:
Array<Short>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Int16Array\n\n companion
object {\n val BYTES_PER_ELEMENT: Int\n }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun Int16Array.get(index: Int): Short = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun Int16Array.set(index: Int, value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint16Array](https://developer.mozilla.org/en/docs/Web/API/Uint16Array) to Kotlin\n */\npublic external open
class Uint16Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Uint16Array)\n
constructor(array: Array<Short>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset:
Int\n override val byteLength: Int\n fun set(array: Uint16Array, offset: Int = definedExternally)\n fun set(array:
Array<Short>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Uint16Array\n\n companion
object {\n val BYTES_PER_ELEMENT: Int\n }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun Uint16Array.get(index: Int): Short = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun Uint16Array.set(index: Int, value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Int32Array](https://developer.mozilla.org/en/docs/Web/API/Int32Array) to Kotlin\n */\npublic external open class
Int32Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Int32Array)\n
constructor(array: Array<Int>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Int32Array, offset: Int = definedExternally)\n fun set(array:
Array<Int>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Int32Array\n\n companion
object {\n val BYTES_PER_ELEMENT: Int\n }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
Int32Array.get(index: Int): Int = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
Int32Array.set(index: Int, value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint32Array](https://developer.mozilla.org/en/docs/Web/API/Uint32Array) to Kotlin\n */\npublic external open
class Uint32Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Uint32Array)\n
constructor(array: Array<Int>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Uint32Array, offset: Int = definedExternally)\n fun set(array:
Array<Int>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Uint32Array\n\n companion

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object {
 val BYTES_PER_ELEMENT: Int
}
@kotlin.internal.InlineOnly
public inline operator
fun Uint32Array.get(index: Int): Int = asDynamic()[index]
@kotlin.internal.InlineOnly
public inline operator
fun Uint32Array.set(index: Int, value: Int) { asDynamic()[index] = value }
/** Exposes the JavaScript [Float32Array](https://developer.mozilla.org/en/docs/Web/API/Float32Array) to Kotlin */
public external open
class Float32Array : ArrayBufferView {
 constructor(length: Int)
 constructor(array: Float32Array)
 constructor(array: Array<Float>)
 constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
 open val length: Int
 override val buffer: ArrayBuffer
 override val byteOffset: Int
 override val byteLength: Int
 fun set(array: Float32Array, offset: Int = definedExternally)
 fun set(array: Array<Float>, offset: Int = definedExternally)
 fun subarray(start: Int, end: Int): Float32Array
}
companion object {
 val BYTES_PER_ELEMENT: Int
}
@kotlin.internal.InlineOnly
public inline operator
fun Float32Array.get(index: Int): Float = asDynamic()[index]
@kotlin.internal.InlineOnly
public inline operator
fun Float32Array.set(index: Int, value: Float) { asDynamic()[index] = value }
/** Exposes the JavaScript [Float64Array](https://developer.mozilla.org/en/docs/Web/API/Float64Array) to Kotlin */
public external open
class Float64Array : ArrayBufferView {
 constructor(length: Int)
 constructor(array: Float64Array)
 constructor(array: Array<Double>)
 constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
 open val length: Int
 override val buffer: ArrayBuffer
 override val byteOffset: Int
 override val byteLength: Int
 fun set(array: Float64Array, offset: Int = definedExternally)
 fun set(array: Array<Double>, offset: Int = definedExternally)
 fun subarray(start: Int, end: Int): Float64Array
}
companion object {
 val BYTES_PER_ELEMENT: Int
}
@kotlin.internal.InlineOnly
public inline operator
fun Float64Array.get(index: Int): Double = asDynamic()[index]
@kotlin.internal.InlineOnly
public inline operator
fun Float64Array.set(index: Int, value: Double) { asDynamic()[index] = value }
/** Exposes the JavaScript [DataView](https://developer.mozilla.org/en/docs/Web/API/DataView) to Kotlin */
public external open
class DataView(buffer: ArrayBuffer, byteOffset: Int = definedExternally, byteLength: Int = definedExternally) :
 ArrayBufferView {
 override val buffer: ArrayBuffer
 override val byteOffset: Int
 override val byteLength: Int
 fun getInt8(byteOffset: Int): Byte
 fun getUint8(byteOffset: Int): Byte
 fun getInt16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short
 fun getUint16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short
 fun getInt32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int
 fun getUint32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int
 fun getFloat32(byteOffset: Int, littleEndian: Boolean = definedExternally): Float
 fun getFloat64(byteOffset: Int, littleEndian: Boolean = definedExternally): Double
 fun setInt8(byteOffset: Int, value: Byte)
 fun setUint8(byteOffset: Int, value: Byte)
 fun setInt16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally)
 fun setUint16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally)
 fun setInt32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)
 fun setUint32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)
 fun setFloat32(byteOffset: Int, value: Float, littleEndian: Boolean = definedExternally)
 fun setFloat64(byteOffset: Int, value: Double, littleEndian: Boolean = definedExternally)
}
public external interface BufferDataSource
public external interface TexImageSource
/** Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
*/
NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!
See github.com/kotlin/dukat for details
package org.w3c.dom.clipboard
import kotlin.js.*
import org.khronos.webgl.*
import org.w3c.css.masking.*
import org.w3c.dom.*
import org.w3c.dom.css.*
import org.w3c.dom.events.*
import org.w3c.dom.mediacapture.*
import org.w3c.dom.parsing.*
import org.w3c.dom.pointerevents.*
import org.w3c.dom.svg.*
import org.w3c.dom.url.*
import org.w3c.fetch.*
import org.w3c.files.*
import org.w3c.notifications.*
import org.w3c.performance.*
import org.w3c.workers.*
import org.w3c.xhr.*
public external interface ClipboardEventInit : EventInit {
 var clipboardData: DataTransfer? = null
 get() = definedExternally
 set(value) = definedExternally
}
@kotlin.internal.InlineOnly
public inline fun ClipboardEventInit(clipboardData: DataTransfer? = null, bubbles: Boolean? = false, cancelable: Boolean? = false,

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composed: Boolean? = false): ClipboardEventInit {\n val o = js("{}")\n o["clipboardData"] =
clipboardData\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n
return o}\n}\n\n/**\n * Exposes the JavaScript
[ClipboardEvent](https://developer.mozilla.org/en/docs/Web/API/ClipboardEvent) to Kotlin\n */\npublic external
open class ClipboardEvent(type: String, eventInitDict: ClipboardEventInit = definedExternally) : Event {\n open
val clipboardData: DataTransfer?\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\n/**\n * Exposes the JavaScript [Clipboard](https://developer.mozilla.org/en/docs/Web/API/Clipboard) to
Kotlin\n */\npublic external abstract class Clipboard : EventTarget {\n fun read(): Promise<DataTransfer>\n fun
readText(): Promise<String>\n fun write(data: DataTransfer): Promise<Unit>\n fun writeText(data: String):
Promise<Unit>\n}\n\npublic external interface ClipboardPermissionDescriptor {\n var allowWithoutGesture:
Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ClipboardPermissionDescriptor(allowWithoutGesture: Boolean? = false): ClipboardPermissionDescriptor {\n val
o = js("{}")\n o["allowWithoutGesture"] = allowWithoutGesture\n return o}\n\n", /*\n * Copyright 2010-
2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.css\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport
org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport
org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external abstract class
MediaList : ItemArrayLike<String> {\n open var mediaText: String\n fun appendMedium(medium: String)\n
fun deleteMedium(medium: String)\n override fun item(index: Int):
String?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun MediaList.get(index: Int): String? =
asDynamic()[index]\n}\n\n/**\n * Exposes the JavaScript
[StyleSheet](https://developer.mozilla.org/en/docs/Web/API/StyleSheet) to Kotlin\n */\npublic external abstract
class StyleSheet {\n open val type: String\n open val href: String?\n open val ownerNode:
UnionElementOrProcessingInstruction?\n open val parentStyleSheet: StyleSheet?\n open val title: String?\n
open val media: MediaList\n open var disabled: Boolean\n}\n}\n\n/**\n * Exposes the JavaScript
[CSSStyleSheet](https://developer.mozilla.org/en/docs/Web/API/CSSStyleSheet) to Kotlin\n */\npublic external
abstract class CSSStyleSheet : StyleSheet {\n open val ownerRule: CSSRule?\n open val cssRules:
CSSRuleList\n fun insertRule(rule: String, index: Int): Int\n fun deleteRule(index: Int)\n}\n}\n\n/**\n * Exposes the
JavaScript [StyleSheetList](https://developer.mozilla.org/en/docs/Web/API/StyleSheetList) to Kotlin\n */\npublic
external abstract class StyleSheetList : ItemArrayLike<StyleSheet> {\n override fun item(index: Int):
StyleSheet?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun StyleSheetList.get(index: Int):
StyleSheet? = asDynamic()[index]\n}\n\n/**\n * Exposes the JavaScript
[LinkStyle](https://developer.mozilla.org/en/docs/Web/API/LinkStyle) to Kotlin\n */\npublic external interface
LinkStyle {\n val sheet: StyleSheet?\n get() = definedExternally\n}\n}\n\n/**\n * Exposes the JavaScript
[CSSRuleList](https://developer.mozilla.org/en/docs/Web/API/CSSRuleList) to Kotlin\n */\npublic external abstract
class CSSRuleList : ItemArrayLike<CSSRule> {\n override fun item(index: Int):
CSSRule?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun CSSRuleList.get(index: Int): CSSRule? =
asDynamic()[index]\n}\n\n/**\n * Exposes the JavaScript
[CSSRule](https://developer.mozilla.org/en/docs/Web/API/CSSRule) to Kotlin\n */\npublic external abstract class
CSSRule {\n open val type: Short\n open var cssText: String\n open val parentRule: CSSRule?\n open val
parentStyleSheet: CSSStyleSheet?\n\n companion object {\n val STYLE_RULE: Short\n val
CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val

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FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val
NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[CSSStyleRule](https://developer.mozilla.org/en/docs/Web/API/CSSStyleRule) to Kotlin\n *\npublic external
abstract class CSSStyleRule : CSSRule {\n open var selectorText: String\n open val style:
CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE:
Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n
 val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n
 }\n}\n\npublic external abstract class CSSImportRule : CSSRule {\n open val href: String\n open val media:
MediaList\n open val styleSheet: CSSStyleSheet\n\n companion object {\n val STYLE_RULE: Short\n
 val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val
FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val
NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[CSSGroupingRule](https://developer.mozilla.org/en/docs/Web/API/CSSGroupingRule) to Kotlin\n *\npublic
external abstract class CSSGroupingRule : CSSRule {\n open val cssRules: CSSRuleList\n fun insertRule(rule:
String, index: Int): Int\n fun deleteRule(index: Int)\n\n companion object {\n val STYLE_RULE: Short\n
 val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val
FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val
NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[CSSMediaRule](https://developer.mozilla.org/en/docs/Web/API/CSSMediaRule) to Kotlin\n *\npublic external
abstract class CSSMediaRule : CSSGroupingRule {\n open val media: MediaList\n\n companion object {\n
 val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val
MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val
MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[CSSPageRule](https://developer.mozilla.org/en/docs/Web/API/CSSPageRule) to Kotlin\n *\npublic external
abstract class CSSPageRule : CSSGroupingRule {\n open var selectorText: String\n open val style:
CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE:
Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n
 val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n
 }\n}\n\npublic external abstract class CSSMarginRule : CSSRule {\n open val name: String\n open val style:
CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE:
Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n
 val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n
 }\n}\n\n/**\n * Exposes the JavaScript
[CSSNamespaceRule](https://developer.mozilla.org/en/docs/Web/API/CSSNamespaceRule) to Kotlin\n *\npublic
external abstract class CSSNamespaceRule : CSSRule {\n open val namespaceURI: String\n open val prefix:
String\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val
IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val
PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n *
Exposes the JavaScript
[CSSStyleDeclaration](https://developer.mozilla.org/en/docs/Web/API/CSSStyleDeclaration) to Kotlin\n *\npublic
external abstract class CSSStyleDeclaration : ItemArrayLike<String> {\n open var cssText: String\n open val
parentRule: CSSRule?\n open var cssFloat: String\n open var alignContent: String\n open var alignItems:
String\n open var alignSelf: String\n open var animation: String\n open var animationDelay: String\n open
var animationDirection: String\n open var animationDuration: String\n open var animationFillMode: String\n
 open var animationIterationCount: String\n open var animationName: String\n open var animationPlayState:
String\n open var animationTimingFunction: String\n open var backfaceVisibility: String\n open var
background: String\n open var backgroundAttachment: String\n open var backgroundClip: String\n open var
backgroundColor: String\n open var backgroundImage: String\n open var backgroundOrigin: String\n open var

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backgroundPosition: String\n open var backgroundRepeat: String\n open var backgroundSize: String\n open var border: String\n open var borderBottom: String\n open var borderBottomColor: String\n open var borderBottomLeftRadius: String\n open var borderBottomRightRadius: String\n open var borderBottomStyle: String\n open var borderBottomWidth: String\n open var borderCollapse: String\n open var borderColor: String\n open var borderImage: String\n open var borderImageOutset: String\n open var borderImageRepeat: String\n open var borderImageSlice: String\n open var borderImageSource: String\n open var borderImageWidth: String\n open var borderLeft: String\n open var borderLeftColor: String\n open var borderLeftStyle: String\n open var borderLeftWidth: String\n open var borderRadius: String\n open var borderRight: String\n open var borderRightColor: String\n open var borderRightStyle: String\n open var borderRightWidth: String\n open var borderSpacing: String\n open var borderStyle: String\n open var borderTop: String\n open var borderTopColor: String\n open var borderTopLeftRadius: String\n open var borderTopRightRadius: String\n open var borderTopStyle: String\n open var borderTopWidth: String\n open var borderWidth: String\n open var bottom: String\n open var boxDecorationBreak: String\n open var boxShadow: String\n open var boxSizing: String\n open var breakAfter: String\n open var breakBefore: String\n open var breakInside: String\n open var captionSide: String\n open var clear: String\n open var clip: String\n open var color: String\n open var columnCount: String\n open var columnFill: String\n open var columnGap: String\n open var columnRule: String\n open var columnRuleColor: String\n open var columnRuleStyle: String\n open var columnRuleWidth: String\n open var columnSpan: String\n open var columnWidth: String\n open var columns: String\n open var content: String\n open var counterIncrement: String\n open var counterReset: String\n open var cursor: String\n open var direction: String\n open var display: String\n open var emptyCells: String\n open var filter: String\n open var flex: String\n open var flexBasis: String\n open var flexDirection: String\n open var flexFlow: String\n open var flexGrow: String\n open var flexShrink: String\n open var flexWrap: String\n open var font: String\n open var fontFamily: String\n open var fontFeatureSettings: String\n open var fontKerning: String\n open var fontLanguageOverride: String\n open var fontSize: String\n open var fontSizeAdjust: String\n open var fontStretch: String\n open var fontStyle: String\n open var fontSynthesis: String\n open var fontVariant: String\n open var fontVariantAlternates: String\n open var fontVariantCaps: String\n open var fontVariantEastAsian: String\n open var fontVariantLigatures: String\n open var fontVariantNumeric: String\n open var fontVariantPosition: String\n open var fontWeight: String\n open var hangingPunctuation: String\n open var height: String\n open var hyphens: String\n open var imageOrientation: String\n open var imageRendering: String\n open var imageResolution: String\n open var imeMode: String\n open var justifyContent: String\n open var left: String\n open var letterSpacing: String\n open var lineBreak: String\n open var lineHeight: String\n open var listStyle: String\n open var listStyleImage: String\n open var listStylePosition: String\n open var listStyleType: String\n open var margin: String\n open var marginBottom: String\n open var marginLeft: String\n open var marginRight: String\n open var marginTop: String\n open var mark: String\n open var markAfter: String\n open var markBefore: String\n open var marks: String\n open var marqueeDirection: String\n open var marqueePlayCount: String\n open var marqueeSpeed: String\n open var marqueeStyle: String\n open var mask: String\n open var maskType: String\n open var maxHeight: String\n open var maxWidth: String\n open var minHeight: String\n open var minWidth: String\n open var navDown: String\n open var navIndex: String\n open var navLeft: String\n open var navRight: String\n open var navUp: String\n open var objectFit: String\n open var objectPosition: String\n open var opacity: String\n open var order: String\n open var orphans: String\n open var outline: String\n open var outlineColor: String\n open var outlineOffset: String\n open var outlineStyle: String\n open var outlineWidth: String\n open var overflowWrap: String\n open var overflowX: String\n open var overflowY: String\n open var padding: String\n open var paddingBottom: String\n open var paddingLeft: String\n open var paddingRight: String\n open var paddingTop: String\n open var pageBreakAfter: String\n open var pageBreakBefore: String\n open var pageBreakInside: String\n open var perspective: String\n open var perspectiveOrigin: String\n open var phonemes: String\n open var position: String\n open var quotes: String\n open var resize: String\n open var

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rest: String\n open var restAfter: String\n open var restBefore: String\n open var right: String\n open var
tabSize: String\n open var tableLayout: String\n open var textAlign: String\n open var textAlignLast: String\n
open var textCombineUpright: String\n open var textDecoration: String\n open var textDecorationColor:
String\n open var textDecorationLine: String\n open var textDecorationStyle: String\n open var textIndent:
String\n open var textJustify: String\n open var textOrientation: String\n open var textOverflow: String\n
open var textShadow: String\n open var textTransform: String\n open var textUnderlinePosition: String\n open
var top: String\n open var transform: String\n open var transformOrigin: String\n open var transformStyle:
String\n open var transition: String\n open var transitionDelay: String\n open var transitionDuration: String\n
open var transitionProperty: String\n open var transitionTimingFunction: String\n open var unicodeBidi:
String\n open var verticalAlign: String\n open var visibility: String\n open var voiceBalance: String\n open
var voiceDuration: String\n open var voicePitch: String\n open var voicePitchRange: String\n open var
voiceRate: String\n open var voiceStress: String\n open var voiceVolume: String\n open var whiteSpace:
String\n open var widows: String\n open var width: String\n open var wordBreak: String\n open var
wordSpacing: String\n open var wordWrap: String\n open var writingMode: String\n open var zIndex: String\n
 open var _dashed_attribute: String\n open var _camel_cased_attribute: String\n open var
_webkit_cased_attribute: String\n fun getPropertyValue(property: String): String\n fun
getPropertyPriority(property: String): String\n fun setProperty(property: String, value: String, priority: String =
definedExternally)\n fun setPropertyValue(property: String, value: String)\n fun setPropertyPriority(property:
String, priority: String)\n fun removeProperty(property: String): String\n override fun item(index: Int):
String\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun CSSStyleDeclaration.get(index: Int): String? =
asDynamic()[index]\n\npublic external interface ElementCSSInlineStyle {\n val style:
CSSStyleDeclaration\n}\n\n/**\n * Exposes the JavaScript
[CSS](https://developer.mozilla.org/en/docs/Web/API/CSS) to Kotlin\n */\n\npublic external abstract class CSS {\n
companion object {\n fun escape(ident: String): String\n }\n}\n\npublic external interface
UnionElementOrProcessingInstruction", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
github.com/kotlin/dukat for details\n\npackage org.w3c.dom.events\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.mediacapture.*\nimport
org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport
org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[UIEvent](https://developer.mozilla.org/en/docs/Web/API/UIEvent) to Kotlin\n */\n\npublic external open class
UIEvent(type: String, eventInitDict: UIEventInit = definedExternally) : Event {\n open val view: Window?\n
open val detail: Int\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n
val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface UIEventInit :
EventInit {\n var view: Window? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n var detail: Int? /* = 0 */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun UIEventInit(view: Window? = null, detail:
Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): UIEventInit {\n
val o = js("{}")\n o["view"] = view\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"]
= cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[FocusEvent](https://developer.mozilla.org/en/docs/Web/API/FocusEvent) to Kotlin\n */\n\npublic external open class
FocusEvent(type: String, eventInitDict: FocusEventInit = definedExternally) : UIEvent {\n open val relatedTarget:
EventTarget?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface FocusEventInit :
UIEventInit {\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n set(value) =

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get() = definedExternally\n set(value) = definedExternally\n var modifierNumLock: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n var modifierScrollLock: Boolean? /* = false
/\n get() = definedExternally\n set(value) = definedExternally\n var modifierSuper: Boolean? / = false
/\n get() = definedExternally\n set(value) = definedExternally\n var modifierSymbol: Boolean? / = false
/\n get() = definedExternally\n set(value) = definedExternally\n var modifierSymbolLock: Boolean? / =
false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventModifierInit(ctrlKey: Boolean? =
false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:
Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? =
false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): EventModifierInit {\n val o = js("{}")\n o["ctrlKey"] = ctrlKey\n o["shiftKey"] = shiftKey\n
o["altKey"] = altKey\n o["metaKey"] = metaKey\n o["modifierAltGraph"] = modifierAltGraph\n
o["modifierCapsLock"] = modifierCapsLock\n o["modifierFn"] = modifierFn\n o["modifierFnLock"] =
modifierFnLock\n o["modifierHyper"] = modifierHyper\n o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] =
view\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[WheelEvent](https://developer.mozilla.org/en/docs/Web/API/WheelEvent) to Kotlin\n */\npublic external open
class WheelEvent(type: String, eventInitDict: WheelEventInit = definedExternally) : MouseEvent {\n open val
deltaX: Double\n open val deltaY: Double\n open val deltaZ: Double\n open val deltaMode: Int\n\n companion object {\n val DOM_DELTA_PIXEL: Int\n val DOM_DELTA_LINE: Int\n val
DOM_DELTA_PAGE: Int\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n public external interface WheelEventInit :
MouseEventInit {\n var deltaX: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var deltaY: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var deltaZ: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var deltaMode: Int? /* = 0 */\n get() = definedExternally\n set(value) =
definedExternally\n }\n\n @kotlin.internal.InlineOnly\n public inline fun WheelEventInit(deltaX: Double? = 0.0,
deltaY: Double? = 0.0, deltaZ: Double? = 0.0, deltaMode: Int? = 0, screenX: Int? = 0, screenY: Int? = 0, clientX:
Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region:
String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean?
= false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false,
modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false,
modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false,
modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): WheelEventInit {\n val o = js("{}")\n
o["deltaX"] = deltaX\n o["deltaY"] = deltaY\n o["deltaZ"] = deltaZ\n o["deltaMode"] = deltaMode\n
o["screenX"] = screenX\n o["screenY"] = screenY\n o["clientX"] = clientX\n o["clientY"] = clientY\n
o["button"] = button\n o["buttons"] = buttons\n o["relatedTarget"] = relatedTarget\n o["region"] =
region\n o["ctrlKey"] = ctrlKey\n o["shiftKey"] = shiftKey\n o["altKey"] = altKey\n o["metaKey"] =
metaKey\n o["modifierAltGraph"] = modifierAltGraph\n o["modifierCapsLock"] = modifierCapsLock\n
o["modifierFn"] = modifierFn\n o["modifierFnLock"] = modifierFnLock\n o["modifierHyper"] =
modifierHyper\n o["modifierNumLock"] = modifierNumLock\n o["modifierScrollLock"] =
modifierScrollLock\n o["modifierSuper"] = modifierSuper\n o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] = view\n o["detail"] = detail\n

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o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript [InputEvent](https://developer.mozilla.org/en/docs/Web/API/InputEvent) to
Kotlin\n *\npublic external open class InputEvent(type: String, eventInitDict: InputEventInit = definedExternally) :
UIEvent {\n open val data: String\n open val isComposing: Boolean\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface InputEventInit : UIEventInit {\n var data: String? /* = "" */\n
get() = definedExternally\n set(value) = definedExternally\n var isComposing: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
InputEventInit(data: String? = "", isComposing: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): InputEventInit {\n val o =
js("{}")\n o["data"] = data\n o["isComposing"] = isComposing\n o["view"] = view\n o["detail"] =
detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript
[KeyboardEvent](https://developer.mozilla.org/en/docs/Web/API/KeyboardEvent) to Kotlin\n *\npublic external
open class KeyboardEvent(type: String, eventInitDict: KeyboardEventInit = definedExternally) : UIEvent {\n
open val key: String\n open val code: String\n open val location: Int\n open val ctrlKey: Boolean\n open val
shiftKey: Boolean\n open val altKey: Boolean\n open val metaKey: Boolean\n open val repeat: Boolean\n
open val isComposing: Boolean\n open val charCode: Int\n open val keyCode: Int\n open val which: Int\n
fun getModifierState(keyArg: String): Boolean\n\n companion object {\n val
DOM_KEY_LOCATION_STANDARD: Int\n val DOM_KEY_LOCATION_LEFT: Int\n val
DOM_KEY_LOCATION_RIGHT: Int\n val DOM_KEY_LOCATION_NUMPAD: Int\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface KeyboardEventInit : EventModifierInit {\n var key: String? /* = ""
*/\n */\n get() = definedExternally\n set(value) = definedExternally\n var code: String? /* = "" */\n get()
= definedExternally\n set(value) = definedExternally\n var location: Int? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var repeat: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var isComposing: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
KeyboardEventInit(key: String? = "", code: String? = "", location: Int? = 0, repeat: Boolean? = false,
isComposing: Boolean? = false, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false,
metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn:
Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock:
Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol:
Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): KeyboardEventInit {\n val o =
js("{}")\n o["key"] = key\n o["code"] = code\n o["location"] = location\n o["repeat"] = repeat\n
o["isComposing"] = isComposing\n o["ctrlKey"] = ctrlKey\n o["shiftKey"] = shiftKey\n o["altKey"] =
altKey\n o["metaKey"] = metaKey\n o["modifierAltGraph"] = modifierAltGraph\n
o["modifierCapsLock"] = modifierCapsLock\n o["modifierFn"] = modifierFn\n o["modifierFnLock"] =
modifierFnLock\n o["modifierHyper"] = modifierHyper\n o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] =
view\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[CompositionEvent](https://developer.mozilla.org/en/docs/Web/API/CompositionEvent) to Kotlin\n *\npublic
external open class CompositionEvent(type: String, eventInitDict: CompositionEventInit = definedExternally) :
UIEvent {\n open val data: String\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n

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}\n}\n\npublic external interface CompositionEventInit : UIEventInit {\n var data: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CompositionEventInit(data: String? = \"\", view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CompositionEventInit {\n val o = js(\"({})\")\n o[\"data\"] = data\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [Event](https://developer.mozilla.org/en/docs/Web/API/Event) to Kotlin\n */\n\npublic external open class Event(type: String, eventInitDict: EventInit = definedExternally) {\n open val type: String\n open val target: EventTarget?\n open val currentTarget: EventTarget?\n open val eventPhase: Short\n open val bubbles: Boolean\n open val cancelable: Boolean\n open val defaultPrevented: Boolean\n open val composed: Boolean\n open val isTrusted: Boolean\n open val timeStamp: Number\n fun composedPath(): Array<EventTarget>\n fun stopPropagation()\n fun stopImmediatePropagation()\n fun preventDefault()\n fun initEvent(type: String, bubbles: Boolean, cancelable: Boolean)\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Exposes the JavaScript [EventTarget](https://developer.mozilla.org/en/docs/Web/API/EventTarget) to Kotlin\n */\n\npublic external abstract class EventTarget {\n fun addEventListener(type: String, callback: EventListener?, options: dynamic = definedExternally)\n fun addEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic = definedExternally)\n fun removeEventListener(type: String, callback: EventListener?, options: dynamic = definedExternally)\n fun removeEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic = definedExternally)\n fun dispatchEvent(event: Event): Boolean\n}\n\n/**\n * Exposes the JavaScript [EventListener](https://developer.mozilla.org/en/docs/Web/API/EventListener) to Kotlin\n */\n\npublic external interface EventListener {\n fun handleEvent(event: Event)\n}\n\n\", \"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom\n\nimport kotlin.js\nimport org.khronos.webgl\nimport org.w3c.css.masking\nimport org.w3c.dom.clipboard\nimport org.w3c.dom.css\nimport org.w3c.dom.events\nimport org.w3c.dom.mediacapture\nimport org.w3c.dom.parsing\nimport org.w3c.dom.pointerevents\nimport org.w3c.dom.svg\nimport org.w3c.dom.url\nimport org.w3c.fetch\nimport org.w3c.files\nimport org.w3c.notifications\nimport org.w3c.performance\nimport org.w3c.workers\nimport org.w3c.xhr\n\npublic external abstract class HTMLAllCollection {\n open val length: Int\n fun item(nameOrIndex: String = definedExternally): UnionElementOrHTMLCollection?\n fun namedItem(name: String): UnionElementOrHTMLCollection?\n}\n\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLAllCollection.get(index: Int): Element? = asDynamic()[index]\n\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLAllCollection.get(name: String): UnionElementOrHTMLCollection? = asDynamic()[name]\n\n\n/**\n * Exposes the JavaScript [HTMLFormControlsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLFormControlsCollection) to Kotlin\n */\n\npublic external abstract class HTMLFormControlsCollection : HTMLCollection\n\n\n/**\n * Exposes the JavaScript [RadioNodeList](https://developer.mozilla.org/en/docs/Web/API/RadioNodeList) to Kotlin\n */\n\npublic external abstract class RadioNodeList : NodeList, UnionElementOrRadioNodeList {\n open var value: String\n}\n\n\n/**\n * Exposes the JavaScript [HTMLOptionsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionsCollection) to Kotlin\n */\n\npublic external abstract class HTMLOptionsCollection : HTMLCollection {\n override var length: Int\n open var selectedIndex: Int\n fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n fun remove(index: Int)\n}\n\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLOptionsCollection.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n\n/**\n * Exposes the JavaScript

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[HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to Kotlin\n *\npublic external
abstract class HTMLElement : Element, GlobalEventHandlers, DocumentAndElementEventHandlers,
ElementContentEditable, ElementCSSInlineStyle {\n open var title: String\n open var lang: String\n open var
translate: Boolean\n open var dir: String\n open val dataset: DOMStringMap\n open var hidden: Boolean\n
open var tabIndex: Int\n open var accessKey: String\n open val accessKeyLabel: String\n open var draggable:
Boolean\n open val dropzone: DOMTokenList\n open var contextMenu: HTMLMenuElement?\n open var
spellcheck: Boolean\n open var innerText: String\n open val offsetParent: Element?\n open val offsetTop: Int\n
open val offsetLeft: Int\n open val offsetWidth: Int\n open val offsetHeight: Int\n fun click()\n fun focus()\n
fun blur()\n fun forceSpellCheck()\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLUnknownElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUnknownElement) to Kotlin\n *\npublic external abstract class HTMLUnknownElement : HTMLElement {\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[DOMStringMap](https://developer.mozilla.org/en/docs/Web/API/DOMStringMap) to Kotlin\n *\npublic external
abstract class DOMStringMap\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
DOMStringMap.get(name: String): String? = asDynamic()[name]\n\n@kotlin.internal.InlineOnly\n\npublic inline
operator fun DOMStringMap.set(name: String, value: String) { asDynamic()[name] = value }\n\n\n/**\n * Exposes
the JavaScript [HTMLHtmlElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHtmlElement) to
Kotlin\n *\npublic external abstract class HTMLHtmlElement : HTMLElement {\n open var version: String\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHeadElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadElement) to Kotlin\n *\npublic
external abstract class HTMLHeadElement : HTMLElement {\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:

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Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTitleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTitleElement) to Kotlin\n */\npublic
external abstract class HTMLTitleElement : HTMLElement {\n open var text: String\n\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLBaseElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBaseElement) to Kotlin\n */\npublic
external abstract class HTMLBaseElement : HTMLElement {\n open var href: String\n open var target:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLLinkElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLinkElement) to Kotlin\n */\npublic
external abstract class HTMLLinkElement : HTMLElement, LinkStyle {\n open var href: String\n open var
crossOrigin: String?\n open var rel: String\n open var `as`: RequestDestination\n open val relList:
DOMTokenList\n open var media: String\n open var nonce: String\n open var hreflang: String\n open var
type: String\n open val sizes: DOMTokenList\n open varreferrerPolicy: String\n open var charset: String\n
 open var rev: String\n open var target: String\n open var scope: String\n open var workerType:
WorkerType\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLMetaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMetaElement) to Kotlin\n */\npublic
external abstract class HTMLMetaElement : HTMLElement {\n open var name: String\n open var httpEquiv:
String\n open var content: String\n open var scheme: String\n\n companion object {\n val

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ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLStyleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLStyleElement) to Kotlin\n *^npublic
external abstract class HTMLStyleElement : HTMLElement, LinkStyle {\n open var media: String\n open var
nonce: String\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLBodyElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBodyElement) to Kotlin\n *^npublic
external abstract class HTMLBodyElement : HTMLElement, WindowEventHandlers {\n open var text: String\n
 open var link: String\n open var vLink: String\n open var aLink: String\n open var bgColor: String\n
 open
var background: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLHeadingElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadingElement) to Kotlin\n
*^npublic external abstract class HTMLHeadingElement : HTMLElement {\n open var align: String\n\n
 companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLParagraphElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParagraphElement) to Kotlin\n
*^npublic external abstract class HTMLParagraphElement : HTMLElement {\n open var align: String\n\n
 companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val

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TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHRElement) to Kotlin\n *\npublic
external abstract class HTMLHRElement : HTMLElement {\n open var align: String\n open var color: String\n
open var noShade: Boolean\n open var size: String\n open var width: String\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLPreElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPreElement) to Kotlin\n *\npublic
external abstract class HTMLPreElement : HTMLElement {\n open var width: Int\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLQuoteElement](https://developer.mozilla.org/en/docs/Web/API/HTMLQuoteElement) to Kotlin\n *\npublic
external abstract class HTMLQuoteElement : HTMLElement {\n open var cite: String\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLLOListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLOListElement) to Kotlin\n *\npublic
external abstract class HTMLLOListElement : HTMLElement {\n open var reversed: Boolean\n open var start:
Int\n open var type: String\n open var compact: Boolean\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val

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DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val  
DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n} \n \n /\*\* \n \* Exposes the JavaScript  
[HTMLUListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUListElement) to Kotlin \n \* \n public  
external abstract class HTMLUListElement : HTMLInputElement {\n open var compact: Boolean\n open var type:  
String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n  
val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE:  
Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val  
COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n  
val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n} \n \n /\*\* \n \* Exposes the JavaScript  
[HTMLLIElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLIElement) to Kotlin \n \* \n public  
external abstract class HTMLLIElement : HTMLInputElement {\n open var value: Int\n open var type: String\n  
companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val  
TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE:  
Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val  
COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n  
val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n} \n \n /\*\* \n \* Exposes the JavaScript  
[HTMLDListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDListElement) to Kotlin \n \* \n public  
external abstract class HTMLDListElement : HTMLInputElement {\n open var compact: Boolean\n\n companion  
object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE:  
Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val  
ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE:  
Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val  
DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n} \n \n /\*\* \n \* Exposes the JavaScript  
[HTMLDivElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDivElement) to Kotlin \n \* \n public  
external abstract class HTMLDivElement : HTMLInputElement {\n open var align: String\n\n companion object {\n  
val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val  
CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE:  
Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val  
DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val  
DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLAnchorElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAnchorElement) to Kotlin\n
*/\npublic external abstract class HTMLAnchorElement : HTMLInputElement, HTMLHyperlinkElementUtils {\n open
var target: String\n open var download: String\n open var ping: String\n open var rel: String\n open val
reList: DOMTokenList\n open var hreflang: String\n open var type: String\n open var text: String\n open
var referrerPolicy: String\n open var coords: String\n open var charset: String\n open var name: String\n
open var rev: String\n open var shape: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLDataElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataElement) to Kotlin\n
*/\npublic external abstract class HTMLDataElement : HTMLInputElement {\n open var value: String\n\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTimeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTimeElement) to Kotlin\n
*/\npublic external abstract class HTMLTimeElement : HTMLInputElement {\n open var dateTime: String\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSpanElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSpanElement) to Kotlin\n
*/\npublic external abstract class HTMLSpanElement : HTMLInputElement {\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLBRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBRElement) to Kotlin\n\n*\n\npublic
external abstract class HTMLBRElement : HTMLElement {\n open var clear: String\n\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHyperlinkElementUtils](https://developer.mozilla.org/en/docs/Web/API/HTMLHyperlinkElementUtils) to
Kotlin\n\n*\n\npublic external interface HTMLHyperlinkElementUtils {\n var href: String\n val origin: String\n
 var protocol: String\n var username: String\n var password: String\n var host: String\n var hostname:
String\n var port: String\n var pathname: String\n var search: String\n var hash: String\n}\n\n\n/**\n * Exposes
the JavaScript [HTMLModElement](https://developer.mozilla.org/en/docs/Web/API/HTMLModElement) to
Kotlin\n\n*\n\npublic external abstract class HTMLModElement : HTMLElement {\n open var cite: String\n open
var dateTime: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLPictureElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPictureElement) to Kotlin\n\n*\n\npublic
external abstract class HTMLPictureElement : HTMLElement {\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSourceElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSourceElement) to Kotlin\n\n*\n\npublic
external abstract class HTMLSourceElement : HTMLElement {\n open var src: String\n open var
type: String\n open var srcset: String\n open var sizes: String\n open var media: String\n\n companion object
{\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val

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DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLImageElement](https://developer.mozilla.org/en/docs/Web/API/HTMLImageElement) to Kotlin\n
*\npublic external abstract class HTMLImageElement : HTMLInputElement, HTMLOrSVGImageElement,
TexImageSource {\n open var alt: String\n open var src: String\n open var srcset: String\n open var sizes:
String\n open var crossOrigin: String?\n open var useMap: String\n open var isMap: Boolean\n open var
width: Int\n open var height: Int\n open val naturalWidth: Int\n open val naturalHeight: Int\n open val
complete: Boolean\n open val currentSrc: String\n open var referrerPolicy: String\n open var name: String\n
open var lowsrc: String\n open var align: String\n open var hspace: Int\n open var vspace: Int\n open var
longDesc: String\n open var border: String\n open val x: Int\n open val y: Int\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLIFrameElement](https://developer.mozilla.org/en/docs/Web/API/HTMLIFrameElement) to Kotlin\n
*\npublic external abstract class HTMLIFrameElement : HTMLInputElement {\n open var src: String\n open var
srcdoc: String\n open var name: String\n open val sandbox: DOMTokenList\n open var allowFullscreen:
Boolean\n open var allowUserMedia: Boolean\n open var width: String\n open var height: String\n open var
referrerPolicy: String\n open val contentDocument: Document?\n open val contentWindow: Window?\n open
var align: String\n open var scrolling: String\n open var frameBorder: String\n open var longDesc: String\n
open var marginHeight: String\n open var marginWidth: String\n fun getSVGDocument(): Document?\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLEmbedElement](https://developer.mozilla.org/en/docs/Web/API/HTMLEmbedElement) to Kotlin\n
*\npublic external abstract class HTMLEmbedElement : HTMLInputElement {\n open var src: String\n open var
type: String\n open var width: String\n open var height: String\n open var align: String\n open var name:
String\n fun getSVGDocument(): Document?\n\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to Kotlin\n
*\npublic external abstract class HTMLElement : HTML_Element {\n open var data: String\n open var
type: String\n open var typeMustMatch: Boolean\n open var name: String\n open var useMap: String\n open
val form: HTMLFormElement?\n open var width: String\n open var height: String\n open val
contentDocument: Document?\n open val contentWindow: Window?\n open val willValidate: Boolean\n open
val validity: ValidityState\n open val validationMessage: String\n open var align: String\n open var archive:
String\n open var code: String\n open var declare: Boolean\n open var hspace: Int\n open var standby:
String\n open var vspace: Int\n open var codeBase: String\n open var codeType: String\n open var border:
String\n fun getSVGDocument(): Document?\n fun checkValidity(): Boolean\n fun reportValidity():
Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLParamElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParamElement) to Kotlin\n
*\npublic external abstract class HTMLParamElement : HTML_Element {\n open var name: String\n open var
value: String\n open var type: String\n open var valueType: String\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLVideoElement](https://developer.mozilla.org/en/docs/Web/API/HTMLVideoElement) to Kotlin\n
*\npublic external abstract class HTMLVideoElement : HTMLMediaElement, CanvasImageSource, TexImageSource {\n
 open var width: Int\n open var height: Int\n open val videoWidth: Int\n open val videoHeight: Int\n open var
poster: String\n open var playsInline: Boolean\n\n companion object {\n val NETWORK_EMPTY: Short\n
 val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE:
Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val
HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA:
Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

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DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLAudioElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAudioElement) to Kotlin\n \*\npublic external abstract class HTMLAudioElement : HTMLMediaElement {\n companion object {\n val NETWORK\_EMPTY: Short\n val NETWORK\_IDLE: Short\n val NETWORK\_LOADING: Short\n val NETWORK\_NO\_SOURCE: Short\n val HAVE\_NOTHING: Short\n val HAVE\_METADATA: Short\n val HAVE\_CURRENT\_DATA: Short\n val HAVE\_FUTURE\_DATA: Short\n val HAVE\_ENOUGH\_DATA: Short\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLTrackElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTrackElement) to Kotlin\n \*\npublic external abstract class HTMLTrackElement : HTMLElement {\n open var kind: String\n open var src: String\n open var srclang: String\n open var label: String\n open var default: Boolean\n open val readyState: Short\n open val track: TextTrack\n\n companion object {\n val NONE: Short\n val LOADING: Short\n val LOADED: Short\n val ERROR: Short\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLMediaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMediaElement) to Kotlin\n \*\npublic external abstract class HTMLMediaElement : HTMLElement {\n open val error: MediaError?\n open var src: String\n open var srcObject: dynamic\n open val currentSrc: String\n open var crossOrigin: String?\n open val networkState: Short\n open var preload: String\n open val buffered: TimeRanges\n open val readyState: Short\n open val seeking: Boolean\n open var currentTime: Double\n open val duration: Double\n open val paused: Boolean\n open var defaultPlaybackRate: Double\n open var playbackRate: Double\n open val played: TimeRanges\n open val seekable: TimeRanges\n open val ended: Boolean\n open var autoplay: Boolean\n open var loop: Boolean\n open var controls: Boolean\n open var volume: Double\n open var muted: Boolean\n open var defaultMuted: Boolean\n open val audioTracks: AudioTrackList\n open val videoTracks: VideoTrackList\n open val textTracks: TextTrackList\n fun load()\n fun canPlayType(type: String): CanPlayTypeResult\n fun fastSeek(time: Double)\n fun getStartDate(): dynamic\n fun play(): Promise<Unit>\n fun pause()\n fun addTextTrack(kind: TextTrackKind, label: String = definedExternally, language: String = definedExternally): TextTrack\n\n companion object {\n val NETWORK\_EMPTY: Short\n val NETWORK\_IDLE: Short\n val NETWORK\_LOADING: Short\n val NETWORK\_NO\_SOURCE: Short\n val HAVE\_NOTHING: Short\n val HAVE\_METADATA: Short\n val HAVE\_CURRENT\_DATA: Short\n val HAVE\_FUTURE\_DATA: Short\n val HAVE\_ENOUGH\_DATA: Short\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val

COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n} \n \n /\*\* \n \* Exposes the JavaScript [MediaError](https://developer.mozilla.org/en/docs/Web/API/MediaError) to Kotlin \n \* \n public external abstract class MediaError { \n open val code: Short \n \n companion object { \n val MEDIA\_ERR\_ABORTED: Short \n val MEDIA\_ERR\_NETWORK: Short \n val MEDIA\_ERR\_DECODE: Short \n val MEDIA\_ERR\_SRC\_NOT\_SUPPORTED: Short \n } \n} \n \n /\*\* \n \* Exposes the JavaScript [AudioTrackList](https://developer.mozilla.org/en/docs/Web/API/AudioTrackList) to Kotlin \n \* \n public external abstract class AudioTrackList : EventTarget { \n open val length: Int \n open var onchange: ((Event) -> dynamic)? \n open var onaddtrack: ((TrackEvent) -> dynamic)? \n open var onremovetrack: ((TrackEvent) -> dynamic)? \n fun getTrackById(id: String): AudioTrack? \n} \n \n @kotlin.internal.InlineOnly \n public inline operator fun AudioTrackList.get(index: Int): AudioTrack? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript [AudioTrack](https://developer.mozilla.org/en/docs/Web/API/AudioTrack) to Kotlin \n \* \n public external abstract class AudioTrack : UnionAudioTrackOrTextTrackOrVideoTrack { \n open val id: String \n open val kind: String \n open val label: String \n open val language: String \n open var enabled: Boolean \n} \n \n /\*\* \n \* Exposes the JavaScript [VideoTrackList](https://developer.mozilla.org/en/docs/Web/API/VideoTrackList) to Kotlin \n \* \n public external abstract class VideoTrackList : EventTarget { \n open val length: Int \n open val selectedIndex: Int \n open var onchange: ((Event) -> dynamic)? \n open var onaddtrack: ((TrackEvent) -> dynamic)? \n open var onremovetrack: ((TrackEvent) -> dynamic)? \n fun getTrackById(id: String): VideoTrack? \n} \n \n @kotlin.internal.InlineOnly \n public inline operator fun VideoTrackList.get(index: Int): VideoTrack? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript [VideoTrack](https://developer.mozilla.org/en/docs/Web/API/VideoTrack) to Kotlin \n \* \n public external abstract class VideoTrack : UnionAudioTrackOrTextTrackOrVideoTrack { \n open val id: String \n open val kind: String \n open val label: String \n open val language: String \n open var selected: Boolean \n} \n \n public external abstract class TextTrackList : EventTarget { \n open val length: Int \n open var onchange: ((Event) -> dynamic)? \n open var onaddtrack: ((TrackEvent) -> dynamic)? \n open var onremovetrack: ((TrackEvent) -> dynamic)? \n fun getTrackById(id: String): TextTrack? \n} \n \n @kotlin.internal.InlineOnly \n public inline operator fun TextTrackList.get(index: Int): TextTrack? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript [TextTrack](https://developer.mozilla.org/en/docs/Web/API/TextTrack) to Kotlin \n \* \n public external abstract class TextTrack : EventTarget, UnionAudioTrackOrTextTrackOrVideoTrack { \n open val kind: TextTrackKind \n open val label: String \n open val language: String \n open val id: String \n open val inBandMetadataTrackDispatchType: String \n open var mode: TextTrackMode \n open val cues: TextTrackCueList? \n open val activeCues: TextTrackCueList? \n open var oncuechange: ((Event) -> dynamic)? \n fun addCue(cue: TextTrackCue) \n fun removeCue(cue: TextTrackCue) \n} \n \n public external abstract class TextTrackCueList { \n open val length: Int \n fun getCueById(id: String): TextTrackCue? \n} \n \n @kotlin.internal.InlineOnly \n public inline operator fun TextTrackCueList.get(index: Int): TextTrackCue? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript [TextTrackCue](https://developer.mozilla.org/en/docs/Web/API/TextTrackCue) to Kotlin \n \* \n public external abstract class TextTrackCue : EventTarget { \n open val track: TextTrack? \n open var id: String \n open var startTime: Double \n open var endTime: Double \n open var pauseOnExit: Boolean \n open var onenter: ((Event) -> dynamic)? \n open var onexit: ((Event) -> dynamic)? \n} \n \n /\*\* \n \* Exposes the JavaScript [TimeRanges](https://developer.mozilla.org/en/docs/Web/API/TimeRanges) to Kotlin \n \* \n public external abstract class TimeRanges { \n open val length: Int \n fun start(index: Int): Double \n fun end(index: Int): Double \n} \n \n /\*\* \n \* Exposes the JavaScript [TrackEvent](https://developer.mozilla.org/en/docs/Web/API/TrackEvent) to Kotlin \n \* \n public external open class

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TrackEvent(type: String, eventInitDict: TrackEventInit = definedExternally) : Event {\n open val track:
UnionAudioTrackOrTextTrackOrVideoTrack?\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface TrackEventInit : EventInit {\n var track:
UnionAudioTrackOrTextTrackOrVideoTrack? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun TrackEventInit(track:
UnionAudioTrackOrTextTrackOrVideoTrack? = null, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): TrackEventInit {\n val o = js("{}")\n o["track"] = track\n o["bubbles"] =
bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the
JavaScript [HTMLMapElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMapElement) to Kotlin\n
*/\npublic external abstract class HTMLMapElement : HTMLElement {\n open var name: String\n open val
areas: HTMLCollection\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAreaElement) to Kotlin\n
*/\npublic external abstract class HTMLAreaElement : HTMLElement, HTMLHyperlinkElementUtils {\n open var alt:
String\n open var coords: String\n open var shape: String\n open var target: String\n open var download:
String\n open var ping: String\n open var rel: String\n open val relList: DOMTokenList\n open var
referrerPolicy: String\n open var noHref: Boolean\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:
Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableElement) to Kotlin\n
*/\npublic external abstract class HTMLTableElement : HTMLElement {\n open var caption:
HTMLTableCaptionElement?\n open var tHead: HTMLTableSectionElement?\n open var tFoot:
HTMLTableSectionElement?\n open val tBodies: HTMLCollection\n open val rows: HTMLCollection\n open
var align: String\n open var border: String\n open var frame: String\n open var rules: String\n open var
summary: String\n open var width: String\n open var bgColor: String\n open var cellPadding: String\n open
var cellSpacing: String\n fun createCaption(): HTMLTableCaptionElement\n fun deleteCaption()\n fun
createTHead(): HTMLTableSectionElement\n fun deleteTHead()\n fun createTFoot():
HTMLTableSectionElement\n fun deleteTFoot()\n fun createTBody(): HTMLTableSectionElement\n fun
insertRow(index: Int = definedExternally): HTMLTableRowElement\n fun deleteRow(index: Int)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val

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COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableCaptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCaptionElement) to
Kotlin \n * \n public external abstract class HTMLTableCaptionElement : HTMLElement { \n open var align:
String \n \n companion object { \n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableColElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableColElement) to Kotlin \n
* \n public external abstract class HTMLTableColElement : HTMLElement { \n open var span: Int \n open var
align: String \n open var ch: String \n open var chOff: String \n open var vAlign: String \n open var width:
String \n \n companion object { \n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableSectionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableSectionElement) to
Kotlin \n * \n public external abstract class HTMLTableSectionElement : HTMLElement { \n open val rows:
HTMLCollection \n open var align: String \n open var ch: String \n open var chOff: String \n open var vAlign:
String \n fun insertRow(index: Int = definedExternally): HTMLElement \n fun deleteRow(index: Int) \n \n
 companion object { \n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableRowElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableRowElement) to Kotlin \n
* \n public external abstract class HTMLTableRowElement : HTMLElement { \n open val rowIndex: Int \n open
val sectionRowIndex: Int \n open val cells: HTMLCollection \n open var align: String \n open var ch: String \n
 open var chOff: String \n open var vAlign: String \n open var bgColor: String \n fun insertCell(index: Int =
definedExternally): HTMLElement \n fun deleteCell(index: Int) \n \n companion object { \n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val

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CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTableCellElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCellElement) to Kotlin \n
* \n public external abstract class HTMLTableCellElement : HTMLElement { \n open var colSpan: Int \n open var
rowSpan: Int \n open var headers: String \n open val cellIndex: Int \n open var scope: String \n open var abbr:
String \n open var align: String \n open var axis: String \n open var height: String \n open var width: String \n
 open var ch: String \n open var chOff: String \n open var noWrap: Boolean \n open var vAlign: String \n open
var bgColor: String \n \n companion object { \n val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE:
Short \n val TEXT_NODE: Short \n val CDATA_SECTION_NODE: Short \n val
ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE: Short \n val
PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLFormElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFormElement) to Kotlin \n
* \n public external abstract class HTMLFormElement : HTMLElement { \n open var acceptCharset: String \n open var
action: String \n open var autocomplete: String \n open var enctype: String \n open var encoding: String \n open
var method: String \n open var name: String \n open var noValidate: Boolean \n open var target: String \n open
val elements: HTMLFormControlsCollection \n open val length: Int \n fun submit() \n fun reset() \n fun
checkValidity(): Boolean \n fun reportValidity(): Boolean \n \n companion object { \n val ELEMENT_NODE:
Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val CDATA_SECTION_NODE:
Short \n val ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE: Short \n val
PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n \n @kotlin.internal.InlineOnly \n public inline operator fun HTMLFormElement.get(index: Int): Element? =
asDynamic()[index] \n \n @kotlin.internal.InlineOnly \n public inline operator fun HTMLFormElement.get(name:
String): UnionElementOrRadioNodeList? = asDynamic()[name] \n \n /** \n * Exposes the JavaScript
[HTMLLabelElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLabelElement) to Kotlin \n
* \n public external abstract class HTMLLabelElement : HTMLElement { \n open val form: HTMLFormElement? \n open
var htmlFor: String \n open val control: HTMLElement? \n \n companion object { \n val ELEMENT_NODE:
Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val CDATA_SECTION_NODE:
Short \n val ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE: Short \n val
PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val

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DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to Kotlin\n *^npublic
external abstract class HTMLInputElement : HTMLElement {\n open var accept: String\n open var alt: String\n
open var autocomplete: String\n open var autofocus: Boolean\n open var defaultChecked: Boolean\n open var
checked: Boolean\n open var dirName: String\n open var disabled: Boolean\n open val form:
HTMLFormElement?\n open val files: FileList?\n open var formAction: String\n open var formEnctype:
String\n open var formMethod: String\n open var formNoValidate: Boolean\n open var formTarget: String\n
open var height: Int\n open var indeterminate: Boolean\n open var inputMode: String\n open val list:
HTMLElement?\n open var max: String\n open var maxLength: Int\n open var min: String\n open var
minLength: Int\n open var multiple: Boolean\n open var name: String\n open var pattern: String\n open var
placeholder: String\n open var readOnly: Boolean\n open var required: Boolean\n open var size: Int\n open
var src: String\n open var step: String\n open var type: String\n open var defaultValue: String\n open var
value: String\n open var valueAsDate: dynamic\n open var valueAsNumber: Double\n open var width: Int\n
open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open
val labels: NodeList\n open var selectionStart: Int?\n open var selectionEnd: Int?\n open var
selectionDirection: String?\n open var align: String\n open var useMap: String\n fun stepUp(n: Int =
definedExternally)\n fun stepDown(n: Int = definedExternally)\n fun checkValidity(): Boolean\n fun
reportValidity(): Boolean\n fun setCustomValidity(error: String)\n fun select()\n fun
setRangeText(replacement: String)\n fun setRangeText(replacement: String, start: Int, end: Int, selectionMode:
SelectionMode = definedExternally)\n fun setSelectionRange(start: Int, end: Int, direction: String =
definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[HTMLButtonElement](https://developer.mozilla.org/en/docs/Web/API/HTMLButtonElement) to Kotlin\n *^npublic
external abstract class HTMLButtonElement : HTMLElement {\n open var autofocus: Boolean\n
open var disabled: Boolean\n open val form: HTMLFormElement?\n open var formAction: String\n open var
formEnctype: String\n open var formMethod: String\n open var formNoValidate: Boolean\n open var
formTarget: String\n open var name: String\n open var type: String\n open var value: String\n open var
menu: HTMLMenuElement?\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity():
Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n

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 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLSelectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSelectElement) to Kotlin \n * \n public
external abstract class HTMLSelectElement : HTMLElement, ItemArrayLike<Element> { \n open var
autocomplete: String \n open var autofocus: Boolean \n open var disabled: Boolean \n open val form:
HTMLFormElement? \n open var multiple: Boolean \n open var name: String \n open var required: Boolean \n
open var size: Int \n open val type: String \n open val options: HTMLOptionsCollection \n override var length:
Int \n open val selectedOptions: HTMLCollection \n open var selectedIndex: Int \n open var value: String \n
open val willValidate: Boolean \n open val validity: ValidityState \n open val validationMessage: String \n open
val labels: NodeList \n fun namedItem(name: String): HTMLOptionElement? \n fun add(element:
UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally) \n fun
remove(index: Int) \n fun checkValidity(): Boolean \n fun reportValidity(): Boolean \n fun
setCustomValidity(error: String) \n override fun item(index: Int): Element? \n \n companion object { \n val
ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val
CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE:
Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n
 } \n} \n \n @kotlin.internal.InlineOnly \n public inline operator fun HTMLSelectElement.get(index: Int): Element? =
asDynamic()[index] \n \n @kotlin.internal.InlineOnly \n public inline operator fun HTMLSelectElement.set(index: Int,
option: HTMLOptionElement?) { asDynamic()[index] = option } \n \n /** \n * Exposes the JavaScript
[HTMLDataListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataListElement) to Kotlin \n * \n public
external abstract class HTMLDataListElement : HTMLElement { \n open val options:
HTMLCollection \n \n companion object { \n val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE:
Short \n val TEXT_NODE: Short \n val CDATA_SECTION_NODE: Short \n val
ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE: Short \n val
PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n \n /** \n * Exposes the JavaScript
[HTMLOptGroupElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptGroupElement) to Kotlin \n * \n public
external abstract class HTMLOptGroupElement : HTMLElement,
UnionHTMLOptGroupElementOrHTMLOptionElement { \n open var disabled: Boolean \n open var label:
String \n \n companion object { \n val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n
 val TEXT_NODE: Short \n val CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE:
Short \n val ENTITY_NODE: Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val
COMMENT_NODE: Short \n val DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n
 val DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 } \n} \n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLOptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionElement) to Kotlin\n
*\n\npublic external abstract class HTMLOptionElement : HTMLElement,
UnionHTMLOptGroupElementOrHTMLOptionElement {\n open var disabled: Boolean\n open val form:
HTMLFormElement?\n open var label: String\n open var defaultSelected: Boolean\n open var selected:
Boolean\n open var value: String\n open var text: String\n open val index: Int\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTextAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTextAreaElement) to Kotlin\n
*\n\npublic external abstract class HTMLTextAreaElement : HTMLElement {\n open var autocomplete: String\n
open var autofocus: Boolean\n open var cols: Int\n open var dirName: String\n open var disabled: Boolean\n
open val form: HTMLFormElement?\n open var inputMode: String\n open var maxLength: Int\n open var
minLength: Int\n open var name: String\n open var placeholder: String\n open var readOnly: Boolean\n open
var required: Boolean\n open var rows: Int\n open var wrap: String\n open val type: String\n open var
defaultValue: String\n open var value: String\n open val maxLength: Int\n open val willValidate: Boolean\n
open val validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n open var
selectionStart: Int?\n open var selectionEnd: Int?\n open var selectionDirection: String?\n fun checkValidity():
Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n fun select()\n fun
setRangeText(replacement: String)\n fun setRangeText(replacement: String, start: Int, end: Int, selectionMode:
SelectionMode = definedExternally)\n fun setSelectionRange(start: Int, end: Int, direction: String =
definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLKeygenElement](https://developer.mozilla.org/en/docs/Web/API/HTMLKeygenElement) to Kotlin\n
*\n\npublic external abstract class HTMLKeygenElement : HTMLElement {\n open var autofocus: Boolean\n
open var challenge: String\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open var
keytype: String\n open var name: String\n open val type: String\n open val willValidate: Boolean\n open val
validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n fun checkValidity():
Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n

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DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLOutputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOutputElement) to Kotlin\n \*\n\npublic external abstract class HTMLOutputElement : HTMLElement {\n open val htmlFor: DOMTokenList\n open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open var defaultValue: String\n open var value: String\n open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLProgressElement](https://developer.mozilla.org/en/docs/Web/API/HTMLProgressElement) to Kotlin\n \*\n\npublic external abstract class HTMLProgressElement : HTMLElement {\n open var value: Double\n open var max: Double\n open val position: Double\n open val labels: NodeList\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLMeterElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMeterElement) to Kotlin\n \*\n\npublic external abstract class HTMLMeterElement : HTMLElement {\n open var value: Double\n open var min: Double\n open var max: Double\n open var low: Double\n open var high: Double\n open var optimum: Double\n open val labels: NodeList\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLFieldSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFieldSetElement) to Kotlin\n \*\n\npublic external abstract class HTMLFieldSetElement : HTMLFormElement {\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open val elements:

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HTMLCollection\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun
setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n /**\n * Exposes the JavaScript
[HTMLLegendElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLegendElement) to Kotlin\n
*\npublic external abstract class HTMLLegendElement : HTMLElement {\n open val form:
HTMLFormElement?\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n /**\n * Exposes the JavaScript
[ValidityState](https://developer.mozilla.org/en/docs/Web/API/ValidityState) to Kotlin\n
*\npublic external
abstract class ValidityState {\n open val valueMissing: Boolean\n open val typeMismatch: Boolean\n open val
patternMismatch: Boolean\n open val tooLong: Boolean\n open val tooShort: Boolean\n open val
rangeUnderflow: Boolean\n open val rangeOverflow: Boolean\n open val stepMismatch: Boolean\n open val
badInput: Boolean\n open val customError: Boolean\n open val valid: Boolean\n}\n\n /**\n * Exposes the
JavaScript [HTMLDetailsElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDetailsElement) to
Kotlin\n
*\npublic external abstract class HTMLDetailsElement : HTMLElement {\n open var open: Boolean\n\n
 companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n /**\npublic external abstract class
HTMLMenuElement : HTMLElement {\n open var type: String\n open var label: String\n open var compact:
Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
HTMLMenuItemElement : HTMLInputElement {\n open var type: String\n open var label: String\n open var icon:
String\n open var disabled: Boolean\n open var checked: Boolean\n open var radiogroup: String\n open var
default: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external open class
RelatedEvent(type: String, eventInitDict: RelatedEventInit = definedExternally) : Event {\n open val
relatedTarget: EventTarget?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE:
Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface
RelatedEventInit : EventInit {\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun RelatedEventInit(relatedTarget:
EventTarget? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
RelatedEventInit {\n val o = js("{}")\n o["relatedTarget"] = relatedTarget\n o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[HTMLDialogElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDialogElement) to Kotlin\n
*/\n\npublic external abstract class HTMLDialogElement : HTMLInputElement {\n open var open: Boolean\n open var
returnValue: String\n fun show(anchor: UnionElementOrMouseEvent = definedExternally)\n fun
showModal(anchor: UnionElementOrMouseEvent = definedExternally)\n fun close(returnValue: String =
definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLScriptElement](https://developer.mozilla.org/en/docs/Web/API/HTMLScriptElement) to Kotlin\n
*/\n\npublic external abstract class HTMLScriptElement : HTMLInputElement, HTMLOrSVGScriptElement {\n open var src:
String\n open var type: String\n open var charset: String\n open var async: Boolean\n open var defer:
Boolean\n open var crossOrigin: String?\n open var text: String\n open var nonce: String\n open var event:
String\n open var htmlFor: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTemplateElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTemplateElement) to Kotlin\n
*\npublic external abstract class HTMLTemplateElement : HTMLElement {\n open val content:
DocumentFragment\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSlotElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSlotElement) to Kotlin\n
*\npublic external abstract class HTMLSlotElement : HTMLElement {\n open var name: String\n fun
assignedNodes(options: AssignedNodesOptions = definedExternally): Array<Node>\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
AssignedNodesOptions {\n var flatten: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun AssignedNodesOptions(flatten: Boolean? =
false): AssignedNodesOptions {\n val o = js("{}")\n o["flatten"] = flatten\n return o\n}\n\n/**\n * Exposes
the JavaScript [HTMLCanvasElement](https://developer.mozilla.org/en/docs/Web/API/HTMLCanvasElement) to
Kotlin\n
*\npublic external abstract class HTMLCanvasElement : HTMLCanvasElement, CanvasImageSource,
TexImageSource {\n open var width: Int\n open var height: Int\n fun getContext(contextId: String, vararg
arguments: Any?): RenderingContext?\n fun toDataURL(type: String = definedExternally, quality: Any? =
definedExternally): String\n fun toBlob(_callback: (Blob?) -> Unit, type: String = definedExternally, quality:
Any? = definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
CanvasRenderingContext2DSettings {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
CanvasRenderingContext2DSettings(alpha: Boolean? = true): CanvasRenderingContext2DSettings {\n val o =
js("{}")\n o["alpha"] = alpha\n return o\n}\n\n/**\n * Exposes the JavaScript

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[CanvasRenderingContext2D](https://developer.mozilla.org/en/docs/Web/API/CanvasRenderingContext2D) to
Kotlin\n *\npublic external abstract class CanvasRenderingContext2D : CanvasState, CanvasTransform,
CanvasCompositing, CanvasImageSmoothing, CanvasFillStrokeStyles, CanvasShadowStyles, CanvasFilters,
CanvasRect, CanvasDrawPath, CanvasUserInterface, CanvasText, CanvasDrawImage, CanvasHitRegion,
CanvasImageData, CanvasPathDrawingStyles, CanvasTextDrawingStyles, CanvasPath, RenderingContext {\n
open val canvas: HTMLCanvasElement\n}\n\npublic external interface CanvasState {\n fun save()\n fun
restore()\n}\n\npublic external interface CanvasTransform {\n fun scale(x: Double, y: Double)\n fun
rotate(angle: Double)\n fun translate(x: Double, y: Double)\n fun transform(a: Double, b: Double, c: Double, d:
Double, e: Double, f: Double)\n fun getTransform(): DOMMatrix\n fun setTransform(a: Double, b: Double, c:
Double, d: Double, e: Double, f: Double)\n fun setTransform(transform: dynamic = definedExternally)\n fun
resetTransform()\n}\n\npublic external interface CanvasCompositing {\n var globalAlpha: Double\n var
globalCompositeOperation: String\n}\n\npublic external interface CanvasImageSmoothing {\n var
imageSmoothingEnabled: Boolean\n var imageSmoothingQuality: ImageSmoothingQuality\n}\n\npublic external
interface CanvasFillStrokeStyles {\n var strokeStyle: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var fillStyle: dynamic\n get() = definedExternally\n set(value) = definedExternally\n
fun createLinearGradient(x0: Double, y0: Double, x1: Double, y1: Double): CanvasGradient\n fun
createRadialGradient(x0: Double, y0: Double, r0: Double, x1: Double, y1: Double, r1: Double): CanvasGradient\n
fun createPattern(image: CanvasImageSource, repetition: String): CanvasPattern?\n}\n\npublic external interface
CanvasShadowStyles {\n var shadowOffsetX: Double\n var shadowOffsetY: Double\n var shadowBlur:
Double\n var shadowColor: String\n}\n\npublic external interface CanvasFilters {\n var filter:
String\n}\n\npublic external interface CanvasRect {\n fun clearRect(x: Double, y: Double, w: Double, h:
Double)\n fun fillRect(x: Double, y: Double, w: Double, h: Double)\n fun strokeRect(x: Double, y: Double, w:
Double, h: Double)\n}\n\npublic external interface CanvasDrawPath {\n fun beginPath()\n fun fill(fillRule:
CanvasFillRule = definedExternally)\n fun fill(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n
fun stroke()\n fun stroke(path: Path2D)\n fun clip(fillRule: CanvasFillRule = definedExternally)\n fun
clip(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n fun resetClip()\n fun isPointInPath(x:
Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n fun isPointInPath(path: Path2D, x:
Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n fun isPointInStroke(x: Double, y:
Double): Boolean\n fun isPointInStroke(path: Path2D, x: Double, y: Double): Boolean\n}\n\npublic external
interface CanvasUserInterface {\n fun drawFocusIfNeeded(element: Element)\n fun drawFocusIfNeeded(path:
Path2D, element: Element)\n fun scrollPathIntoView()\n fun scrollPathIntoView(path: Path2D)\n}\n\npublic
external interface CanvasText {\n fun fillText(text: String, x: Double, y: Double, maxWidth: Double =
definedExternally)\n fun strokeText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally)\n
fun measureText(text: String): TextMetrics\n}\n\npublic external interface CanvasDrawImage {\n fun
drawImage(image: CanvasImageSource, dx: Double, dy: Double)\n fun drawImage(image: CanvasImageSource,
dx: Double, dy: Double, dw: Double, dh: Double)\n fun drawImage(image: CanvasImageSource, sx: Double, sy:
Double, sw: Double, sh: Double, dx: Double, dy: Double, dw: Double, dh: Double)\n}\n\npublic external interface
CanvasHitRegion {\n fun addHitRegion(options: HitRegionOptions = definedExternally)\n fun
removeHitRegion(id: String)\n fun clearHitRegions()\n}\n\npublic external interface CanvasImageData {\n fun
createImageData(sw: Double, sh: Double): ImageData\n fun createImageData(imagedata: ImageData):
ImageData\n fun getImageData(sx: Double, sy: Double, sw: Double, sh: Double): ImageData\n fun
putImageData(imagedata: ImageData, dx: Double, dy: Double)\n fun putImageData(imagedata: ImageData, dx:
Double, dy: Double, dirtyX: Double, dirtyY: Double, dirtyWidth: Double, dirtyHeight: Double)\n}\n\npublic
external interface CanvasPathDrawingStyles {\n var lineWidth: Double\n var lineCap: CanvasLineCap\n var
lineJoin: CanvasLineJoin\n var miterLimit: Double\n var lineDashOffset: Double\n fun setLineDash(segments:
Array<Double>)\n fun getLineDash(): Array<Double>\n}\n\npublic external interface CanvasTextDrawingStyles
{\n var font: String\n var textAlign: CanvasTextAlign\n var textBaseline: CanvasTextBaseline\n var
direction: CanvasDirection\n}\n\npublic external interface CanvasPath {\n fun closePath()\n fun moveTo(x:

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Double, y: Double)\n fun lineTo(x: Double, y: Double)\n fun quadraticCurveTo(cpx: Double, cpy: Double, x:
Double, y: Double)\n fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y:
Double)\n fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n fun arcTo(x1: Double,
y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n fun rect(x: Double, y:
Double, w: Double, h: Double)\n fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle:
Double, anticlockwise: Boolean = definedExternally)\n fun ellipse(x: Double, y: Double, radiusX: Double,
radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean =
definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[CanvasGradient](https://developer.mozilla.org/en/docs/Web/API/CanvasGradient) to Kotlin\n *\npublic external
abstract class CanvasGradient {\n fun addColorStop(offset: Double, color: String)\n}\n\n/**\n * Exposes the
JavaScript [CanvasPattern](https://developer.mozilla.org/en/docs/Web/API/CanvasPattern) to Kotlin\n *\npublic
external abstract class CanvasPattern {\n fun setTransform(transform: dynamic = definedExternally)\n}\n\n/**\n *
Exposes the JavaScript [TextMetrics](https://developer.mozilla.org/en/docs/Web/API/TextMetrics) to Kotlin\n
*\npublic external abstract class TextMetrics {\n open val width: Double\n open val actualBoundingBoxLeft:
Double\n open val actualBoundingBoxRight: Double\n open val fontBoundingBoxAscent: Double\n open val
fontBoundingBoxDescent: Double\n open val actualBoundingBoxAscent: Double\n open val
actualBoundingBoxDescent: Double\n open val emHeightAscent: Double\n open val emHeightDescent:
Double\n open val hangingBaseline: Double\n open val alphabeticBaseline: Double\n open val
ideographicBaseline: Double\n}\n\npublic external interface HitRegionOptions {\n var path: Path2D? /* = null
\n get() = definedExternally\n set(value) = definedExternally\n var fillRule: CanvasFillRule? / =
CanvasFillRule.NONZERO *\n get() = definedExternally\n set(value) = definedExternally\n var id:
String? /* = \"\" *\n get() = definedExternally\n set(value) = definedExternally\n var parentID: String? /*
= null *\n get() = definedExternally\n set(value) = definedExternally\n var cursor: String? /* = \"inherit\"
\n get() = definedExternally\n set(value) = definedExternally\n var control: Element? / = null *\n
get() = definedExternally\n set(value) = definedExternally\n var label: String? /* = null *\n get() =
definedExternally\n set(value) = definedExternally\n var role: String? /* = null *\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
HitRegionOptions(path: Path2D? = null, fillRule: CanvasFillRule? = CanvasFillRule.NONZERO, id: String? = \"\",
parentID: String? = null, cursor: String? = \"inherit\", control: Element? = null, label: String? = null, role: String? =
null): HitRegionOptions {\n val o = js(\"{\}\")\n o[\"path\"] = path\n o[\"fillRule\"] = fillRule\n o[\"id\"] =
id\n o[\"parentID\"] = parentID\n o[\"cursor\"] = cursor\n o[\"control\"] = control\n o[\"label\"] = label\n
o[\"role\"] = role\n return o\n}\n\n/**\n * Exposes the JavaScript
[ImageData](https://developer.mozilla.org/en/docs/Web/API/ImageData) to Kotlin\n *\npublic external open class
ImageData : ImageBitmapSource, TexImageSource {\n constructor(sw: Int, sh: Int)\n constructor(data:
Uint8ClampedArray, sw: Int, sh: Int = definedExternally)\n open val width: Int\n open val height: Int\n open
val data: Uint8ClampedArray\n}\n\n/**\n * Exposes the JavaScript
[Path2D](https://developer.mozilla.org/en/docs/Web/API/Path2D) to Kotlin\n *\npublic external open class
Path2D() : CanvasPath {\n constructor(path: Path2D)\n constructor(paths: Array<Path2D>, fillRule:
CanvasFillRule = definedExternally)\n constructor(d: String)\n fun addPath(path: Path2D, transform: dynamic =
definedExternally)\n override fun closePath()\n override fun moveTo(x: Double, y: Double)\n override fun
lineTo(x: Double, y: Double)\n override fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n
override fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n
override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n override fun arcTo(x1:
Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n override fun
rect(x: Double, y: Double, w: Double, h: Double)\n override fun arc(x: Double, y: Double, radius: Double,
startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally */)\n override fun ellipse(x:
Double, y: Double, radiusX: Double, radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double,
anticlockwise: Boolean /* = definedExternally */)\n}\n\n/**\n * Exposes the JavaScript

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[ImageBitmapRenderingContext](https://developer.mozilla.org/en/docs/Web/API/ImageBitmapRenderingContext) to Kotlin\n
\npublic external abstract class ImageBitmapRenderingContext {\n open val canvas: HTMLCanvasElement\n fun transferFromImageBitmap(bitmap: ImageBitmap?)\n}\n\npublic external interface ImageBitmapRenderingContextSettings {\n var alpha: Boolean? / = true */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ImageBitmapRenderingContextSettings(alpha: Boolean? = true): ImageBitmapRenderingContextSettings {\n val o = js("{}")\n o["alpha"] = alpha\n return o\n}\n\n/**\n * Exposes the JavaScript
[CustomElementRegistry](https://developer.mozilla.org/en/docs/Web/API/CustomElementRegistry) to Kotlin\n
*\npublic external abstract class CustomElementRegistry {\n fun define(name: String, constructor: () -> dynamic, options: ElementDefinitionOptions = definedExternally)\n fun get(name: String): Any?\n fun whenDefined(name: String): Promise<Unit>\n}\n\npublic external interface ElementDefinitionOptions {\n var extends: String?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ElementDefinitionOptions(extends: String? = undefined): ElementDefinitionOptions {\n val o = js("{}")\n o["extends"] = extends\n return o\n}\n\npublic external interface ElementContentEditable {\n var contentEditable: String\n val isContentEditable: Boolean\n}\n\n/**\n * Exposes the JavaScript
[DataTransfer](https://developer.mozilla.org/en/docs/Web/API/DataTransfer) to Kotlin\n
*\npublic external abstract class DataTransfer {\n open var dropEffect: String\n open var effectAllowed: String\n open val items: DataTransferItemList\n open val types: Array<out String>\n open val files: FileList\n fun setDragImage(image: Element, x: Int, y: Int)\n fun getData(format: String): String\n fun setData(format: String, data: String)\n fun clearData(format: String = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[DataTransferItemList](https://developer.mozilla.org/en/docs/Web/API/DataTransferItemList) to Kotlin\n
*\npublic external abstract class DataTransferItemList {\n open val length: Int\n fun add(data: String, type: String): DataTransferItem?\n fun add(data: File): DataTransferItem?\n fun remove(index: Int)\n fun clear()\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun DataTransferItemList.get(index: Int): DataTransferItem? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DataTransferItem](https://developer.mozilla.org/en/docs/Web/API/DataTransferItem) to Kotlin\n
*\npublic external abstract class DataTransferItem {\n open val kind: String\n open val type: String\n fun getAsString(_callback: ((String) -> Unit)?)\n fun getAsFile(): File?\n}\n\n/**\n * Exposes the JavaScript
[DragEvent](https://developer.mozilla.org/en/docs/Web/API/TouchEvent) to Kotlin\n
\npublic external open class DragEvent(type: String, eventInitDict: DragEventInit = definedExternally) : MouseEvent {\n open val dataTransfer: DataTransfer?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface DragEventInit : MouseEventInit {\n var dataTransfer: DataTransfer? / = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DragEventInit(dataTransfer: DataTransfer? = null, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): DragEventInit {\n val o = js("{}")\n o["dataTransfer"] = dataTransfer\n o["screenX"] = screenX\n o["screenY"] = screenY\n o["clientX"] = clientX\n o["clientY"] = clientY\n o["button"] = button\n o["buttons"] = buttons\n o["relatedTarget"] = relatedTarget\n o["region"] = region\n o["ctrlKey"] = ctrlKey\n o["shiftKey"] = shiftKey\n o["altKey"] = altKey\n o["metaKey"] = metaKey\n o["modifierAltGraph"] = modifierAltGraph\n o["modifierCapsLock"] = modifierCapsLock\n o["modifierFn"] = modifierFn\n o["modifierFnLock"] = modifierFnLock\n o["modifierHyper"] =

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modifierHyper\n o["modifierNumLock"] = modifierNumLock\n o["modifierScrollLock"] =
modifierScrollLock\n o["modifierSuper"] = modifierSuper\n o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] = view\n o["detail"] = detail\n
o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript [Window](https://developer.mozilla.org/en/docs/Web/API/Window) to
Kotlin\n */\npublic external abstract class Window : EventTarget, GlobalEventHandlers, WindowEventHandlers,
WindowOrWorkerGlobalScope, WindowSessionStorage, WindowLocalStorage, GlobalPerformance,
UnionMessagePortOrWindowProxy {\n open val window: Window\n open val self: Window\n open val
document: Document\n open var name: String\n open val location: Location\n open val history: History\n
open val customElements: CustomElementRegistry\n open val locationbar: BarProp\n open val menubar:
BarProp\n open val personalbar: BarProp\n open val scrollbars: BarProp\n open val statusbar: BarProp\n
open val toolbar: BarProp\n open var status: String\n open val closed: Boolean\n open val frames: Window\n
open val length: Int\n open val top: Window\n open var opener: Any?\n open val parent: Window\n open val
frameElement: Element?\n open val navigator: Navigator\n open val applicationCache: ApplicationCache\n
open val external: External\n open val screen: Screen\n open val innerWidth: Int\n open val innerHeight: Int\n
open val scrollX: Double\n open val pageXOffset: Double\n open val scrollY: Double\n open val
pageYOffset: Double\n open val screenX: Int\n open val screenY: Int\n open val outerWidth: Int\n open val
outerHeight: Int\n open val devicePixelRatio: Double\n fun close()\n fun stop()\n fun focus()\n fun blur()\n
fun open(url: String = definedExternally, target: String = definedExternally, features: String = definedExternally):
Window?\n fun alert()\n fun alert(message: String)\n fun confirm(message: String = definedExternally):
Boolean\n fun prompt(message: String = definedExternally, default: String = definedExternally): String?\n fun
print()\n fun requestAnimationFrame(callback: (Double) -> Unit): Int\n fun cancelAnimationFrame(handle:
Int)\n fun postMessage(message: Any?, targetOrigin: String, transfer: Array<dynamic> = definedExternally)\n
fun captureEvents()\n fun releaseEvents()\n fun matchMedia(query: String): MediaQueryList\n fun moveTo(x:
Int, y: Int)\n fun moveBy(x: Int, y: Int)\n fun resizeTo(x: Int, y: Int)\n fun resizeBy(x: Int, y: Int)\n fun
scroll(options: ScrollToOptions = definedExternally)\n fun scroll(x: Double, y: Double)\n fun scrollTo(options:
ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n fun scrollBy(options:
ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun getComputedStyle(elt:
Element, pseudoElt: String? = definedExternally): CSSStyleDeclaration\n}\n\n@kotlin.internal.InlineOnly\npublic
inline operator fun Window.get(name: String): dynamic = asDynamic()[name]\n\npublic external abstract class
BarProp {\n open val visible: Boolean\n}\n\n/**\n * Exposes the JavaScript
[History](https://developer.mozilla.org/en/docs/Web/API/History) to Kotlin\n */\npublic external abstract class
History {\n open val length: Int\n open var scrollRestoration: ScrollRestoration\n open val state: Any?\n fun
go(delta: Int = definedExternally)\n fun back()\n fun forward()\n fun pushState(data: Any?, title: String, url:
String? = definedExternally)\n fun replaceState(data: Any?, title: String, url: String? =
definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[Location](https://developer.mozilla.org/en/docs/Web/API/Location) to Kotlin\n */\npublic external abstract class
Location {\n open var href: String\n open val origin: String\n open var protocol: String\n open var host:
String\n open var hostname: String\n open var port: String\n open var pathname: String\n open var search:
String\n open var hash: String\n open val ancestorOrigins: Array<out String>\n fun assign(url: String)\n fun
replace(url: String)\n fun reload()\n}\n\n/**\n * Exposes the JavaScript
[PopStateEvent](https://developer.mozilla.org/en/docs/Web/API/PopStateEvent) to Kotlin\n */\npublic external
open class PopStateEvent(type: String, eventInitDict: PopStateEventInit = definedExternally) : Event {\n open val
state: Any?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface PopStateEventInit
: EventInit {\n var state: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun PopStateEventInit(state: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PopStateEventInit {\n val o

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= js("{}")\n o["state"] = state\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n
o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[HashChangeEvent](https://developer.mozilla.org/en/docs/Web/API/HashChangeEvent) to Kotlin\n *\npublic
external open class HashChangeEvent(type: String, eventInitDict: HashChangeEventInit = definedExternally) :
Event {\n open val oldURL: String\n open val newURL: String\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface HashChangeEventInit : EventInit {\n var oldURL: String? /* = "" */\n
get() = definedExternally\n set(value) = definedExternally\n var newURL: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
HashChangeEventInit(oldURL: String? = "", newURL: String? = "", bubbles: Boolean? = false, cancelable:
Boolean? = false, composed: Boolean? = false): HashChangeEventInit {\n val o = js("{}")\n o["oldURL"] =
oldURL\n o["newURL"] = newURL\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n
o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[PageTransitionEvent](https://developer.mozilla.org/en/docs/Web/API/PageTransitionEvent) to Kotlin\n *\npublic
external open class PageTransitionEvent(type: String, eventInitDict: PageTransitionEventInit = definedExternally) :
Event {\n open val persisted: Boolean\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface PageTransitionEventInit : EventInit {\n var persisted: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
PageTransitionEventInit(persisted: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): PageTransitionEventInit {\n val o = js("{}")\n o["persisted"] = persisted\n
o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript
[BeforeUnloadEvent](https://developer.mozilla.org/en/docs/Web/API/BeforeUnloadEvent) to Kotlin\n *\npublic
external open class BeforeUnloadEvent : Event {\n var returnValue: String\n\n companion object {\n val
NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external abstract class ApplicationCache : EventTarget {\n open
val status: Short\n open var onchecking: ((Event) -> dynamic)?\n open var onerror: ((Event) -> dynamic)?\n
open var onnoupdate: ((Event) -> dynamic)?\n open var ondownloading: ((Event) -> dynamic)?\n open var
onprogress: ((ProgressEvent) -> dynamic)?\n open var onupdateready: ((Event) -> dynamic)?\n open var
oncached: ((Event) -> dynamic)?\n open var onobsolete: ((Event) -> dynamic)?\n fun update()\n fun abort()\n
fun swapCache()\n\n companion object {\n val UNCACHED: Short\n val IDLE: Short\n val
CHECKING: Short\n val DOWNLOADING: Short\n val UPDATEREADY: Short\n val OBSOLETE:
Short\n }\n}\n\n/**\n * Exposes the JavaScript
[NavigatorOnLine](https://developer.mozilla.org/en/docs/Web/API/NavigatorOnLine) to Kotlin\n *\npublic
external interface NavigatorOnLine {\n val onLine: Boolean\n}\n\n/**\n * Exposes the JavaScript
[ErrorEvent](https://developer.mozilla.org/en/docs/Web/API/ErrorEvent) to Kotlin\n *\npublic external open class
ErrorEvent(type: String, eventInitDict: ErrorEventInit = definedExternally) : Event {\n open val message: String\n
open val filename: String\n open val lineno: Int\n open val colno: Int\n open val error: Any?\n\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface ErrorEventInit : EventInit {\n var message:
String? /* = "" */\n get() = definedExternally\n set(value) = definedExternally\n var filename: String? /*
= "" */\n get() = definedExternally\n set(value) = definedExternally\n var lineno: Int? /* = 0 */\n
get() = definedExternally\n set(value) = definedExternally\n var colno: Int? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var error: Any? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ErrorEventInit(message: String? = "", filename: String? = "", lineno: Int? = 0, colno: Int? = 0, error: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ErrorEventInit {\n val o =

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js(\("{})")\n o["message"] = message\n o["filename"] = filename\n o["lineno"] = lineno\n o["colno"] =
colno\n o["error"] = error\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[PromiseRejectionEvent](https://developer.mozilla.org/en/docs/Web/API/PromiseRejectionEvent) to Kotlin\n
*\npublic external open class PromiseRejectionEvent(type: String, eventInitDict: PromiseRejectionEventInit) :
Event {\n open val promise: Promise<Any?>\n open val reason: Any?\n\n companion object {\n val
NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface PromiseRejectionEventInit : EventInit {\n var
promise: Promise<Any?>\n get() = definedExternally\n set(value) = definedExternally\n var reason:
Any?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun PromiseRejectionEventInit(promise:
Promise<Any?>?, reason: Any? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): PromiseRejectionEventInit {\n val o = js(\("{})")\n o["promise"] = promise\n
o["reason"] = reason\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[GlobalEventHandlers](https://developer.mozilla.org/en/docs/Web/API/GlobalEventHandlers) to Kotlin\n
*\npublic external interface GlobalEventHandlers {\n var onabort: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onblur: ((FocusEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var oncancel: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var oncanplay: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var oncanplaythrough: ((Event) -> dynamic)?\n get()
= definedExternally\n set(value) = definedExternally\n var onchange: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onclick: ((MouseEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onclose: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var oncontextmenu: ((MouseEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var oncuechange: ((Event) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondblclick: ((MouseEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondrag: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondragend: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondragenter: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondragexit: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondragleave: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondragover: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondragstart: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondrop: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondurationchange: ((Event) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onemptied: ((Event) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onended: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onerror: ((dynamic, String, Int, Int, Any?) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onfocus: ((FocusEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oninput: ((InputEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oninvalid: ((Event) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onkeydown:
((KeyboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onkeypress: ((KeyboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onkeyup: ((KeyboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onload: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onloadeddata: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =

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definedExternally\n var unloadedmetadata: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onloadend: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onloadstart: ((ProgressEvent) -> dynamic)?\n get() = definedExternally\n
 set(value) = definedExternally\n var onmousedown: ((MouseEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onmouseenter: ((MouseEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onmouseleave: ((MouseEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onmousemove:
((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onmouseout: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onmouseover: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onmouseup: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onwheel: ((WheelEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onpause: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onplay: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onplaying: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onprogress: ((ProgressEvent) -> dynamic)?\n get() = definedExternally\n
 set(value) = definedExternally\n var onratechange: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onreset: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onresize: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onscroll: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onseeked: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onseeking: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onselect: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onshow: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onstalled: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onsubmit: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onsuspend: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var ontimeupdate: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var ontoggle: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onvolumechange: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onwaiting: ((Event) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var ongotpointercapture: ((PointerEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onlostpointercapture: ((PointerEvent) -> dynamic)?\n
 get() = definedExternally\n set(value) = definedExternally\n var onpointerdown: ((PointerEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onpointermove:
((PointerEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onpointerup: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onpointercancel: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onpointerover: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onpointerout: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n
 set(value) = definedExternally\n var onpointerenter: ((PointerEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onpointerleave: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n**\n * Exposes the JavaScript
[WindowEventHandlers](https://developer.mozilla.org/en/docs/Web/API/WindowEventHandlers) to Kotlin\n
*\npublic external interface WindowEventHandlers {\n var onafterprint: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onbeforeprint: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onbeforeunload: ((BeforeUnloadEvent) ->
String)?\n get() = definedExternally\n set(value) = definedExternally\n var onhashchange:

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((HashChangeEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onlanguagechange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onmessage: ((MessageEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onoffline: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var ononline: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onpagehide: ((PageTransitionEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onpageshow: ((PageTransitionEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onpopstate: ((PopStateEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onrejectionhandled: ((Event) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onstorage: ((StorageEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onunhandledrejection:
((PromiseRejectionEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onunload: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\npublic external interface DocumentAndElementEventHandlers {\n var oncopy:
((ClipboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncut:
((ClipboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onpaste: ((ClipboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[WindowOrWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WindowOrWorkerGlobalScope)
to Kotlin\n */\n\npublic external interface WindowOrWorkerGlobalScope {\n val origin: String\n val caches:
CacheStorage\n fun btoa(data: String): String\n fun atob(data: String): String\n fun setTimeout(handler:
dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n fun clearTimeout(handle: Int =
definedExternally)\n fun setInterval(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?):
Int\n fun clearInterval(handle: Int = definedExternally)\n fun createImageBitmap(image: ImageBitmapSource,
options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n fun createImageBitmap(image:
ImageBitmapSource, sx: Int, sy: Int, sw: Int, sh: Int, options: ImageBitmapOptions = definedExternally):
Promise<ImageBitmap>\n fun fetch(input: dynamic, init: RequestInit = definedExternally):
Promise<Response>\n}\n\n/**\n * Exposes the JavaScript
[Navigator](https://developer.mozilla.org/en/docs/Web/API/Navigator) to Kotlin\n */\n\npublic external abstract class
Navigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorContentUtils, NavigatorCookies,
NavigatorPlugins, NavigatorConcurrentHardware {\n open val clipboard: Clipboard\n open val mediaDevices:
MediaDevices\n open val maxTouchPoints: Int\n open val serviceWorker: ServiceWorkerContainer\n fun
getUserMedia(constraints: MediaStreamConstraints, successCallback: (MediaStream) -> Unit, errorCallback:
(dynamic) -> Unit)\n fun vibrate(pattern: dynamic): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorID](https://developer.mozilla.org/en/docs/Web/API/NavigatorID) to Kotlin\n */\n\npublic external interface
NavigatorID {\n val appCodeName: String\n val appName: String\n val appVersion: String\n val platform:
String\n val product: String\n val productSub: String\n val userAgent: String\n val vendor: String\n val
vendorSub: String\n val oscpu: String\n fun taintEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorLanguage](https://developer.mozilla.org/en/docs/Web/API/NavigatorLanguage) to Kotlin\n */\n\npublic
external interface NavigatorLanguage {\n val language: String\n val languages: Array<out String>\n}\n\npublic
external interface NavigatorContentUtils {\n fun registerProtocolHandler(scheme: String, url: String, title:
String)\n fun registerContentHandler(mimeType: String, url: String, title: String)\n fun
isProtocolHandlerRegistered(scheme: String, url: String): String\n fun isContentHandlerRegistered(mimeType:
String, url: String): String\n fun unregisterProtocolHandler(scheme: String, url: String)\n fun
unregisterContentHandler(mimeType: String, url: String)\n}\n\npublic external interface NavigatorCookies {\n val
cookieEnabled: Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorPlugins](https://developer.mozilla.org/en/docs/Web/API/NavigatorPlugins) to Kotlin\n */\n\npublic
external interface NavigatorPlugins {\n val plugins: PluginArray\n val mimeTypes: MimeTypeError\n fun

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javaEnabled(): Boolean\n}\n\n**\n * Exposes the JavaScript
[PluginArray](https://developer.mozilla.org/en/docs/Web/API/PluginArray) to Kotlin\n *^npublic external abstract
class PluginArray : ItemArrayLike<Plugin> {\n fun refresh(reload: Boolean = definedExternally)\n override fun
item(index: Int): Plugin?\n fun namedItem(name: String): Plugin?\n}\n\n@kotlin.internal.InlineOnly\npublic
inline operator fun PluginArray.get(index: Int): Plugin? =
asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun PluginArray.get(name: String):
Plugin? = asDynamic()[name]\n\n**\n * Exposes the JavaScript
[MimeTypeArray](https://developer.mozilla.org/en/docs/Web/API/MimeTypeArray) to Kotlin\n *^npublic external
abstract class MimeTypeArray : ItemArrayLike<MimeType> {\n override fun item(index: Int): MimeType?\n
fun namedItem(name: String): MimeType?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
MimeTypeArray.get(index: Int): MimeType? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun MimeTypeArray.get(name: String): MimeType? = asDynamic()[name]\n\n**\n * Exposes the
JavaScript [Plugin](https://developer.mozilla.org/en/docs/Web/API/Plugin) to Kotlin\n *^npublic external abstract
class Plugin : ItemArrayLike<MimeType> {\n open val name: String\n open val description: String\n open val
filename: String\n override fun item(index: Int): MimeType?\n fun namedItem(name: String):
MimeType?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Plugin.get(index: Int): MimeType? =
asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Plugin.get(name: String):
MimeType? = asDynamic()[name]\n\n**\n * Exposes the JavaScript
[MimeType](https://developer.mozilla.org/en/docs/Web/API/MimeType) to Kotlin\n *^npublic external abstract
class MimeType {\n open val type: String\n open val description: String\n open val suffixes: String\n open
val enabledPlugin: Plugin\n}\n\n**\n * Exposes the JavaScript
[ImageBitmap](https://developer.mozilla.org/en/docs/Web/API/ImageBitmap) to Kotlin\n *^npublic external
abstract class ImageBitmap : CanvasImageSource, TexImageSource {\n open val width: Int\n open val height:
Int\n fun close()\n}\n\npublic external interface ImageBitmapOptions {\n var imageOrientation:
ImageOrientation? /* = ImageOrientation.NONE */^n get() = definedExternally\n set(value) =
definedExternally\n var premultiplyAlpha: PremultiplyAlpha? /* = PremultiplyAlpha.DEFAULT */^n get() =
definedExternally\n set(value) = definedExternally\n var colorSpaceConversion: ColorSpaceConversion? /* =
ColorSpaceConversion.DEFAULT */^n get() = definedExternally\n set(value) = definedExternally\n var
resizeWidth: Int?\n get() = definedExternally\n set(value) = definedExternally\n var resizeHeight: Int?\n
get() = definedExternally\n set(value) = definedExternally\n var resizeQuality: ResizeQuality? /* =
ResizeQuality.LOW */^n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ImageBitmapOptions(imageOrientation:
ImageOrientation? = ImageOrientation.NONE, premultiplyAlpha: PremultiplyAlpha? =
PremultiplyAlpha.DEFAULT, colorSpaceConversion: ColorSpaceConversion? =
ColorSpaceConversion.DEFAULT, resizeWidth: Int? = undefined, resizeHeight: Int? = undefined, resizeQuality:
ResizeQuality? = ResizeQuality.LOW): ImageBitmapOptions {\n val o = js("{}")\n o["imageOrientation"]
= imageOrientation\n o["premultiplyAlpha"] = premultiplyAlpha\n o["colorSpaceConversion"] =
colorSpaceConversion\n o["resizeWidth"] = resizeWidth\n o["resizeHeight"] = resizeHeight\n
o["resizeQuality"] = resizeQuality\n return o\n}\n\n**\n * Exposes the JavaScript
[MessageEvent](https://developer.mozilla.org/en/docs/Web/API/MessageEvent) to Kotlin\n *^npublic external open
class MessageEvent(type: String, eventInitDict: MessageEventInit = definedExternally) : Event {\n open val data:
Any?\n open val origin: String\n open val lastEventId: String\n open val source:
UnionMessagePortOrWindowProxy?\n open val ports: Array<out MessagePort>\n fun initMessageEvent(type:
String, bubbles: Boolean, cancelable: Boolean, data: Any?, origin: String, lastEventId: String, source:
UnionMessagePortOrWindowProxy?, ports: Array<MessagePort>)\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface MessageEventInit : EventInit {\n var data: Any? /* = null */^n get()
= definedExternally\n set(value) = definedExternally\n var origin: String? /* = "" */^n get() =

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definedExternally\n set(value) = definedExternally\n var lastEventId: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var source: UnionMessagePortOrWindowProxy? /* =
null */\n get() = definedExternally\n set(value) = definedExternally\n var ports: Array<MessagePort>? /*
= arrayOf() */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MessageEventInit(data: Any? = null, origin:
String? = "", lastEventId: String? = "", source: UnionMessagePortOrWindowProxy? = null, ports:
Array<MessagePort>? = arrayOf(), bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): MessageEventInit {\n val o = js("{}")\n o["data"] = data\n o["origin"] = origin\n
o["lastEventId"] = lastEventId\n o["source"] = source\n o["ports"] = ports\n o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[EventSource](https://developer.mozilla.org/en/docs/Web/API/EventSource) to Kotlin\n */\npublic external open
class EventSource(url: String, eventSourceInitDict: EventSourceInit = definedExternally) : EventTarget {\n open
val url: String\n open val withCredentials: Boolean\n open val readyState: Short\n var onopen: ((Event) ->
dynamic)?\n var onmessage: ((MessageEvent) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n fun
close()\n\n companion object {\n val CONNECTING: Short\n val OPEN: Short\n val CLOSED:
Short\n }\n}\n\npublic external interface EventSourceInit {\n var withCredentials: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
EventSourceInit(withCredentials: Boolean? = false): EventSourceInit {\n val o = js("{}")\n
o["withCredentials"] = withCredentials\n return o\n}\n\n/**\n * Exposes the JavaScript
[WebSocket](https://developer.mozilla.org/en/docs/Web/API/WebSocket) to Kotlin\n */\npublic external open class
WebSocket(url: String, protocols: dynamic = definedExternally) : EventTarget {\n open val url: String\n open
val readyState: Short\n open val bufferedAmount: Number\n var onopen: ((Event) -> dynamic)?\n var onerror:
((Event) -> dynamic)?\n var onclose: ((Event) -> dynamic)?\n open val extensions: String\n open val protocol:
String\n var onmessage: ((MessageEvent) -> dynamic)?\n var binaryType: BinaryType\n fun close(code: Short
= definedExternally, reason: String = definedExternally)\n fun send(data: String)\n fun send(data: Blob)\n fun
send(data: ArrayBuffer)\n fun send(data: ArrayBufferView)\n\n companion object {\n val CONNECTING:
Short\n val OPEN: Short\n val CLOSING: Short\n val CLOSED: Short\n }\n}\n\n/**\n * Exposes the
JavaScript [CloseEvent](https://developer.mozilla.org/en/docs/Web/API/CloseEvent) to Kotlin\n */\npublic external
open class CloseEvent(type: String, eventInitDict: CloseEventInit = definedExternally) : Event {\n open val
wasClean: Boolean\n open val code: Short\n open val reason: String\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface CloseEventInit : EventInit {\n var wasClean: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n var code: Short? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var reason: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
CloseEventInit(wasClean: Boolean? = false, code: Short? = 0, reason: String? = "", bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): CloseEventInit {\n val o = js("{}")\n
o["wasClean"] = wasClean\n o["code"] = code\n o["reason"] = reason\n o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[MessageChannel](https://developer.mozilla.org/en/docs/Web/API/MessageChannel) to Kotlin\n */\npublic external
open class MessageChannel {\n open val port1: MessagePort\n open val port2: MessagePort\n}\n\n/**\n *
Exposes the JavaScript [MessagePort](https://developer.mozilla.org/en/docs/Web/API/MessagePort) to Kotlin\n */\n
public external abstract class MessagePort : EventTarget, UnionMessagePortOrWindowProxy,
UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n open var onmessage:
((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> =
definedExternally)\n fun start()\n fun close()\n}\n\n/**\n * Exposes the JavaScript
[BroadcastChannel](https://developer.mozilla.org/en/docs/Web/API/BroadcastChannel) to Kotlin\n */\npublic
external open class BroadcastChannel(name: String) : EventTarget {\n open val name: String\n var onmessage:

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((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?)\n fun close()\n}\n\n/**\n * Exposes the
JavaScript [WorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WorkerGlobalScope) to Kotlin\n
*\n\npublic external abstract class WorkerGlobalScope : EventTarget, WindowOrWorkerGlobalScope,
GlobalPerformance {\n open val self: WorkerGlobalScope\n open val location: WorkerLocation\n open val
navigator: WorkerNavigator\n open var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n open var
onlanguagechange: ((Event) -> dynamic)?\n open var onoffline: ((Event) -> dynamic)?\n open var ononline:
((Event) -> dynamic)?\n open var onrejectionhandled: ((Event) -> dynamic)?\n open var onunhandledrejection:
((PromiseRejectionEvent) -> dynamic)?\n fun importScripts(vararg urls: String)\n}\n\n/**\n * Exposes the
JavaScript
[DedicatedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/DedicatedWorkerGlobalScope) to
Kotlin\n
*\n\npublic external abstract class DedicatedWorkerGlobalScope : WorkerGlobalScope {\n open var
onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> =
definedExternally)\n fun close()\n}\n\n/**\n * Exposes the JavaScript
[SharedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/SharedWorkerGlobalScope) to
Kotlin\n
*\n\npublic external abstract class SharedWorkerGlobalScope : WorkerGlobalScope {\n open val name:
String\n open val applicationCache: ApplicationCache\n open var onconnect: ((Event) -> dynamic)?\n fun
close()\n}\n\n/**\n * Exposes the JavaScript
[AbstractWorker](https://developer.mozilla.org/en/docs/Web/API/AbstractWorker) to Kotlin\n
*\n\npublic external
interface AbstractWorker {\n var onerror: ((Event) -> dynamic)?\n get() = definedExternally\n set(value)
= definedExternally\n}\n\n/**\n * Exposes the JavaScript
[Worker](https://developer.mozilla.org/en/docs/Web/API/Worker) to Kotlin\n
*\n\npublic external open class
Worker(scriptURL: String, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n var
onmessage: ((MessageEvent) -> dynamic)?\n override var onerror: ((Event) -> dynamic)?\n fun terminate()\n
fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n\npublic external interface
WorkerOptions {\n var type: WorkerType? /* = WorkerType.CLASSIC */\n get() = definedExternally\n
set(value) = definedExternally\n var credentials: RequestCredentials? /* = RequestCredentials.OMIT */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
WorkerOptions(type: WorkerType? = WorkerType.CLASSIC, credentials: RequestCredentials? =
RequestCredentials.OMIT): WorkerOptions {\n val o = js("{}")\n o["type"] = type\n o["credentials"] =
credentials\n return o\n}\n\n/**\n * Exposes the JavaScript
[SharedWorker](https://developer.mozilla.org/en/docs/Web/API/SharedWorker) to Kotlin\n
*\n\npublic external open
class SharedWorker(scriptURL: String, name: String = definedExternally, options: WorkerOptions =
definedExternally) : EventTarget, AbstractWorker {\n open val port: MessagePort\n override var onerror:
((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[NavigatorConcurrentHardware](https://developer.mozilla.org/en/docs/Web/API/NavigatorConcurrentHardware) to
Kotlin\n
*\n\npublic external interface NavigatorConcurrentHardware {\n val hardwareConcurrency:
Number\n}\n\n/**\n * Exposes the JavaScript
[WorkerNavigator](https://developer.mozilla.org/en/docs/Web/API/WorkerNavigator) to Kotlin\n
*\n\npublic
external abstract class WorkerNavigator : NavigatorID, NavigatorLanguage, NavigatorOnLine,
NavigatorConcurrentHardware {\n open val serviceWorker: ServiceWorkerContainer\n}\n\n/**\n * Exposes the
JavaScript [WorkerLocation](https://developer.mozilla.org/en/docs/Web/API/WorkerLocation) to Kotlin\n
*\n\npublic external abstract class WorkerLocation {\n open val href: String\n open val origin: String\n open val
protocol: String\n open val host: String\n open val hostname: String\n open val port: String\n open val
pathname: String\n open val search: String\n open val hash: String\n}\n\n/**\n * Exposes the JavaScript
[Storage](https://developer.mozilla.org/en/docs/Web/API/Storage) to Kotlin\n
*\n\npublic external abstract class
Storage {\n open val length: Int\n fun key(index: Int): String?\n fun removeItem(key: String)\n fun clear()\n
fun getItem(key: String): String?\n fun setItem(key: String, value:
String)\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Storage.get(key: String): String? =

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asDynamic()[key]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.set(key: String, value: String)
{ asDynamic()[key] = value }\n\n/**\n * Exposes the JavaScript
[WindowSessionStorage](https://developer.mozilla.org/en/docs/Web/API/WindowSessionStorage) to Kotlin\n
*\npublic external interface WindowSessionStorage {\n val sessionStorage: Storage\n}\n\n/**\n * Exposes the
JavaScript [WindowLocalStorage](https://developer.mozilla.org/en/docs/Web/API/WindowLocalStorage) to
Kotlin\n
*\npublic external interface WindowLocalStorage {\n val localStorage: Storage\n}\n\n/**\n * Exposes
the JavaScript [StorageEvent](https://developer.mozilla.org/en/docs/Web/API/StorageEvent) to Kotlin\n
*\npublic
external open class StorageEvent(type: String, eventInitDict: StorageEventInit = definedExternally) : Event {\n
 open val key: String?\n open val oldValue: String?\n open val newValue: String?\n open val url: String\n
 open val storageArea: Storage?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE:
Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface
StorageEventInit : EventInit {\n var key: String? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n var oldValue: String? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n var newValue: String? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n var url: String? /* = \"\" */\n get() = definedExternally\n set(value) =
definedExternally\n var storageArea: Storage? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun StorageEventInit(key: String? = null,
oldValue: String? = null, newValue: String? = null, url: String? = \"\", storageArea: Storage? = null, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): StorageEventInit {\n val o =
js(\"({})\")\n o[\"key\"] = key\n o[\"oldValue\"] = oldValue\n o[\"newValue\"] = newValue\n o[\"url\"] =
url\n o[\"storageArea\"] = storageArea\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n
 o[\"composed\"] = composed\n return o\n}\n\npublic external abstract class HTMLAppletElement :
HTMLDivElement {\n open var align: String\n open var alt: String\n open var archive: String\n open var code:
String\n open var codeBase: String\n open var height: String\n open var hspace: Int\n open var name:
String\n open var _object: String\n open var vspace: Int\n open var width: String\n\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLMarqueeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMarqueeElement) to Kotlin\n
*\npublic external abstract class HTMLMarqueeElement : HTMLDivElement {\n open var behavior: String\n open
var bgColor: String\n open var direction: String\n open var height: String\n open var hspace: Int\n open var
loop: Int\n open var scrollAmount: Int\n open var scrollDelay: Int\n open var trueSpeed: Boolean\n open var
vspace: Int\n open var width: String\n open var onbounce: ((Event) -> dynamic)?\n open var onfinish: ((Event)
-> dynamic)?\n open var onstart: ((Event) -> dynamic)?\n fun start()\n fun stop()\n\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLFrameSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFrameSetElement) to Kotlin\n *\npublic external abstract class HTMLFrameSetElement : HTMLElement, WindowEventHandlers {\n open var cols: String\n open var rows: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val\n\n DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class HTMLFrameElement : HTMLElement {\n open var name: String\n open var scrolling: String\n open var src: String\n open var frameBorder: String\n open var longDesc: String\n open var noResize: Boolean\n open val contentDocument: Document?\n open val contentWindow: Window?\n open var marginHeight: String\n open var marginWidth: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val\n\n DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class HTMLDirectoryElement : HTMLElement {\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val\n\n DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLFontElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFontElement) to Kotlin\n *\npublic external abstract class HTMLFontElement : HTMLElement {\n open var color: String\n open var face: String\n open var size: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val\n\n DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface External
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{\n fun AddSearchProvider()\n fun IsSearchProviderInstalled()\n}\n\npublic external interface EventInit {\n
var bubbles: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var
cancelable: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var
composed: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventInit(bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): EventInit {\n val o = js("{}")\n o["bubbles"] =
bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the
JavaScript [CustomEvent](https://developer.mozilla.org/en/docs/Web/API/CustomEvent) to Kotlin\n */\n\npublic
external open class CustomEvent(type: String, eventInitDict: CustomEventInit = definedExternally) : Event {\n
open val detail: Any?\n fun initCustomEvent(type: String, bubbles: Boolean, cancelable: Boolean, detail:
Any?)\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface CustomEventInit :
EventInit {\n var detail: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CustomEventInit(detail: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CustomEventInit {\n val o
= js("{}")\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n
o["composed"] = composed\n return o\n}\n\npublic external interface EventListenerOptions {\n var capture:
Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventListenerOptions(capture: Boolean? =
false): EventListenerOptions {\n val o = js("{}")\n o["capture"] = capture\n return o\n}\n\npublic external
interface AddEventListenerOptions : EventListenerOptions {\n var passive: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var once: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
AddEventListenerOptions(passive: Boolean? = false, once: Boolean? = false, capture: Boolean? = false):
AddEventListenerOptions {\n val o = js("{}")\n o["passive"] = passive\n o["once"] = once\n
o["capture"] = capture\n return o\n}\n\npublic external interface NonElementParentNode {\n fun
getElementById(elementId: String): Element?\n}\n\n/**\n * Exposes the JavaScript
[DocumentOrShadowRoot](https://developer.mozilla.org/en/docs/Web/API/DocumentOrShadowRoot) to Kotlin\n */\n\npublic
external interface DocumentOrShadowRoot {\n val fullscreenElement: Element?\n get() =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[ParentNode](https://developer.mozilla.org/en/docs/Web/API/ParentNode) to Kotlin\n */\n\npublic external interface
ParentNode {\n val children: HTMLCollection\n val firstElementChild: Element?\n get() =
definedExternally\n val lastElementChild: Element?\n get() = definedExternally\n val childElementCount:
Int\n fun prepend(vararg nodes: dynamic)\n fun append(vararg nodes: dynamic)\n fun querySelector(selectors:
String): Element?\n fun querySelectorAll(selectors: String): NodeList\n}\n\n/**\n * Exposes the JavaScript
[NonDocumentTypeChildNode](https://developer.mozilla.org/en/docs/Web/API/NonDocumentTypeChildNode) to
Kotlin\n */\n\npublic external interface NonDocumentTypeChildNode {\n val previousElementSibling: Element?\n
 get() = definedExternally\n val nextElementSibling: Element?\n get() = definedExternally\n}\n\n/**\n *
Exposes the JavaScript [ChildNode](https://developer.mozilla.org/en/docs/Web/API/ChildNode) to Kotlin\n */\n\npublic
external interface ChildNode {\n fun before(vararg nodes: dynamic)\n fun after(vararg nodes:
dynamic)\n fun replaceWith(vararg nodes: dynamic)\n fun remove()\n}\n\n/**\n * Exposes the JavaScript
[Slotable](https://developer.mozilla.org/en/docs/Web/API/Slotable) to Kotlin\n */\n\npublic external interface Slotable
{\n val assignedSlot: HTMLSlotElement?\n get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[NodeList](https://developer.mozilla.org/en/docs/Web/API/NodeList) to Kotlin\n */\n\npublic external abstract class
NodeList : ItemArrayLike<Node> {\n override fun item(index: Int):
Node?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun NodeList.get(index: Int): Node? =
asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[HTMLCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLCollection) to Kotlin\n */\n\npublic

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external abstract class HTMLCollection : ItemArrayLike<Element>, UnionElementOrHTMLCollection {
 override fun item(index: Int): Element?
 fun namedItem(name: String): Element?
}
@kotlin.internal.InlineOnly
public inline operator fun HTMLCollection.get(index: Int): Element? = asDynamic()[index]
@kotlin.internal.InlineOnly
public inline operator fun HTMLCollection.get(name: String): Element? = asDynamic()[name]
/** Exposes the JavaScript [MutationObserver](https://developer.mozilla.org/en/docs/Web/API/MutationObserver) to Kotlin */
public external open class MutationObserver(callback: (Array<MutationRecord>, MutationObserver) -> Unit) {
 fun observe(target: Node, options: MutationObserverInit = definedExternally)
 fun disconnect()
 fun takeRecords(): Array<MutationRecord>
}
/** Exposes the JavaScript [MutationObserverInit](https://developer.mozilla.org/en/docs/Web/API/MutationObserverInit) to Kotlin */
public external interface MutationObserverInit {
 var childList: Boolean? /* = false */
 fun get() = definedExternally
 set(value) = definedExternally
 var attributes: Boolean?
 fun get() = definedExternally
 set(value) = definedExternally
 var characterData: Boolean?
 fun get() = definedExternally
 set(value) = definedExternally
 var subtree: Boolean? /* = false */
 fun get() = definedExternally
 set(value) = definedExternally
 var attributeOldValue: Boolean?
 fun get() = definedExternally
 set(value) = definedExternally
 var characterDataOldValue: Boolean?
 fun get() = definedExternally
 set(value) = definedExternally
 var attributeFilter: Array<String>?
 fun get() = definedExternally
 set(value) = definedExternally
}
@kotlin.internal.InlineOnly
public inline fun MutationObserverInit(childList: Boolean? = false, attributes: Boolean? = undefined, characterData: Boolean? = undefined, subtree: Boolean? = false, attributeOldValue: Boolean? = undefined, characterDataOldValue: Boolean? = undefined, attributeFilter: Array<String>? = undefined): MutationObserverInit {
 val o = js("{}")
 o["childList"] = childList
 o["attributes"] = attributes
 o["characterData"] = characterData
 o["subtree"] = subtree
 o["attributeOldValue"] = attributeOldValue
 o["characterDataOldValue"] = characterDataOldValue
 o["attributeFilter"] = attributeFilter
 return o
}
/** Exposes the JavaScript [MutationRecord](https://developer.mozilla.org/en/docs/Web/API/MutationRecord) to Kotlin */
public external abstract class MutationRecord {
 open val type: String
 open val target: Node
 open val addedNodes: NodeList
 open val removedNodes: NodeList
 open val previousSibling: Node?
 open val nextSibling: Node?
 open val attributeName: String?
 open val attributeNamespace: String?
 open val oldValue: String?
}
/** Exposes the JavaScript [Node](https://developer.mozilla.org/en/docs/Web/API/Node) to Kotlin */
public external abstract class Node : EventTarget {
 open val nodeType: Short
 open val nodeName: String
 open val baseURI: String
 open val isConnected: Boolean
 open val ownerDocument: Document?
 open val parentNode: Node?
 open val parentElement: Element?
 open val childNodes: NodeList
 open val firstChild: Node?
 open val lastChild: Node?
 open val previousSibling: Node?
 open val nextSibling: Node?
 open var nodeValue: String?
 open var textContent: String?
 fun getRootNode(options: GetRootNodeOptions = definedExternally): Node
 fun hasChildNodes(): Boolean
 fun normalize()
 fun cloneNode(deep: Boolean = definedExternally): Node
 fun isEqualNode(otherNode: Node?): Boolean
 fun isSameNode(otherNode: Node?): Boolean
 fun compareDocumentPosition(other: Node): Short
 fun contains(other: Node?): Boolean
 fun lookupPrefix(namespace: String?): String?
 fun lookupNamespaceURI(prefix: String?): String?
 fun isDefaultNamespace(namespace: String?): Boolean
 fun insertBefore(node: Node, child: Node?): Node
 fun appendChild(node: Node): Node
 fun replaceChild(node: Node, child: Node): Node
 fun removeChild(child: Node): Node
}
companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
}

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val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
GetRootNodeOptions {\n var composed: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun GetRootNodeOptions(composed: Boolean?
= false): GetRootNodeOptions {\n val o = js("{}")\n o["composed"] = composed\n return o\n}\n\n/**\n *
Exposes the JavaScript [Document](https://developer.mozilla.org/en/docs/Web/API/Document) to Kotlin\n
*\n\npublic external open class Document : Node, GlobalEventHandlers, DocumentAndElementEventHandlers,
NonElementParentNode, DocumentOrShadowRoot, ParentNode, GeometryUtils {\n open val implementation:
DOMImplementation\n open val URL: String\n open val documentURI: String\n open val origin: String\n
open val compatMode: String\n open val characterSet: String\n open val charset: String\n open val
inputEncoding: String\n open val contentType: String\n open val doctype: DocumentType?\n open val
documentElement: Element?\n open val location: Location?\n var domain: String\n open val referrer: String\n
var cookie: String\n open val lastModified: String\n open val readyState: DocumentReadyState\n var title:
String\n var dir: String\n var body: HTMLElement?\n open val head: HTMLHeadElement?\n open val
images: HTMLCollection\n open val embeds: HTMLCollection\n open val plugins: HTMLCollection\n open
val links: HTMLCollection\n open val forms: HTMLCollection\n open val scripts: HTMLCollection\n open
val currentScript: HTMLScriptElement?\n open val defaultView: Window?\n open val activeElement:
Element?\n var designMode: String\n var onreadystatechange: ((Event) -> dynamic)?\n var fgColor: String\n
var linkColor: String\n var vlinkColor: String\n var alinkColor: String\n var bgColor: String\n open val
anchors: HTMLCollection\n open val applets: HTMLCollection\n open val all: HTMLAllCollection\n open
val scrollingElement: Element?\n open val styleSheets: StyleSheetList\n open val rootElement:
SVGSVGElement?\n open val fullscreenEnabled: Boolean\n open val fullscreen: Boolean\n var
onfullscreenchange: ((Event) -> dynamic)?\n var onfullscreenerror: ((Event) -> dynamic)?\n override var
onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var
oncancel: ((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var
oncanplaythrough: ((Event) -> dynamic)?\n override var onchange: ((Event) -> dynamic)?\n override var
onclick: ((MouseEvent) -> dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var
oncontextmenu: ((MouseEvent) -> dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var
ondblclick: ((MouseEvent) -> dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var
ondragend: ((DragEvent) -> dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var
ondragexit: ((DragEvent) -> dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var
ondragover: ((DragEvent) -> dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var
ondrop: ((DragEvent) -> dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var
onemptied: ((Event) -> dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -
> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup:
((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata:
((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend:
((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var
onmousedown: ((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var
onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) ->
dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) ->
dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var
onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n override var onseeked:

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((Event) -> dynamic)?\n override var onseeking: ((Event) -> dynamic)?\n override var onselect: ((Event) ->
dynamic)?\n override var onshow: ((Event) -> dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n override var
ontimeupdate: ((Event) -> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n override var
onvolumechange: ((Event) -> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var
ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) ->
dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove:
((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) -> dynamic)?\n override var
onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n
override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) ->
dynamic)?\n override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy:
((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste:
((ClipboardEvent) -> dynamic)?\n override val fullscreenElement: Element?\n override val children:
HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n
override val childElementCount: Int\n fun getElementsByTagName(qualifiedName: String): HTMLCollection\n
fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n fun
getElementsByTagName(className: String): HTMLCollection\n fun createElement(localName: String,
options: ElementCreationOptions = definedExternally): Element\n fun createElementNS(namespace: String?,
qualifiedName: String, options: ElementCreationOptions = definedExternally): Element\n fun
createDocumentFragment(): DocumentFragment\n fun createTextNode(data: String): Text\n fun
createCDATASection(data: String): CDATASection\n fun createComment(data: String): Comment\n fun
createProcessingInstruction(target: String, data: String): ProcessingInstruction\n fun importNode(node: Node,
deep: Boolean = definedExternally): Node\n fun adoptNode(node: Node): Node\n fun
createAttribute(localName: String): Attr\n fun createAttributeNS(namespace: String?, qualifiedName: String):
Attr\n fun createEvent(`interface`: String): Event\n fun createRange(): Range\n fun createNodeIterator(root:
Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally): NodeIterator\n fun
createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)? =
definedExternally): NodeIterator\n fun createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter:
NodeFilter? = definedExternally): TreeWalker\n fun createTreeWalker(root: Node, whatToShow: Int =
definedExternally, filter: ((Node) -> Short)? = definedExternally): TreeWalker\n fun
getElementsByTagName(elementName: String): NodeList\n fun open(type: String = definedExternally, replace:
String = definedExternally): Document\n fun open(url: String, name: String, features: String): Window\n fun
close()\n fun write(vararg text: String)\n fun writeln(vararg text: String)\n fun hasFocus(): Boolean\n fun
execCommand(commandId: String, showUI: Boolean = definedExternally, value: String = definedExternally):
Boolean\n fun queryCommandEnabled(commandId: String): Boolean\n fun
queryCommandIndeterm(commandId: String): Boolean\n fun queryCommandState(commandId: String):
Boolean\n fun queryCommandSupported(commandId: String): Boolean\n fun
queryCommandValue(commandId: String): String\n fun clear()\n fun captureEvents()\n fun releaseEvents()\n
fun elementFromPoint(x: Double, y: Double): Element?\n fun elementsFromPoint(x: Double, y: Double):
Array<Element>\n fun caretPositionFromPoint(x: Double, y: Double): CaretPosition?\n fun createTouch(view:
Window, target: EventTarget, identifier: Int, pageX: Int, pageY: Int, screenX: Int, screenY: Int): Touch\n fun
createTouchList(vararg touches: Touch): TouchList\n fun exitFullscreen(): Promise<Unit>\n override fun
getElementById(elementId: String): Element?\n override fun prepend(vararg nodes: dynamic)\n override fun
append(vararg nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun
querySelectorAll(selectors: String): NodeList\n override fun getBoxQuads(options: BoxQuadOptions /* =
definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad: dynamic, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun
convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =

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definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
 }\n\n @kotlin.internal.InlineOnly\n public inline operator fun Document.get(name: String): dynamic =
asDynamic()[name]\n\n /**\n * Exposes the JavaScript
[XMLDocument](https://developer.mozilla.org/en/docs/Web/API/XMLDocument) to Kotlin\n */\n public external
open class XMLDocument : Document {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n }\n\n public external interface
ElementCreationOptions {\n var `is`: String?\n get() = definedExternally\n set(value) =
definedExternally\n }\n\n @kotlin.internal.InlineOnly\n public inline fun ElementCreationOptions(`is`: String? =
undefined): ElementCreationOptions {\n val o = js("{}")\n o["is"] = `is`\n return o\n }\n\n /**\n * Exposes
the JavaScript [DOMImplementation](https://developer.mozilla.org/en/docs/Web/API/DOMImplementation) to
Kotlin\n */\n public external abstract class DOMImplementation {\n fun createDocumentType(qualifiedName:
String, publicId: String, systemId: String): DocumentType\n fun createDocument(namespace: String?,
qualifiedName: String, doctype: DocumentType? = definedExternally): XMLDocument\n fun
createHTMLDocument(title: String = definedExternally): Document\n fun hasFeature(): Boolean\n }\n\n /**\n * Exposes
the JavaScript [DocumentType](https://developer.mozilla.org/en/docs/Web/API/DocumentType) to
Kotlin\n */\n public external abstract class DocumentType : Node, ChildNode {\n open val name: String\n open
val publicId: String\n open val systemId: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n }\n\n /**\n * Exposes the JavaScript
[DocumentFragment](https://developer.mozilla.org/en/docs/Web/API/DocumentFragment) to Kotlin\n */\n public
external open class DocumentFragment : Node, NonElementParentNode, ParentNode {\n override val children:
HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n
 override val childElementCount: Int\n override fun getElementById(elementId: String): Element?\n override fun

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prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun
querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[ShadowRoot](https://developer.mozilla.org/en/docs/Web/API/ShadowRoot) to Kotlin\n\n * public external open
class ShadowRoot : DocumentFragment, DocumentOrShadowRoot {\n open val mode: ShadowRootMode\n
 open val host: Element\n override val fullscreenElement: Element?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Element](https://developer.mozilla.org/en/docs/Web/API/Element) to Kotlin\n\n * public external abstract class
Element : Node, ParentNode, NonDocumentTypeChildNode, ChildNode, Slotable, GeometryUtils,
UnionElementOrHTMLCollection, UnionElementOrRadioNodeList, UnionElementOrMouseEvent,
UnionElementOrProcessingInstruction {\n open val namespaceURI: String?\n open val prefix: String?\n open
val localName: String\n open val tagName: String\n open var id: String\n open var className: String\n open
val classList: DOMTokenList\n open var slot: String\n open val attributes: NamedNodeMap\n open val
shadowRoot: ShadowRoot?\n open var scrollTop: Double\n open var scrollLeft: Double\n open val
scrollWidth: Int\n open val scrollHeight: Int\n open val clientTop: Int\n open val clientLeft: Int\n open val
clientWidth: Int\n open val clientHeight: Int\n open var innerHTML: String\n open var outerHTML: String\n
 fun hasAttributes(): Boolean\n fun getAttributeNames(): Array<String>\n fun getAttribute(qualifiedName:
String): String?\n fun getAttributeNS(namespace: String?, localName: String): String?\n fun
setAttribute(qualifiedName: String, value: String)\n fun setAttributeNS(namespace: String?, qualifiedName:
String, value: String)\n fun removeAttribute(qualifiedName: String)\n fun removeAttributeNS(namespace:
String?, localName: String)\n fun hasAttribute(qualifiedName: String): Boolean\n fun
hasAttributeNS(namespace: String?, localName: String): Boolean\n fun getAttributeNode(qualifiedName: String):
Attr?\n fun getAttributeNodeNS(namespace: String?, localName: String): Attr?\n fun setAttributeNode(attr:
Attr): Attr?\n fun setAttributeNodeNS(attr: Attr): Attr?\n fun removeAttributeNode(attr: Attr): Attr\n fun
attachShadow(init: ShadowRootInit): ShadowRoot\n fun closest(selectors: String): Element?\n fun
matches(selectors: String): Boolean\n fun webkitMatchesSelector(selectors: String): Boolean\n fun
getElementsByTagName(qualifiedName: String): HTMLCollection\n fun
getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n fun
getElementsByClassName(classNames: String): HTMLCollection\n fun insertAdjacentElement(where: String,
element: Element): Element?\n fun insertAdjacentText(where: String, data: String)\n fun getClientRects():
Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun scrollIntoView()\n fun
scrollIntoView(arg: dynamic)\n fun scroll(options: ScrollToOptions = definedExternally)\n fun scroll(x: Double,

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y: Double)\n fun scrollTo(options: ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n
fun scrollBy(options: ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun
insertAdjacentHTML(position: String, text: String)\n fun setPointerCapture(pointerId: Int)\n fun
releasePointerCapture(pointerId: Int)\n fun hasPointerCapture(pointerId: Int): Boolean\n fun requestFullscreen():
Promise<Unit>\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } }\n\npublic external interface
ShadowRootInit {\n var mode: ShadowRootMode?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ShadowRootInit(mode:
ShadowRootMode?): ShadowRootInit {\n val o = js("{}")\n o["mode"] = mode\n return o\n}\n\n/**\n *
Exposes the JavaScript [NamedNodeMap](https://developer.mozilla.org/en/docs/Web/API/NamedNodeMap) to
Kotlin\n */\npublic external abstract class NamedNodeMap : ItemArrayLike<Attr> {\n fun
getNamedItemNS(namespace: String?, localName: String): Attr?\n fun setNamedItem(attr: Attr): Attr?\n fun
setNamedItemNS(attr: Attr): Attr?\n fun removeNamedItem(qualifiedName: String): Attr\n fun
removeNamedItemNS(namespace: String?, localName: String): Attr\n override fun item(index: Int): Attr?\n fun
getNamedItem(qualifiedName: String): Attr?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
NamedNodeMap.get(index: Int): Attr? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator
fun NamedNodeMap.get(qualifiedName: String): Attr? = asDynamic()[qualifiedName]\n\n/**\n * Exposes the
JavaScript [Attr](https://developer.mozilla.org/en/docs/Web/API/Attr) to Kotlin\n */\npublic external abstract class
Attr : Node {\n open val namespaceURI: String?\n open val prefix: String?\n open val localName: String\n
open val name: String\n open var value: String\n open val ownerElement: Element?\n open val specified:
Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } }\n\n/**\n * Exposes the JavaScript
[CharacterData](https://developer.mozilla.org/en/docs/Web/API/CharacterData) to Kotlin\n */\npublic external
abstract class CharacterData : Node, NonDocumentTypeChildNode, ChildNode {\n open var data: String\n open
val length: Int\n fun substringData(offset: Int, count: Int): String\n fun appendData(data: String)\n fun
insertData(offset: Int, data: String)\n fun deleteData(offset: Int, count: Int)\n fun replaceData(offset: Int, count:
Int, data: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n

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 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Text](https://developer.mozilla.org/en/docs/Web/API/Text) to Kotlin\n */\npublic external open class Text(data:
String = definedExternally) : CharacterData, Slotable, GeometryUtils {\n open val wholeText: String\n override
val assignedSlot: HTMLSlotElement?\n override val previousElementSibling: Element?\n override val
nextElementSibling: Element?\n fun splitText(offset: Int): Text\n override fun getBoxQuads(options:
BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad:
dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override
fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n override fun before(vararg nodes:
dynamic)\n override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n
override fun remove()\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[CDATASection](https://developer.mozilla.org/en/docs/Web/API/CDATASection) to Kotlin\n */\npublic external
open class CDATASection : Text {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[ProcessingInstruction](https://developer.mozilla.org/en/docs/Web/API/ProcessingInstruction) to Kotlin\n
*/\npublic external abstract class ProcessingInstruction : CharacterData, LinkStyle,
UnionElementOrProcessingInstruction {\n open val target: String\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Comment](https://developer.mozilla.org/en/docs/Web/API/Comment) to Kotlin\n */\npublic external open class
Comment(data: String = definedExternally) : CharacterData {\n override val previousElementSibling: Element?\n

```

```

 override val nextElementSibling: Element?
 override fun before(vararg nodes: dynamic)
 override fun after(vararg nodes: dynamic)
 override fun replaceWith(vararg nodes: dynamic)
 override fun remove()
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

/** Exposes the JavaScript [Range](https://developer.mozilla.org/en/docs/Web/API/Range) to Kotlin
 *
 * public external open class Range {
 open val startContainer: Node
 open val startOffset: Int
 open val endContainer: Node
 open val endOffset: Int
 open val collapsed: Boolean
 open val commonAncestorContainer: Node
 fun setStart(node: Node, offset: Int)
 fun setEnd(node: Node, offset: Int)
 fun setStartBefore(node: Node)
 fun setStartAfter(node: Node)
 fun setEndBefore(node: Node)
 fun setEndAfter(node: Node)
 fun collapse(toStart: Boolean = definedExternally)
 fun selectNode(node: Node)
 fun selectNodeContents(node: Node)
 fun compareBoundaryPoints(how: Short, sourceRange: Range): Short
 fun deleteContents()
 fun extractContents(): DocumentFragment
 fun cloneContents(): DocumentFragment
 fun insertNode(node: Node)
 fun surroundContents(newParent: Node)
 fun cloneRange(): Range
 fun detach()
 fun isPointInRange(node: Node, offset: Int): Boolean
 fun comparePoint(node: Node, offset: Int): Short
 fun intersectsNode(node: Node): Boolean
 fun getClientRects(): Array<DOMRect>
 fun getBoundingClientRect(): DOMRect
 fun createContextualFragment(fragment: String): DocumentFragment
}

companion object {
 val START_TO_START: Short
 val START_TO_END: Short
 val END_TO_END: Short
 val END_TO_START: Short
}

/** Exposes the JavaScript [NodeIterator](https://developer.mozilla.org/en/docs/Web/API/NodeIterator) to Kotlin
 *
 * public external abstract class NodeIterator {
 open val root: Node
 open val referenceNode: Node
 open val pointerBeforeReferenceNode: Boolean
 open val whatToShow: Int
 open val filter: NodeFilter?
 fun nextNode(): Node?
 fun previousNode(): Node?
 fun detach()
}

/** Exposes the JavaScript [TreeWalker](https://developer.mozilla.org/en/docs/Web/API/TreeWalker) to Kotlin
 *
 * public external abstract class TreeWalker {
 open val root: Node
 open val whatToShow: Int
 open val filter: NodeFilter?
 open var currentNode: Node
 fun parentNode(): Node?
 fun firstChild(): Node?
 fun lastChild(): Node?
 fun previousSibling(): Node?
 fun nextSibling(): Node?
 fun previousNode(): Node?
 fun nextNode(): Node?
}

/** Exposes the JavaScript [NodeFilter](https://developer.mozilla.org/en/docs/Web/API/NodeFilter) to Kotlin
 *
 * @Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")
 * public external interface NodeFilter {
 fun acceptNode(node: Node): Short
 companion object {
 val FILTER_ACCEPT: Short
 val FILTER_REJECT: Short
 val FILTER_SKIP: Short
 val SHOW_ALL: Int
 val SHOW_ELEMENT: Int
 val SHOW_ATTRIBUTE: Int
 val SHOW_TEXT: Int
 val SHOW_CDATA_SECTION: Int
 val SHOW_ENTITY_REFERENCE: Int
 val SHOW_ENTITY: Int
 val SHOW_PROCESSING_INSTRUCTION: Int
 val SHOW_COMMENT: Int
 val SHOW_DOCUMENT: Int
 val SHOW_DOCUMENT_TYPE: Int
 val SHOW_DOCUMENT_FRAGMENT: Int
 val SHOW_NOTATION: Int
 }
}

/** Exposes the JavaScript [DOMTokenList](https://developer.mozilla.org/en/docs/Web/API/DOMTokenList) to Kotlin
 *
 * public external abstract class DOMTokenList : ItemArrayLike<String> {
 open var value: String
 fun contains(token: String): Boolean
 fun add(vararg tokens: String)
 fun remove(vararg tokens: String)
 fun toggle(token: String, force: Boolean = definedExternally): Boolean
 fun replace(token: String, newToken: String)
 fun supports(token: String): Boolean
 override fun item(index: Int):

```

String?  
@kotlin.internal.InlineOnly  
public inline operator fun DOMTokenList.get(index: Int): String? = asDynamic()[index]  
\*/  
\* Exposes the JavaScript

[DOMPointReadOnly](<https://developer.mozilla.org/en/docs/Web/API/DOMPointReadOnly>) to Kotlin  
\*/  
public external open class DOMPointReadOnly(x: Double, y: Double, z: Double, w: Double) {  
open val x: Double  
open val y: Double  
open val z: Double  
open val w: Double  
fun matrixTransform(matrix: DOMMatrixReadOnly): DOMPoint  
}\*/  
\* Exposes the JavaScript

[DOMPoint](<https://developer.mozilla.org/en/docs/Web/API/DOMPoint>) to Kotlin  
\*/  
public external open class DOMPoint : DOMPointReadOnly {  
constructor(point: DOMPointInit)  
constructor(x: Double = definedExternally, y: Double = definedExternally, z: Double = definedExternally, w: Double = definedExternally)  
override var x: Double  
override var y: Double  
override var z: Double  
override var w: Double  
}\*/  
\* Exposes the JavaScript

[DOMPointInit](<https://developer.mozilla.org/en/docs/Web/API/DOMPointInit>) to Kotlin  
\*/  
public external interface DOMPointInit {  
var x: Double? /\* = 0.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
var y: Double? /\* = 0.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
var z: Double? /\* = 0.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
var w: Double? /\* = 1.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
}\*/  
@kotlin.internal.InlineOnly  
public inline fun DOMPointInit(x: Double? = 0.0, y: Double? = 0.0, z: Double? = 0.0, w: Double? = 1.0): DOMPointInit {  
val o = js("{}")  
o["x"] = x  
o["y"] = y  
o["z"] = z  
o["w"] = w  
return o  
}\*/  
\* Exposes the JavaScript

[DOMRect](<https://developer.mozilla.org/en/docs/Web/API/DOMRect>) to Kotlin  
\*/  
public external open class DOMRect(x: Double = definedExternally, y: Double = definedExternally, width: Double = definedExternally, height: Double = definedExternally) : DOMRectReadOnly {  
override var x: Double  
override var y: Double  
override var width: Double  
override var height: Double  
}\*/  
\* Exposes the JavaScript

[DOMRectReadOnly](<https://developer.mozilla.org/en/docs/Web/API/DOMRectReadOnly>) to Kotlin  
\*/  
public external open class DOMRectReadOnly(x: Double, y: Double, width: Double, height: Double) {  
open val x: Double  
open val y: Double  
open val width: Double  
open val height: Double  
open val top: Double  
open val right: Double  
open val bottom: Double  
open val left: Double  
}\*/  
public external interface DOMRectInit {  
var x: Double? /\* = 0.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
var y: Double? /\* = 0.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
var width: Double? /\* = 0.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
var height: Double? /\* = 0.0 \*/  
get() = definedExternally  
set(value) = definedExternally  
}\*/  
@kotlin.internal.InlineOnly  
public inline fun DOMRectInit(x: Double? = 0.0, y: Double? = 0.0, width: Double? = 0.0, height: Double? = 0.0): DOMRectInit {  
val o = js("{}")  
o["x"] = x  
o["y"] = y  
o["width"] = width  
o["height"] = height  
return o  
}\*/  
public external interface DOMRectList : ItemArrayLike<DOMRect> {  
override fun item(index: Int): DOMRect?  
}\*/  
@kotlin.internal.InlineOnly  
public inline operator fun DOMRectList.get(index: Int): DOMRect? = asDynamic()[index]  
\*/  
\* Exposes the JavaScript

[DOMQuad](<https://developer.mozilla.org/en/docs/Web/API/DOMQuad>) to Kotlin  
\*/  
public external open class DOMQuad {  
constructor(p1: DOMPointInit = definedExternally, p2: DOMPointInit = definedExternally, p3: DOMPointInit = definedExternally, p4: DOMPointInit = definedExternally)  
constructor(rect: DOMRectInit)  
open val p1: DOMPoint  
open val p2: DOMPoint  
open val p3: DOMPoint  
open val p4: DOMPoint  
open val bounds: DOMRectReadOnly  
}\*/  
\* Exposes the JavaScript

[DOMMatrixReadOnly](<https://developer.mozilla.org/en/docs/Web/API/DOMMatrixReadOnly>) to Kotlin  
\*/  
public external open class DOMMatrixReadOnly(numberSequence: Array<Double>) {  
open val a: Double  
open val b: Double  
open val c: Double  
open val d: Double  
open val e: Double  
open val f: Double  
open val m11: Double  
open val m12: Double  
open val m13: Double  
open val m14: Double  
open val m21: Double  
open val m22: Double  
open val m23: Double  
open val m24: Double  
open val m31: Double  
open val m32: Double  
open val m33: Double  
open val m34: Double  
open val m41: Double  
open val m42: Double  
open val m43: Double  
open val m44: Double  
}\*/  
\* Exposes the JavaScript



```

open val m42: Double\n open val m43: Double\n open val m44: Double\n open val is2D: Boolean\n open
val isIdentity: Boolean\n fun translate(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n
fun scale(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
fun scale3d(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally, originZ:
Double = definedExternally): DOMMatrix\n fun scaleNonUniform(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n fun rotate(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n fun rotateFromVector(x:
Double, y: Double): DOMMatrix\n fun rotateAxisAngle(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n fun skewX(sx: Double): DOMMatrix\n fun skewY(sy: Double): DOMMatrix\n fun
multiply(other: DOMMatrix): DOMMatrix\n fun flipX(): DOMMatrix\n fun flipY(): DOMMatrix\n fun
inverse(): DOMMatrix\n fun transformPoint(point: DOMPointInit = definedExternally): DOMPoint\n fun
toFloat32Array(): Float32Array\n fun toFloat64Array(): Float64Array\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrix](https://developer.mozilla.org/en/docs/Web/API/DOMMatrix) to Kotlin\n */\npublic external open
class DOMMatrix() : DOMMatrixReadOnly {\n constructor(transformList: String)\n constructor(other:
DOMMatrixReadOnly)\n constructor(array32: Float32Array)\n constructor(array64: Float64Array)\n
constructor(numberSequence: Array<Double>)\n override var a: Double\n override var b: Double\n override
var c: Double\n override var d: Double\n override var e: Double\n override var f: Double\n override var m11:
Double\n override var m12: Double\n override var m13: Double\n override var m14: Double\n override var
m21: Double\n override var m22: Double\n override var m23: Double\n override var m24: Double\n override
var m31: Double\n override var m32: Double\n override var m33: Double\n override var m34: Double\n
override var m41: Double\n override var m42: Double\n override var m43: Double\n override var m44:
Double\n fun multiplySelf(other: DOMMatrix): DOMMatrix\n fun preMultiplySelf(other: DOMMatrix):
DOMMatrix\n fun translateSelf(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n fun
scaleSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
fun scale3dSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally,
originZ: Double = definedExternally): DOMMatrix\n fun scaleNonUniformSelf(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n fun rotateSelf(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n fun rotateFromVectorSelf(x:
Double, y: Double): DOMMatrix\n fun rotateAxisAngleSelf(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n fun skewXSelf(sx: Double): DOMMatrix\n fun skewYSelf(sy: Double): DOMMatrix\n fun
invertSelf(): DOMMatrix\n fun setMatrixValue(transformList: String): DOMMatrix\n}\n\npublic external
interface ScrollOptions {\n var behavior: ScrollBehavior? /* = ScrollBehavior.AUTO */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ScrollOptions(behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollOptions {\n val o = js("{}")\n
o["behavior"] = behavior\n return o\n}\n\n/**\n * Exposes the JavaScript
[ScrollToOptions](https://developer.mozilla.org/en/docs/Web/API/ScrollToOptions) to Kotlin\n */\npublic external
interface ScrollToOptions : ScrollOptions {\n var left: Double?\n get() = definedExternally\n set(value) =
definedExternally\n var top: Double?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ScrollToOptions(left: Double? = undefined,
top: Double? = undefined, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollToOptions {\n val o =
js("{}")\n o["left"] = left\n o["top"] = top\n o["behavior"] = behavior\n return o\n}\n\n/**\n *
Exposes the JavaScript [MediaQueryList](https://developer.mozilla.org/en/docs/Web/API/MediaQueryList) to
Kotlin\n */\npublic external abstract class MediaQueryList : EventTarget {\n open val media: String\n open val
matches: Boolean\n open var onchange: ((Event) -> dynamic)?\n fun addListener(listener: EventListener?)\n
fun addListener(listener: ((Event) -> Unit)?)\n fun removeListener(listener: EventListener?)\n fun
removeListener(listener: ((Event) -> Unit)?)\n}\n\n/**\n * Exposes the JavaScript

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[MediaQueryListEvent](https://developer.mozilla.org/en/docs/Web/API/MediaQueryListEvent) to Kotlin\n
*\npublic external open class MediaQueryListEvent(type: String, eventInitDict: MediaQueryListEventInit =
definedExternally) : Event {\n open val media: String\n open val matches: Boolean\n\n companion object {\n
 val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
 BUBBLING_PHASE: Short\n }\n}\n\npublic external interface MediaQueryListEventInit : EventInit {\n var
media: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var matches:
Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaQueryListEventInit(media: String? =
\"\", matches: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): MediaQueryListEventInit {\n val o = js(\"({})\")\n o[\"media\"] = media\n o[\"matches\"] = matches\n
o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript [Screen](https://developer.mozilla.org/en/docs/Web/API/Screen) to Kotlin\n
*\npublic external abstract class Screen {\n open val availWidth: Int\n open val availHeight: Int\n open val
width: Int\n open val height: Int\n open val colorDepth: Int\n open val pixelDepth: Int\n}\n\n/**\n * Exposes
the JavaScript [CaretPosition](https://developer.mozilla.org/en/docs/Web/API/CaretPosition) to Kotlin\n
*\npublic external abstract class CaretPosition {\n open val offsetNode: Node\n open val offset: Int\n fun
getClientRect(): DOMRect?\n}\n\npublic external interface ScrollIntoViewOptions : ScrollOptions {\n var block:
ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n get() = definedExternally\n set(value) =
definedExternally\n var inline: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ScrollIntoViewOptions(block: ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, inline:
ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, behavior: ScrollBehavior? = ScrollBehavior.AUTO):
ScrollIntoViewOptions {\n val o = js(\"({})\")\n o[\"block\"] = block\n o[\"inline\"] = inline\n o[\"behavior\"]
= behavior\n return o\n}\n\npublic external interface BoxQuadOptions {\n var box: CSSBoxType? /* =
CSSBoxType.BORDER */\n get() = definedExternally\n set(value) = definedExternally\n var relativeTo:
dynamic\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun BoxQuadOptions(box: CSSBoxType? =
CSSBoxType.BORDER, relativeTo: dynamic = undefined): BoxQuadOptions {\n val o = js(\"({})\")\n
o[\"box\"] = box\n o[\"relativeTo\"] = relativeTo\n return o\n}\n\npublic external interface
ConvertCoordinateOptions {\n var fromBox: CSSBoxType? /* = CSSBoxType.BORDER */\n get() =
definedExternally\n set(value) = definedExternally\n var toBox: CSSBoxType? /* = CSSBoxType.BORDER
*/\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic
inline fun ConvertCoordinateOptions(fromBox: CSSBoxType? = CSSBoxType.BORDER, toBox: CSSBoxType? =
CSSBoxType.BORDER): ConvertCoordinateOptions {\n val o = js(\"({})\")\n o[\"fromBox\"] = fromBox\n
o[\"toBox\"] = toBox\n return o\n}\n\n/**\n * Exposes the JavaScript
[GeometryUtils](https://developer.mozilla.org/en/docs/Web/API/GeometryUtils) to Kotlin\n
*\npublic external
interface GeometryUtils {\n fun getBoxQuads(options: BoxQuadOptions = definedExternally):
Array<DOMQuad>\n fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions = definedExternally): DOMQuad\n fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad\n fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions =
definedExternally): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[Touch](https://developer.mozilla.org/en/docs/Web/API/Touch) to Kotlin\n
*\npublic external abstract class Touch
{\n open val identifier: Int\n open val target: EventTarget\n open val screenX: Int\n open val screenY: Int\n
open val clientX: Int\n open val clientY: Int\n open val pageX: Int\n open val pageY: Int\n open val region:
String?\n}\n\npublic external abstract class TouchList : ItemArrayLike<Touch> {\n override fun item(index: Int):
Touch?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun TouchList.get(index: Int): Touch? =
asDynamic()[index]\n\npublic external open class TouchEvent : UIEvent {\n open val touches: TouchList\n

```

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open val targetTouches: TouchList\n open val changedTouches: TouchList\n open val altKey: Boolean\n open
val metaKey: Boolean\n open val ctrlKey: Boolean\n open val shiftKey: Boolean\n\n companion object {\n
val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Image](https://developer.mozilla.org/en/docs/Web/API/Image) to Kotlin\n */\n\npublic external open class
Image(width: Int = definedExternally, height: Int = definedExternally) : HTMLElement {\n override var
onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var onCancel:
((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough:
((Event) -> dynamic)?\n override var onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) ->
dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) ->
dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) ->
dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) ->
dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) ->
dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) ->
dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) ->
dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) ->
dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -
> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup:
((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata:
((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend:
((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown:
((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var
onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) ->
dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) ->
dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n
override var onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n
override var onseeked: ((Event) -> dynamic)?\n override var onseeking: ((Event) -> dynamic)?\n
override var onselect: ((Event) -> dynamic)?\n override var onshow: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n
override var ontimeupdate: ((Event) -> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n
override var onvolumechange: ((Event) -> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n
override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture:
((PointerEvent) -> dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n
override var onpointermove: ((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) ->
dynamic)?\n override var onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover:
((PointerEvent) -> dynamic)?\n override var onpointerout: ((PointerEvent) -> dynamic)?\n
override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var onpointerleave: ((PointerEvent) ->
dynamic)?\n override var oncopy:
((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste:
((ClipboardEvent) -> dynamic)?\n override var contentEditable: String\n override val isContentEditable:
Boolean\n override val style: CSSStyleDeclaration\n override val children: HTMLCollection\n override val
firstElementChild: Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n
 override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n override val
assignedSlot: HTMLSlotElement?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg

```

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nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun
querySelectorAll(selectors: String): NodeList\n override fun before(vararg nodes: dynamic)\n override fun
after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n public external open class
Audio(src: String = definedExternally) : HTMLAudioElement {\n override var onabort: ((Event) -> dynamic)?\n
override var onblur: ((FocusEvent) -> dynamic)?\n override var oncancel: ((Event) -> dynamic)?\n
override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough: ((Event) -> dynamic)?\n
override var onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) -> dynamic)?\n
override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) -> dynamic)?\n
override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) -> dynamic)?\n
override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) -> dynamic)?\n
override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) -> dynamic)?\n
override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) -> dynamic)?\n
override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) -> dynamic)?\n
override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) -> dynamic)?\n
override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n
override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -> dynamic)?\n
override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) -> dynamic)?\n
override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup: ((KeyboardEvent) -> dynamic)?\n
override var onload: ((Event) -> dynamic)?\n override var onloadeddata: ((Event) -> dynamic)?\n
override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend: ((Event) -> dynamic)?\n
override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown: ((MouseEvent) -> dynamic)?\n
override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var onmouseleave: ((MouseEvent) -> dynamic)?\n
override var onmousemove: ((MouseEvent) -> dynamic)?\n override var onmouseout: ((MouseEvent) ->
dynamic)?\n override var onmouseover: ((MouseEvent) -> dynamic)?\n override var onmouseup: ((MouseEvent)
-> dynamic)?\n override var onwheel: ((WheelEvent) -> dynamic)?\n override var onpause: ((Event) ->
dynamic)?\n override var onplay: ((Event) -> dynamic)?\n override var onplaying: ((Event) -> dynamic)?\n
override var onprogress: ((ProgressEvent) -> dynamic)?\n override var onratechange: ((Event) -> dynamic)?\n
override var onreset: ((Event) -> dynamic)?\n override var onresize: ((Event) -> dynamic)?\n override var
onscroll: ((Event) -> dynamic)?\n override var onseeked: ((Event) -> dynamic)?\n override var onseeking:
((Event) -> dynamic)?\n override var onselect: ((Event) -> dynamic)?\n override var onshow: ((Event) ->
dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n override var onsubmit: ((Event) -> dynamic)?\n
override var onsuspend: ((Event) -> dynamic)?\n override var ontimeupdate: ((Event) -> dynamic)?\n
override var ontoggle: ((Event) -> dynamic)?\n override var onvolumechange: ((Event) -> dynamic)?\n
override var

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onwaiting: ((Event) -> dynamic)?\n override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n override
var onlostpointercapture: ((PointerEvent) -> dynamic)?\n override var onpointerdown: ((PointerEvent) ->
dynamic)?\n override var onpointermove: ((PointerEvent) -> dynamic)?\n override var onpointerup:
((PointerEvent) -> dynamic)?\n override var onpointercancel: ((PointerEvent) -> dynamic)?\n override var
onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout: ((PointerEvent) -> dynamic)?\n
override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var onpointerleave: ((PointerEvent) ->
dynamic)?\n override var oncopy: ((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) ->
dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override var contentEditable: String\n
override val isContentEditable: Boolean\n override val style: CSSStyleDeclaration\n override val children:
HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n
override val childElementCount: Int\n override val previousElementSibling: Element?\n override val
nextElementSibling: Element?\n override val assignedSlot: HTMLSlotElement?\n override fun prepend(vararg
nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun querySelector(selectors: String):
Element?\n override fun querySelectorAll(selectors: String): NodeList\n override fun before(vararg nodes:
dynamic)\n override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n
override fun remove()\n override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */):
Array<DOMQuad>\n override fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n
override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n companion object {\n val NETWORK_EMPTY: Short\n val
NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n
 val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA:
Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n /**\n * Exposes the JavaScript
[Option](https://developer.mozilla.org/en/docs/Web/API/Option) to Kotlin\n */\n @public external open class
Option(text: String = definedExternally, value: String = definedExternally, defaultSelected: Boolean =
definedExternally, selected: Boolean = definedExternally) : HTMLOptionElement {\n override var onabort:
((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var oncancel: ((Event) ->
dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough: ((Event) ->
dynamic)?\n override var onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) ->
dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) ->
dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) ->
dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) ->
dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) ->
dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) ->
dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) ->
dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) ->
dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -

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> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup:
((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata:
((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend:
((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown:
((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var
onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) ->
dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) ->
dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var
onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n override var onseeked:
((Event) -> dynamic)?\n override var onseeking: ((Event) -> dynamic)?\n override var onselect: ((Event) ->
dynamic)?\n override var onshow: ((Event) -> dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n override var
ontimeupdate: ((Event) -> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n override var
onvolumechange: ((Event) -> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var
ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) ->
dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove:
((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) -> dynamic)?\n override var
onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n
override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) ->
dynamic)?\n override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy:
((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste:
((ClipboardEvent) -> dynamic)?\n override var contentEditable: String\n override val isContentEditable:
Boolean\n override val style: CSSStyleDeclaration\n override val children: HTMLCollection\n override val
firstElementChild: Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n
 override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n override val
assignedSlot: HTMLSlotElement?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg
nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun
querySelectorAll(selectors: String): NodeList\n override fun before(vararg nodes: dynamic)\n override fun
after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface

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UnionElementOrHTMLCollection\n\npublic external interface UnionElementOrRadioNodeList\n\npublic external
interface UnionHTMLOptGroupElementOrHTMLOptionElement\n\npublic external interface
UnionAudioTrackOrTextTrackOrVideoTrack\n\npublic external interface UnionElementOrMouseEvent\n\npublic
external interface RenderingContext\n\npublic external interface HTMLOrSVGImageElement :
CanvasImageSource\n\npublic external interface CanvasImageSource : ImageBitmapSource\n\npublic external
interface ImageBitmapSource\n\npublic external interface UnionMessagePortOrWindowProxy\n\npublic external
interface HTMLOrSVGScriptElement\n\n/* please, don't implement this interface!
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
DocumentReadyState {\n companion object\n}\n\npublic inline val DocumentReadyState.Companion.LOADING:
DocumentReadyState get() = "loading".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.INTERACTIVE: DocumentReadyState get() =
"interactive".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.COMPLETE: DocumentReadyState get() =
"complete".asDynamic().unsafeCast<DocumentReadyState>()\n\n/* please, don't implement this interface!
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
CanPlayTypeResult {\n companion object\n}\n\npublic inline val CanPlayTypeResult.Companion.EMPTY:
CanPlayTypeResult get() = "".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val
CanPlayTypeResult.Companion.MAYBE: CanPlayTypeResult get() =
"maybe".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val
CanPlayTypeResult.Companion.PROBABLY: CanPlayTypeResult get() =
"probably".asDynamic().unsafeCast<CanPlayTypeResult>()\n\n/* please, don't implement this interface!
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface TextTrackMode
{\n companion object\n}\n\npublic inline val TextTrackMode.Companion.DISABLED: TextTrackMode get() =
"disabled".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.HIDDEN: TextTrackMode get() =
"hidden".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.SHOWING: TextTrackMode get() =
"showing".asDynamic().unsafeCast<TextTrackMode>()\n\n/* please, don't implement this interface!
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface TextTrackKind
{\n companion object\n}\n\npublic inline val TextTrackKind.Companion.SUBTITLES: TextTrackKind get() =
"subtitles".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CAPTIONS: TextTrackKind get() =
"captions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.DESCRPTIONS: TextTrackKind get() =
"descriptions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CHAPTERS: TextTrackKind get() =
"chapters".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.METADATA: TextTrackKind get() =
"metadata".asDynamic().unsafeCast<TextTrackKind>()\n\n/* please, don't implement this interface!
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface SelectionMode
{\n companion object\n}\n\npublic inline val SelectionMode.Companion.SELECT: SelectionMode get() =
"select".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.START:
SelectionMode get() = "start".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val
SelectionMode.Companion.END: SelectionMode get() =
"end".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.PRESERVE:
SelectionMode get() = "preserve".asDynamic().unsafeCast<SelectionMode>()\n\n/* please, don't implement this
interface! *\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
CanvasFillRule {\n companion object\n}\n\npublic inline val CanvasFillRule.Companion.NONZERO:

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CanvasFillRule get() = \"nonzero\".asDynamic().unsafeCast<CanvasFillRule>()\n\npublic inline val
CanvasFillRule.Companion.EVENODD: CanvasFillRule get() =
\"evenodd\".asDynamic().unsafeCast<CanvasFillRule>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface
ImageSmoothingQuality {\n companion object\n}\n\npublic inline val ImageSmoothingQuality.Companion.LOW:
ImageSmoothingQuality get() = \"low\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.MEDIUM: ImageSmoothingQuality get() =
\"medium\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.HIGH: ImageSmoothingQuality get() =
\"high\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface CanvasLineCap
{\n companion object\n}\n\npublic inline val CanvasLineCap.Companion.BUTT: CanvasLineCap get() =
\"butt\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val CanvasLineCap.Companion.ROUND:
CanvasLineCap get() = \"round\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val
CanvasLineCap.Companion.SQUARE: CanvasLineCap get() =
\"square\".asDynamic().unsafeCast<CanvasLineCap>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface CanvasLineJoin
{\n companion object\n}\n\npublic inline val CanvasLineJoin.Companion.ROUND: CanvasLineJoin get() =
\"round\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val CanvasLineJoin.Companion.BEVEL:
CanvasLineJoin get() = \"bevel\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val
CanvasLineJoin.Companion.MITER: CanvasLineJoin get() =
\"miter\".asDynamic().unsafeCast<CanvasLineJoin>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface CanvasTextAlign
{\n companion object\n}\n\npublic inline val CanvasTextAlign.Companion.START: CanvasTextAlign get() =
\"start\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.END:
CanvasTextAlign get() = \"end\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.LEFT: CanvasTextAlign get() =
\"left\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.RIGHT:
CanvasTextAlign get() = \"right\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.CENTER: CanvasTextAlign get() =
\"center\".asDynamic().unsafeCast<CanvasTextAlign>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface
CanvasTextBaseline {\n companion object\n}\n\npublic inline val CanvasTextBaseline.Companion.TOP:
CanvasTextBaseline get() = \"top\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.HANGING: CanvasTextBaseline get() =
\"hanging\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.MIDDLE: CanvasTextBaseline get() =
\"middle\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.ALPHABETIC: CanvasTextBaseline get() =
\"alphabetic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.IDEOGRAPHIC: CanvasTextBaseline get() =
\"ideographic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.BOTTOM: CanvasTextBaseline get() =
\"bottom\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface CanvasDirection
{\n companion object\n}\n\npublic inline val CanvasDirection.Companion.LTR: CanvasDirection get() =
\"ltr\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val CanvasDirection.Companion.RTL:
CanvasDirection get() = \"rtl\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val

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CanvasDirection.Companion.INHERIT: CanvasDirection get() =
 \"inherit\".asDynamic().unsafeCast<CanvasDirection>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ScrollRestoration
{\n companion object\n}\n\npublic inline val ScrollRestoration.Companion.AUTO: ScrollRestoration get() =
 \"auto\".asDynamic().unsafeCast<ScrollRestoration>()\n\npublic inline val
ScrollRestoration.Companion.MANUAL: ScrollRestoration get() =
 \"manual\".asDynamic().unsafeCast<ScrollRestoration>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ImageOrientation
{\n companion object\n}\n\npublic inline val ImageOrientation.Companion.NONE: ImageOrientation get() =
 \"none\".asDynamic().unsafeCast<ImageOrientation>()\n\npublic inline val ImageOrientation.Companion.FLIPY:
ImageOrientation get() = \"flipY\".asDynamic().unsafeCast<ImageOrientation>()\n\n/* please, don't implement this
interface! *\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
PremultiplyAlpha {\n companion object\n}\n\npublic inline val PremultiplyAlpha.Companion.NONE:
PremultiplyAlpha get() = \"none\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.PREMULTIPLY: PremultiplyAlpha get() =
 \"premultiply\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.DEFAULT: PremultiplyAlpha get() =
 \"default\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
ColorSpaceConversion {\n companion object\n}\n\npublic inline val ColorSpaceConversion.Companion.NONE:
ColorSpaceConversion get() = \"none\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\npublic inline val
ColorSpaceConversion.Companion.DEFAULT: ColorSpaceConversion get() =
 \"default\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ResizeQuality
{\n companion object\n}\n\npublic inline val ResizeQuality.Companion.PIXELATED: ResizeQuality get() =
 \"pixelated\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.LOW:
ResizeQuality get() = \"low\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.MEDIUM: ResizeQuality get() =
 \"medium\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.HIGH:
ResizeQuality get() = \"high\".asDynamic().unsafeCast<ResizeQuality>()\n\n/* please, don't implement this
interface! *\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
BinaryType {\n companion object\n}\n\npublic inline val BinaryType.Companion.BLOB: BinaryType get() =
 \"blob\".asDynamic().unsafeCast<BinaryType>()\n\npublic inline val BinaryType.Companion.ARRAYBUFFER:
BinaryType get() = \"arraybuffer\".asDynamic().unsafeCast<BinaryType>()\n\n/* please, don't implement this
interface! *\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
WorkerType {\n companion object\n}\n\npublic inline val WorkerType.Companion.CLASSIC: WorkerType get()
= \"classic\".asDynamic().unsafeCast<WorkerType>()\n\npublic inline val WorkerType.Companion.MODULE:
WorkerType get() = \"module\".asDynamic().unsafeCast<WorkerType>()\n\n/* please, don't implement this
interface! *\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
ShadowRootMode {\n companion object\n}\n\npublic inline val ShadowRootMode.Companion.OPEN:
ShadowRootMode get() = \"open\".asDynamic().unsafeCast<ShadowRootMode>()\n\npublic inline val
ShadowRootMode.Companion.CLOSED: ShadowRootMode get() =
 \"closed\".asDynamic().unsafeCast<ShadowRootMode>()\n\n/* please, don't implement this interface!
*\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ScrollBehavior
{\n companion object\n}\n\npublic inline val ScrollBehavior.Companion.AUTO: ScrollBehavior get() =
 \"auto\".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val ScrollBehavior.Companion.INSTANT:
ScrollBehavior get() = \"instant\".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val
ScrollBehavior.Companion.SMOOTH: ScrollBehavior get() =

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\"smooth\".asDynamic().unsafeCast<ScrollBehavior>()\n\n/* please, don't implement this interface!
*\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
ScrollLogicalPosition {\n companion object\n}\n\npublic inline val ScrollLogicalPosition.Companion.START:
ScrollLogicalPosition get() = \"start\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.CENTER: ScrollLogicalPosition get() =
\"center\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.END: ScrollLogicalPosition get() =
\"end\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.NEAREST: ScrollLogicalPosition get() =
\"nearest\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\n/* please, don't implement this interface!
*\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CSSBoxType {\n
 companion object\n}\n\npublic inline val CSSBoxType.Companion.MARGIN: CSSBoxType get() =
\"margin\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.BORDER:
CSSBoxType get() = \"border\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val
CSSBoxType.Companion.PADDING: CSSBoxType get() =
\"padding\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.CONTENT:
CSSBoxType get() = \"content\".asDynamic().unsafeCast<CSSBoxType>()\", /*\n * Copyright 2010-2019 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED,
DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.fetch\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Headers](https://developer.mozilla.org/en/docs/Web/API/Headers) to Kotlin\n */\n\npublic external open class
Headers(init: dynamic = definedExternally) {\n fun append(name: String, value: String)\n fun delete(name:
String)\n fun get(name: String): String?\n fun has(name: String): Boolean\n fun set(name: String, value:
String)\n}\n\n/**\n * Exposes the JavaScript [Body](https://developer.mozilla.org/en/docs/Web/API/Body) to
Kotlin\n */\n\npublic external interface Body {\n val bodyUsed: Boolean\n fun arrayBuffer():
Promise<ArrayBuffer>\n fun blob(): Promise<Blob>\n fun formData(): Promise<FormData>\n fun json():
Promise<Any?>\n fun text(): Promise<String>\n}\n\n/**\n * Exposes the JavaScript
[Request](https://developer.mozilla.org/en/docs/Web/API/Request) to Kotlin\n */\n\npublic external open class
Request(input: dynamic, init: RequestInit = definedExternally) : Body {\n open val method: String\n open val
url: String\n open val headers: Headers\n open val type: RequestType\n open val destination:
RequestDestination\n open val referrer: String\n open val referrerPolicy: dynamic\n open val mode:
RequestMode\n open val credentials: RequestCredentials\n open val cache: RequestCache\n open val redirect:
RequestRedirect\n open val integrity: String\n open val keepalive: Boolean\n override val bodyUsed:
Boolean\n fun clone(): Request\n override fun arrayBuffer(): Promise<ArrayBuffer>\n override fun blob():
Promise<Blob>\n override fun formData(): Promise<FormData>\n override fun json(): Promise<Any?>\n override
fun text(): Promise<String>\n}\n\npublic external interface RequestInit {\n var method: String?\n get() =
definedExternally\n set(value) = definedExternally\n var headers: dynamic\n get() =
definedExternally\n set(value) = definedExternally\n var body: dynamic\n get() = definedExternally\n
set(value) = definedExternally\n var referrer: String?\n get() = definedExternally\n set(value) =
definedExternally\n var referrerPolicy: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var mode: RequestMode?\n get() = definedExternally\n set(value) =
definedExternally\n var credentials: RequestCredentials?\n get() = definedExternally\n set(value) =
definedExternally\n var cache: RequestCache?\n get() = definedExternally\n set(value) =

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definedExternally\n var redirect: RequestRedirect?\n get() = definedExternally\n set(value) =
definedExternally\n var integrity: String?\n get() = definedExternally\n set(value) = definedExternally\n
var keepalive: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var window:
Any?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun RequestInit(method: String? = undefined,
headers: dynamic = undefined, body: dynamic = undefined, referrer: String? = undefined, referrerPolicy: dynamic =
undefined, mode: RequestMode? = undefined, credentials: RequestCredentials? = undefined, cache: RequestCache?
= undefined, redirect: RequestRedirect? = undefined, integrity: String? = undefined, keepalive: Boolean? =
undefined, window: Any? = undefined): RequestInit {\n val o = js("{}")\n o["method"] = method\n
o["headers"] = headers\n o["body"] = body\n o["referrer"] = referrer\n o["referrerPolicy"] =
referrerPolicy\n o["mode"] = mode\n o["credentials"] = credentials\n o["cache"] = cache\n o["redirect"]
= redirect\n o["integrity"] = integrity\n o["keepalive"] = keepalive\n o["window"] = window\n return
o}\n\n/**\n * Exposes the JavaScript [Response](https://developer.mozilla.org/en/docs/Web/API/Response) to
Kotlin\n *\npublic external open class Response(body: dynamic = definedExternally, init: ResponseInit =
definedExternally) : Body {\n open val type: ResponseType\n open val url: String\n open val redirected:
Boolean\n open val status: Short\n open val ok: Boolean\n open val statusText: String\n open val headers:
Headers\n open val body: dynamic\n open val trailer: Promise<Headers>\n override val bodyUsed: Boolean\n
fun clone(): Response\n override fun arrayBuffer(): Promise<ArrayBuffer>\n override fun blob():
Promise<Blob>\n override fun formData(): Promise<FormData>\n override fun json(): Promise<Any?>\n
override fun text(): Promise<String>\n\n companion object {\n fun error(): Response\n fun redirect(url:
String, status: Short = definedExternally): Response\n }\n}\n\npublic external interface ResponseInit {\n var
status: Short? /* = 200 */\n get() = definedExternally\n set(value) = definedExternally\n var statusText:
String? /* = "OK" */\n get() = definedExternally\n set(value) = definedExternally\n var headers:
dynamic\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ResponseInit(status: Short? = 200,
statusText: String? = "OK", headers: dynamic = undefined): ResponseInit {\n val o = js("{}")\n o["status"]
= status\n o["statusText"] = statusText\n o["headers"] = headers\n return o}\n\n/* please, don't implement
this interface! *\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface
RequestType {\n companion object\n}\n\npublic inline val RequestType.Companion.EMPTY: RequestType get()
= ""\n\n.asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.AUDIO:
RequestType get() = "audio"\n\n.asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.FONT: RequestType get() = "font"\n\n.asDynamic().unsafeCast<RequestType>()\n\npublic
inline val RequestType.Companion.IMAGE: RequestType get() =
"image"\n\n.asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.SCRIPT:
RequestType get() = "script"\n\n.asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.STYLE: RequestType get() =
"style"\n\n.asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.TRACK:
RequestType get() = "track"\n\n.asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.VIDEO: RequestType get() = "video"\n\n.asDynamic().unsafeCast<RequestType>()\n\n/*
please, don't implement this interface! *\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface
RequestDestination {\n companion object\n}\n\npublic inline val RequestDestination.Companion.EMPTY:
RequestDestination get() = ""\n\n.asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.DOCUMENT: RequestDestination get() =
"document"\n\n.asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.EMBED: RequestDestination get() =
"embed"\n\n.asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.FONT: RequestDestination get() =

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\font\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.IMAGE: RequestDestination get() =
'image\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MANIFEST: RequestDestination get() =
'manifest\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MEDIA: RequestDestination get() =
'media\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.OBJECT: RequestDestination get() =
'object\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.REPORT: RequestDestination get() =
'report\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SCRIPT: RequestDestination get() =
'script\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SERVICEWORKER: RequestDestination get() =
'serviceworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SHAREDWORKER: RequestDestination get() =
'sharedworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.STYLE: RequestDestination get() =
'style\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.WORKER: RequestDestination get() =
'worker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.XSLT: RequestDestination get() =
'xslt\".asDynamic().unsafeCast<RequestDestination>()\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface RequestMode {\n
 companion object\n}\n\npublic inline val RequestMode.Companion.NAVIGATE: RequestMode get() =
'navigate\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.SAME_ORIGIN: RequestMode get() = "same-
origin\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val RequestMode.Companion.NO_CORS:
RequestMode get() = "no-cors\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.CORS: RequestMode get() = "cors\".asDynamic().unsafeCast<RequestMode>()\n\n/*
please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
RequestCredentials {\n
 companion object\n}\n\npublic inline val RequestCredentials.Companion.OMIT:
RequestCredentials get() = "omit\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.SAME_ORIGIN: RequestCredentials get() = "same-
origin\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.INCLUDE: RequestCredentials get() =
'include\".asDynamic().unsafeCast<RequestCredentials>()\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface RequestCache
{\n
 companion object\n}\n\npublic inline val RequestCache.Companion.DEFAULT: RequestCache get() =
'default\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.NO_STORE:
RequestCache get() = "no-store\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.RELOAD: RequestCache get() =
'reload\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.NO_CACHE:
RequestCache get() = "no-cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.FORCE_CACHE: RequestCache get() = "force-
cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.ONLY_IF_CACHED: RequestCache get() = "only-if-

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cached`.asDynamic().unsafeCast<RequestCache>()\n\n/* please, don't implement this interface!
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface RequestRedirect
{\n companion object\n}\n\npublic inline val RequestRedirect.Companion.FOLLOW: RequestRedirect get() =
"follow".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val RequestRedirect.Companion.ERROR:
RequestRedirect get() = "error".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val
RequestRedirect.Companion.MANUAL: RequestRedirect get() =
"manual".asDynamic().unsafeCast<RequestRedirect>()\n\n/* please, don't implement this interface!
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface ResponseType
{\n companion object\n}\n\npublic inline val ResponseType.Companion.BASIC: ResponseType get() =
"basic".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.CORS:
ResponseType get() = "cors".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.DEFAULT: ResponseType get() =
"default".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.ERROR:
ResponseType get() = "error".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.OPAQUE: ResponseType get() =
"opaque".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.OPAQUEREDIRECT: ResponseType get() =
"opaqueredirect".asDynamic().unsafeCast<ResponseType>()", /*\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediacapture\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport
org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[MediaStream](https://developer.mozilla.org/en/docs/Web/API/MediaStream) to Kotlin\n *\n\npublic external open
class MediaStream() : EventTarget {\n constructor(stream: MediaStream)\n constructor(tracks:
Array<MediaStreamTrack>)\n open val id: String\n open val active: Boolean\n var onaddtrack:
((MediaStreamTrackEvent) -> dynamic)?\n var onremovetrack: ((MediaStreamTrackEvent) -> dynamic)?\n fun
getAudioTracks(): Array<MediaStreamTrack>\n fun getVideoTracks(): Array<MediaStreamTrack>\n fun
getTracks(): Array<MediaStreamTrack>\n fun getTrackById(trackId: String): MediaStreamTrack?\n fun
addTrack(track: MediaStreamTrack)\n fun removeTrack(track: MediaStreamTrack)\n fun clone():
MediaStream\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrack](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrack) to Kotlin\n *\n\npublic
external abstract class MediaStreamTrack : EventTarget {\n open val kind: String\n open val id: String\n open
val label: String\n open var enabled: Boolean\n open val muted: Boolean\n open var onmute: ((Event) ->
dynamic)?\n open var onunmute: ((Event) -> dynamic)?\n open val readyState: MediaStreamTrackState\n
open var onended: ((Event) -> dynamic)?\n open var onoverconstrained: ((Event) -> dynamic)?\n fun clone():
MediaStreamTrack\n fun stop()\n fun getCapabilities(): MediaTrackCapabilities\n fun getConstraints():
MediaTrackConstraints\n fun getSettings(): MediaTrackSettings\n fun applyConstraints(constraints:
MediaTrackConstraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSupportedConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSupportedConstrain
ts) to Kotlin\n *\n\npublic external interface MediaTrackSupportedConstraints {\n var width: Boolean? /* = true
\n get() = definedExternally\n set(value) = definedExternally\n var height: Boolean? / = true *\n get() =
definedExternally\n set(value) = definedExternally\n var aspectRatio: Boolean? /* = true *\n get() =
definedExternally\n set(value) = definedExternally\n var frameRate: Boolean? /* = true *\n get() =
definedExternally\n set(value) = definedExternally\n var facingMode: Boolean? /* = true *\n get() =

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definedExternally\n set(value) = definedExternally\n var resizeMode: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var volume: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var sampleRate: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var sampleSize: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var echoCancellation: Boolean? /* = true */\n get()
= definedExternally\n set(value) = definedExternally\n var autoGainControl: Boolean? /* = true */\n get()
= definedExternally\n set(value) = definedExternally\n var noiseSuppression: Boolean? /* = true */\n
get() = definedExternally\n set(value) = definedExternally\n var latency: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var channelCount: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var deviceId: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var groupId: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MediaTrackSupportedConstraints(width: Boolean? = true, height: Boolean? = true, aspectRatio: Boolean? = true,
frameRate: Boolean? = true, facingMode: Boolean? = true, resizeMode: Boolean? = true, volume: Boolean? = true,
sampleRate: Boolean? = true, sampleSize: Boolean? = true, echoCancellation: Boolean? = true, autoGainControl:
Boolean? = true, noiseSuppression: Boolean? = true, latency: Boolean? = true, channelCount: Boolean? = true,
deviceId: Boolean? = true, groupId: Boolean? = true): MediaTrackSupportedConstraints {\n val o = js("{}")\n
o["width"] = width\n o["height"] = height\n o["aspectRatio"] = aspectRatio\n o["frameRate"] =
frameRate\n o["facingMode"] = facingMode\n o["resizeMode"] = resizeMode\n o["volume"] = volume\n
o["sampleRate"] = sampleRate\n o["sampleSize"] = sampleSize\n o["echoCancellation"] =
echoCancellation\n o["autoGainControl"] = autoGainControl\n o["noiseSuppression"] = noiseSuppression\n
o["latency"] = latency\n o["channelCount"] = channelCount\n o["deviceId"] = deviceId\n o["groupId"] =
groupId\n return o\n}\n\npublic external interface MediaTrackCapabilities {\n var width: ULongRange?\n
get() = definedExternally\n set(value) = definedExternally\n var height: ULongRange?\n get() =
definedExternally\n set(value) = definedExternally\n var aspectRatio: DoubleRange?\n get() =
definedExternally\n set(value) = definedExternally\n var frameRate: DoubleRange?\n get() =
definedExternally\n set(value) = definedExternally\n var facingMode: Array<String>?\n get() =
definedExternally\n set(value) = definedExternally\n var resizeMode: Array<String>?\n get() =
definedExternally\n set(value) = definedExternally\n var volume: DoubleRange?\n get() =
definedExternally\n set(value) = definedExternally\n var sampleRate: ULongRange?\n get() =
definedExternally\n set(value) = definedExternally\n var sampleSize: ULongRange?\n get() =
definedExternally\n set(value) = definedExternally\n var echoCancellation: Array<Boolean>?\n get() =
definedExternally\n set(value) = definedExternally\n var autoGainControl: Array<Boolean>?\n get() =
definedExternally\n set(value) = definedExternally\n var noiseSuppression: Array<Boolean>?\n get() =
definedExternally\n set(value) = definedExternally\n var latency: DoubleRange?\n get() =
definedExternally\n set(value) = definedExternally\n var channelCount: ULongRange?\n get() =
definedExternally\n set(value) = definedExternally\n var deviceId: String?\n get() = definedExternally\n
set(value) = definedExternally\n var groupId: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackCapabilities(width:
ULongRange? = undefined, height: ULongRange? = undefined, aspectRatio: DoubleRange? = undefined,
frameRate: DoubleRange? = undefined, facingMode: Array<String>? = undefined, resizeMode: Array<String>? =
undefined, volume: DoubleRange? = undefined, sampleRate: ULongRange? = undefined, sampleSize:
ULongRange? = undefined, echoCancellation: Array<Boolean>? = undefined, autoGainControl: Array<Boolean>?
= undefined, noiseSuppression: Array<Boolean>? = undefined, latency: DoubleRange? = undefined, channelCount:
ULongRange? = undefined, deviceId: String? = undefined, groupId: String? = undefined): MediaTrackCapabilities
{\n val o = js("{}")\n o["width"] = width\n o["height"] = height\n o["aspectRatio"] = aspectRatio\n
o["frameRate"] = frameRate\n o["facingMode"] = facingMode\n o["resizeMode"] = resizeMode\n
o["volume"] = volume\n o["sampleRate"] = sampleRate\n o["sampleSize"] = sampleSize\n

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o["echoCancellation"] = echoCancellation\n o["autoGainControl"] = autoGainControl\n
o["noiseSuppression"] = noiseSuppression\n o["latency"] = latency\n o["channelCount"] = channelCount\n
o["deviceId"] = deviceId\n o["groupId"] = groupId\n return o\n}\n\n**\n * Exposes the JavaScript
[MediaTrackConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackConstraints) to Kotlin\n
*\npublic external interface MediaTrackConstraints : MediaTrackConstraintSet {\n var advanced:
Array<MediaTrackConstraintSet>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackConstraints(advanced:
Array<MediaTrackConstraintSet>? = undefined, width: dynamic = undefined, height: dynamic = undefined,
aspectRatio: dynamic = undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined,
resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize:
dynamic = undefined, echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined,
noiseSuppression: dynamic = undefined, latency: dynamic = undefined, channelCount: dynamic = undefined,
deviceId: dynamic = undefined, groupId: dynamic = undefined): MediaTrackConstraints {\n val o = js("{}")\n
o["advanced"] = advanced\n o["width"] = width\n o["height"] = height\n o["aspectRatio"] =
aspectRatio\n o["frameRate"] = frameRate\n o["facingMode"] = facingMode\n o["resizeMode"] =
resizeMode\n o["volume"] = volume\n o["sampleRate"] = sampleRate\n o["sampleSize"] = sampleSize\n
o["echoCancellation"] = echoCancellation\n o["autoGainControl"] = autoGainControl\n
o["noiseSuppression"] = noiseSuppression\n o["latency"] = latency\n o["channelCount"] = channelCount\n
o["deviceId"] = deviceId\n o["groupId"] = groupId\n return o\n}\n\npublic external interface
MediaTrackConstraintSet {\n var width: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var height: dynamic\n get() = definedExternally\n set(value) = definedExternally\n
var aspectRatio: dynamic\n get() = definedExternally\n set(value) = definedExternally\n var frameRate:
dynamic\n get() = definedExternally\n set(value) = definedExternally\n var facingMode: dynamic\n
get() = definedExternally\n set(value) = definedExternally\n var resizeMode: dynamic\n get() =
definedExternally\n set(value) = definedExternally\n var volume: dynamic\n get() = definedExternally\n
set(value) = definedExternally\n var sampleRate: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var sampleSize: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var echoCancellation: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var autoGainControl: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var noiseSuppression: dynamic\n get() = definedExternally\n set(value) =
definedExternally\n var latency: dynamic\n get() = definedExternally\n set(value) = definedExternally\n
var channelCount: dynamic\n get() = definedExternally\n set(value) = definedExternally\n var deviceId:
dynamic\n get() = definedExternally\n set(value) = definedExternally\n var groupId: dynamic\n get()
= definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MediaTrackConstraintSet(width: dynamic = undefined, height: dynamic = undefined, aspectRatio: dynamic =
undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined, resizeMode: dynamic = undefined,
volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize: dynamic = undefined,
echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined, noiseSuppression: dynamic =
undefined, latency: dynamic = undefined, channelCount: dynamic = undefined, deviceId: dynamic = undefined,
groupId: dynamic = undefined): MediaTrackConstraintSet {\n val o = js("{}")\n o["width"] = width\n
o["height"] = height\n o["aspectRatio"] = aspectRatio\n o["frameRate"] = frameRate\n o["facingMode"]
= facingMode\n o["resizeMode"] = resizeMode\n o["volume"] = volume\n o["sampleRate"] =
sampleRate\n o["sampleSize"] = sampleSize\n o["echoCancellation"] = echoCancellation\n
o["autoGainControl"] = autoGainControl\n o["noiseSuppression"] = noiseSuppression\n o["latency"] =
latency\n o["channelCount"] = channelCount\n o["deviceId"] = deviceId\n o["groupId"] = groupId\n
return o\n}\n\n**\n * Exposes the JavaScript
[MediaTrackSettings](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSettings) to Kotlin\n
*\npublic external interface MediaTrackSettings {\n var width: Int?\n get() = definedExternally\n set(value) =

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definedExternally\n var height: Int?\n get() = definedExternally\n set(value) = definedExternally\n var
aspectRatio: Double?\n get() = definedExternally\n set(value) = definedExternally\n var frameRate:
Double?\n get() = definedExternally\n set(value) = definedExternally\n var facingMode: String?\n
get() = definedExternally\n set(value) = definedExternally\n var resizeMode: String?\n get() =
definedExternally\n set(value) = definedExternally\n var volume: Double?\n get() = definedExternally\n
set(value) = definedExternally\n var sampleRate: Int?\n get() = definedExternally\n set(value) =
definedExternally\n var sampleSize: Int?\n get() = definedExternally\n set(value) = definedExternally\n
var echoCancellation: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var
autoGainControl: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var
noiseSuppression: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var latency:
Double?\n get() = definedExternally\n set(value) = definedExternally\n var channelCount: Int?\n
get() = definedExternally\n set(value) = definedExternally\n var deviceId: String?\n get() =
definedExternally\n set(value) = definedExternally\n var groupId: String?\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackSettings(width:
Int? = undefined, height: Int? = undefined, aspectRatio: Double? = undefined, frameRate: Double? = undefined,
facingMode: String? = undefined, resizeMode: String? = undefined, volume: Double? = undefined, sampleRate: Int?
= undefined, sampleSize: Int? = undefined, echoCancellation: Boolean? = undefined, autoGainControl: Boolean? =
undefined, noiseSuppression: Boolean? = undefined, latency: Double? = undefined, channelCount: Int? = undefined,
deviceId: String? = undefined, groupId: String? = undefined): MediaTrackSettings {\n val o = js("{}")\n
o["width"] = width\n o["height"] = height\n o["aspectRatio"] = aspectRatio\n o["frameRate"] =
frameRate\n o["facingMode"] = facingMode\n o["resizeMode"] = resizeMode\n o["volume"] = volume\n
o["sampleRate"] = sampleRate\n o["sampleSize"] = sampleSize\n o["echoCancellation"] =
echoCancellation\n o["autoGainControl"] = autoGainControl\n o["noiseSuppression"] = noiseSuppression\n
o["latency"] = latency\n o["channelCount"] = channelCount\n o["deviceId"] = deviceId\n o["groupId"] =
groupId\n return o\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrackEvent](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrackEvent) to Kotlin\n
*/\npublic external open class MediaStreamTrackEvent(type: String, eventInitDict: MediaStreamTrackEventInit) :
Event {\n open val track: MediaStreamTrack\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface MediaStreamTrackEventInit : EventInit {\n var track: MediaStreamTrack?\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MediaStreamTrackEventInit(track: MediaStreamTrack?, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): MediaStreamTrackEventInit {\n val o = js("{}")\n o["track"] = track\n
o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\npublic external open class OverconstrainedErrorEvent(type: String, eventInitDict:
OverconstrainedErrorEventInit) : Event {\n open val error: dynamic\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface OverconstrainedErrorEventInit : EventInit {\n var error: dynamic /*
= null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun OverconstrainedErrorEventInit(error:
dynamic = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
OverconstrainedErrorEventInit {\n val o = js("{}")\n o["error"] = error\n o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[MediaDevices](https://developer.mozilla.org/en/docs/Web/API/MediaDevices) to Kotlin\n
*/\npublic external
abstract class MediaDevices : EventTarget {\n open var ondevicechange: ((Event) -> dynamic)?\n fun
enumerateDevices(): Promise<Array<MediaDeviceInfo>>\n fun getSupportedConstraints():
MediaTrackSupportedConstraints\n fun getUserMedia(constraints: MediaStreamConstraints = definedExternally):
Promise<MediaStream>\n}\n\n/**\n * Exposes the JavaScript

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[MediaDeviceInfo](https://developer.mozilla.org/en/docs/Web/API/MediaDeviceInfo) to Kotlin\n \*/\npublic external abstract class MediaDeviceInfo {\n open val deviceId: String\n open val kind: MediaDeviceKind\n open val label: String\n open val groupId: String\n fun toJSON(): dynamic\n}\n\npublic external abstract class InputDeviceInfo : MediaDeviceInfo {\n fun getCapabilities(): MediaTrackCapabilities\n}\n\n/\*\*\n \* Exposes the JavaScript [MediaStreamConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaStreamConstraints) to Kotlin\n \*/\npublic external interface MediaStreamConstraints {\n var video: dynamic /\* = false \*/\n get() = definedExternally\n set(value) = definedExternally\n var audio: dynamic /\* = false \*/\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamConstraints(video: dynamic = false, audio: dynamic = false): MediaStreamConstraints {\n val o = js("{}")\n o["video"] = video\n o["audio"] = audio\n return o\n}\n\npublic external interface ConstrainingPattern {\n var onoverconstrained: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n fun getCapabilities(): Capabilities\n fun getConstraints(): Constraints\n fun getSettings(): Settings\n fun applyConstraints(constraints: Constraints = definedExternally): Promise<Unit>\n}\n\n/\*\*\n \* Exposes the JavaScript [DoubleRange](https://developer.mozilla.org/en/docs/Web/API/DoubleRange) to Kotlin\n \*/\npublic external interface DoubleRange {\n var max: Double?\n get() = definedExternally\n set(value) = definedExternally\n var min: Double?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DoubleRange(max: Double? = undefined, min: Double? = undefined): DoubleRange {\n val o = js("{}")\n o["max"] = max\n o["min"] = min\n return o\n}\n\npublic external interface ConstrainDoubleRange : DoubleRange {\n var exact: Double?\n get() = definedExternally\n set(value) = definedExternally\n var ideal: Double?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainDoubleRange(exact: Double? = undefined, ideal: Double? = undefined, max: Double? = undefined, min: Double? = undefined): ConstrainDoubleRange {\n val o = js("{}")\n o["exact"] = exact\n o["ideal"] = ideal\n o["max"] = max\n o["min"] = min\n return o\n}\n\npublic external interface ULongRange {\n var max: Int?\n get() = definedExternally\n set(value) = definedExternally\n var min: Int?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange(max: Int? = undefined, min: Int? = undefined): ULongRange {\n val o = js("{}")\n o["max"] = max\n o["min"] = min\n return o\n}\n\npublic external interface ConstrainULongRange : ULongRange {\n var exact: Int?\n get() = definedExternally\n set(value) = definedExternally\n var ideal: Int?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainULongRange(exact: Int? = undefined, ideal: Int? = undefined, max: Int? = undefined, min: Int? = undefined): ConstrainULongRange {\n val o = js("{}")\n o["exact"] = exact\n o["ideal"] = ideal\n o["max"] = max\n o["min"] = min\n return o\n}\n\n/\*\*\n \* Exposes the JavaScript [ConstrainBooleanParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainBooleanParameters) to Kotlin\n \*/\npublic external interface ConstrainBooleanParameters {\n var exact: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var ideal: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainBooleanParameters(exact: Boolean? = undefined, ideal: Boolean? = undefined): ConstrainBooleanParameters {\n val o = js("{}")\n o["exact"] = exact\n o["ideal"] = ideal\n return o\n}\n\n/\*\*\n \* Exposes the JavaScript [ConstrainDOMStringParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainDOMStringParameters) to Kotlin\n \*/\npublic external interface ConstrainDOMStringParameters {\n var exact: dynamic\n get() = definedExternally\n set(value) = definedExternally\n var ideal: dynamic\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainDOMStringParameters(exact: dynamic = undefined, ideal: dynamic = undefined): ConstrainDOMStringParameters {\n val o = js("{}")\n o["exact"] = exact\n o["ideal"] = ideal\n return o\n}\n\npublic external interface Capabilities\n@kotlin.internal.InlineOnly\npublic inline fun Capabilities():

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Capabilities {n val o = js("{}")n return o\n}\n\npublic external interface
Settings\n\n@kotlin.internal.InlineOnly\n\npublic inline fun Settings(): Settings {n val o = js("{}")n return
o\n}\n\npublic external interface ConstraintSet\n\n@kotlin.internal.InlineOnly\n\npublic inline fun ConstraintSet():
ConstraintSet {n val o = js("{}")n return o\n}\n\npublic external interface Constraints : ConstraintSet {n
var advanced: Array<ConstraintSet>?n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun Constraints(advanced:
Array<ConstraintSet>? = undefined): Constraints {n val o = js("{}")n o["advanced"] = advanced\n
return o\n}\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
MediaStreamTrackState {n companion object\n}\n\npublic inline val MediaStreamTrackState.Companion.LIVE:
MediaStreamTrackState get() = "live".asDynamic().unsafeCast<MediaStreamTrackState>()\n\npublic inline val
MediaStreamTrackState.Companion.ENDED: MediaStreamTrackState get() =
"ended".asDynamic().unsafeCast<MediaStreamTrackState>()\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
VideoFacingModeEnum {n companion object\n}\n\npublic inline val
VideoFacingModeEnum.Companion.USER: VideoFacingModeEnum get() =
"user".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.ENVIRONMENT: VideoFacingModeEnum get() =
"environment".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.LEFT: VideoFacingModeEnum get() =
"left".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.RIGHT: VideoFacingModeEnum get() =
"right".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
VideoResizeModeEnum {n companion object\n}\n\npublic inline val
VideoResizeModeEnum.Companion.NONE: VideoResizeModeEnum get() =
"none".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\npublic inline val
VideoResizeModeEnum.Companion.CROP_AND_SCALE: VideoResizeModeEnum get() = "crop-and-
scale".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external interface
MediaDeviceKind {n companion object\n}\n\npublic inline val MediaDeviceKind.Companion.AUDIOINPUT:
MediaDeviceKind get() = "audioinput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.AUDIOOUTPUT: MediaDeviceKind get() =
"audiooutput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.VIDEOINPUT: MediaDeviceKind get() =
"videoinput".asDynamic().unsafeCast<MediaDeviceKind>()"}\n\n/*\n\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.pointerevents\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.svg.*\nimport
org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external interface
PointerEventInit : MouseEventInit {n var pointerId: Int? /* = 0 */n get() = definedExternally\n
set(value) = definedExternally\n var width: Double? /* = 1.0 */n get() = definedExternally\n set(value) =
definedExternally\n var height: Double? /* = 1.0 */n get() = definedExternally\n set(value) =
definedExternally\n var pressure: Float? /* = 0f */n get() = definedExternally\n set(value) =

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definedExternally\n var tangentialPressure: Float? /* = 0f */\n get() = definedExternally\n set(value) =
definedExternally\n var tiltX: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n
 var tiltY: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var twist: Int? /* =
0 */\n get() = definedExternally\n set(value) = definedExternally\n var pointerType: String? /* = "" */\n
 get() = definedExternally\n set(value) = definedExternally\n var isPrimary: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
PointerEventInit(pointerId: Int? = 0, width: Double? = 1.0, height: Double? = 1.0, pressure: Float? = 0f,
tangentialPressure: Float? = 0f, tiltX: Int? = 0, tiltY: Int? = 0, twist: Int? = 0, pointerType: String? = "", isPrimary:
Boolean? = false, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0,
buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey:
Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false,
modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false,
modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): PointerEventInit {\n val o = js("{}")\n o["pointerId"] = pointerId\n o["width"] = width\n
o["height"] = height\n o["pressure"] = pressure\n o["tangentialPressure"] = tangentialPressure\n
o["tiltX"] = tiltX\n o["tiltY"] = tiltY\n o["twist"] = twist\n o["pointerType"] = pointerType\n
o["isPrimary"] = isPrimary\n o["screenX"] = screenX\n o["screenY"] = screenY\n o["clientX"] =
clientX\n o["clientY"] = clientY\n o["button"] = button\n o["buttons"] = buttons\n o["relatedTarget"] =
relatedTarget\n o["region"] = region\n o["ctrlKey"] = ctrlKey\n o["shiftKey"] = shiftKey\n o["altKey"]
= altKey\n o["metaKey"] = metaKey\n o["modifierAltGraph"] = modifierAltGraph\n
o["modifierCapsLock"] = modifierCapsLock\n o["modifierFn"] = modifierFn\n o["modifierFnLock"] =
modifierFnLock\n o["modifierHyper"] = modifierHyper\n o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] =
view\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[PointerEvent](https://developer.mozilla.org/en/docs/Web/API/PointerEvent) to Kotlin\n */\npublic external open
class PointerEvent(type: String, eventInitDict: PointerEventInit = definedExternally) : MouseEvent {\n open val
pointerId: Int\n open val width: Double\n open val height: Double\n open val pressure: Float\n open val
tangentialPressure: Float\n open val tiltX: Int\n open val tiltY: Int\n open val twist: Int\n open val
pointerType: String\n open val isPrimary: Boolean\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS
FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom.svg\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport
org.w3c.dom.pointerevents.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [SVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGElement) to Kotlin\n */\npublic external abstract class SVGElement : Element, ElementCSSInlineStyle, GlobalEventHandlers,
SVGElementInstance {\n open val dataset: DOMStringMap\n open val ownerSVGElement:
SVGSVGElement?\n open val viewportElement: SVGElement?\n open var tabIndex: Int\n fun focus()\n fun
blur()\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:

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Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
SVGBoundingBoxOptions {\n var fill: Boolean? /* = true */\n get() = definedExternally\n set(value) =
definedExternally\n var stroke: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var markers: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var clipped: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun SVGBoundingBoxOptions(fill: Boolean? =
true, stroke: Boolean? = false, markers: Boolean? = false, clipped: Boolean? = false): SVGBoundingBoxOptions {\n
 val o = js("{}")\n o["fill"] = fill\n o["stroke"] = stroke\n o["markers"] = markers\n o["clipped"] =
clipped\n return o\n}\n\n/**\n * Exposes the JavaScript
[SVGGraphicsElement](https://developer.mozilla.org/en/docs/Web/API/SVGGraphicsElement) to Kotlin\n
*/\npublic external abstract class SVGGraphicsElement : SVGElement, SVGTests {\n open val transform:
SVGAnimatedTransformList\n fun getBBox(options: SVGBoundingBoxOptions = definedExternally):
DOMRect\n fun getCTM(): DOMMatrix?\n fun getScreenCTM(): DOMMatrix?\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGGeometryElement](https://developer.mozilla.org/en/docs/Web/API/SVGGeometryElement) to Kotlin\n
*/\npublic external abstract class SVGGeometryElement : SVGGraphicsElement {\n open val pathLength:
SVGAnimatedNumber\n fun isPointInFill(point: DOMPoint): Boolean\n fun isPointInStroke(point: DOMPoint):
Boolean\n fun getTotalLength(): Float\n fun getPointAtLength(distance: Float): DOMPoint\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGNumber](https://developer.mozilla.org/en/docs/Web/API/SVGNumber) to Kotlin\n
*/\npublic external
abstract class SVGNumber {\n open var value: Float\n}\n\n/**\n * Exposes the JavaScript
[SVGLength](https://developer.mozilla.org/en/docs/Web/API/SVGLength) to Kotlin\n
*/\npublic external abstract
class SVGLength {\n open val unitType: Short\n open var value: Float\n open var valueInSpecifiedUnits:
Float\n open var valueAsString: String\n fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n fun convertToSpecifiedUnits(unitType: Short)\n\n companion object {\n val
SVG_LENGTHTYPE_UNKNOWN: Short\n val SVG_LENGTHTYPE_NUMBER: Short\n val

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SVG_LENGTHTYPE_PERCENTAGE: Short\n val SVG_LENGTHTYPE_EMS: Short\n val
SVG_LENGTHTYPE_EXS: Short\n val SVG_LENGTHTYPE_PX: Short\n val
SVG_LENGTHTYPE_CM: Short\n val SVG_LENGTHTYPE_MM: Short\n val
SVG_LENGTHTYPE_IN: Short\n val SVG_LENGTHTYPE_PT: Short\n val SVG_LENGTHTYPE_PC:
Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAngle) to Kotlin\n *\npublic external abstract
class SVGAngle {\n open val unitType: Short\n open var value: Float\n open var valueInSpecifiedUnits:
Float\n open var valueAsString: String\n fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n fun convertToSpecifiedUnits(unitType: Short)\n\n companion object {\n val
SVG_ANGLETYPE_UNKNOWN: Short\n val SVG_ANGLETYPE_UNSPECIFIED: Short\n val
SVG_ANGLETYPE_DEG: Short\n val SVG_ANGLETYPE_RAD: Short\n val
SVG_ANGLETYPE_GRAD: Short\n }\n}\n\npublic external abstract class SVGNameList {\n open val length:
Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: dynamic): dynamic\n fun
insertItemBefore(newItem: dynamic, index: Int): dynamic\n fun replaceItem(newItem: dynamic, index: Int):
dynamic\n fun removeItem(index: Int): dynamic\n fun appendItem(newItem: dynamic): dynamic\n fun
getItem(index: Int): dynamic\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
SVGNameList.get(index: Int): dynamic = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun SVGNameList.set(index: Int, newItem: dynamic) { asDynamic()[index] = newItem }\n\n/**\n *
Exposes the JavaScript [SVGNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGNumberList) to
Kotlin\n *\npublic external abstract class SVGNumberList {\n open val length: Int\n open val numberOfItems:
Int\n fun clear()\n fun initialize(newItem: SVGNumber): SVGNumber\n fun insertItemBefore(newItem:
SVGNumber, index: Int): SVGNumber\n fun replaceItem(newItem: SVGNumber, index: Int): SVGNumber\n fun
removeItem(index: Int): SVGNumber\n fun appendItem(newItem: SVGNumber): SVGNumber\n fun
getItem(index: Int): SVGNumber\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
SVGNumberList.get(index: Int): SVGNumber? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun SVGNumberList.set(index: Int, newItem: SVGNumber) { asDynamic()[index] = newItem }\n\n/**\n *
Exposes the JavaScript [SVGLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGLengthList) to
Kotlin\n *\npublic external abstract class SVGLengthList {\n open val length: Int\n open val numberOfItems:
Int\n fun clear()\n fun initialize(newItem: SVGLength): SVGLength\n fun insertItemBefore(newItem:
SVGLength, index: Int): SVGLength\n fun replaceItem(newItem: SVGLength, index: Int): SVGLength\n fun
removeItem(index: Int): SVGLength\n fun appendItem(newItem: SVGLength): SVGLength\n fun
getItem(index: Int): SVGLength\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
SVGLengthList.get(index: Int): SVGLength? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun SVGLengthList.set(index: Int, newItem: SVGLength) { asDynamic()[index] = newItem }\n\n/**\n *
Exposes the JavaScript
[SVGAnimatedBoolean](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedBoolean) to Kotlin\n\n
*\npublic external abstract class SVGAnimatedBoolean {\n open var baseVal: Boolean\n open var animVal:
Boolean\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedEnumeration](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedEnumeration) to
Kotlin\n\n
*\npublic external abstract class SVGAnimatedEnumeration {\n open var baseVal: Short\n open var
animVal: Short\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedInteger](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedInteger) to Kotlin\n\n
*\npublic external abstract class SVGAnimatedInteger {\n open var baseVal: Int\n open var animVal:
Int\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedNumber](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumber) to Kotlin\n\n
*\npublic external abstract class SVGAnimatedNumber {\n open var baseVal: Float\n open var animVal:
Float\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedLength](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLength) to Kotlin\n\n

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*\npublic external abstract class SVGAnimatedLength {\n open val baseVal: SVGLength\n open val animVal: SVGLength\n}\n\n**\n * Exposes the JavaScript [SVGAnimatedAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedAngle) to Kotlin\n *\npublic external abstract class SVGAnimatedAngle {\n open val baseVal: SVGAngle\n open val animVal: SVGAngle\n}\n\n**\n * Exposes the JavaScript [SVGAnimatedString](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedString) to Kotlin\n *\npublic external abstract class SVGAnimatedString {\n open var baseVal: String\n open val animVal: String\n}\n\n**\n * Exposes the JavaScript [SVGAnimatedRect](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedRect) to Kotlin\n *\npublic external abstract class SVGAnimatedRect {\n open val baseVal: DOMRect\n open val animVal: DOMRectReadOnly\n}\n\n**\n * Exposes the JavaScript [SVGAnimatedNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumberList) to Kotlin\n *\npublic external abstract class SVGAnimatedNumberList {\n open val baseVal: SVGNumberList\n open val animVal: SVGNumberList\n}\n\n**\n * Exposes the JavaScript [SVGAnimatedLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLengthList) to Kotlin\n *\npublic external abstract class SVGAnimatedLengthList {\n open val baseVal: SVGLengthList\n open val animVal: SVGLengthList\n}\n\n**\n * Exposes the JavaScript [SVGStringList](https://developer.mozilla.org/en/docs/Web/API/SVGStringList) to Kotlin\n *\npublic external abstract class SVGStringList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: String): String\n fun insertItemBefore(newItem: String, index: Int): String\n fun replaceItem(newItem: String, index: Int): String\n fun removeItem(index: Int): String\n fun appendItem(newItem: String): String\n fun getItem(index: Int): String\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.get(index: Int): String? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.set(index: Int, newItem: String) { asDynamic()[index] = newItem }\n\n**\n * Exposes the JavaScript [SVGUnitTypes](https://developer.mozilla.org/en/docs/Web/API/SVGUnitTypes) to Kotlin\n *\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface SVGUnitTypes {\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n }\n}\n\n**\n * Exposes the JavaScript [SVGTTests](https://developer.mozilla.org/en/docs/Web/API/SVGTTests) to Kotlin\n *\npublic external interface SVGTTests {\n val requiredExtensions: SVGStringList\n val systemLanguage: SVGStringList\n}\n\npublic external interface SVGFitToViewBox {\n val viewBox: SVGAnimatedRect\n val preserveAspectRatio: SVGAnimatedPreserveAspectRatio\n}\n\n**\n * Exposes the JavaScript [SVGZoomAndPan](https://developer.mozilla.org/en/docs/Web/API/SVGZoomAndPan) to Kotlin\n *\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface SVGZoomAndPan {\n var zoomAndPan: Short\n companion object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val SVG_ZOOMANDPAN_DISABLE: Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n }\n}\n\n**\n * Exposes the JavaScript [SVGURIReference](https://developer.mozilla.org/en/docs/Web/API/SVGURIReference) to Kotlin\n *\npublic external interface SVGURIReference {\n val href: SVGAnimatedString\n}\n\n**\n * Exposes the JavaScript [SVGSVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGSVGElement) to Kotlin\n *\npublic external abstract class SVGSVGElement : SVGGraphicsElement, SVGFitToViewBox, SVGZoomAndPan, WindowEventHandlers {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open var currentScale: Float\n open val currentTranslate: DOMPointReadOnly\n fun getIntersectionList(rect: DOMRectReadOnly, referenceElement: SVGElement?): NodeList\n fun getEnclosureList(rect: DOMRectReadOnly, referenceElement: SVGElement?): NodeList\n fun checkIntersection(element: SVGElement, rect: DOMRectReadOnly): Boolean\n fun checkEnclosure(element: SVGElement, rect: DOMRectReadOnly): Boolean\n fun deselectAll()\n fun

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createSVGNumber(): SVGNumber\n fun createSVGLength(): SVGLength\n fun createSVGAngle():
SVGAngle\n fun createSVGPoint(): DOMPoint\n fun createSVGMatrix(): DOMMatrix\n fun
createSVGRect(): DOMRect\n fun createSVGTransform(): SVGTransform\n fun
createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n fun
getElementById(elementId: String): Element\n fun suspendRedraw(maxWaitMilliseconds: Int): Int\n fun
unsuspendRedraw(suspendHandleID: Int)\n fun unsuspendRedrawAll()\n fun forceRedraw()\n\n companion
object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val SVG_ZOOMANDPAN_DISABLE:
Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGGElement](https://developer.mozilla.org/en/docs/Web/API/SVGGElement) to Kotlin\n */\npublic external
abstract class SVGGElement : SVGGraphicsElement {\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGUnknownElement : SVGGraphicsElement {\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGDefsElement : SVGGraphicsElement {\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

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DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGDescElement](https://developer.mozilla.org/en/docs/Web/API/SVGDescElement) to Kotlin\n \* \npublic external abstract class SVGDescElement : SVGElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGMetadataElement](https://developer.mozilla.org/en/docs/Web/API/SVGMetadataElement) to Kotlin\n \* \npublic external abstract class SVGMetadataElement : SVGElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGTitleElement](https://developer.mozilla.org/en/docs/Web/API/SVGTitleElement) to Kotlin\n \* \npublic external abstract class SVGTitleElement : SVGElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGSymbolElement](https://developer.mozilla.org/en/docs/Web/API/SVGSymbolElement) to Kotlin\n \* \npublic external abstract class SVGSymbolElement : SVGGraphicsElement, SVGFitToViewBox {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGUseElement](https://developer.mozilla.org/en/docs/Web/API/SVGUseElement) to Kotlin\n \* \npublic external abstract class SVGUseElement : SVGGraphicsElement, SVGURIReference {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val



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height: SVGAnimatedLength\n open val instanceRoot: SVGElement?\n open val animatedInstanceRoot:
SVGElement?\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external open class
SVGUseElementShadowRoot : ShadowRoot {\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
SVGElementInstance {\n val correspondingElement: SVGElement?\n get() = definedExternally\n val
correspondingUseElement: SVGUseElement?\n get() = definedExternally\n}\n}\n\npublic external open class
ShadowAnimation(source: dynamic, newTarget: dynamic) {\n open val sourceAnimation: dynamic\n}\n}\n\n**\n *
Exposes the JavaScript [SVGSwitchElement](https://developer.mozilla.org/en/docs/Web/API/SVGSwitchElement)
to Kotlin\n *\n\npublic external abstract class SVGSwitchElement : SVGGraphicsElement {\n companion object
{\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
GetSVGDocument {\n fun getSVGDocument(): Document\n}\n}\n\n**\n * Exposes the JavaScript
[SVGStyleElement](https://developer.mozilla.org/en/docs/Web/API/SVGStyleElement) to Kotlin\n *\n\npublic
external abstract class SVGStyleElement : SVGElement, LinkStyle {\n open var type: String\n open var media:
String\n open var title: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n}\n\n**\n * Exposes the JavaScript

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[SVGTransform](https://developer.mozilla.org/en/docs/Web/API/SVGTransform) to Kotlin\n \*^\\npublic external abstract class SVGTransform {\n open val type: Short\n open val matrix: DOMMatrix\n open val angle: Float\n fun setMatrix(matrix: DOMMatrixReadOnly)\n fun setTranslate(tx: Float, ty: Float)\n fun setScale(sx: Float, sy: Float)\n fun setRotate(angle: Float, cx: Float, cy: Float)\n fun setSkewX(angle: Float)\n fun setSkewY(angle: Float)\n\n companion object {\n val SVG\_TRANSFORM\_UNKNOWN: Short\n val SVG\_TRANSFORM\_MATRIX: Short\n val SVG\_TRANSFORM\_TRANSLATE: Short\n val SVG\_TRANSFORM\_SCALE: Short\n val SVG\_TRANSFORM\_ROTATE: Short\n val SVG\_TRANSFORM\_SKEWX: Short\n val SVG\_TRANSFORM\_SKEWY: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript [SVGTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGTransformList) to Kotlin\n \*^\\npublic external abstract class SVGTransformList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: SVGTransform): SVGTransform\n fun insertItemBefore(newItem: SVGTransform, index: Int): SVGTransform\n fun replaceItem(newItem: SVGTransform, index: Int): SVGTransform\n fun removeItem(index: Int): SVGTransform\n fun appendItem(newItem: SVGTransform): SVGTransform\n fun createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n fun consolidate(): SVGTransform?\n fun getItem(index: Int): SVGTransform\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGTransformList.get(index: Int): SVGTransform? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGTransformList.set(index: Int, newItem: SVGTransform) { asDynamic()[index] = newItem }\n\n/\*\*\n \* Exposes the JavaScript

[SVGAnimatedTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedTransformList) to Kotlin\n \*^\\npublic external abstract class SVGAnimatedTransformList {\n open val baseVal: SVGTransformList\n open val animVal: SVGTransformList\n}\n\n/\*\*\n \* Exposes the JavaScript

[SVGPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGPreserveAspectRatio) to Kotlin\n \*^\\npublic external abstract class SVGPreserveAspectRatio {\n open var align: Short\n open var meetOrSlice: Short\n\n companion object {\n val SVG\_PRESERVEASPECTRATIO\_UNKNOWN: Short\n val SVG\_PRESERVEASPECTRATIO\_NONE: Short\n val SVG\_PRESERVEASPECTRATIO\_XMINYMIN: Short\n val SVG\_PRESERVEASPECTRATIO\_XMIDYMIN: Short\n val SVG\_PRESERVEASPECTRATIO\_XMAXYMIN: Short\n val SVG\_PRESERVEASPECTRATIO\_XMINYMID: Short\n val SVG\_PRESERVEASPECTRATIO\_XMIDYMID: Short\n val SVG\_PRESERVEASPECTRATIO\_XMAXYMID: Short\n val SVG\_PRESERVEASPECTRATIO\_XMINYMAX: Short\n val SVG\_PRESERVEASPECTRATIO\_XMIDYMAX: Short\n val SVG\_PRESERVEASPECTRATIO\_XMAXYMAX: Short\n val SVG\_MEETORSLICE\_UNKNOWN: Short\n val SVG\_MEETORSLICE\_MEET: Short\n val SVG\_MEETORSLICE\_SLICE: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[SVGAnimatedPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPreserveAspectRatio) to Kotlin\n \*^\\npublic external abstract class SVGAnimatedPreserveAspectRatio {\n open val baseVal: SVGPreserveAspectRatio\n open val animVal: SVGPreserveAspectRatio\n}\n\n/\*\*\n \* Exposes the JavaScript

[SVGPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGPathElement) to Kotlin\n \*^\\npublic external abstract class SVGPathElement : SVGGeometryElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGRectElement](https://developer.mozilla.org/en/docs/Web/API/SVGRectElement) to Kotlin\n *\npublic
external abstract class SVGRectElement : SVGGeometryElement {\n open val x: SVGAnimatedLength\n open
val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n
 open val rx: SVGAnimatedLength\n open val ry: SVGAnimatedLength\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGCircleElement](https://developer.mozilla.org/en/docs/Web/API/SVGCircleElement) to Kotlin\n *\npublic
external abstract class SVGCircleElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n
 open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGEllipseElement](https://developer.mozilla.org/en/docs/Web/API/SVGEllipseElement) to Kotlin\n *\npublic
external abstract class SVGEllipseElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n
 open val cy: SVGAnimatedLength\n open val rx: SVGAnimatedLength\n open val ry: SVGAnimatedLength\n
 companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGLineElement](https://developer.mozilla.org/en/docs/Web/API/SVGLineElement) to Kotlin\n *\npublic
external abstract class SVGLineElement : SVGGeometryElement {\n open val x1: SVGAnimatedLength\n open
val y1: SVGAnimatedLength\n open val x2: SVGAnimatedLength\n open val y2: SVGAnimatedLength\n\n
 companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n

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 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGMeshElement](https://developer.mozilla.org/en/docs/Web/API/SVGMeshElement) to Kotlin\n */\npublic
external abstract class SVGMeshElement : SVGGeometryElement, SVGURIReference {\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedPoints](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPoints) to Kotlin\n */\npublic
external interface SVGAnimatedPoints {\n val points: SVGPointList\n val animatedPoints:
SVGPointList\n}\n\npublic external abstract class SVGPointList {\n open val length: Int\n open val
numberOfItems: Int\n fun clear()\n fun initialize(newItem: DOMPoint): DOMPoint\n fun
insertItemBefore(newItem: DOMPoint, index: Int): DOMPoint\n fun replaceItem(newItem: DOMPoint, index:
Int): DOMPoint\n fun removeItem(index: Int): DOMPoint\n fun appendItem(newItem: DOMPoint):
DOMPoint\n fun getItem(index: Int): DOMPoint\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
SVGPointList.get(index: Int): DOMPoint? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun SVGPointList.set(index: Int, newItem: DOMPoint) { asDynamic()[index] = newItem }\n\n/**\n *
Exposes the JavaScript
[SVGPolylineElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolylineElement) to Kotlin\n
*/\npublic external abstract class SVGPolylineElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGPolygonElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolygonElement) to Kotlin\n
*/\npublic external abstract class SVGPolygonElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextContentElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextContentElement) to Kotlin\n
*/\npublic external abstract class SVGTextContentElement : SVGGraphicsElement {\n open val textLength:

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SVGAnimatedLength\n open val lengthAdjust: SVGAnimatedEnumeration\n fun getNumberOfChars(): Int\n
fun getComputedTextLength(): Float\n fun getSubStringLength(charnum: Int, nchars: Int): Float\n fun
getStartPositionOfChar(charnum: Int): DOMPoint\n fun getEndPositionOfChar(charnum: Int): DOMPoint\n fun
getExtentOfChar(charnum: Int): DOMRect\n fun getRotationOfChar(charnum: Int): Float\n fun
getCharNumAtPosition(point: DOMPoint): Int\n fun selectSubString(charnum: Int, nchars: Int)\n\n companion
object {\n val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n
val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextPositioningElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPositioningElement) to
Kotlin\n */\n\npublic external abstract class SVGTextPositioningElement : SVGTextContentElement {\n open val x:
SVGAnimatedLengthList\n open val y: SVGAnimatedLengthList\n open val dx: SVGAnimatedLengthList\n
open val dy: SVGAnimatedLengthList\n open val rotate: SVGAnimatedNumberList\n\n companion object {\n
val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n\n/**\n * Exposes the JavaScript
[SVGTextElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextElement) to Kotlin\n */\n\npublic
external abstract class SVGTextElement : SVGTextPositioningElement {\n companion object {\n val
LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n\n/**\n * Exposes the JavaScript
[SVGTSpanElement](https://developer.mozilla.org/en/docs/Web/API/SVGTSpanElement) to Kotlin\n */\n\npublic
external abstract class SVGTSpanElement : SVGTextPositioningElement {\n companion object {\n val
LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val

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ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[SVGTextPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPathElement) to Kotlin\n
*/\npublic external abstract class SVGTextPathElement : SVGTextContentElement, SVGURIReference {\n open
val startOffset: SVGAnimatedLength\n open val method: SVGAnimatedEnumeration\n open val spacing:
SVGAnimatedEnumeration\n\n companion object {\n val TEXTPATH_METHODTYPE_UNKNOWN:
Short\n val TEXTPATH_METHODTYPE_ALIGN: Short\n val
TEXTPATH_METHODTYPE_STRETCH: Short\n val TEXTPATH_SPACINGTYPE_UNKNOWN: Short\n
 val TEXTPATH_SPACINGTYPE_AUTO: Short\n val TEXTPATH_SPACINGTYPE_EXACT: Short\n
 val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[SVGImageElement](https://developer.mozilla.org/en/docs/Web/API/SVGImageElement) to Kotlin\n
*/\npublic external abstract class SVGImageElement : SVGGraphicsElement, SVGURIReference,
HTMLOrSVGImageElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open
val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val preserveAspectRatio:
SVGAnimatedPreserveAspectRatio\n open var crossOrigin: String?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[SVGForeignObjectElement](https://developer.mozilla.org/en/docs/Web/API/SVGForeignObjectElement) to
Kotlin\n
*/\npublic external abstract class SVGForeignObjectElement : SVGGraphicsElement {\n open val x:
SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val
height: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val

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DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGMarkerElement : SVGElement, SVGFitToViewBox {\n open val refX: SVGAnimatedLength\n open val
refY: SVGAnimatedLength\n open val markerUnits: SVGAnimatedEnumeration\n open val markerWidth:
SVGAnimatedLength\n open val markerHeight: SVGAnimatedLength\n open val orientType:
SVGAnimatedEnumeration\n open val orientAngle: SVGAnimatedAngle\n open var orient: String\n fun
setOrientToAuto()\n fun setOrientToAngle(angle: SVGAngle)\n}\n\ncompanion object {\n val
SVG_MARKERUNITS_UNKNOWN: Short\n val SVG_MARKERUNITS_USERSPACEONUSE: Short\n
 val SVG_MARKERUNITS_STROKEWIDTH: Short\n val SVG_MARKER_ORIENT_UNKNOWN: Short\n
 val SVG_MARKER_ORIENT_AUTO: Short\n val SVG_MARKER_ORIENT_ANGLE: Short\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGSolidcolorElement](https://developer.mozilla.org/en/docs/Web/API/SVGSolidcolorElement) to Kotlin\n
*/\n\npublic external abstract class SVGSolidcolorElement : SVGElement {\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGGradientElement) to Kotlin\n
*/\n\npublic external abstract class SVGGradientElement : SVGElement, SVGURIReference, SVGUnitTypes {\n
 open val gradientUnits: SVGAnimatedEnumeration\n open val gradientTransform: SVGAnimatedTransformList\n
 open val spreadMethod: SVGAnimatedEnumeration\n}\n\ncompanion object {\n val
SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD: Short\n val
SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val
SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n

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 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGLinearGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGLinearGradientElement) to
Kotlin\n *\/npublic external abstract class SVGLinearGradientElement : SVGGradientElement {\n open val x1:
SVGAnimatedLength\n open val y1: SVGAnimatedLength\n open val x2: SVGAnimatedLength\n open val
y2: SVGAnimatedLength\n\n companion object {\n val SVG_SPREADMETHOD_UNKNOWN: Short\n val
SVG_SPREADMETHOD_PAD: Short\n val SVG_SPREADMETHOD_REFLECT: Short\n val
SVG_SPREADMETHOD_REPEAT: Short\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val
SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGRadialGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGRadialGradientElement) to
Kotlin\n *\/npublic external abstract class SVGRadialGradientElement : SVGGradientElement {\n open val cx:
SVGAnimatedLength\n open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n open val fx:
SVGAnimatedLength\n open val fy: SVGAnimatedLength\n open val fr: SVGAnimatedLength\n\n companion
object {\n val SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD:
Short\n val SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT:
Short\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE:
Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGMeshGradientElement : SVGGradientElement {\n companion object {\n val
SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD: Short\n val
SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val
SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

```



```

 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGMeshrowElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGMeshpatchElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGStopElement](https://developer.mozilla.org/en/docs/Web/API/SVGStopElement) to Kotlin\n */\n\npublic
external abstract class SVGStopElement : SVGElement {\n open val offset: SVGAnimatedNumber\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGPatternElement](https://developer.mozilla.org/en/docs/Web/API/SVGPatternElement) to Kotlin\n */\n\npublic
external abstract class SVGPatternElement : SVGElement, SVGFitToViewBox, SVGURIReference,
SVGUnitTypes {\n open val patternUnits: SVGAnimatedEnumeration\n open val patternContentUnits:
SVGAnimatedEnumeration\n open val patternTransform: SVGAnimatedTransformList\n open val x:
SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val
height: SVGAnimatedLength\n\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN: Short\n
 val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

```

```

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\npublic external abstract class
SVGHatchElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\npublic external abstract class
SVGHatchpathElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n/**\n * Exposes the JavaScript
[SVGCursorElement](https://developer.mozilla.org/en/docs/Web/API/SVGCursorElement) to Kotlin\n */\npublic
external abstract class SVGCursorElement : SVGElement, SVGURIReference {\n open val x:
SVGAnimatedLength\n open val y: SVGAnimatedLength\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n/**\n * Exposes the JavaScript
[SVGScriptElement](https://developer.mozilla.org/en/docs/Web/API/SVGScriptElement) to Kotlin\n */\npublic
external abstract class SVGScriptElement : SVGElement, SVGURIReference, HTMLOrSVGScriptElement {\n
open var type: String\n open var crossOrigin: String?\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:
Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n/**\n * Exposes the JavaScript
[SVGAEElement](https://developer.mozilla.org/en/docs/Web/API/SVGAEElement) to Kotlin\n */\npublic external
abstract class SVGAEElement : SVGGraphicsElement, SVGURIReference {\n open val target:
SVGAnimatedString\n open val download: SVGAnimatedString\n open val rel: SVGAnimatedString\n open

```

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val relList: SVGAnimatedString\n open val hreflang: SVGAnimatedString\n open val type:
SVGAnimatedString\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n/**\n * Exposes the JavaScript
[SVGViewElement](https://developer.mozilla.org/en/docs/Web/API/SVGViewElement) to Kotlin\n
*\npublic external abstract class SVGViewElement : SVGElement, SVGFitToViewBox, SVGZoomAndPan {\n
 companion object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val SVG_ZOOMANDPAN_DISABLE:
Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}"/*\n * Copyright 2010-2019
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.files\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Blob](https://developer.mozilla.org/en/docs/Web/API/Blob) to Kotlin\n
*\npublic external open class Blob(blobParts: Array<dynamic> = definedExternally, options: BlobPropertyBag =
definedExternally) : ImageBitmapSource {\n open val size: Number\n open val type: String\n open val
isClosed: Boolean\n fun slice(start: Int = definedExternally, end: Int = definedExternally, contentType:
String = definedExternally): Blob\n fun close()\n}\n\npublic external interface BlobPropertyBag {\n var
type: String? /* = \"\" */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
BlobPropertyBag(type: String? = \"\"): BlobPropertyBag {\n val o = js(\"({})\")\n o[\"type\"] = type\n return
o\n}\n\n/**\n * Exposes the JavaScript [File](https://developer.mozilla.org/en/docs/Web/API/File) to Kotlin\n
*\npublic external open class File(fileBits: Array<dynamic>, fileName: String, options: FilePropertyBag =
definedExternally) : Blob {\n open val name: String\n open val lastModified: Int\n}\n\npublic external
interface FilePropertyBag : BlobPropertyBag {\n var lastModified: Int?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun FilePropertyBag(lastModified: Int? =
undefined, type: String? = \"\"): FilePropertyBag {\n val o = js(\"({})\")\n o[\"lastModified\"] = lastModified\n
o[\"type\"] = type\n return o\n}\n\n/**\n * Exposes the JavaScript
[FileList](https://developer.mozilla.org/en/docs/Web/API/FileList) to Kotlin\n
*\npublic external abstract class FileList : ItemArrayLike<File> {\n override fun item(index: Int): File?\n}\n\n@kotlin.internal.InlineOnly\npublic

```

```

inline operator fun FileList.get(index: Int): File? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[FileReader](https://developer.mozilla.org/en/docs/Web/API/FileReader) to Kotlin\n */\npublic external open class
FileReader : EventTarget {\n open val readyState: Short\n open val result: dynamic\n open val error:
dynamic\n var onloadstart: ((ProgressEvent) -> dynamic)?\n var onprogress: ((ProgressEvent) -> dynamic)?\n
var onload: ((Event) -> dynamic)?\n var onabort: ((Event) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n
var onloadend: ((Event) -> dynamic)?\n fun readAsArrayBuffer(blob: Blob)\n fun readAsBinaryString(blob:
Blob)\n fun readAsText(blob: Blob, label: String = definedExternally)\n fun readAsDataURL(blob: Blob)\n
fun abort()\n\n companion object {\n val EMPTY: Short\n val LOADING: Short\n val DONE:
Short\n }\n}\n\n/**\n * Exposes the JavaScript
[FileReaderSync](https://developer.mozilla.org/en/docs/Web/API/FileReaderSync) to Kotlin\n */\npublic external
open class FileReaderSync {\n fun readAsArrayBuffer(blob: Blob): ArrayBuffer\n fun readAsBinaryString(blob:
Blob): String\n fun readAsText(blob: Blob, label: String = definedExternally): String\n fun
readAsDataURL(blob: Blob): String\n}" ,"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
github.com/kotlin/dukat for details\n\npackage org.w3c.notifications\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Notification](https://developer.mozilla.org/en/docs/Web/API/Notification) to Kotlin\n */\npublic external open
class Notification(title: String, options: NotificationOptions = definedExternally) : EventTarget {\n var onclick:
((MouseEvent) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n open val title: String\n open val dir:
NotificationDirection\n open val lang: String\n open val body: String\n open val tag: String\n open val
image: String\n open val icon: String\n open val badge: String\n open val sound: String\n open val vibrate:
Array<out Int>\n open val timestamp: Number\n open val renotify: Boolean\n open val silent: Boolean\n
open val noscreen: Boolean\n open val requireInteraction: Boolean\n open val sticky: Boolean\n open val data:
Any?\n open val actions: Array<out NotificationAction>\n fun close()\n\n companion object {\n val
permission: NotificationPermission\n val maxActions: Int\n fun requestPermission(deprecatedCallback:
(NotificationPermission) -> Unit = definedExternally): Promise<NotificationPermission>\n }\n}\n\npublic
external interface NotificationOptions {\n var dir: NotificationDirection? /* = NotificationDirection.AUTO */\n
get() = definedExternally\n set(value) = definedExternally\n var lang: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var body: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var tag: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var image: String?\n get() = definedExternally\n
set(value) = definedExternally\n var icon: String?\n get() = definedExternally\n set(value) =
definedExternally\n var badge: String?\n get() = definedExternally\n set(value) = definedExternally\n
var sound: String?\n get() = definedExternally\n set(value) = definedExternally\n var vibrate: dynamic\n
get() = definedExternally\n set(value) = definedExternally\n var timestamp: Number?\n get() =
definedExternally\n set(value) = definedExternally\n var renotify: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var silent: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var noscreen: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var requireInteraction: Boolean? /* = false */\n get()
= definedExternally\n set(value) = definedExternally\n var sticky: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var data: Any? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var actions: Array<NotificationAction>? /* = arrayOf()
*/\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic

```

```

inline fun NotificationOptions(dir: NotificationDirection? = NotificationDirection.AUTO, lang: String? = "", body:
String? = "", tag: String? = "", image: String? = undefined, icon: String? = undefined, badge: String? = undefined,
sound: String? = undefined, vibrate: dynamic = undefined, timestamp: Number? = undefined, renotify: Boolean? =
false, silent: Boolean? = false, noscreen: Boolean? = false, requireInteraction: Boolean? = false, sticky: Boolean? =
false, data: Any? = null, actions: Array<NotificationAction>? = arrayOf()): NotificationOptions {
 val o =
 js("{}")
 o["dir"] = dir
 o["lang"] = lang
 o["body"] = body
 o["tag"] = tag
 o["image"] =
 image
 o["icon"] = icon
 o["badge"] = badge
 o["sound"] = sound
 o["vibrate"] = vibrate
 o["timestamp"] = timestamp
 o["renotify"] = renotify
 o["silent"] = silent
 o["noscreen"] = noscreen
 o["requireInteraction"] = requireInteraction
 o["sticky"] = sticky
 o["data"] = data
 o["actions"] =
 actions
 return o
}

public external interface NotificationAction {
 var action: String?
 get() =
 definedExternally
 set(value) = definedExternally
 var title: String?
 get() = definedExternally
 set(value) = definedExternally
 var icon: String?
 get() = definedExternally
 set(value) =
 definedExternally
}

@kotlin.internal.InlineOnly
public inline fun NotificationAction(action: String?, title:
String?, icon: String? = undefined): NotificationAction {
 val o = js("{}")
 o["action"] = action
 o["title"] = title
 o["icon"] = icon
 return o
}

public external interface GetNotificationOptions {
 var tag: String? /* = "" */
 get() = definedExternally
 set(value) =
 definedExternally
}

@kotlin.internal.InlineOnly
public inline fun GetNotificationOptions(tag: String? = ""):
GetNotificationOptions {
 val o = js("{}")
 o["tag"] = tag
 return o
}

/** Exposes the
JavaScript [NotificationEvent](https://developer.mozilla.org/en/docs/Web/API/NotificationEvent) to Kotlin
*/
public external open class NotificationEvent(type: String, eventInitDict: NotificationEventInit) :
ExtendableEvent {
 open val notification: Notification
 open val action: String
 companion object {
 val NONE: Short
 val CAPTURING_PHASE: Short
 val AT_TARGET: Short
 val
 BUBBLING_PHASE: Short
 }
}

public external interface NotificationEventInit : ExtendableEventInit {
 var notification: Notification?
 get() = definedExternally
 set(value) = definedExternally
 var action:
 String? /* = "" */
 get() = definedExternally
 set(value) =
 definedExternally
}

@kotlin.internal.InlineOnly
public inline fun NotificationEventInit(notification:
Notification?, action: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): NotificationEventInit {
 val o = js("{}")
 o["notification"] = notification
 o["action"] =
 action
 o["bubbles"] = bubbles
 o["cancelable"] = cancelable
 o["composed"] = composed
 return
 o
}

/* please, don't implement this interface!
*/
@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")
public external interface
NotificationPermission {
 companion object
}

public inline val
NotificationPermission.Companion.DEFAULT: NotificationPermission
get() =
"default".asDynamic().unsafeCast<NotificationPermission>()

public inline val
NotificationPermission.Companion.DENIED: NotificationPermission
get() =
"denied".asDynamic().unsafeCast<NotificationPermission>()

public inline val
NotificationPermission.Companion.GRANTED: NotificationPermission
get() =
"granted".asDynamic().unsafeCast<NotificationPermission>()

/* please, don't implement this interface!
*/
@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")
public external interface
NotificationDirection {
 companion object
}

public inline val NotificationDirection.Companion.AUTO:
NotificationDirection
get() =
"auto".asDynamic().unsafeCast<NotificationDirection>()

public inline val
NotificationDirection.Companion.LTR: NotificationDirection
get() =
"ltr".asDynamic().unsafeCast<NotificationDirection>()

public inline val
NotificationDirection.Companion.RTL: NotificationDirection
get() =
"rtl".asDynamic().unsafeCast<NotificationDirection>()

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Programming Language contributors.
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found in the license/LICENSE.txt file.
*/
@Suppress("NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!")
// See github.com/kotlin/dukat for details
package org.w3c.workers
import kotlin.js.*
import

```

```

org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[ServiceWorker](https://developer.mozilla.org/en/docs/Web/API/ServiceWorker) to Kotlin\n *\npublic external
abstract class ServiceWorker : EventTarget, AbstractWorker, UnionMessagePortOrServiceWorker,
UnionClientOrMessagePortOrServiceWorker {\n open val scriptURL: String\n open val state:
ServiceWorkerState\n open var onstatechange: ((Event) -> dynamic)?\n fun postMessage(message: Any?,
transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerRegistration](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerRegistration) to
Kotlin\n *\npublic external abstract class ServiceWorkerRegistration : EventTarget {\n open val installing:
ServiceWorker?\n open val waiting: ServiceWorker?\n open val active: ServiceWorker?\n open val scope:
String\n open var onupdatefound: ((Event) -> dynamic)?\n open val APISpace: dynamic\n fun update():
Promise<Unit>\n fun unregister(): Promise<Boolean>\n fun showNotification(title: String, options:
NotificationOptions = definedExternally): Promise<Unit>\n fun getNotifications(filter: GetNotificationOptions =
definedExternally): Promise<Array<Notification>>\n fun methodName(): Promise<dynamic>\n}\n\n/**\n *
Exposes the JavaScript
[ServiceWorkerContainer](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerContainer) to Kotlin\n
*\npublic external abstract class ServiceWorkerContainer : EventTarget {\n open val controller:
ServiceWorker?\n open val ready: Promise<ServiceWorkerRegistration>\n open var oncontrollerchange:
((Event) -> dynamic)?\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun register(scriptURL: String,
options: RegistrationOptions = definedExternally): Promise<ServiceWorkerRegistration>\n fun
getRegistration(clientURL: String = definedExternally): Promise<Any?>\n fun getRegistrations():
Promise<Array<ServiceWorkerRegistration>>\n fun startMessages()\n}\n\npublic external interface
RegistrationOptions {\n var scope: String?\n get() = definedExternally\n set(value) = definedExternally\n
var type: WorkerType? /* = WorkerType.CLASSIC *\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun RegistrationOptions(scope: String? =
undefined, type: WorkerType? = WorkerType.CLASSIC): RegistrationOptions {\n val o = js("{}")\n o["scope"] = scope\n o["type"] = type\n return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerMessageEvent) to
Kotlin\n *\npublic external open class ServiceWorkerMessageEvent(type: String, eventInitDict:
ServiceWorkerMessageEventInit = definedExternally) : Event {\n open val data: Any?\n open val origin:
String\n open val lastEventId: String\n open val source: UnionMessagePortOrServiceWorker?\n open val
ports: Array<out MessagePort>?\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface ServiceWorkerMessageEventInit : EventInit {\n var data: Any?\n get() =
definedExternally\n set(value) = definedExternally\n var origin: String?\n get() = definedExternally\n
set(value) = definedExternally\n var lastEventId: String?\n get() = definedExternally\n set(value) =
definedExternally\n var source: UnionMessagePortOrServiceWorker?\n get() = definedExternally\n
set(value) = definedExternally\n var ports: Array<MessagePort>?\n get() = definedExternally\n set(value)
= definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ServiceWorkerMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles: Boolean? =
false, cancelable: Boolean? = false, composed: Boolean? = false): ServiceWorkerMessageEventInit {\n val o =
js("{}")\n o["data"] = data\n o["origin"] = origin\n o["lastEventId"] = lastEventId\n o["source"] =
source\n o["ports"] = ports\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript

```

[ServiceWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerGlobalScope) to Kotlin\n \*\\npublic external abstract class ServiceWorkerGlobalScope : WorkerGlobalScope {\n open val clients: Clients\n open val registration: ServiceWorkerRegistration\n open var oninstall: ((Event) -> dynamic)?\n open var onactivate: ((Event) -> dynamic)?\n open var onfetch: ((FetchEvent) -> dynamic)?\n open var onforeignfetch: ((Event) -> dynamic)?\n open var onmessage: ((MessageEvent) -> dynamic)?\n open var onnotificationclick: ((NotificationEvent) -> dynamic)?\n open var onnotificationclose: ((NotificationEvent) -> dynamic)?\n open var onfunctionalevent: ((Event) -> dynamic)?\n fun skipWaiting(): Promise<Unit>\\n}\\n\\n/\*\*\n \* Exposes the JavaScript

[Client](https://developer.mozilla.org/en/docs/Web/API/Client) to Kotlin\n \*\\npublic external abstract class Client : UnionClientOrMessagePortOrServiceWorker {\n open val url: String\n open val frameType: FrameType\n open val id: String\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\\n}\\n\\n/\*\*\n \* Exposes the JavaScript [WindowClient](https://developer.mozilla.org/en/docs/Web/API/WindowClient) to Kotlin\n \*\\npublic external abstract class WindowClient : Client {\n open val visibilityState: dynamic\n open val focused: Boolean\n fun focus(): Promise<WindowClient>\n fun navigate(url: String): Promise<WindowClient>\\n}\\n\\n/\*\*\n \* Exposes the JavaScript

[Clients](https://developer.mozilla.org/en/docs/Web/API/Clients) to Kotlin\n \*\\npublic external abstract class Clients {\n fun get(id: String): Promise<Any?>\n fun matchAll(options: ClientQueryOptions = definedExternally): Promise<Array<Client>>\n fun openWindow(url: String): Promise<WindowClient?>\n fun claim(): Promise<Unit>\\n}\\n\\npublic external interface ClientQueryOptions {\n var includeUncontrolled: Boolean? /\* = false \*/\n get() = definedExternally\n set(value) = definedExternally\n var type: ClientType? /\* = ClientType.WINDOW \*/\n get() = definedExternally\n set(value) = definedExternally\\n}\\n\\n@kotlin.internal.InlineOnly\npublic inline fun ClientQueryOptions(includeUncontrolled: Boolean? = false, type: ClientType? = ClientType.WINDOW): ClientQueryOptions {\n val o = js("{}")\n o["includeUncontrolled"] = includeUncontrolled\n o["type"] = type\n return o\\n}\\n\\n/\*\*\n \* Exposes the JavaScript [ExtendableEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableEvent) to Kotlin\n \*\\npublic external open class ExtendableEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : Event {\n fun waitUntil(f: Promise<Any?>)\\n\\n companion object {\n val NONE: Short\n val CAPTURING\_PHASE: Short\n val AT\_TARGET: Short\n val BUBBLING\_PHASE: Short\n }\\n}\\n\\npublic external interface ExtendableEventInit : EventInit\n@kotlin.internal.InlineOnly\npublic inline fun ExtendableEventInit(bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableEventInit {\n val o = js("{}")\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\\n}\\n\\n/\*\*\n \* Exposes the JavaScript

[InstallEvent](https://developer.mozilla.org/en/docs/Web/API/InstallEvent) to Kotlin\n \*\\npublic external open class InstallEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : ExtendableEvent {\n fun registerForeignFetch(options: ForeignFetchOptions)\n\\n\\n companion object {\n val NONE: Short\n val CAPTURING\_PHASE: Short\n val AT\_TARGET: Short\n val BUBBLING\_PHASE: Short\n }\\n}\\n\\npublic external interface ForeignFetchOptions {\n var scopes: Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n var origins: Array<String>?\n get() = definedExternally\n set(value) = definedExternally\\n}\\n\\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchOptions(scopes: Array<String>?, origins: Array<String>?): ForeignFetchOptions {\n val o = js("{}")\n o["scopes"] = scopes\n o["origins"] = origins\n return o\\n}\\n\\n/\*\*\n \* Exposes the JavaScript

[FetchEvent](https://developer.mozilla.org/en/docs/Web/API/FetchEvent) to Kotlin\n \*\\npublic external open class FetchEvent(type: String, eventInitDict: FetchEventInit) : ExtendableEvent {\n open val request: Request\n open val clientId: String?\n open val isReload: Boolean\n fun respondWith(r: Promise<Response>)\n\\n\\n companion object {\n val NONE: Short\n val CAPTURING\_PHASE: Short\n val AT\_TARGET: Short\n val BUBBLING\_PHASE: Short\n }\\n}\\n\\npublic external interface FetchEventInit : ExtendableEventInit {\n var request: Request?\n get() = definedExternally\n set(value) = definedExternally\n var clientId: String? /\* = null \*/\n get() = definedExternally\n set(value) = definedExternally\n var isReload: Boolean? /\* = false

```

*/\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic
inline fun FetchEventInit(request: Request?, clientId: String? = null, isReload: Boolean? = false, bubbles: Boolean?
= false, cancelable: Boolean? = false, composed: Boolean? = false): FetchEventInit {\n val o = js("{}")\n
o["request"] = request\n o["clientId"] = clientId\n o["isReload"] = isReload\n o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\npublic external open class
ForeignFetchEvent(type: String, eventInitDict: ForeignFetchEventInit) : ExtendableEvent {\n open val request:
Request\n open val origin: String\n fun respondWith(r: Promise<ForeignFetchResponse>)\n\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n\n public external interface ForeignFetchEventInit : ExtendableEventInit {\n
var request: Request?\n get() = definedExternally\n set(value) = definedExternally\n var origin: String? /*
= "null" */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchEventInit(request: Request?,
origin: String? = "null", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
ForeignFetchEventInit {\n val o = js("{}")\n o["request"] = request\n o["origin"] = origin\n
o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\npublic external interface ForeignFetchResponse {\n var response: Response?\n get() =
definedExternally\n set(value) = definedExternally\n var origin: String?\n get() = definedExternally\n
set(value) = definedExternally\n var headers: Array<String>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchResponse(response:
Response?, origin: String? = undefined, headers: Array<String>? = undefined): ForeignFetchResponse {\n val o =
js("{}")\n o["response"] = response\n o["origin"] = origin\n o["headers"] = headers\n return
o\n}\n\n/**\n * Exposes the JavaScript
[ExtendableMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableMessageEvent) to Kotlin\n
*/\n\npublic external open class ExtendableMessageEvent(type: String, eventInitDict: ExtendableMessageEventInit =
definedExternally) : ExtendableEvent {\n open val data: Any?\n open val origin: String\n open val lastEventId:
String\n open val source: UnionClientOrMessagePortOrServiceWorker?\n open val ports: Array<out
MessagePort>?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n public external interface
ExtendableMessageEventInit : ExtendableEventInit {\n var data: Any?\n get() = definedExternally\n
set(value) = definedExternally\n var origin: String?\n get() = definedExternally\n set(value) =
definedExternally\n var lastEventId: String?\n get() = definedExternally\n set(value) =
definedExternally\n var source: UnionClientOrMessagePortOrServiceWorker?\n get() = definedExternally\n
set(value) = definedExternally\n var ports: Array<MessagePort>?\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ExtendableMessageEventInit(data: Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined,
source: UnionClientOrMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableMessageEventInit
{\n val o = js("{}")\n o["data"] = data\n o["origin"] = origin\n o["lastEventId"] = lastEventId\n
o["source"] = source\n o["ports"] = ports\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n
o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[Cache](https://developer.mozilla.org/en/docs/Web/API/Cache) to Kotlin\n
*/\n\npublic external abstract class Cache
{\n fun match(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Any?>\n fun
matchAll(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):
Promise<Array<Response>>\n fun add(request: dynamic): Promise<Unit>\n fun addAll(requests:
Array<dynamic>): Promise<Unit>\n fun put(request: dynamic, response: Response): Promise<Unit>\n fun
delete(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Boolean>\n fun
keys(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):
Promise<Array<Request>>\n}\n\npublic external interface CacheQueryOptions {\n var ignoreSearch: Boolean? /*

```



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= false */\n get() = definedExternally\n set(value) = definedExternally\n var ignoreMethod: Boolean? /* =
false */\n get() = definedExternally\n set(value) = definedExternally\n var ignoreVary: Boolean? /* =
false */\n get() = definedExternally\n set(value) = definedExternally\n var cacheName: String?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
CacheQueryOptions(ignoreSearch: Boolean? = false, ignoreMethod: Boolean? = false, ignoreVary: Boolean? =
false, cacheName: String? = undefined): CacheQueryOptions {\n val o = js("{}")\n o["ignoreSearch"] =
ignoreSearch\n o["ignoreMethod"] = ignoreMethod\n o["ignoreVary"] = ignoreVary\n o["cacheName"] =
cacheName\n return o\n}\n\npublic external interface CacheBatchOperation {\n var type: String?\n get() =
definedExternally\n set(value) = definedExternally\n var request: Request?\n get() = definedExternally\n
 set(value) = definedExternally\n var response: Response?\n get() = definedExternally\n set(value) =
definedExternally\n var options: CacheQueryOptions?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CacheBatchOperation(type: String? =
undefined, request: Request? = undefined, response: Response? = undefined, options: CacheQueryOptions? =
undefined): CacheBatchOperation {\n val o = js("{}")\n o["type"] = type\n o["request"] = request\n
 o["response"] = response\n o["options"] = options\n return o\n}\n\n/**\n * Exposes the JavaScript
[CacheStorage](https://developer.mozilla.org/en/docs/Web/API/CacheStorage) to Kotlin\n */\npublic external
abstract class CacheStorage {\n fun match(request: dynamic, options: CacheQueryOptions = definedExternally):
Promise<Any?>\n fun has(cacheName: String): Promise<Boolean>\n fun open(cacheName: String):
Promise<Cache>\n fun delete(cacheName: String): Promise<Boolean>\n fun keys():
Promise<Array<String>>\n}\n\npublic external open class FunctionalEvent : ExtendableEvent {\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface UnionMessagePortOrServiceWorker\n\npublic
external interface UnionClientOrMessagePortOrServiceWorker\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface
ServiceWorkerState {\n companion object\n}\n\npublic inline val ServiceWorkerState.Companion.INSTALLING:
ServiceWorkerState get() = "installing".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.INSTALLED: ServiceWorkerState get() =
"installed".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATING: ServiceWorkerState get() =
"activating".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATED: ServiceWorkerState get() =
"activated".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.REDUNDANT: ServiceWorkerState get() =
"redundant".asDynamic().unsafeCast<ServiceWorkerState>()\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface FrameType {\n companion
object\n}\n\npublic inline val FrameType.Companion.AUXILIARY: FrameType get() =
"auxiliary".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.TOP_LEVEL:
FrameType get() = "top-level".asDynamic().unsafeCast<FrameType>()\n\npublic inline val
FrameType.Companion.NESTED: FrameType get() = "nested".asDynamic().unsafeCast<FrameType>()\n\npublic
inline val FrameType.Companion.NONE: FrameType get() =
"none".asDynamic().unsafeCast<FrameType>()\n\n/* please, don't implement this interface!
*\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface ClientType {\n companion
object\n}\n\npublic inline val ClientType.Companion.WINDOW: ClientType get() =
>window".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.WORKER:
ClientType get() = "worker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val
ClientType.Companion.SHAREDWORKER: ClientType get() =
"sharedworker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.ALL:
ClientType get() = "all".asDynamic().unsafeCast<ClientType>()"/*\n * Copyright 2010-2019 JetBrains s.r.o. and

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Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.xhr\n\nimport kotlin.js.\*\nimport org.khronos.webgl.\*\nimport org.w3c.css.masking.\*\nimport org.w3c.dom.\*\nimport org.w3c.dom.clipboard.\*\nimport org.w3c.dom.css.\*\nimport org.w3c.dom.events.\*\nimport org.w3c.dom.mediacapture.\*\nimport org.w3c.dom.parsing.\*\nimport org.w3c.dom.pointerevents.\*\nimport org.w3c.dom.svg.\*\nimport org.w3c.dom.url.\*\nimport org.w3c.fetch.\*\nimport org.w3c.files.\*\nimport org.w3c.notifications.\*\nimport org.w3c.performance.\*\nimport org.w3c.workers.\*\n\n/\*\*\n \* Exposes the JavaScript XMLHttpRequestEventTarget to Kotlin\n \*/\n\npublic external abstract class XMLHttpRequestEventTarget : EventTarget {\n\n open var onloadstart: ((ProgressEvent) -> dynamic)?\n\n open var onprogress: ((ProgressEvent) -> dynamic)?\n\n open var onabort: ((Event) -> dynamic)?\n\n open var onerror: ((Event) -> dynamic)?\n\n open var onload: ((Event) -> dynamic)?\n\n open var ontimeout: ((Event) -> dynamic)?\n\n open var onloadend: ((Event) -> dynamic)?\n\n}\n\npublic external abstract class XMLHttpRequestUpload : XMLHttpRequestEventTarget\n\n/\*\*\n \* Exposes the JavaScript XMLHttpRequest to Kotlin\n \*/\n\npublic external open class XMLHttpRequest : XMLHttpRequestEventTarget {\n\n var onreadystatechange: ((Event) -> dynamic)?\n\n open val readyState: Short\n\n var timeout: Int\n\n var withCredentials: Boolean\n\n open val upload: XMLHttpRequestUpload\n\n open val responseURL: String\n\n open val status: Short\n\n open val statusText: String\n\n var responseType: XMLHttpRequestResponseType\n\n open val response: Any?\n\n open val responseText: String\n\n open val responseXML: Document?\n\n fun open(method: String, url: String)\n\n fun open(method: String, url: String, async: Boolean, username: String? = definedExternally, password: String? = definedExternally)\n\n fun setRequestHeader(name: String, value: String)\n\n fun send(body: dynamic = definedExternally)\n\n fun abort()\n\n fun getResponseHeader(name: String): String?\n\n fun getAllResponseHeaders(): String\n\n fun overrideMimeType(mime: String)\n\n}\n\ncompanion object {\n\n val UNSENT: Short\n\n val OPENED: Short\n\n val HEADERS\_RECEIVED: Short\n\n val LOADING: Short\n\n val DONE: Short\n\n}\n\n/\*\*\n \* Exposes the JavaScript FormData to Kotlin\n \*/\n\npublic external open class FormData(form: HTMLFormElement = definedExternally) {\n\n fun append(name: String, value: String)\n\n fun append(name: String, value: Blob, filename: String = definedExternally)\n\n fun delete(name: String)\n\n fun get(name: String): dynamic\n\n fun getAll(name: String): Array<dynamic>\n\n fun has(name: String): Boolean\n\n fun set(name: String, value: String)\n\n fun set(name: String, value: Blob, filename: String = definedExternally)\n\n}\n\n/\*\*\n \* Exposes the JavaScript ProgressEvent to Kotlin\n \*/\n\npublic external open class ProgressEvent(type: String, eventInitDict: ProgressEventInit = definedExternally) : Event {\n\n open val lengthComputable: Boolean\n\n open val loaded: Number\n\n open val total: Number\n\n}\n\ncompanion object {\n\n val NONE: Short\n\n val CAPTURING\_PHASE: Short\n\n val AT\_TARGET: Short\n\n val BUBBLING\_PHASE: Short\n\n}\n\npublic external interface ProgressEventInit : EventInit {\n\n var lengthComputable: Boolean? /\* = false \*/\n\n get() = definedExternally\n\n set(value) = definedExternally\n\n var loaded: Number? /\* = 0 \*/\n\n get() = definedExternally\n\n set(value) = definedExternally\n\n var total: Number? /\* = 0 \*/\n\n get() = definedExternally\n\n set(value) = definedExternally\n\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun ProgressEventInit(lengthComputable: Boolean? = false, loaded: Number? = 0, total: Number? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ProgressEventInit {\n\n val o = js("{}")\n\n o["lengthComputable"] = lengthComputable\n\n o["loaded"] = loaded\n\n o["total"] = total\n\n o["bubbles"] = bubbles\n\n o["cancelable"] = cancelable\n\n o["composed"] = composed\n\n return o\n\n}\n\n/\*\* please, don't implement this interface! \*/\n\n@Suppress("NESTED\_CLASS\_IN\_EXTERNAL\_INTERFACE")\n\npublic external interface XMLHttpRequestResponseType {\n\n companion object\n\n}\n\npublic inline val

```

XMLHttpRequestResponseType.Companion.EMPTY: XMLHttpRequestResponseType get() =
 \"\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.ARRAYBUFFER: XMLHttpRequestResponseType get() =
 \"arraybuffer\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.BLOB: XMLHttpRequestResponseType get() =
 \"blob\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.DOCUMENT: XMLHttpRequestResponseType get() =
 \"document\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.JSON: XMLHttpRequestResponseType get() =
 \"json\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.TEXT: XMLHttpRequestResponseType get() =
 \"text\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/**\n * Signals that the annotated
annotation class is a marker of an experimental API.\n * Any declaration annotated with that marker is
considered an experimental declaration\n * and its call sites should accept the experimental aspect of it either by
using [UseExperimental],\n * or by being annotated with that marker themselves, effectively causing further
propagation of that experimental aspect.\n * This class is deprecated in favor of a more general approach
provided by [RequiresOptIn]/[OptIn].\n
*\n * @Target(ANNOTATION_CLASS)\n * @Retention(BINARY)\n * @SinceKotlin(\"1.2\")\n * @RequireKotlin(\"1.2.50
\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n * @Deprecated(\"Please use RequiresOptIn
instead.\")\n * public annotation class Experimental(val level: Level = Level.ERROR) {\n * /**\n * * Severity of the
diagnostic that should be reported on usages of experimental API which did not explicitly accept the experimental
aspect\n * * of that API either by using [UseExperimental] or by being annotated with the corresponding marker
annotation.\n * *\n * * public enum class Level {\n * /** Specifies that a warning should be reported on incorrect
usages of this experimental API. *\n * WARNING,\n * /** Specifies that an error should be reported on
incorrect usages of this experimental API. *\n * ERROR,\n * }\n * * }\n * * Allows to use experimental API
denoted by the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with
[UseExperimental], its usages are **not** required to opt-in to that experimental API.\n * This class is
deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].\n * @Target(\n * CLASS,
PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION,
PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE,
TYPEALIAS)\n * @Retention(SOURCE)\n * @SinceKotlin(\"1.2\")\n * @RequireKotlin(\"1.2.50\", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\n * @Deprecated(\"Please use OptIn instead.\",
ReplaceWith(\"OptIn(*markerClass)\", \"kotlin.OptIn\"))\n * public annotation class UseExperimental(\n * vararg val
markerClass: KClass<out Annotation>)\n * @Target(CLASS, PROPERTY, CONSTRUCTOR, FUNCTION,
TYPEALIAS)\n * @Retention(BINARY)\n * internal annotation class WasExperimental(\n * vararg val markerClass:
KClass<out Annotation>)\n * }\n\n\"package kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * This
annotation marks the standard library API that is considered experimental and is not subject to the\n * [general
compatibility guarantees](https://kotlinlang.org/docs/reference/evolution/components-stability.html) given for the
standard library:\n * the behavior of such API may be changed or the API may be removed completely in any
further release.\n * Beware using the annotated API especially if you're developing a library, since your library
might become binary incompatible\n * with the future versions of the standard library.\n * Any usage of a
declaration annotated with `@ExperimentalStdlibApi` must be accepted either by\n * annotating that usage with the
[OptIn] annotation, e.g. `@OptIn(ExperimentalStdlibApi::class)`,\n * or by using the compiler argument `-Xopt-

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in=kotlin.ExperimentalStdlibApi`.n */n@Suppress("DEPRECATION")n@Experimental(level =
Experimental.Level.ERROR)n@RequiresOptIn(level =
RequiresOptIn.Level.ERROR)n@Retention(AnnotationRetention.BINARY)n@Target(n CLASS,n
ANNOTATION_CLASS,n PROPERTY,n FIELD,n LOCAL_VARIABLE,n VALUE_PARAMETER,n
CONSTRUCTOR,n FUNCTION,n PROPERTY_GETTER,n PROPERTY_SETTER,n
TYPEALIAS)n)n@MustBeDocumentedn@ExperimentalStdlibApi\n@SinceKotlin("1.3") // TODO: Remove
experimental status from itself and advance SinceKotlin to 1.4\npublic annotation class
ExperimentalStdlibApi\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport
kotlin.experimental.ExperimentalTypeInference\n\n/**\n * Allows to infer generic type arguments of a function
from the calls in the annotated function parameter of that function.\n *\n * When this annotation is placed on a
generic function parameter of a function,\n * it enables to infer the type arguments of that generic function from the
lambda body passed to that parameter.\n *\n * The calls that affect inference are either members of the receiver type
of an annotated function parameter or\n * extensions for that type. The extensions must be themselves annotated
with `@BuilderInference`.\n *\n * Example: we declare\n * ```\n * fun <T> sequence(@BuilderInference block:
suspend SequenceScope<T>().() -> Unit): Sequence<T>\n * ```\n * and use it like\n * ```\n * val result = sequence {
yield("result") }\n * ```\n * Here the type argument of the resulting sequence is inferred to `String` from\n * the
argument of the [SequenceScope.yield] function, that is called inside the lambda passed to [sequence].\n *\n * Note:
this annotation is experimental, see [ExperimentalTypeInference] on how to opt-in for it.\n
*/\n\n@Target(VALUE_PARAMETER, FUNCTION,
PROPERTY)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n@ExperimentalTypeInferenc
e\npublic annotation class BuilderInference\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * The experimental multiplatform support API marker.\n *\n *
Any usage of a declaration annotated with `@ExperimentalMultiplatform` must be accepted either by\n * annotating
that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalMultiplatform::class)`,\n * or by using the
compiler argument `-Xopt-in=kotlin.ExperimentalMultiplatform`.\n
*/\n\n@Suppress("DEPRECATION")n@Experimental\n@RequiresOptIn\n@MustBeDocumented\n@Target(n
CLASS,n ANNOTATION_CLASS,n PROPERTY,n FIELD,n LOCAL_VARIABLE,n
VALUE_PARAMETER,n CONSTRUCTOR,n FUNCTION,n PROPERTY_GETTER,n
PROPERTY_SETTER,n
TYPEALIAS)n)n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\n\npublic annotation class ExperimentalMultiplatform\n\n/**\n *
Marks an expected annotation class that it isn't required to have actual counterparts in all platforms.\n *\n * This
annotation is only applicable to `expect` annotation classes in multi-platform projects and marks that class as
`optional`.\n *\n * Optional expected class is allowed to have no corresponding actual class on the platform. Optional
annotations can only be used\n * to annotate something, not as types in signatures. If an optional annotation has no
corresponding actual class on a platform,\n * the annotation entries where it's used are simply erased when
compiling code on that platform.\n *\n * Note: this annotation is experimental, see [ExperimentalMultiplatform] on
how to opt-in for it.\n
*/\n\n@Target(ANNOTATION_CLASS)\n@Retention(AnnotationRetention.BINARY)\n@ExperimentalMultiplatfor
m\n@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n\npublic
annotation class OptionalExpectation\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport

```

```

kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/**\n * Signals that the annotated
annotation class is a marker of an API that requires an explicit opt-in.\n *\n * Call sites of any declaration annotated
with that marker should opt in to the API either by using [OptIn],\n * or by being annotated with that marker
themselves, effectively causing further propagation of the opt-in requirement.\n *\n * This class requires opt-in itself
and can only be used with the compiler argument `-Xopt-in=kotlin.RequiresOptIn`.\n *\n * @property message
message to be reported on usages of API without an explicit opt-in, or empty string for the default message.\n *
The default message is: `\"This declaration is experimental and its usage should be marked with 'Marker'`\n *
or `@OptIn(Marker::class)`\", where `Marker` is the opt-in requirement marker.\n * @property level specifies
how usages of API without an explicit opt-in are reported in code.\n
*/\n@Target(ANNOTATION_CLASS)\n@Retention(BINARY)\n@SinceKotlin(\"1.3\")\n@RequireKotlin(\"1.3.70
\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class RequiresOptIn(\n
val message: String = \"\", \n val level: Level = Level.ERROR)\n {\n /**\n * Severity of the diagnostic that
should be reported on usages which did not explicitly opt into\n * the API either by using [OptIn] or by being
annotated with the corresponding marker annotation.\n */\n public enum class Level {\n /** Specifies that a
warning should be reported on incorrect usages of this API. */\n WARNING,\n /** Specifies that an error
should be reported on incorrect usages of this API. */\n ERROR,\n }\n}\n\n/**\n * Allows to use the API
denoted by the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with
[OptIn], its usages are not required to opt in to that API.\n *\n * This class requires opt-in itself and can only be
used with the compiler argument `-Xopt-in=kotlin.RequiresOptIn`.\n *\n */\n@Target(\n CLASS, PROPERTY,
LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER,
PROPERTY_SETTER, EXPRESSION, FILE,
TYPEALIAS)\n@Retention(SOURCE)\n@SinceKotlin(\"1.3\")\n@RequireKotlin(\"1.3.70\", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class OptIn(\n vararg val markerClass:
KClass<out Annotation>)\n\n\", \"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.collections\nimport kotlin.js.JsName\n\n/**\n * Provides a skeletal
implementation of the read-only [Collection] interface.\n *\n * @param E the type of elements contained in the
collection. The collection is covariant on its element type.\n */\n@SinceKotlin(\"1.1\")\npublic abstract class
AbstractCollection<out E> protected constructor() : Collection<E> {\n abstract override val size: Int\n abstract
override fun iterator(): Iterator<E>\n\n override fun contains(element: @UnsafeVariance E): Boolean = any { it
== element }\n\n override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean =\n
elements.all { contains(it) } // use when js will support bound refs: elements.all(this::contains)\n\n override fun
isEmpty(): Boolean = size == 0\n\n override fun toString(): String = joinToString(\"\", \"\", \"[\", \"]\") {\n if (it
=== this) \"(this Collection)\" else it.toString()\n }\n\n /**\n * Returns new array of type `Array<Any?>` with
the elements of this collection.\n */\n @JsName(\"toArray\")\n protected open fun toArray(): Array<Any?> =
copyToArrayImpl(this)\n\n /**\n * Fills the provided [array] or creates new array of the same type\n * and
fills it with the elements of this collection.\n */\n protected open fun <T> toArray(array: Array<T>): Array<T>
= copyToArrayImpl(this, array)\n}\n\n\", \"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.collections\n\nprivate enum class State {\n Ready,\n
NotReady,\n Done,\n Failed\n}\n\n/**\n * A base class to simplify implementing iterators so that
implementations only have to implement [computeNext]\n * to implement the iterator, calling [done] when the
iteration is complete.\n */\npublic abstract class AbstractIterator<T> : Iterator<T> {\n private var state =
State.NotReady\n private var nextValue: T? = null\n\n override fun hasNext(): Boolean {\n require(state !=
State.Failed)\n return when (state) {\n State.Done -> false\n State.Ready -> true\n else ->
tryToComputeNext()\n }\n }\n\n override fun next(): T {\n if (!hasNext()) throw

```



```

IllegalArgumentException("startIndex: $startIndex > endIndex: $endIndex")\n }\n }\n internal
fun orderedHashCode(c: Collection<*>): Int {\n var hashCode = 1\n for (e in c) {\n
hashCode = 31 * hashCode + (e?.hashCode() ?: 0)\n }\n return hashCode\n }\n internal fun
orderedEquals(c: Collection<*>, other: Collection<*>): Boolean {\n if (c.size != other.size) return false\n
 val otherIterator = other.iterator()\n for (elem in c) {\n val elemOther = otherIterator.next()\n
 if (elem != elemOther) {\n return false\n }\n }\n return true\n }\n
}\n}", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n *
Based on GWT AbstractMap\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides
a skeletal implementation of the read-only [Map] interface.\n * The implementor is required to implement
[entries] property, which should return read-only set of map entries.\n * @param K the type of map keys. The
map is invariant on its key type.\n * @param V the type of map values. The map is covariant on its value type.\n
*/\n\n@SinceKotlin("1.1")\npublic abstract class AbstractMap<K, out V> protected constructor() : Map<K, V>
{\n\n override fun containsKey(key: K): Boolean {\n return implFindEntry(key) != null\n }\n\n override
fun containsValue(value: @UnsafeVariance V): Boolean = entries.any { it.value == value }\n\n internal fun
containsEntry(entry: Map.Entry<*, *>?): Boolean {\n // since entry comes from @UnsafeVariance parameters it
can be virtually anything\n if (entry !is Map.Entry<*, *>) return false\n val key = entry.key\n val value
= entry.value\n val ourValue = get(key)\n if (value != ourValue) {\n return false\n }\n //
Perhaps it was null and we don't contain the key?\n if (ourValue == null && !containsKey(key)) {\n return false\n }\n return true\n }\n\n /**\n * Compares this map with other instance with the
ordered structural equality.\n * @return true, if [other] instance is a [Map] of the same size, all entries of
which are contained in the [entries] set of this map.\n */\n\n override fun equals(other: Any?): Boolean {\n if
(other === this) return true\n if (other !is Map<*, *>) return false\n if (size != other.size) return false\n
 return other.entries.all { containsEntry(it) }\n }\n\n override operator fun get(key: K): V? =
implFindEntry(key)?.value\n\n /**\n * Returns the hash code value for this map.\n * It is the same as
the hashCode of [entries] set.\n */\n\n override fun hashCode(): Int = entries.hashCode()\n\n override fun
isEmpty(): Boolean = size == 0\n\n override val size: Int get() = entries.size\n\n /**\n * Returns a read-only
[Set] of all keys in this map.\n * Accessing this property first time creates a keys view from [entries].\n *
All subsequent accesses just return the created instance.\n */\n\n override val keys: Set<K>\n get() {\n
if (_keys == null) {\n _keys = object : AbstractSet<K>() {\n override operator fun
contains(element: K): Boolean = containsKey(element)\n override operator fun iterator(): Iterator<K>
{\n val entryIterator = entries.iterator()\n return object : Iterator<K> {\n
 override fun hasNext(): Boolean = entryIterator.hasNext()\n override fun
next(): K = entryIterator.next().key\n }\n }\n override val size: Int get() =
this@AbstractMap.size\n }\n }\n @kotlin.jvm.Volatile\n private var _keys: Set<K>? = null\n\n override fun toString(): String = entries.joinToString(", ", "\n", "\n") {\n
 toString(it) }\n private fun toString(entry: Map.Entry<K, V>): String = toString(entry.key) + "\n" +
toString(entry.value)\n private fun toString(o: Any?): String = if (o === this) "(this Map)" else o.toString()\n
 }\n\n /**\n * Returns a read-only [Collection] of all values in this map.\n * Accessing this property first time
creates a values view from [entries].\n * All subsequent accesses just return the created instance.\n */\n
 override val values: Collection<V>\n get() {\n if (_values == null) {\n _values = object :
AbstractCollection<V>() {\n override operator fun contains(element: @UnsafeVariance V): Boolean =
containsValue(element)\n override operator fun iterator(): Iterator<V> {\n val
entryIterator = entries.iterator()\n return object : Iterator<V> {\n override fun
hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): V = entryIterator.next().value\n
 }\n }\n }\n override val size: Int get() = this@AbstractMap.size\n }\n }\n @kotlin.jvm.Volatile\n private var _values: Collection<V>? = null\n\n private fun implFindEntry(key: K): Map.Entry<K, V>? = entries.firstOrNull { it.key == key }\n internal

```

```

companion object {
 internal fun entryHashCode(e: Map.Entry<*, *>): Int = with(e) { (key?.hashCode() ?: 0) xor (value?.hashCode() ?: 0) }
 internal fun entryToString(e: Map.Entry<*, *>): String = with(e) { "$key=$value" }
 internal fun entryEquals(e: Map.Entry<*, *>, other: Any?): Boolean {
 if (other !is Map.Entry<*, *>) return false
 return e.key == other.key && e.value == other.value
 }
}
/*
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 */
package kotlin.collections
/**
 * Provides a skeletal implementation of the read-only [Set] interface.
 * This class is intended to help implementing read-only sets so it doesn't support concurrent modification tracking.
 *
 * @param E the type of elements contained in the set. The set is covariant on its element type.
 */
@SinceKotlin("1.1")
public abstract class AbstractSet<out E> protected constructor() :
 AbstractCollection<E>(), Set<E> {
 /**
 * Compares this set with other set instance with the unordered structural equality.
 *
 * @return true, if [other] instance is a [Set] of the same size, all elements of which are contained in this set.
 */
 override fun equals(other: Any?): Boolean {
 if (other === this) return true
 if (other !is Set<*>) return false
 return setEquals(this, other)
 }
 /**
 * Returns the hash code value for this set.
 */
 override fun hashCode(): Int = unorderedHashCode(this)
 internal companion object {
 internal fun unorderedHashCode(c: Collection<*>): Int {
 var hashCode = 0
 for (element in c) {
 hashCode += (element?.hashCode() ?: 0)
 }
 return hashCode
 }
 internal fun setEquals(c: Set<*>, other: Set<*>): Boolean {
 if (c.size != other.size) return false
 return c.containsAll(other)
 }
 }
}
/*
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 */
package kotlin.collections
import kotlin.native.concurrent.SharedImmutable
@SharedImmutable
private val emptyElementData = emptyArray<Any?>()
private const val maxArraySize = Int.MAX_VALUE - 8
private const val defaultMinCapacity = 10
/**
 * Resizable-array implementation of the deque data structure.
 * The name deque is short for "double ended queue" and is usually pronounced "deck".
 * The collection provide methods for convenient access to the both ends.
 * It also implements [MutableList] interface and supports efficient get/set operations by index.
 */
@SinceKotlin("1.3")
@ExperimentalStdlibApi
public class ArrayDeque<E> : AbstractMutableList<E> {
 private var head: Int = 0
 private var elementData: Array<Any?>

 override var size: Int = 0
 private set

 /**
 * Constructs an empty deque with specified [initialCapacity], or throws [IllegalArgumentException] if [initialCapacity] is negative.
 */
 public constructor(initialCapacity: Int) {
 elementData = when {
 initialCapacity == 0 -> emptyElementData
 initialCapacity > 0 -> arrayOfNulls(initialCapacity)
 }
 else -> throw IllegalArgumentException("Illegal Capacity: $initialCapacity")
 }

 /**
 * Constructs an empty deque.
 */
 public constructor() {
 elementData = emptyElementData
 }

 /**
 * Constructs a deque that contains the same elements as the specified [elements] collection in the same order.
 */
 public constructor(elements: Collection<E>) {
 elementData = elements.toArray()
 size = elementData.size
 if (elementData.isEmpty())
 elementData = emptyElementData
 }

 /**
 * Ensures that the capacity of this deque is at least equal to the specified [minCapacity].
 *
 * If the current capacity is less than the [minCapacity], a new backing storage is allocated with greater capacity.
 * Otherwise, this method takes no action and simply returns.
 */
 private fun ensureCapacity(minCapacity: Int) {
 if (minCapacity < 0) throw IllegalStateException("Deque is too big.")
 // overflow
 if (minCapacity <= elementData.size) return
 if (elementData === emptyElementData) {
 elementData = arrayOfNulls(minCapacity.coerceAtLeast(defaultMinCapacity))
 return
 }
 val newCapacity = newCapacity(elementData.size, minCapacity)
 copyElements(newCapacity)
 }
 // made internal for testing
 internal fun newCapacity(oldCapacity: Int, minCapacity: Int): Int {
 // overflow-conscious
 var newCapacity = oldCapacity + (oldCapacity shr 1)
 if (newCapacity - minCapacity < 0)
 newCapacity = minCapacity
 if (newCapacity - maxArraySize > 0)
 newCapacity = if (minCapacity > maxArraySize) Int.MAX_VALUE else maxArraySize
 return newCapacity
 }

 /**
 * Creates a new array with the specified [newCapacity] size and copies elements in

```



```

the [elementData] array to it.\n *\n private fun copyElements(newCapacity: Int) {\n val newElements =
arrayOfNulls<Any?>(newCapacity)\n elementData.copyInto(newElements, 0, head, elementData.size)\n
elementData.copyInto(newElements, elementData.size - head, 0, head)\n head = 0\n elementData =
newElements\n }\n\n @kotlin.internal.InlineOnly\n private inline fun internalGet(internalIndex: Int): E {\n
@Suppress("UNCHECKED_CAST")\n return elementData[internalIndex] as E\n }\n\n private fun
positiveMod(index: Int): Int = if (index >= elementData.size) index - elementData.size else index\n\n private fun
negativeMod(index: Int): Int = if (index < 0) index + elementData.size else index\n\n @kotlin.internal.InlineOnly\n private inline fun internalIndex(index: Int): Int = positiveMod(head + index)\n\n
private fun incremented(index: Int): Int = if (index == elementData.lastIndex) 0 else index + 1\n\n private fun
decremented(index: Int): Int = if (index == 0) elementData.lastIndex else index - 1\n\n override fun isEmpty():
Boolean = size == 0\n\n /**\n * Returns the first element, or throws [NoSuchElementException] if this deque is
empty.\n *\n * public fun first(): E = if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")
else internalGet(head)\n\n **\n * Returns the first element, or `null` if this deque is empty.\n *\n * public
fun firstOrNull(): E? = if (isEmpty()) null else internalGet(head)\n\n **\n * Returns the last element, or throws
[NoSuchElementException] if this deque is empty.\n *\n * public fun last(): E = if (isEmpty()) throw
NoSuchElementException("ArrayDeque is empty.") else internalGet(internalIndex(lastIndex))\n\n **\n *
Returns the last element, or `null` if this deque is empty.\n *\n * public fun lastOrNull(): E? = if (isEmpty()) null
else internalGet(internalIndex(lastIndex))\n\n **\n * Prepends the specified [element] to this deque.\n *\n *
public fun addFirst(element: E) {\n ensureCapacity(size + 1)\n\n head = decremented(head)\n
elementData[head] = element\n size += 1\n }\n\n **\n * Appends the specified [element] to this deque.\n *
*\n * public fun addLast(element: E) {\n ensureCapacity(size + 1)\n\n elementData[internalIndex(size)] =
element\n size += 1\n }\n\n **\n * Removes the first element from this deque and returns that removed
element, or throws [NoSuchElementException] if this deque is empty.\n *\n * public fun removeFirst(): E {\n
if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")\n\n val element =
internalGet(head)\n elementData[head] = null\n head = incremented(head)\n size -= 1\n return
element\n }\n\n **\n * Removes the first element from this deque and returns that removed element, or
returns `null` if this deque is empty.\n *\n * public fun removeFirstOrNull(): E? = if (isEmpty()) null else
removeFirst()\n\n **\n * Removes the last element from this deque and returns that removed element, or
throws [NoSuchElementException] if this deque is empty.\n *\n * public fun removeLast(): E {\n if
(isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")\n\n val internalLastIndex =
internalIndex(lastIndex)\n val element = internalGet(internalLastIndex)\n elementData[internalLastIndex] =
null\n size -= 1\n return element\n }\n\n **\n * Removes the last element from this deque and returns
that removed element, or returns `null` if this deque is empty.\n *\n * public fun removeLastOrNull(): E? = if
(isEmpty()) null else removeLast()\n\n // MutableList, MutableCollection\n public override fun add(element: E):
Boolean {\n addLast(element)\n return true\n }\n\n public override fun add(index: Int, element: E) {\n
 AbstractList.checkPositionIndex(index, size)\n\n if (index == size) {\n addLast(element)\n
return\n } else if (index == 0) {\n addFirst(element)\n return\n }\n\n ensureCapacity(size
+ 1)\n\n // Elements in circular array lay in 2 ways:\n // 1. `head` is less than `tail`: [#, #, e1, e2, e3,
#]\n // 2. `head` is greater than `tail`: [e3, #, #, #, e1, e2]\n // where head is the index of the first element
in the circular array,\n // and tail is the index following the last element.\n //\n // At this point the
insertion index is not equal to head or tail.\n // Also the circular array can store at least one more element.\n
//\n // Depending on where the given element must be inserted the preceding or the succeeding\n // elements
will be shifted to make room for the element to be inserted.\n //\n // In case the preceding elements are
shifted:\n // * if the insertion index is greater than the head (regardless of circular array form)\n // ->
shift the preceding elements\n // * otherwise, the circular array has (2) form and the insertion index is less than
tail\n // -> shift all elements in the back of the array\n // -> shift preceding elements in the front of the
array\n // In case the succeeding elements are shifted:\n // * if the insertion index is less than the tail
(regardless of circular array form)\n // -> shift the succeeding elements\n // * otherwise, the circular

```

```

array has (2) form and the insertion index is greater than head\n // -> shift all elements in the front of the
array\n // -> shift succeeding elements in the back of the array\n\n val internalIndex =
internalIndex(index)\n\n if (index < (size + 1) shr 1) {\n // closer to the first element -> shift preceding
elements\n val decrementedInternalIndex = decremented(internalIndex)\n val decrementedHead =
decremented(head)\n\n if (decrementedInternalIndex >= head) {\n elementData[decrementedHead]
= elementData[head] // head can be zero\n elementData.copyInto(elementData, head, head + 1,
decrementedInternalIndex + 1)\n } else { // head > tail\n elementData.copyInto(elementData, head -
1, head, elementData.size) // head can't be zero\n elementData[elementData.size - 1] = elementData[0]\n elementData.copyInto(elementData, 0, 1, decrementedInternalIndex + 1)\n }\n\n elementData[decrementedInternalIndex] = element\n head = decrementedHead\n } else {\n //
closer to the last element -> shift succeeding elements\n val tail = internalIndex(size)\n\n if
(internalIndex < tail) {\n elementData.copyInto(elementData, internalIndex + 1, internalIndex, tail)\n
 } else { // head > tail\n elementData.copyInto(elementData, 1, 0, tail)\n elementData[0] =
elementData[elementData.size - 1]\n elementData.copyInto(elementData, internalIndex + 1, internalIndex,
elementData.size - 1)\n }\n\n elementData[internalIndex] = element\n }\n size += 1\n }\n\nprivate fun copyCollectionElements(internalIndex: Int, elements: Collection<E>) {\n val iterator =
elements.iterator()\n\n for (index in internalIndex until elementData.size) {\n if (!iterator.hasNext())
break\n elementData[index] = iterator.next()\n }\n for (index in 0 until head) {\n if
(!iterator.hasNext()) break\n elementData[index] = iterator.next()\n }\n\n size += elements.size\n
}\n\n public override fun addAll(elements: Collection<E>): Boolean {\n if (elements.isEmpty()) return false\n
ensureCapacity(this.size + elements.size)\n copyCollectionElements(internalIndex(size), elements)\n
return true\n }\n\n public override fun addAll(index: Int, elements: Collection<E>): Boolean {\n
AbstractList.checkPositionIndex(index, size)\n\n if (elements.isEmpty()) {\n return false\n } else if
(index == size) {\n return addAll(elements)\n }\n\n ensureCapacity(this.size + elements.size)\n
val tail = internalIndex(size)\n val internalIndex = internalIndex(index)\n val elementsSize =
elements.size\n\n if (index < (size + 1) shr 1) {\n // closer to the first element -> shift preceding
elements\n\n var shiftedHead = head - elementsSize\n\n if (internalIndex >= head) {\n if
(shiftedHead >= 0) {\n elementData.copyInto(elementData, shiftedHead, head, internalIndex)\n
 } else { // head < tail, insertion leads to head >= tail\n shiftedHead += elementData.size\n val
elementsToShift = internalIndex - head\n val shiftToBack = elementData.size - shiftedHead\n\n if (shiftToBack >= elementsToShift) {\n elementData.copyInto(elementData, shiftedHead, head,
internalIndex)\n } else {\n elementData.copyInto(elementData, shiftedHead, head, head +
shiftToBack)\n elementData.copyInto(elementData, 0, head + shiftToBack, internalIndex)\n }\n } else { // head > tail, internalIndex < tail\n elementData.copyInto(elementData,
shiftedHead, head, elementData.size)\n if (elementsSize >= internalIndex) {\n elementData.copyInto(elementData, elementData.size - elementsSize, 0, internalIndex)\n } else {\n elementData.copyInto(elementData, elementData.size - elementsSize, 0, elementsSize)\n
 elementData.copyInto(elementData, 0, elementsSize, internalIndex)\n }\n }\n head =
shiftedHead\n copyCollectionElements(negativeMod(internalIndex - elementsSize), elements)\n } else
{\n // closer to the last element -> shift succeeding elements\n val shiftedInternalIndex =
internalIndex + elementsSize\n\n if (internalIndex < tail) {\n if (tail + elementsSize <=
elementData.size) {\n elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, tail)\n
 } else { // head < tail, insertion leads to head >= tail\n if (shiftedInternalIndex >= elementData.size)\n {\n elementData.copyInto(elementData, shiftedInternalIndex - elementData.size, internalIndex, tail)\n
 }\n } else {\n val shiftToFront = tail + elementsSize - elementData.size\n
 elementData.copyInto(elementData, 0, tail - shiftToFront, tail)\n elementData.copyInto(elementData,
shiftedInternalIndex, internalIndex, tail - shiftToFront)\n }\n } else { // head > tail,
internalIndex > head\n elementData.copyInto(elementData, elementsSize, 0, tail)\n if

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(shiftedInternalIndex >= elementData.size) {\n elementData.copyInto(elementData, shiftedInternalIndex
- elementData.size, internalIndex, elementData.size)\n } else {\n
elementData.copyInto(elementData, 0, elementData.size - elementsSize, elementData.size)\n
elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, elementData.size - elementsSize)\n
}\n }\n copyCollectionElements(internalIndex, elements)\n }\n\n return true\n }\n\n public
override fun get(index: Int): E {\n AbstractList.checkElementIndex(index, size)\n\n return
internalGet(internalIndex(index))\n }\n\n public override fun set(index: Int, element: E): E {\n
AbstractList.checkElementIndex(index, size)\n val internalIndex = internalIndex(index)\n val oldElement
= internalGet(internalIndex)\n elementData[internalIndex] = element\n\n return oldElement\n }\n\n
public override fun contains(element: E): Boolean = indexOf(element) != -1\n\n public override fun
indexOf(element: E): Int {\n val tail = internalIndex(size)\n\n if (head < tail) {\n for (index in head
until tail) {\n if (element == elementData[index]) return index - head\n }\n } else if (head >=
tail) {\n for (index in head until elementData.size) {\n if (element == elementData[index]) return
index - head\n }\n }\n for (index in 0 until tail) {\n if (element == elementData[index]) return
index + elementData.size - head\n }\n }\n\n return -1\n }\n\n public override fun
lastIndexOf(element: E): Int {\n val tail = internalIndex(size)\n\n if (head < tail) {\n for (index in tail
- 1 downTo head) {\n if (element == elementData[index]) return index - head\n }\n } else if
(head > tail) {\n for (index in tail - 1 downTo 0) {\n if (element == elementData[index]) return
index + elementData.size - head\n }\n }\n for (index in elementData.lastIndex downTo head) {\n
if (element == elementData[index]) return index - head\n }\n }\n\n return -1\n }\n\n public
override fun remove(element: E): Boolean {\n val index = indexOf(element)\n if (index == -1) return
false\n removeAt(index)\n return true\n }\n\n public override fun removeAt(index: Int): E {\n
AbstractList.checkElementIndex(index, size)\n\n if (index == lastIndex) {\n return removeLast()\n }
else if (index == 0) {\n return removeFirst()\n }\n\n val internalIndex = internalIndex(index)\n
val element = internalGet(internalIndex)\n\n if (index < size shr 1) {\n // closer to the first element ->
shift preceding elements\n if (internalIndex >= head) {\n elementData.copyInto(elementData, head
+ 1, head, internalIndex)\n } else { // head > tail, internalIndex < head\n
elementData.copyInto(elementData, 1, 0, internalIndex)\n elementData[0] = elementData[elementData.size
- 1]\n elementData.copyInto(elementData, head + 1, head, elementData.size - 1)\n }\n\n
elementData[head] = null\n head = incremented(head)\n } else {\n // closer to the last element ->
shift succeeding elements\n val internalLastIndex = internalIndex(lastIndex)\n\n if (internalIndex <=
internalLastIndex) {\n elementData.copyInto(elementData, internalIndex, internalIndex + 1,
internalLastIndex + 1)\n } else { // head > tail, internalIndex > head\n
elementData.copyInto(elementData, internalIndex, internalIndex + 1, elementData.size)\n\n
elementData[elementData.size - 1] = elementData[0]\n elementData.copyInto(elementData, 0, 1,
internalLastIndex + 1)\n }\n\n elementData[internalLastIndex] = null\n }\n\n size -= 1\n\n
return element\n }\n\n public override fun removeAll(elements: Collection<E>): Boolean = filterInPlace {
!elements.contains(it) }\n\n public override fun retainAll(elements: Collection<E>): Boolean = filterInPlace {
elements.contains(it) }\n\n private inline fun filterInPlace(predicate: (E) -> Boolean): Boolean {\n if
(this.isEmpty() || elementData.isEmpty())\n return false\n\n val tail = internalIndex(size)\n var
newTail = head\n var modified = false\n\n if (head < tail) {\n for (index in head until tail) {\n
val element = elementData[index]\n\n @Suppress("\n UNCHECKED_CAST")\n if
(predicate(element as E))\n elementData[newTail++] = element\n else\n modified =
true\n }\n\n elementData.fill(null, newTail, tail)\n } else {\n for (index in head until
elementData.size) {\n val element = elementData[index]\n elementData[index] = null\n\n @Suppress("\n UNCHECKED_CAST")\n if (predicate(element as E))\n elementData[newTail++] = element\n else\n modified = true\n }\n\n newTail =
positiveMod(newTail)\n\n for (index in 0 until tail) {\n val element = elementData[index]\n

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elementData[index] = null\n\n @Suppress("UNCHECKED_CAST")\n if (predicate(element as
E)) {\n elementData[newTail] = element\n newTail = incremented(newTail)\n }
else {\n modified = true\n }\n }\n if (modified)\n size =
negativeMod(newTail - head)\n return modified\n }\n\n public override fun clear() {\n val tail =
internalIndex(size)\n if (head < tail) {\n elementData.fill(null, head, tail)\n } else if (isEmpty())
{\n elementData.fill(null, head, elementData.size)\n elementData.fill(null, 0, tail)\n }\n head =
0\n size = 0\n }\n\n // For testing only\n internal fun internalStructure(structure: (head: Int, elements:
Array<Any?>) -> Unit) {\n val tail = internalIndex(size)\n\n if (isEmpty()) {\n structure(head,
emptyArray())\n return\n }\n\n val elements = arrayOfNulls<Any?>(size)\n if (head < tail) {\n
 elementData.copyInto(elements, startIndex = head, endIndex = tail)\n structure(head, elements)\n }
else {\n elementData.copyInto(elements, startIndex = head)\n elementData.copyInto(elements,
elementData.size - head, startIndex = 0, endIndex = tail)\n structure(head - elementData.size, elements)\n
}\n }\n }"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ArraysKt")\n\npackage
kotlin.collections\n\nimport kotlin.contracts.*\n\n/**\n * Returns a single list of all elements from all arrays in the
given array.\n * @sample samples.collections.Arrays.Transformations.flattenArray\n */\npublic fun <T> Array<out
Array<out T>>.flatten(): List<T> {\n val result = ArrayList<T>(sumBy { it.size })\n for (element in this) {\n
 result.addAll(element)\n }\n return result\n }\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from
the first values of each pair from this array,\n * *second* list is built from the second values of each pair from this
array.\n * @sample samples.collections.Arrays.Transformations.unzipArray\n */\npublic fun <T, R> Array<out
Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n val listT = ArrayList<T>(size)\n val listR =
ArrayList<R>(size)\n for (pair in this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return
listT to listR\n }\n\n/**\n * Returns `true` if this nullable array is either null or empty.\n * @sample
samples.collections.Arrays.Usage.arrayIsNullOrEmpty\n
/\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun Array<>.isNullOrEmpty(): Boolean
{\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n\n return this == null ||
this.isEmpty()\n }\n\n/**\n * Returns this array if it's not empty\n * or the result of calling [defaultValue] function if
the array is empty.\n * @sample samples.collections.Arrays.Usage.arrayIfEmpty\n
/\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("UPPER_BOUND_CANNOT_BE_ARRAY")\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : Array<>, C : R =\n if (isEmpty())
defaultValue() else
this\n\n\n@UseExperimental(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin
in.jvm.JvmName("contentDeepEquals")\n@kotlin.js.JsName("contentDeepEqualsImpl")\n\ninternal fun <T>
Array<out T>.contentDeepEqualsImpl(other: Array<out T>): Boolean {\n if (this === other) return true\n if
(this.size != other.size) return false\n\n for (i in indices) {\n val v1 = this[i]\n val v2 = other[i]\n\n if
(v1 === v2) {\n continue\n } else if (v1 == null || v2 == null) {\n return false\n }\n\n when {\n v1 is Array<*> && v2 is Array<*> -> if (!v1.contentDeepEquals(v2)) return false\n v1
is ByteArray && v2 is ByteArray -> if (!v1.contentEquals(v2)) return false\n v1 is ShortArray && v2 is
ShortArray -> if (!v1.contentEquals(v2)) return false\n v1 is IntArray && v2 is IntArray -> if
(!v1.contentEquals(v2)) return false\n v1 is LongArray && v2 is LongArray -> if (!v1.contentEquals(v2))
return false\n v1 is FloatArray && v2 is FloatArray -> if (!v1.contentEquals(v2)) return false\n v1 is
DoubleArray && v2 is DoubleArray -> if (!v1.contentEquals(v2)) return false\n v1 is CharArray && v2
is CharArray -> if (!v1.contentEquals(v2)) return false\n v1 is BooleanArray && v2 is BooleanArray -> if
(!v1.contentEquals(v2)) return false\n\n v1 is UByteArray && v2 is UByteArray -> if
(!v1.contentEquals(v2)) return false\n v1 is UShortArray && v2 is UShortArray -> if
(!v1.contentEquals(v2)) return false\n v1 is UIntArray && v2 is UIntArray -> if (!v1.contentEquals(v2))
return false\n v1 is ULongArray && v2 is ULongArray -> if (!v1.contentEquals(v2)) return false\n }\n
}

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else -> if (v1 != v2) return false\n }\n }\n return
true\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.JvmName("contentDeepToString")\n@kotlin.js.
JsName("contentDeepToStringImpl")\ninternal fun <T> Array<out T>.contentDeepToStringImpl(): String {\n
val length = size.coerceAtMost((Int.MAX_VALUE - 2) / 5) * 5 + 2 // in order not to overflow Int.MAX_VALUE\n
return buildString(length) {\n contentDeepToStringInternal(this, mutableListOf())\n
}\n}\n\n@UseExperimental(ExperimentalUnsignedTypes::class)\nprivate fun <T> Array<out
T>.contentDeepToStringInternal(result: StringBuilder, processed: MutableList<Array<*>>) {\n if (this in
processed) {\n result.append("[...]")\n return\n }\n processed.add(this)\n result.append('[')\n\n for (i
in indices) {\n if (i != 0) {\n result.append(", ")\n }\n val element = this[i]\n when
(element) {\n null -> result.append("null")\n is Array<*> ->
element.contentDeepToStringInternal(result, processed)\n is ByteArray ->
result.append(element.contentToString())\n is ShortArray -> result.append(element.contentToString())\n
 is IntArray -> result.append(element.contentToString())\n is LongArray ->
result.append(element.contentToString())\n is FloatArray -> result.append(element.contentToString())\n
 is DoubleArray -> result.append(element.contentToString())\n is CharArray ->
result.append(element.contentToString())\n is BooleanArray -> result.append(element.contentToString())\n\n
 is UByteArray -> result.append(element.contentToString())\n is UShortArray ->
result.append(element.contentToString())\n is UIntArray -> result.append(element.contentToString())\n
 is ULongArray -> result.append(element.contentToString())\n else ->
result.append(element.toString())\n }\n }\n result.append(''])\n
processed.removeAt(processed.lastIndex)\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Data class representing a value from a
collection or sequence, along with its index in that collection or sequence.\n */\n * @property value the underlying
value.\n * @property index the index of the value in the collection or sequence.\n */\n\npublic data class
IndexedValue<out T>(public val index: Int, public val value: T)\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName("MapAccessorsKt")\n\npackage
kotlin.collections\n\nimport kotlin.reflect.KProperty\nimport kotlin.internal.Exact\n\n/**\n * Returns the value of
the property for the given object from this read-only map.\n * @param thisRef the object for which the value is
requested (not used).\n * @param property the metadata for the property, used to get the name of property and
lookup the value corresponding to this name in the map.\n * @return the property value.\n */\n * @throws
NoSuchElementException when the map doesn't contain value for the property name and doesn't provide an implicit
default (see [withDefault]).\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V> Map<in
String, @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n
@Suppress("UNCHECKED_CAST") (getOrNullImplicitDefault(property.name) as V1)\n\n/**\n * Returns the value
of the property for the given object from this mutable map.\n * @param thisRef the object for which the value is
requested (not used).\n * @param property the metadata for the property, used to get the name of property and
lookup the value corresponding to this name in the map.\n * @return the property value.\n */\n * @throws
NoSuchElementException when the map doesn't contain value for the property name and doesn't provide an implicit
default (see [withDefault]).\n */\n\n@kotlin.jvm.JvmName("getVar")\n@kotlin.internal.InlineOnly\npublic inline
operator fun <V, V1 : V> MutableMap<in String, out @Exact V>.getValue(thisRef: Any?, property:
KProperty<*>): V1 =\n @Suppress("UNCHECKED_CAST") (getOrNullImplicitDefault(property.name) as
V1)\n\n@Deprecated("Use getValue() with two type parameters instead", level =
DeprecationLevel.ERROR)\n@kotlin.jvm.JvmName("getVarContravariant")\n@kotlin.internal.LowPriorityInOver
loadResolution\n@kotlin.internal.InlineOnly\npublic inline fun <V> MutableMap<in String, in
V>.getValue(thisRef: Any?, property: KProperty<*>): V =\n @Suppress("UNCHECKED_CAST")
(getOrNullImplicitDefault(property.name) as V)\n\n/**\n * Stores the value of the property for the given object in this

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mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property the
metadata for the property, used to get the name of property and store the value associated with that name in the
map.\n * @param value the value to set.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>
MutableMap<in String, in V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n
this.put(property.name, value)\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\nMapsKt\n")\n\npackage
kotlin.collections\n\n/**\n * Returns the value for the given key, or the implicit default value for this map.\n * By
default no implicit value is provided for maps and a [NoSuchElementException] is thrown.\n * To create a map with
implicit default value use [withDefault] method.\n */\n * @throws NoSuchElementException when the map doesn't
contain a value for the specified key and no implicit default was provided for that map.\n
*/\n\n@kotlin.jvm.JvmName("\ngetOrNull\n")\n@PublishedApi\ninternal fun <K, V> Map<K,
V>.getOrNull(key: K): V {\n if (this is MapWithDefault)\n return
this.getOrNull(key)\n return getOrNull(key, { throw NoSuchElementException("\nKey $key
is missing in the map.") })\n}\n\n/**\n * Returns a wrapper of this read-only map, having the implicit default value
provided with the specified function [defaultValue].\n */\n * This implicit default value is used when the original
map doesn't contain a value for the key specified\n * and a value is obtained with [Map.getValue] function, for
example when properties are delegated to the map.\n */\n * When this map already has an implicit default value
provided with a former call to [withDefault], it is being replaced by this call.\n */\n\npublic fun <K, V> Map<K,
V>.withDefault(defaultValue: (key: K) -> V): Map<K, V> =\n when (this) {\n is MapWithDefault ->
this.map.withDefault(defaultValue)\n else -> MapWithDefaultImpl(this, defaultValue)\n }\n\n/**\n * Returns
a wrapper of this mutable map, having the implicit default value provided with the specified function
[defaultValue].\n */\n * This implicit default value is used when the original map doesn't contain a value for the key
specified\n * and a value is obtained with [Map.getValue] function, for example when properties are delegated to the
map.\n */\n * When this map already has an implicit default value provided with a former call to [withDefault], it is
being replaced by this call.\n */\n\n@kotlin.jvm.JvmName("\nwithDefaultMutable\n")\npublic fun <K, V>
MutableMap<K, V>.withDefault(defaultValue: (key: K) -> V): MutableMap<K, V> =\n when (this) {\n is
MutableMapWithDefault -> this.map.withDefault(defaultValue)\n else -> MutableMapWithDefaultImpl(this,
defaultValue)\n }\n\n\nprivate interface MapWithDefault<K, out V> : Map<K, V> {\n public val map: Map<K,
V>\n public fun getOrNull(key: K): V\n}\n\nprivate interface MutableMapWithDefault<K, V> :
MutableMap<K, V>, MapWithDefault<K, V> {\n public override val map: MutableMap<K, V>\n}\n\n\nprivate
class MapWithDefaultImpl<K, out V>(public override val map: Map<K, V>, private val default: (key: K) -> V) :
MapWithDefault<K, V> {\n override fun equals(other: Any?): Boolean = map.equals(other)\n override fun
hashCode(): Int = map.hashCode()\n override fun toString(): String = map.toString()\n override val size: Int
get() = map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n override fun containsKey(key: K): Boolean =
map.containsKey(key)\n override fun containsValue(value: @UnsafeVariance V): Boolean =
map.containsValue(value)\n override fun get(key: K): V? = map.get(key)\n override val keys: Set<K> get() =
map.keys\n override val values: Collection<V> get() = map.values\n override val entries: Set<Map.Entry<K,
V>> get() = map.entries\n override fun getOrNull(key: K): V = map.getOrNull(key, {
default(key) })\n}\n\n\nprivate class MutableMapWithDefaultImpl<K, V>(public override val map: MutableMap<K,
V>, private val default: (key: K) -> V) : MutableMapWithDefault<K, V> {\n override fun equals(other: Any?):
Boolean = map.equals(other)\n override fun hashCode(): Int = map.hashCode()\n override fun toString(): String
= map.toString()\n override val size: Int get() = map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n
override fun containsKey(key: K): Boolean = map.containsKey(key)\n override fun containsValue(value:
@UnsafeVariance V): Boolean = map.containsValue(value)\n override fun get(key: K): V? = map.get(key)\n
override val keys: MutableSet<K> get() = map.keys\n override val values: MutableCollection<V> get() =
map.values\n override val entries: MutableSet<MutableMap.MutableEntry<K, V>> get() = map.entries\n}\n

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override fun put(key: K, value: V): V? = map.put(key, value)\n override fun remove(key: K): V? =
map.remove(key)\n override fun putAll(from: Map<out K, V>) = map.putAll(from)\n override fun clear() =
map.clear()\n\n override fun getOrImplicitDefault(key: K): V = map.getOrNull(key, { default(key)
})\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nimport kotlin.random.Random\n\n/**\n * Removes a single instance of the specified element
from this\n * collection, if it is present.\n * \n * Allows to overcome type-safety restriction of `remove` that requires
to pass an element of type `E`.\n * \n * @return `true` if the element has been successfully removed; `false` if it was
not present in the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes
T> MutableCollection<out T>.remove(element: T): Boolean =\n @Suppress("UNCHECKED_CAST") (this as
MutableCollection<T>).remove(element)\n\n/**\n * Removes all of this collection's elements that are also
contained in the specified collection.\n * \n * Allows to overcome type-safety restriction of `removeAll` that requires
to pass a collection of type `Collection<E>`.\n * \n * @return `true` if any of the specified elements was removed
from the collection, `false` if the collection was not modified.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.removeAll(elements: Collection<T>): Boolean
=\n @Suppress("UNCHECKED_CAST") (this as MutableCollection<T>).removeAll(elements)\n\n/**\n * Retains only the
elements in this collection that are contained in the specified collection.\n * \n * Allows to overcome type-safety
restriction of `retainAll` that requires to pass a collection of type `Collection<E>`.\n * \n * @return `true` if
any element was removed from the collection, `false` if the collection was not modified.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out
T>.retainAll(elements: Collection<T>): Boolean =\n @Suppress("UNCHECKED_CAST") (this as
MutableCollection<T>).retainAll(elements)\n\n/**\n * Adds the specified [element] to this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.plusAssign(element: T)
{\n this.add(element)\n}\n\n/**\n * Adds all elements of the given [elements] collection to this mutable
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in
T>.plusAssign(elements: Iterable<T>) {\n this.addAll(elements)\n}\n\n/**\n * Adds all elements of the given
[elements] array to this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
MutableCollection<in T>.plusAssign(elements: Array<T>) {\n this.addAll(elements)\n}\n\n/**\n * Adds all
elements of the given [elements] sequence to this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic
inline operator fun <T> MutableCollection<in T>.plusAssign(elements: Sequence<T>) {\n
 this.addAll(elements)\n}\n\n/**\n * Removes a single instance of the specified [element] from this mutable
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in
T>.minusAssign(element: T) {\n this.remove(element)\n}\n\n/**\n * Removes all elements contained in the given
[elements] collection from this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun
<T> MutableCollection<in T>.minusAssign(elements: Iterable<T>) {\n this.removeAll(elements)\n}\n\n/**\n *
Removes all elements contained in the given [elements] array from this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.minusAssign(elements:
Array<T>) {\n this.removeAll(elements)\n}\n\n/**\n * Removes all elements contained in the given [elements]
sequence from this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
MutableCollection<in T>.minusAssign(elements: Sequence<T>) {\n this.removeAll(elements)\n}\n\n/**\n * Adds
all elements of the given [elements] collection to this [MutableCollection].\n */\npublic fun <T>
MutableCollection<in T>.addAll(elements: Iterable<T>): Boolean {\n when (elements) {\n is Collection ->
return addAll(elements)\n else -> {\n var result: Boolean = false\n for (item in elements)\n
if (add(item)) result = true\n return result\n }\n }\n}\n\n/**\n * Adds all elements of the given
[elements] sequence to this [MutableCollection].\n */\npublic fun <T> MutableCollection<in T>.addAll(elements:
Sequence<T>): Boolean {\n var result: Boolean = false\n for (item in elements) {\n if (add(item)) result =
true\n }\n return result\n}\n\n/**\n * Adds all elements of the given [elements] array to this

```

```

[MutableCollection].\n *\npublic fun <T> MutableCollection<in T>.addAll(elements: Array<out T>): Boolean {\n
return addAll(elements.asList())\n}\n\n/**\n * Removes all elements from this [MutableCollection] that are also
contained in the given [elements] collection.\n *\npublic fun <T> MutableCollection<in T>.removeAll(elements:
Iterable<T>): Boolean {\n return removeAll(elements.convertToSetForSetOperationWith(this))\n}\n\n/**\n * Removes all elements from this [MutableCollection] that are also contained in the given [elements] sequence.\n
*\npublic fun <T> MutableCollection<in T>.removeAll(elements: Sequence<T>): Boolean {\n val set =
elements.toHashSet()\n return set.isNotEmpty() && removeAll(set)\n}\n\n/**\n * Removes all elements from this
[MutableCollection] that are also contained in the given [elements] array.\n *\npublic fun <T>
MutableCollection<in T>.removeAll(elements: Array<out T>): Boolean {\n return elements.isNotEmpty() &&
removeAll(elements.toHashSet())\n}\n\n/**\n * Retains only elements of this [MutableCollection] that are contained
in the given [elements] collection.\n *\npublic fun <T> MutableCollection<in T>.retainAll(elements: Iterable<T>):
Boolean {\n return retainAll(elements.convertToSetForSetOperationWith(this))\n}\n\n/**\n * Retains only
elements of this [MutableCollection] that are contained in the given [elements] array.\n *\npublic fun <T>
MutableCollection<in T>.retainAll(elements: Array<out T>): Boolean {\n if (elements.isNotEmpty())\n return
retainAll(elements.toHashSet())\n else\n return retainNothing()\n}\n\n/**\n * Retains only elements of this
[MutableCollection] that are contained in the given [elements] sequence.\n *\npublic fun <T>
MutableCollection<in T>.retainAll(elements: Sequence<T>): Boolean {\n val set = elements.toHashSet()\n if
(set.isNotEmpty())\n return retainAll(set)\n else\n return retainNothing()\n}\n\nprivate fun
MutableCollection<*>.retainNothing(): Boolean {\n val result = isEmpty()\n clear()\n return
result\n}\n\n/**\n * Removes all elements from this [MutableIterable] that match the given [predicate].\n *\n@return `true` if any element was removed from this collection, or `false` when no elements were removed and
collection was not modified.\n *\npublic fun <T> MutableIterable<T>.removeAll(predicate: (T) -> Boolean):
Boolean = filterInPlace(predicate, true)\n\n/**\n * Retains only elements of this [MutableIterable] that match the
given [predicate].\n *\n@return `true` if any element was removed from this collection, or `false` when all
elements were retained and collection was not modified.\n *\npublic fun <T>
MutableIterable<T>.retainAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, false)\n\nprivate fun
<T> MutableIterable<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove: Boolean): Boolean {\n
 var result = false\n with(iterator()) {\n while (hasNext())\n if (predicate(next()) ==
predicateResultToRemove) {\n remove()\n result = true\n }\n }\n return
result\n}\n\n/**\n * Returns a new list with the elements of this list randomly shuffled\n * using the specified
[random] instance as the source of randomness.\n *\n@SinceKotlin("1.3")\npublic fun <T>
Iterable<T>.shuffled(random: Random): List<T> = toMutableList().apply { shuffle(random) }\n\n/**\n *
Removes the element at the specified [index] from this list.\n * In Kotlin one should use the
[MutableList.removeAt] function instead.\n *\n@Deprecated("Use removeAt(index) instead.")
ReplaceWith("removeAt(index)"), level = DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic inline
fun <T> MutableList<T>.remove(index: Int): T = removeAt(index)\n\n/**\n * Removes the first element from this
mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T> MutableList<T>.removeFirst(): T = if
(isEmpty()) throw NoSuchElementException("List is empty.") else removeAt(0)\n\n/**\n * Removes the first
element from this mutable list and returns that removed element, or returns `null` if this list is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T> MutableList<T>.removeFirstOrNull(): T? =
if (isEmpty()) null else removeAt(0)\n\n/**\n * Removes the last element from this mutable list and returns that
removed element, or throws [NoSuchElementException] if this list is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T> MutableList<T>.removeLast(): T = if
(isEmpty()) throw NoSuchElementException("List is empty.") else removeAt(lastIndex)\n\n/**\n * Removes the
last element from this mutable list and returns that removed element, or returns `null` if this list is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T> MutableList<T>.removeLastOrNull(): T? =
if (isEmpty()) null else removeAt(lastIndex)\n\n/**\n * Removes all elements from this [MutableList] that match the

```



```

given [predicate].\n *\n * @return `true` if any element was removed from this collection, or `false` when no
elements were removed and collection was not modified.\n *\npublic fun <T>
MutableList<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, true)\n\n/**\n * Retains
only elements of this [MutableList] that match the given [predicate].\n *\n * @return `true` if any element was
removed from this collection, or `false` when all elements were retained and collection was not modified.\n
*\npublic fun <T> MutableList<T>.retainAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate,
false)\n\nprivate fun <T> MutableList<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove:
Boolean): Boolean {\n if (this !is RandomAccess)\n return (this as
MutableIterable<T>).filterInPlace(predicate, predicateResultToRemove)\n\n var writeIndex: Int = 0\n for
(readIndex in 0..lastIndex) {\n val element = this[readIndex]\n if (predicate(element) ==
predicateResultToRemove)\n continue\n\n if (writeIndex != readIndex)\n this[writeIndex] =
element\n\n writeIndex++\n }\n if (writeIndex < size) {\n for (removeIndex in lastIndex downTo
writeIndex)\n removeAt(removeIndex)\n\n return true\n } else {\n return false\n }\n}\n\n/**\n *
Randomly shuffles elements in this mutable list using the specified [random] instance as the source of
randomness.\n *\n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm\n
*\n@SinceKotlin("1.3")\npublic fun <T> MutableList<T>.shuffle(random: Random): Unit {\n for (i in lastIndex
downTo 1) {\n val j = random.nextInt(i + 1)\n val copy = this[i]\n this[i] = this[j]\n this[j] = copy\n
 }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nprivate open class ReversedListReadOnly<out T>(private val delegate: List<T>) :
AbstractList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n}\n\nprivate class ReversedList<T>(private val delegate: MutableList<T>) :
AbstractMutableList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n override fun clear() = delegate.clear()\n override fun removeAt(index:
Int): T = delegate.removeAt(reverseElementIndex(index))\n override fun set(index: Int, element: T): T =
delegate.set(reverseElementIndex(index), element)\n override fun add(index: Int, element: T) {\n
delegate.add(reversePositionIndex(index), element)\n }\n}\n\nprivate fun List<*>.reverseElementIndex(index:
Int) =\n if (index in 0..lastIndex) lastIndex - index else throw IndexOutOfBoundsException("Element index
$index must be in range [${0..lastIndex}]")\n\nprivate fun List<*>.reversePositionIndex(index: Int) =\n if (index
in 0..size) size - index else throw IndexOutOfBoundsException("Position index $index must be in range
[${0..size}]")\n\n\n/**\n * Returns a reversed read-only view of the original List.\n * All changes made in the
original list will be reflected in the reversed one.\n * @sample samples.collections.ReversedViews.asReversedList\n
*\npublic fun <T> List<T>.asReversed(): List<T> = ReversedListReadOnly(this)\n\n\n/**\n * Returns a reversed
mutable view of the original mutable List.\n * All changes made in the original list will be reflected in the reversed
one and vice versa.\n * @sample samples.collections.ReversedViews.asReversedMutableList\n
*\n\n@kotlin.jvm.JvmName("asReversedMutable")\npublic fun <T> MutableList<T>.asReversed():
MutableList<T> = ReversedList(this)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\n@file:UseExperimental(
ExperimentalTypeInference::class)\n\npackage kotlin.sequences\n\nimport kotlin.coroutines.*\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n\n/**\n * Builds a
[Sequence] lazily yielding values one by one.\n *\n * @see kotlin.sequences.generateSequence\n *\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n *\n\n@SinceKotlin("1.3")\npublic fun <T>
sequence(@BuilderInference block: suspend SequenceScope<T>().-> Unit): Sequence<T> = Sequence {
iterator(block) }\n\n\n@SinceKotlin("1.3")\n@Deprecated("Use 'sequence { }' function instead.",

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ReplaceWith("sequence(builderAction)"), level =
DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic inline fun <T> buildSequence(@BuilderInference
noinline builderAction: suspend SequenceScope<T>().->Unit): Sequence<T> = Sequence { iterator(builderAction)
}\n\n/**\n * Builds an [Iterator] lazily yielding values one by one.\n * \n * @sample
samples.collections.Sequences.Building.buildIterator\n * @sample samples.collections.Iterables.Building.iterable\n
\n\n@SinceKotlin("1.3")\npublic fun <T> iterator(@BuilderInference block: suspend SequenceScope<T>().->
Unit): Iterator<T> {\n val iterator = SequenceBuilderIterator<T>()\n iterator.nextStep =
block.createCoroutineUnintercepted(receiver = iterator, completion = iterator)\n return
iterator\n}\n\n@SinceKotlin("1.3")\n@Deprecated("Use 'iterator { }' function instead.",
ReplaceWith("iterator(builderAction)"), level = DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic
inline fun <T> buildIterator(@BuilderInference noinline builderAction: suspend SequenceScope<T>().->Unit):
Iterator<T> = iterator(builderAction)\n\n/**\n * The scope for yielding values of a [Sequence] or an [Iterator],
provides [yield] and [yieldAll] suspension functions.\n * \n * @see sequence\n * @see iterator\n * \n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
\n\n@RestrictsSuspension\n@SinceKotlin("1.3")\npublic abstract class SequenceScope<in T> internal
constructor() {\n /**\n * Yields a value to the [Iterator] being built and suspends\n * until the next value is
requested.\n * \n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n * \n * public abstract suspend fun yield(value:
T)\n * \n * /**\n * Yields all values from the `iterator` to the [Iterator] being built\n * and suspends until all these
values are iterated and the next one is requested.\n * \n * The sequence of values returned by the given iterator
can be potentially infinite.\n * \n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n
*\n * \n * public abstract suspend fun yieldAll(iterator: Iterator<T>)\n * \n * /**\n * Yields a collections of values to
the [Iterator] being built\n * and suspends until all these values are iterated and the next one is requested.\n * \n
 * \n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n * \n * public suspend fun
yieldAll(elements: Iterable<T>) {\n * if (elements is Collection && elements.isEmpty()) return\n * return
yieldAll(elements.iterator())\n * }\n * \n * /**\n * Yields potentially infinite sequence of values to the [Iterator]
being built\n * and suspends until all these values are iterated and the next one is requested.\n * \n * The
sequence can be potentially infinite.\n * \n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * \n * public suspend fun yieldAll(sequence:
Sequence<T>) = yieldAll(sequence.iterator())\n * }\n * \n * @Deprecated("Use SequenceScope class instead.",
ReplaceWith("SequenceScope<T>"), level = DeprecationLevel.ERROR)\n * \n * public typealias SequenceBuilder<T> =
SequenceScope<T>\n * \n * private typealias State = Int\n * \n * private const val State_NotReady: State = 0\n * \n * private const
val State_ManyNotReady: State = 1\n * \n * private const val State_ManyReady: State = 2\n * \n * private const val State_Ready:
State = 3\n * \n * private const val State_Done: State = 4\n * \n * private const val State_Failed: State = 5\n * \n * private class
SequenceBuilderIterator<T> : SequenceScope<T>(), Iterator<T>, Continuation<Unit> {\n * private var state =
State_NotReady\n * private var nextValue: T? = null\n * private var nextIterator: Iterator<T>? = null\n * var
nextStep: Continuation<Unit>? = null\n * \n * override fun hasNext(): Boolean {\n * while (true) {\n * when
(state) {\n * State_NotReady -> {}\n * State_ManyNotReady ->\n * if
(nextIterator!!.hasNext()) {\n * state = State_ManyReady\n * return true\n * }\n
 * else {\n * nextIterator = null\n * }\n * State_Done -> return false\n *
 * State_Ready, State_ManyReady -> return true\n * else -> throw exceptionalState()\n * }\n * state
= State_Failed\n * val step = nextStep!!\n * nextStep = null\n * step.resume(Unit)\n * }\n * }\n *
 * override fun next(): T {\n * when (state) {\n * State_NotReady, State_ManyNotReady -> return
nextNotReady()\n * State_ManyReady -> {\n * state = State_ManyNotReady\n * return
nextIterator!!.next()\n * }\n * State_Ready -> {\n * state = State_NotReady\n *
 * @Suppress("UNCHECKED_CAST")\n * val result = nextValue as T\n * nextValue = null\n *
 * return result\n * }\n * else -> throw exceptionalState()\n * }\n * }\n * private fun nextNotReady(): T

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 if (!hasNext()) throw NoSuchElementException() else return next()\n }\n\n private fun
exceptionalState(): Throwable = when (state) {\n State_Done -> NoSuchElementException()\n State_Failed
-> IllegalStateException("\Iterator has failed.")\n else -> IllegalStateException("Unexpected state of the
iterator: $state")\n }\n\n\n override suspend fun yield(value: T) {\n nextValue = value\n state =
State_Ready\n return suspendCoroutineUninterceptedOrReturn { c ->\n nextState = c\n
COROUTINE_SUSPENDED\n }\n }\n\n override suspend fun yieldAll(iterator: Iterator<T>) {\n if
(!iterator.hasNext()) return\n nextIterator = iterator\n state = State_ManyReady\n return
suspendCoroutineUninterceptedOrReturn { c ->\n nextState = c\n COROUTINE_SUSPENDED\n
}\n }\n\n // Completion continuation implementation\n override fun resumeWith(result: Result<Unit>) {\n
result.getOrThrow() // just rethrow exception if it is there\n state = State_Done\n }\n\n override val context:
CoroutineContext\n get() = EmptyCoroutineContext\n }\n\n /*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n\n package kotlin.collections\n\n\n internal fun
checkWindowSizeStep(size: Int, step: Int) {\n require(size > 0 && step > 0) {\n if (size != step)\n
"\Both size $size and step $step must be greater than zero."\n else\n "\size $size must be greater than
zero."\n }\n }\n\n\n internal fun <T> Sequence<T>.windowedSequence(size: Int, step: Int, partialWindows: Boolean,
reuseBuffer: Boolean): Sequence<List<T>> {\n checkWindowSizeStep(size, step)\n return Sequence {\n
windowedIterator(iterator(), size, step, partialWindows, reuseBuffer) }\n }\n\n\n internal fun <T>
windowedIterator(iterator: Iterator<T>, size: Int, step: Int, partialWindows: Boolean, reuseBuffer: Boolean):
Iterator<List<T>> {\n if (!iterator.hasNext()) return EmptyIterator\n return iterator<List<T>> {\n val
bufferInitialCapacity = size.coerceAtMost(1024)\n val gap = step - size\n if (gap >= 0) {\n var buffer
= ArrayList<T>(bufferInitialCapacity)\n var skip = 0\n for (e in iterator) {\n if (skip > 0) {\n
skip -= 1; continue }\n buffer.add(e)\n if (buffer.size == size) {\n yield(buffer)\n
 if (reuseBuffer) buffer.clear() else buffer = ArrayList(size)\n skip = gap\n }\n }\n if (buffer.isNotEmpty()) {\n if (partialWindows || buffer.size == size) yield(buffer)\n }\n }
else {\n var buffer = RingBuffer<T>(bufferInitialCapacity)\n for (e in iterator) {\n buffer.add(e)\n if (buffer.isFull()) {\n if (buffer.size < size) { buffer =
buffer.expanded(maxCapacity = size); continue }\n yield(if (reuseBuffer) buffer else
ArrayList(buffer))\n buffer.removeFirst(step)\n }\n }\n if (partialWindows) {\n while (buffer.size > step) {\n yield(if (reuseBuffer) buffer else ArrayList(buffer))\n
 buffer.removeFirst(step)\n }\n if (buffer.isNotEmpty()) yield(buffer)\n }\n }\n }\n }\n\n\n internal class MovingSubList<out E>(private val list: List<E>) : AbstractList<E>(), RandomAccess {\n
private var fromIndex: Int = 0\n private var _size: Int = 0\n fun move(fromIndex: Int, toIndex: Int) {\n checkRangeIndexes(fromIndex, toIndex, list.size)\n this.fromIndex = fromIndex\n this._size = toIndex -
fromIndex\n }\n override fun get(index: Int): E {\n checkElementIndex(index, _size)\n return
list[fromIndex + index]\n }\n override val size: Int get() = _size\n }\n\n\n /**\n * Provides ring buffer
implementation.\n * Buffer overflow is not allowed so [add] doesn't overwrite tail but raises an exception.\n */\n\n private class RingBuffer<T>(private val buffer: Array<Any?>, filledSize: Int) : AbstractList<T>(),
RandomAccess {\n init {\n require(filledSize >= 0) {"ring buffer filled size should not be negative but it is
$filledSize"}\n require(filledSize <= buffer.size) {"ring buffer filled size: $filledSize cannot be larger than
the buffer size: ${buffer.size}"}\n }\n constructor(capacity: Int) : this(arrayOfNulls<Any?>(capacity), 0)\n private val capacity = buffer.size\n private var startIndex: Int = 0\n override var size: Int = filledSize\n private set\n override fun get(index: Int): T {\n checkElementIndex(index, size)\n @Suppress("UNCHECKED_CAST")\n return buffer[startIndex.forward(index)] as T\n }\n fun isFull() =
size == capacity\n override fun iterator(): Iterator<T> = object : AbstractIterator<T>() {\n private var count
= size\n private var index = startIndex\n override fun computeNext() {\n if (count == 0) {\n done()\n } else {\n @Suppress("UNCHECKED_CAST")\n setNext(buffer[index] as
T)\n index = index.forward(1)\n count--\n }\n }\n }\n }\n

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@Suppress("UNCHECKED_CAST")\n override fun <T> toArray(array: Array<T>): Array<T> {\n val
result: Array<T?> =\n if (array.size < this.size) array.copyOf(this.size) else array as Array<T?>\n\n val
size = this.size\n\n var widx = 0\n var idx = startIndex\n\n while (widx < size && idx < capacity) {\n
 result[widx] = buffer[idx] as T\n widx++\n idx++\n }\n\n idx = 0\n while (widx <
size) {\n result[widx] = buffer[idx] as T\n widx++\n idx++\n }\n if (result.size >
this.size) result[this.size] = null\n\n return result as Array<T>\n }

\n override fun toArray(): Array<Any?>
{\n return toArray(arrayOfNulls(size))\n }\n\n /**\n * Creates a new ring buffer with the capacity equal to
the minimum of [maxCapacity] and 1.5 * [capacity].\n * The returned ring buffer contains the same elements as
this ring buffer.\n */\n fun expanded(maxCapacity: Int): RingBuffer<T> {\n val newCapacity = (capacity +
(capacity shr 1) + 1).coerceAtMost(maxCapacity)\n val newBuffer = if (startIndex == 0)
buffer.copyOf(newCapacity) else toArray(arrayOfNulls(newCapacity))\n return RingBuffer(newBuffer, size)\n
}\n\n /**\n * Add [element] to the buffer or fail with [IllegalStateException] if no free space available in the
buffer\n */\n fun add(element: T) {\n if (isFull()) {\n throw IllegalStateException("ring buffer is
full")\n }\n\n buffer[startIndex.forward(size)] = element\n size++\n }\n\n /**\n * Removes [n]
first elements from the buffer or fails with [IllegalArgumentException] if not enough elements in the buffer to
remove\n */\n fun removeFirst(n: Int) {\n require(n >= 0) { "\n shouldn't be negative but it is $n" }\n
require(n <= size) { "\n shouldn't be greater than the buffer size: n = $n, size = $size" }\n\n if (n > 0) {\n
val start = startIndex\n val end = start.forward(n)\n\n if (start > end) {\n buffer.fill(null, start,
capacity)\n buffer.fill(null, 0, end)\n } else {\n buffer.fill(null, start, end)\n }\n
startIndex = end\n size -= n\n }\n }\n\n\n @Suppress("NOTHING_TO_INLINE")\n private
inline fun Int.forward(n: Int): Int = (this + n) % capacity\n}\n\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n// UByteArray

```

```

=====\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UByteArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: UByteArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index
- 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n//
UShortArray

```

```

=====\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UShortArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: UShortArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left <
index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n//
UIntArray

```

```

=====\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UIntArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: UIntArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index
- 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n//
ULongArray

```

```

=====\n@Exp

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```

experimentalUnsignedTypes\nprivate fun partition(\n array: ULongArray, left: Int, right: Int): Int {\n var i = left\n var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun\nquickSort(\n array: ULongArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index\n - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n\n//

```

Interfaces

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=====\/n\/**\n
* Sorts the given array using qsort algorithm.\n *\/n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:\nUByteArray) = quickSort(array, 0, array.size - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:\nUShortArray) = quickSort(array, 0, array.size - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:\nUIntArray) = quickSort(array, 0, array.size - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:\nULongArray) = quickSort(array, 0, array.size - 1)","\/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin\nProgramming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be\nfound in the license/LICENSE.txt file.\n *\/n\npackage kotlin.contracts\n\nimport\nkotlin.internal.ContractsDsl\nimport kotlin.internal.InlineOnly\n\n\/**\n * This marker distinguishes the\nexperimental contract declaration API and is used to opt-in for that feature\n * when declaring contracts of user\nfunctions.\n *\/n\n * Any usage of a declaration annotated with `@ExperimentalContracts` must be accepted either\nby\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalContracts::class)`,\n * or by\nusing the compiler argument `-Xopt-in=kotlin.contracts.ExperimentalContracts`.\n\n*\/n\n@Suppress("DEPRECATION")\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n@Ex\nperimental\n@RequiresOptIn\n@MustBeDocumented\npublic annotation class ExperimentalContracts\n\n\/**\n * Provides a scope, where the functions of the contract DSL, such as [returns], [callsInPlace], etc.,\n * can be used to\ndescribe the contract of a function.\n *\/n\n * This type is used as a receiver type of the lambda function passed to the\n[contract] function.\n *\/n\n * @see contract\n\n*\/n\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin("1.3")\npublic interface ContractBuilder {\n \/**\n * Describes a situation when a function returns normally, without any exceptions thrown.\n *\/n\n * Use\n[SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n *\/n\n *\/n\n //\n @sample samples.contracts.returnsContract\n @ContractsDsl public fun returns(): Returns\n\n \/**\n * Describes a situation when a function returns normally with the specified return [value].\n *\/n\n * The possible\nvalues of [value] are limited to `true`, `false` or `null`.\n *\/n\n * Use [SimpleEffect.implies] function to describe a\nconditional effect that happens in such case.\n *\/n\n *\/n\n // @sample samples.contracts.returnsTrueContract\n // @sample samples.contracts.returnsFalseContract\n // @sample samples.contracts.returnsNullContract\n @ContractsDsl public fun returns(value: Any?): Returns\n\n \/**\n * Describes a situation when a function\nreturns normally with any value that is not `null`.\n *\/n\n * Use [SimpleEffect.implies] function to describe a\nconditional effect that happens in such case.\n *\/n\n *\/n\n // @sample\nsamples.contracts.returnsNotNullContract\n @ContractsDsl public fun returnsNotNull(): ReturnsNotNull\n\n \/**\n * Specifies that the function parameter [lambda] is invoked in place.\n *\/n\n * This contract specifies\nthat:\n * 1. the function [lambda] can only be invoked during the call of the owner function,\n * and it won't be\ninvoked after that owner function call is completed;\n * 2. _(optionally)_ the function [lambda] is invoked the\namount of times specified by the [kind] parameter,\n * see the [InvocationKind] enum for possible values.\n *\/n\n * A function declaring the `callsInPlace` effect must be _inline_.\n *\/n\n *\/n\n // @sample\nsamples.contracts.callsInPlaceAtMostOnceContract\n * @sample\nsamples.contracts.callsInPlaceAtLeastOnceContract\n * @sample\nsamples.contracts.callsInPlaceExactlyOnceContract\n * @sample\nsamples.contracts.callsInPlaceUnknownContract\n\n *\/n\n @ContractsDsl public fun <R> callsInPlace(lambda:\nFunction<R>, kind: InvocationKind = InvocationKind.UNKNOWN): CallsInPlace\n}\n\n\n\/**\n * Specifies how\nmany times a function invokes its function parameter in place.\n *\/n\n * See [ContractBuilder.callsInPlace] for the

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details of the call-in-place function contract.\n

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*\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin("1.3")\npublic enum class InvocationKind {\n/**\n * A function parameter will be invoked one time or not invoked at all.\n */\n // @sample\n samples.contracts.callsInPlaceAtMostOnceContract\n @ContractsDsl AT_MOST_ONCE,\n /**\n * A function parameter will be invoked one or more times.\n */\n // @sample\n samples.contracts.callsInPlaceAtLeastOnceContract\n @ContractsDsl AT_LEAST_ONCE,\n /**\n * A function parameter will be invoked exactly one time.\n */\n // @sample\n samples.contracts.callsInPlaceExactlyOnceContract\n @ContractsDsl EXACTLY_ONCE,\n /**\n * A function parameter is called in place, but it's unknown how many times it can be called.\n */\n // @sample\n samples.contracts.callsInPlaceUnknownContract\n @ContractsDsl UNKNOWN\n}\n/**\n * Specifies the contract of a function.\n */\n * The contract description must be at the beginning of a function and have at least one effect.\n */\n * Only the top-level functions can have a contract for now.\n */\n * @param builder the lambda where the contract of a function is described with the help of the [ContractBuilder] members.\n */\n // @sample\n samples.contracts.returnsContract\n * @sample\n samples.contracts.returnsTrueContract\n * @sample\n samples.contracts.returnsFalseContract\n * @sample\n samples.contracts.returnsNullContract\n * @sample\n samples.contracts.returnsNotNullContract\n * @sample\n samples.contracts.callsInPlaceAtMostOnceContract\n * @sample\n samples.contracts.callsInPlaceAtLeastOnceContract\n * @sample\n samples.contracts.callsInPlaceExactlyOnceContract\n * @sample\n samples.contracts.callsInPlaceUnknownContract\n *\n@ContractsDsl\n@ExperimentalContracts\n@InlineOnly\n@SinceKotlin("1.3")\n@Suppress("UNUSED_PARAMETER")\npublic inline fun contract(builder: ContractBuilder.() -> Unit) { }\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n/**\n * Marks coroutine context element that intercepts coroutine continuations.\n * The coroutines framework uses [ContinuationInterceptor.Key] to retrieve the interceptor and\n * intercepts all coroutine continuations with [interceptContinuation] invocations.\n */\n * [ContinuationInterceptor] behaves like a [polymorphic element][AbstractCoroutineContextKey], meaning that\n * its implementation delegates [get][CoroutineContext.Element.get] and [minusKey][CoroutineContext.Element.minusKey]\n * to [getPolymorphicElement] and [minusPolymorphicKey] respectively.\n * [ContinuationInterceptor] subtypes can be extracted from the coroutine context using either [ContinuationInterceptor.Key]\n * or subtype key if it extends [AbstractCoroutineContextKey].\n *\n@SinceKotlin("1.3")\npublic interface ContinuationInterceptor : CoroutineContext.Element {\n /**\n * The key that defines the context interceptor.\n */\n companion object Key : CoroutineContext.Key<ContinuationInterceptor>\n /**\n * Returns continuation that wraps the original [continuation], thus intercepting all resumptions.\n * This function is invoked by coroutines framework when needed and the resulting continuations are\n * cached internally per each instance of the original [continuation].\n */\n * This function may simply return original [continuation] if it does not want to intercept this particular continuation.\n */\n * When the original [continuation] completes, coroutine framework invokes [releaseInterceptedContinuation]\n * with the resulting continuation if it was intercepted, that is if `interceptContinuation` had previously\n * returned a different continuation instance.\n */\n public fun <T> interceptContinuation(continuation: Continuation<T>): Continuation<T>\n /**\n * Invoked for the continuation instance returned by [interceptContinuation] when the original\n * continuation completes and will not be used anymore. This function is invoked only if [interceptContinuation]\n * had returned a different continuation instance from the one it was invoked with.\n */\n * Default implementation does nothing.\n */\n * @param continuation Continuation instance returned by this interceptor's [interceptContinuation] invocation.\n */\n public fun releaseInterceptedContinuation(continuation: Continuation<*>) {\n /* do nothing by default */\n }\n\n public override operator fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>): E? {\n // getPolymorphicKey specialized for ContinuationInterceptor key\n @OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n
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@Suppress("UNCHECKED_CAST")\n return if (key.isSubKey(this.key)) key.tryCast(this) as? E else
null\n }\n @Suppress("UNCHECKED_CAST")\n return if (ContinuationInterceptor === key) this as
E else null\n }\n\n public override fun minusKey(key: CoroutineContext.Key<*>): CoroutineContext {\n
// minusPolymorphicKey specialized for ContinuationInterceptor key\n
@OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if
(key.isSubKey(this.key) && key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if
(ContinuationInterceptor === key) EmptyCoroutineContext else this\n }\n}\n"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\n/**\n *
Persistent context for the coroutine. It is an indexed set of [Element] instances.\n * An indexed set is a mix between
a set and a map.\n * Every element in this set has a unique [Key].\n */\n@SinceKotlin("1.3")\npublic interface
CoroutineContext {\n /**\n * Returns the element with the given [key] from this context or `null`.\n */\n public operator fun <E : Element> get(key: Key<E>): E?\n /**\n * Accumulates entries of this context
starting with [initial] value and applying [operation]\n * from left to right to current accumulator value and each
element of this context.\n */\n public fun <R> fold(initial: R, operation: (R, Element) -> R): R\n /**\n *
Returns a context containing elements from this context and elements from other [context].\n * The elements
from this context with the same key as in the other one are dropped.\n */\n public operator fun plus(context:
CoroutineContext): CoroutineContext =\n if (context === EmptyCoroutineContext) this else // fast path -- avoid
lambda creation\n context.fold(this) { acc, element ->\n val removed =
acc.minusKey(element.key)\n if (removed === EmptyCoroutineContext) element else {\n //
make sure interceptor is always last in the context (and thus is fast to get when present)\n val interceptor
= removed[ContinuationInterceptor]\n if (interceptor == null) CombinedContext(removed, element) else
{\n val left = removed.minusKey(ContinuationInterceptor)\n if (left ===
EmptyCoroutineContext) CombinedContext(element, interceptor) else\n CombinedContext(CombinedContext(left, element), interceptor)\n }\n }\n }\n /**\n * Returns a context containing elements from this context, but without an element with\n * the specified [key].\n */\n public fun minusKey(key: Key<*>): CoroutineContext\n /**\n * Key for the elements of
[CoroutineContext]. [E] is a type of element with this key.\n */\n public interface Key<E : Element>\n /**\n * An element of the [CoroutineContext]. An element of the coroutine context is a singleton context by itself.\n */\n public interface Element : CoroutineContext {\n /**\n * A key of this coroutine context element.\n */\n public val key: Key<*>\n public override operator fun <E : Element> get(key: Key<E>): E? =\n @Suppress("UNCHECKED_CAST")\n if (this.key == key) this as E else null\n public override
fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n operation(initial, this)\n public override
fun minusKey(key: Key<*>): CoroutineContext =\n if (this.key == key) EmptyCoroutineContext else this\n }\n}\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.coroutines.CoroutineContext.Element\n\nimport
kotlin.coroutines.CoroutineContext.Key\n\n/**\n * Base class for [CoroutineContext.Element] implementations.\n */\n@SinceKotlin("1.3")\npublic abstract class AbstractCoroutineContextElement(public override val key:
Key<*>) : Element\n\n/**\n * Base class for [CoroutineContext.Key] associated with polymorphic
[CoroutineContext.Element] implementation.\n * Polymorphic element implementation implies delegating its
[get][Element.get] and [minusKey][Element.minusKey]\n * to [getPolymorphicElement] and
[minusPolymorphicKey] respectively.\n */\n * Polymorphic elements can be extracted from the coroutine context
using both element key and its supertype key.\n * Example of polymorphic elements:\n * ```\n * open class
BaseElement : CoroutineContext.Element {\n * companion object Key : CoroutineContext.Key<BaseElement>\n *
override val key: CoroutineContext.Key<*> get() = Key\n * // It is important to use getPolymorphicKey and
minusPolymorphicKey\n * override fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):
E? = getPolymorphicElement(key)\n * override fun minusKey(key: CoroutineContext.Key<*>):

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CoroutineContext = minusPolymorphicKey(key)\n * }\n *\n * class DerivedElement : BaseElement() {\n *
companion object Key : AbstractCoroutineContextKey<BaseElement, DerivedElement>(BaseElement, { it as?
DerivedElement })\n * }\n * // Now it is possible to query both `BaseElement` and `DerivedElement`\n *
someContext[BaseElement] // Returns BaseElement?, non-null both for BaseElement and DerivedElement
instances\n * someContext[DerivedElement] // Returns DerivedElement?, non-null only for DerivedElement
instance\n * ```\n * @param B base class of a polymorphic element\n * @param baseKey an instance of base key\n
* @param E element type associated with the current key\n * @param safeCast a function that can safely cast
abstract [CoroutineContext.Element] to the concrete [E] type\n * and return the element if it is a subtype
of [E] or `null` otherwise.\n *\n *@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic abstract class
AbstractCoroutineContextKey<B : Element, E : B>(\n baseKey: Key,\n private val safeCast: (element:
Element) -> E?)\n) : Key<E> {\n private val topmostKey: Key<*> = if (baseKey is
AbstractCoroutineContextKey<*, *>) baseKey.topmostKey else baseKey\n\n internal fun tryCast(element:
Element): E? = safeCast(element)\n internal fun isSubKey(key: Key<*>): Boolean = key === this || topmostKey
=== key\n}\n\n/**\n * Returns the current element if it is associated with the given [key] in a polymorphic manner
or `null` otherwise.\n * This method returns non-null value if either [Element.key] is equal to the given [key] or if
the [key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See
[AbstractCoroutineContextKey] for the example of usage.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <E : Element>
Element.getPolymorphicElement(key: Key<E>): E? {\n if (key is AbstractCoroutineContextKey<*, *>) {\n
@Suppress("UNCHECKED_CAST")\n return if (key.isSubKey(this.key)) key.tryCast(this) as? E else null\n
}\n @Suppress("UNCHECKED_CAST")\n return if (this.key === key) this as E else null\n}\n\n/**\n * Returns empty coroutine context if the element is associated with the given [key] in a polymorphic manner\n * or
`null` otherwise.\n * This method returns empty context if either [Element.key] is equal to the given [key] or if the
[key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See
[AbstractCoroutineContextKey] for the example of usage.\n
\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun Element.minusPolymorphicKey(key: Key<>):
CoroutineContext {\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if (key.isSubKey(this.key)
&& key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if (this.key === key)
EmptyCoroutineContext else this\n}\n\n/**\n * An empty coroutine context.\n *\n@SinceKotlin("1.3")\npublic
object EmptyCoroutineContext : CoroutineContext, Serializable {\n private const val serialVersionUID: Long =
0\n private fun readResolve(): Any = EmptyCoroutineContext\n\n public override fun <E : Element> get(key:
Key<E>): E? = null\n public override fun <R> fold(initial: R, operation: (R, Element) -> R): R = initial\n
public override fun plus(context: CoroutineContext): CoroutineContext = context\n public override fun minusKey(key:
Key<*>): CoroutineContext = this\n public override fun hashCode(): Int = 0\n public override fun toString():
String = "EmptyCoroutineContext"\n}\n\n//----- internal impl ----- \n\n// this class is not
exposed, but is hidden inside implementations\n// this is a left-biased list, so that `plus` works
naturally\n@SinceKotlin("1.3")\ninternal class CombinedContext(\n private val left: CoroutineContext,\n
private val element: Element)\n) : CoroutineContext, Serializable {\n\n override fun <E : Element> get(key:
Key<E>): E? {\n var cur = this\n while (true) {\n cur.element[key]?.let { return it }\n val next
= cur.left\n if (next is CombinedContext) {\n cur = next\n } else {\n return
next[key]\n }\n }\n\n public override fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n
operation(left.fold(initial, operation), element)\n\n public override fun minusKey(key: Key<*>):
CoroutineContext {\n element[key]?.let { return left }\n val newLeft = left.minusKey(key)\n return
when {\n newLeft === left -> this\n newLeft === EmptyCoroutineContext -> element\n else ->
CombinedContext(newLeft, element)\n }\n }\n\n private fun size(): Int {\n var cur = this\n var size
= 2\n while (true) {\n cur = cur.left as? CombinedContext?: return size\n size++\n }\n }\n\n private fun
contains(element: Element): Boolean =\n get(element.key) == element\n\n private fun
containsAll(context: CombinedContext): Boolean {\n var cur = context\n while (true) {\n if

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(!contains(cur.element)) return false\n val next = cur.left\n if (next is CombinedContext) {\n
cur = next\n } else {\n return contains(next as Element)\n }\n }\n\n override fun
equals(other: Any?): Boolean =\n this === other || other is CombinedContext && other.size() == size() &&
other.containsAll(this)\n\n override fun hashCode(): Int = left.hashCode() + element.hashCode()\n\n override
fun toString(): String =\n "[" + fold("") { acc, element ->\n if (acc.isEmpty()) element.toString() else
"$acc, $element"\n } + "]\n\n private fun writeReplace(): Any {\n val n = size()\n val elements =
arrayOfNulls<CoroutineContext>(n)\n var index = 0\n fold(Unit) { _, element -> elements[index++] =
element }\n check(index == n)\n @Suppress("UNCHECKED_CAST")\n return Serialized(elements
as Array<CoroutineContext>)\n }\n\n private class Serialized(val elements: Array<CoroutineContext>) :
Serializable {\n companion object {\n private const val serialVersionUID: Long = 0L\n }\n\n private fun readResolve(): Any = elements.fold(EmptyCoroutineContext, CoroutineContext::plus)\n }\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("IntrinsicsKt")\n@file:kotlin.jvm.JvmMultifileClass\n@package
kotlin.coroutines.intrinsics\n\nimport kotlin.coroutines.*\nimport kotlin.internal.InlineOnly\n\n/*\n * Obtains the
current continuation instance inside suspend functions and either suspends\n * currently running coroutine or returns
result immediately without suspension.\n *\n * If the [block] returns the special [COROUTINE_SUSPENDED]
value, it means that suspend function did suspend the execution and will\n * not return any result immediately. In
this case, the [Continuation] provided to the [block] shall be\n * resumed by invoking [Continuation.resumeWith] at
some moment in the\n * future when the result becomes available to resume the computation.\n *\n * Otherwise, the
return value of the [block] must have a type assignable to [T] and represents the result of this suspend function.\n *
It means that the execution was not suspended and the [Continuation] provided to the [block] shall not be invoked.\n
*\n * As the result type of the [block] is declared as `Any?` and cannot be correctly type-checked,\n * its proper return
type remains on the conscience of the suspend function's author.\n *\n * Invocation of [Continuation.resumeWith]
resumes coroutine directly in the invoker's thread without going through the\n * [ContinuationInterceptor] that might
be present in the coroutine's [CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper
invocation context is established.\n * [Continuation.intercepted] can be used to acquire the intercepted
continuation.\n *\n * Note that it is not recommended to call either [Continuation.resume] nor
[Continuation.resumeWithException] functions synchronously\n * in the same stackframe where suspension
function is run. Use [suspendCoroutine] as a safer way to obtain current\n * continuation instance.\n
*/\n\n@SinceKotlin("1.3")\n@InlineOnly\n@Suppress("UNUSED_PARAMETER",
"RedundantSuspendModifier")\npublic suspend inline fun <T>
suspendCoroutineUninterceptedOrReturn(crossinline block: (Continuation<T>) -> Any?): T =\n throw
NotImplementedError("Implementation of suspendCoroutineUninterceptedOrReturn is intrinsic")\n\n/*\n * This
value is used as a return value of [suspendCoroutineUninterceptedOrReturn] `block` argument to state that\n * the
execution was suspended and will not return any result immediately.\n *\n * **Note: this value should not be used
in general code.** Using it outside of the context of\n * `suspendCoroutineUninterceptedOrReturn` function return
value (including, but not limited to,\n * storing this value in other properties, returning it from other functions,
etc)\n * can lead to unspecified behavior of the code.\n */\n\n// It is implemented as property with getter to avoid
ProGuard <clinit> problem with multifile IntrinsicsKt class\n@SinceKotlin("1.3")\npublic val
COROUTINE_SUSPENDED: Any get() = CoroutineSingletons.COROUTINE_SUSPENDED\n\n// Using enum
here ensures two important properties:\n// 1. It makes SafeContinuation serializable with all kinds of serialization
frameworks (since all of them natively support enums)\n// 2. It improves debugging experience, since you clearly
see toString() value of those objects and what package they come from\n@SinceKotlin("1.3")\n@PublishedApi //
This class is Published API via serialized representation of SafeContinuation, don't rename/move\ninternal enum
class CoroutineSingletons { COROUTINE_SUSPENDED, UNDECIDED, RESUMED }\n"/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage

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kotlin.experimental\n\n/\*\* Performs a bitwise AND operation between the two values.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.and(other: Byte): Byte = (this.toInt() and other.toInt()).toByte()\n\n/\*\* Performs a bitwise OR operation between the two values.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.or(other: Byte): Byte = (this.toInt() or other.toInt()).toByte()\n\n/\*\* Performs a bitwise XOR operation between the two values.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.xor(other: Byte): Byte = (this.toInt() xor other.toInt()).toByte()\n\n/\*\* Inverts the bits in this value.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.inv(): Byte = (this.toInt().inv()).toByte()\n\n/\*\* Performs a bitwise AND operation between the two values.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.and(other: Short): Short = (this.toInt() and other.toInt()).toShort()\n\n/\*\* Performs a bitwise OR operation between the two values.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.or(other: Short): Short = (this.toInt() or other.toInt()).toShort()\n\n/\*\* Performs a bitwise XOR operation between the two values.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.xor(other: Short): Short = (this.toInt() xor other.toInt()).toShort()\n\n/\*\* Inverts the bits in this value.

\*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Short.inv(): Short = (this.toInt().inv()).toShort()\n\n", "/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\npackage kotlin.experimental\n\n/\*\*\n \* The experimental marker for type inference augmenting annotations.\n \* Any usage of a declaration annotated with `@ExperimentalTypeInference` must be accepted either by\n \* annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalTypeInference::class)`,\n \* or by using the compiler argument `-Xopt-in=kotlin.experimental.ExperimentalTypeInference`.\n \*/\n@Suppress("DEPRECATION")\n@Experimental(level = Experimental.Level.ERROR)\n@RequiresOptIn(level = RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(AnotationTarget.ANNOTATION\_CLASS)\n@SinceKotlin("1.3")\npublic annotation class ExperimentalTypeInference\n", "/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\npackage kotlin.internal\n\n/\*\*\n \* Specifies that the corresponding type should be ignored during type inference.\n \*/\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class NoInfer\n\n/\*\*\n \* Specifies that the constraint built for the type during type inference should be an equality one.\n \*/\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class Exact\n\n/\*\*\n \* Specifies that a corresponding member has the lowest priority in overload resolution.\n \*/\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class LowPriorityInOverloadResolution\n\n/\*\*\n \* Specifies that the corresponding member has the highest priority in overload resolution. Effectively this means that\n \* an extension annotated with this annotation will win in overload resolution over a member with the same signature.\n \*/\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class HidesMembers\n\n/\*\*\n \* The value of this type parameter should be mentioned in input types (argument types, receiver type or expected type).\n \*/\n@Target(AnnotationTarget.TYPE\_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class OnlyInputTypes\n\n/\*\*\n \* Specifies that this function should not be called directly without inlining\n \*/\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.PROPERTY\_GETTER, AnnotationTarget.PROPERTY\_SETTER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class InlineOnly\n\n/\*\*\n \* Specifies that this declaration can have dynamic receiver type.\n \*/\n

```

*\/n@Target(AnnotationTarget.FUNCTION,
AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
DynamicExtension\n\n/**\n * The value of this parameter should be a property reference expression (`this::foo`),
referencing a `lateinit` property,\n * the backing field of which is accessible at the point where the corresponding
argument is passed.\n
*\/n@Target(AnnotationTarget.VALUE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\n@SinceK
otlin("1.2")\ninternal annotation class AccessibleLateinitPropertyLiteral\n\n/**\n * Specifies that this declaration is
only completely supported since the specified version.\n *\n * The Kotlin compiler of an earlier version is going to
report a diagnostic on usages of this declaration.\n * The diagnostic message can be specified with [message], or via
[errorCode] (takes less space, but might not be immediately clear\n * to the user). The diagnostic severity can be
specified with [level]: WARNING/ERROR mean that either a warning or an error\n * is going to be reported,
HIDDEN means that the declaration is going to be removed from resolution completely.\n *\n * [versionKind]
specifies which version should be compared with the [version] value, when compiling the usage of the annotated
declaration.\n * Note that prior to 1.2, only [RequireKotlinVersionKind.LANGUAGE_VERSION] was supported,
so the Kotlin compiler before 1.2 is going to\n * treat any [RequireKotlin] as if it requires the language version.
Since 1.2, the Kotlin compiler supports\n * [RequireKotlinVersionKind.LANGUAGE_VERSION],
[RequireKotlinVersionKind.COMPILER_VERSION] and [RequireKotlinVersionKind.API_VERSION].\n * If the
actual value of [versionKind] is something different (e.g. a new version kind, added in future versions of Kotlin),\n *
Kotlin 1.2 is going to ignore this [RequireKotlin] altogether, where as Kotlin before 1.2 is going to treat this as a
requirement\n * on the language version.\n *\n * This annotation is erased at compile time; its arguments are stored
in a more compact form in the Kotlin metadata.\n
*\/n@Target(AnnotationTarget.CLASS,
AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.CONSTRUCTOR,
AnnotationTarget.TYPEALIAS)\n@Retention(AnnotationRetention.SOURCE)\n@Repeatable\n@SinceKotlin("1.
2")\ninternal annotation class RequireKotlin(\n val version: String,\n val message: String = "",\n val level:
DeprecationLevel = DeprecationLevel.ERROR,\n val versionKind: RequireKotlinVersionKind =
RequireKotlinVersionKind.LANGUAGE_VERSION,\n val errorCode: Int = -1)\n\n/**\n * The kind of the
version that is required by [RequireKotlin].\n
*\/n@SinceKotlin("1.2")\ninternal enum class
RequireKotlinVersionKind {\n LANGUAGE_VERSION,\n COMPILER_VERSION,\n
API_VERSION,\n}\n\n/**\n * Specifies that this declaration is a part of special DSL, used for constructing
function's contract.\n
*\/n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.2")\ninternal annotation
class ContractsDsl\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\/n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Standard
property delegates.\n
*\/n\npublic object Delegates {\n /**\n * Returns a property delegate for a read/write
property with a non-`null` value that is initialized not during\n * object construction time but at a later time.
Trying to read the property before the initial value has been\n * assigned results in an exception.\n *\n *
@sample samples.properties.Delegates.notNullDelegate\n */\n public fun <T : Any> notNull():
ReadWriteProperty<Any?, T> = NotNullVar()\n /**\n * Returns a property delegate for a read/write property
that calls a specified callback function when changed.\n * @param initialValue the initial value of the property.\n
 * @param onChange the callback which is called after the change of the property is made. The value of the
property\n * has already been changed when this callback is invoked.\n *\n * @sample
samples.properties.Delegates.observableDelegate\n */\n public inline fun <T> observable(initialValue: T,
crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Unit):\n
ReadWriteProperty<Any?, T> =\n object : ObservableProperty<T>(initialValue) {\n override fun
afterChange(property: KProperty<*>, oldValue: T, newValue: T) = onChange(property, oldValue, newValue)\n
 }\n /**\n * Returns a property delegate for a read/write property that calls a specified callback function when
changed,\n * allowing the callback to veto the modification.\n * @param initialValue the initial value of the
property.\n * @param onChange the callback which is called before a change to the property value is attempted.\n
}

```

```

 * The value of the property hasn't been changed yet, when this callback is invoked.\n
 * If the callback returns `true` the value of the property is being set to the new value,\n
 * and if the callback returns `false` the new value is discarded and the property remains its old value.\n
 * \n
 * @sample\n
 samples.properties.Delegates.vetoableDelegate\n
 * @sample\n
 samples.properties.Delegates.throwVetoableDelegate\n
 * \n
 public inline fun <T> vetoable(initialValue: T, crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Boolean):\n
 ReadWriteProperty<Any?, T> =\n
 object : ObservableProperty<T>(initialValue) {\n
 override fun beforeChange(property: KProperty<*>, oldValue: T, newValue: T): Boolean = onChange(property, oldValue, newValue)\n
 }\n
 }\n
 \n
 private class NotNullVar<T : Any>(): ReadWriteProperty<Any?, T> {\n
 private var value: T? = null\n
 public override fun getValue(thisRef: Any?, property: KProperty<*>): T {\n
 return value ?: throw IllegalStateException("\nProperty ${property.name} should be initialized before get.")\n
 }\n
 public override fun setValue(thisRef: Any?, property: KProperty<*>, value: T) {\n
 this.value = value\n
 }\n
 }\n
 "\n" /*\n
 * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
 */\n
 \n
 package kotlin.properties\n
 \n
 import kotlin.reflect.KProperty\n
 \n
 /**\n
 * Implements the core logic of a property delegate for a read/write property that calls callback functions when changed.\n
 * @param initialValue the initial value of the property.\n
 */\n
 public abstract class ObservableProperty<T>(initialValue: T) : ReadWriteProperty<Any?, T> {\n
 private var value = initialValue\n
 /**\n
 * The callback which is called before a change to the property value is attempted.\n
 * The value of the property hasn't been changed yet, when this callback is invoked.\n
 * If the callback returns `true` the value of the property is being set to the new value,\n
 * and if the callback returns `false` the new value is discarded and the property remains its old value.\n
 */\n
 protected open fun beforeChange(property: KProperty<*>, oldValue: T, newValue: T): Boolean = true\n
 /**\n
 * The callback which is called after the change of the property is made. The value of the property\n
 * has already been changed when this callback is invoked.\n
 */\n
 protected open fun afterChange(property: KProperty<*>, oldValue: T, newValue: T): Unit {} \n
 public override fun getValue(thisRef: Any?, property: KProperty<*>): T {\n
 return value\n
 }\n
 public override fun setValue(thisRef: Any?, property: KProperty<*>, value: T) {\n
 val oldValue = this.value\n
 if (!beforeChange(property, oldValue, value)) {\n
 return\n
 }\n
 this.value = value\n
 afterChange(property, oldValue, value)\n
 }\n
 "\n" /*\n
 * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
 */\n
 \n
 package kotlin.random\n
 \n
 import kotlin.math.nextDown\n
 \n
 /**\n
 * An abstract class that is implemented by random number generator algorithms.\n
 */\n
 * The companion object [Random.Default] is the default instance of [Random].\n
 * \n
 * To get a seeded instance of random generator use [Random] function.\n
 * \n
 * @sample samples.random.Randoms.defaultRandom\n
 */\n
 @SinceKotlin("1.3")\n
 public abstract class Random {\n
 /**\n
 * Gets the next random [bitCount] number of bits.\n
 * \n
 * Generates an `Int` whose lower [bitCount] bits are filled with random values and the remaining upper bits are zero.\n
 * \n
 * @param bitCount number of bits to generate, must be in range 0..32, otherwise the behavior is unspecified.\n
 */\n
 public abstract fun nextBits(bitCount: Int): Int\n
 /**\n
 * Gets the next random `Int` from the random number generator.\n
 * \n
 * Generates an `Int` random value uniformly distributed between `Int.MIN_VALUE` and `Int.MAX_VALUE` (inclusive).\n
 */\n
 public open fun nextInt(): Int = nextBits(32)\n
 /**\n
 * Gets the next random non-negative `Int` from the random number generator less than the specified [until] bound.\n
 * \n
 * Generates an `Int` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n
 * \n
 * @param until must be positive.\n
 * \n
 * @throws IllegalArgumentException if [until] is negative or zero.\n
 */\n
 public open fun nextInt(until: Int): Int = nextInt(0, until)\n
 /**\n
 * Gets the next random `Int` from the random number generator in the specified range.\n
 * \n
 * Generates an `Int` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n
 * \n
 * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n
 */\n
 public open fun nextInt(from: Int, until: Int): Int {\n
 checkRangeBounds(from, until)\n
 val n = until - from\n
 if (n > 0 || n == Int.MIN_VALUE) {\n
 val rnd = if (n and -n == n) {\n
 val

```

```

bitCount = fastLog2(n)\n nextBits(bitCount)\n } else {\n var v: Int\n do {\n val bits = nextInt().ushr(1)\n v = bits % n\n } while (bits - v + (n - 1) < 0)\n v\n }\n return from + rnd\n } else {\n while (true) {\n val rnd = nextInt()\n if\n (rnd in from until until) return rnd\n }\n }\n /**\n * Gets the next random `Long` from the\n random number generator.\n *\n * Generates a `Long` random value uniformly distributed between\n `Long.MIN_VALUE` and `Long.MAX_VALUE` (inclusive).\n */\n public open fun nextLong(): Long =\nnextInt().toLong().shl(32) + nextInt()\n /**\n * Gets the next random non-negative `Long` from the random\n number generator less than the specified [until] bound.\n *\n * Generates a `Long` random value uniformly\n distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @param until must be\n positive.\n *\n * @throws IllegalArgumentException if [until] is negative or zero.\n */\n public open fun\nnextLong(until: Long): Long = nextLong(0, until)\n /**\n * Gets the next random `Long` from the random\n number generator in the specified range.\n *\n * Generates a `Long` random value uniformly distributed\n between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws\n IllegalArgumentException if [from] is greater than or equal to [until].\n */\n public open fun nextLong(from:\nLong, until: Long): Long {\n checkRangeBounds(from, until)\n val n = until - from\n if (n > 0) {\n val rnd: Long\n if (n and -n == n) {\n val nLow = n.toInt()\n val nHigh = (n ushr\n32).toInt()\n rnd = when {\n nLow != 0 -> {\n val bitCount = fastLog2(nLow)\n // toUInt().toLong()\n nextBits(bitCount).toLong() and 0xFFFF_FFFF\n }\n nHigh == 1 ->{\n // toUInt().toLong()\n nextInt().toLong() and\n0xFFFF_FFFF\n }\n else -> {\n val bitCount = fastLog2(nHigh)\n nextBits(bitCount).toLong().shl(32) + nextInt()\n }\n }\n } else {\n var v:\nLong\n do {\n val bits = nextLong().ushr(1)\n v = bits % n\n } while (bits\n- v + (n - 1) < 0)\n rnd = v\n }\n return from + rnd\n } else {\n while (true) {\n val rnd = nextLong()\n if (rnd in from until until) return rnd\n }\n }\n }\n /**\n * Gets the next random [Boolean] value.\n */\n public open fun nextBoolean(): Boolean = nextBits(1) != 0\n /**\n * Gets the next random [Double] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n */\n *\n public open fun nextDouble(): Double = doubleFromParts(nextBits(26), nextBits(27))\n /**\n * Gets\n the next random non-negative `Double` from the random number generator less than the specified [until] bound.\n *\n * Generates a `Double` random value uniformly distributed between 0 (inclusive) and [until] (exclusive).\n *\n * @throws IllegalArgumentException if [until] is negative or zero.\n */\n public open fun\nnextDouble(until: Double): Double = nextDouble(0.0, until)\n /**\n * Gets the next random `Double` from\n the random number generator in the specified range.\n *\n * Generates a `Double` random value uniformly\n distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * [from] and [until]\n must be finite otherwise the behavior is unspecified.\n *\n * @throws IllegalArgumentException if [from] is\n greater than or equal to [until].\n */\n public open fun nextDouble(from: Double, until: Double): Double {\n checkRangeBounds(from, until)\n val size = until - from\n val r = if (size.isInfinite() && from.isFinite()\n&& until.isFinite()) {\n val r1 = nextDouble() * (until / 2 - from / 2)\n from + r1 + r1\n } else {\n from + nextDouble() * size\n }\n return if (r >= until) until.nextDown() else r\n }\n /**\n * Gets the next random [Float] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n */\n public\n open fun nextFloat(): Float = nextBits(24) / (1 shl 24).toFloat()\n /**\n * Fills a subrange of the specified byte\n [array] starting from [fromIndex] inclusive and ending [toIndex] exclusive\n * with random bytes.\n *\n * @return [array] with the subrange filled with random bytes.\n */\n public open fun nextBytes(array: ByteArray,\nfromIndex: Int = 0, toIndex: Int = array.size): ByteArray {\n require(fromIndex in 0..array.size && toIndex in\n0..array.size) {\n \"fromIndex ($fromIndex) or toIndex ($toIndex) are out of range: 0..${array.size}.\"\n }\n require(fromIndex <= toIndex) {\n \"fromIndex ($fromIndex) must be not greater than toIndex ($toIndex).\"\n }\n val steps = (toIndex - fromIndex) / 4\n var position = fromIndex\n repeat(steps) {\n val v =\nnextInt()\n array[position] = v.toByte()\n array[position + 1] = v.ushr(8).toByte()\n array[position + 2] = v.ushr(16).toByte()\n array[position + 3] = v.ushr(24).toByte()\n position += 4\n }\n }\n}

```

```

 }
 val remainder = toIndex - position
 val vr = nextBits(remainder * 8)
 for (i in 0 until remainder) {
 array[position + i] = vr.ushr(i * 8).toByte()
 }
 return array
}

/**
 * Fills the specified byte [array] with random bytes and returns it.
 * @return [array] filled with random bytes.
 */
public open fun nextBytes(array: ByteArray): ByteArray = nextBytes(array, 0, array.size)

/**
 * Creates a byte array of the specified [size], filled with random bytes.
 */
public open fun nextBytes(size: Int): ByteArray = nextBytes(ByteArray(size))

/**
 * The default random number generator.
 * On JVM this generator is thread-safe, its methods can be invoked from multiple threads.
 * @sample samples.random.Randoms.defaultRandom
 */
companion object Default : Random() {
 private val defaultRandom: Random = defaultPlatformRandom()
 override fun nextBits(bitCount: Int): Int = defaultRandom.nextBits(bitCount)
 override fun nextInt(): Int = defaultRandom.nextInt()
 override fun nextInt(until: Int): Int = defaultRandom.nextInt(until)
 override fun nextInt(from: Int, until: Int): Int = defaultRandom.nextInt(from, until)
 override fun nextLong(): Long = defaultRandom.nextLong()
 override fun nextLong(until: Long): Long = defaultRandom.nextLong(until)
 override fun nextLong(from: Long, until: Long): Long = defaultRandom.nextLong(from, until)
 override fun nextBoolean(): Boolean = defaultRandom.nextBoolean()
 override fun nextDouble(): Double = defaultRandom.nextDouble()
 override fun nextDouble(until: Double): Double = defaultRandom.nextDouble(until)
 override fun nextDouble(from: Double, until: Double): Double = defaultRandom.nextDouble(from, until)
 override fun nextFloat(): Float = defaultRandom.nextFloat()
 override fun nextBytes(array: ByteArray): ByteArray = defaultRandom.nextBytes(array)
 override fun nextBytes(size: Int): ByteArray = defaultRandom.nextBytes(size)
 override fun nextBytes(array: ByteArray, fromIndex: Int, toIndex: Int): ByteArray = defaultRandom.nextBytes(array, fromIndex, toIndex)
 @Deprecated("Use Default companion object instead", level = DeprecationLevel.HIDDEN)
 @Suppress("DEPRECATION_ERROR")
 @kotlin.jvm.JvmField
 public val Companion: Random.Companion = Random.Companion
}

/**
 * @Deprecated("Use Default companion object instead", level = DeprecationLevel.HIDDEN)
 * public object Companion : Random() {
 * override fun nextBits(bitCount: Int): Int = Default.nextBits(bitCount)
 * }
 */

/**
 * Returns a repeatable random number generator seeded with the given [seed] `Int` value.
 * Two generators with the same seed produce the same sequence of values within the same version of Kotlin runtime.
 * **Note:** Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return a sequence of values different from the current one for a given seed.
 * @sample samples.random.Randoms.seededRandom
 */
@SinceKotlin("1.3")
public fun Random(seed: Int): Random = XorWowRandom(seed, seed.shr(31))

/**
 * Returns a repeatable random number generator seeded with the given [seed] `Long` value.
 * Two generators with the same seed produce the same sequence of values within the same version of Kotlin runtime.
 * **Note:** Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return a sequence of values different from the current one for a given seed.
 * @sample samples.random.Randoms.seededRandom
 */
@SinceKotlin("1.3")
public fun Random(seed: Long): Random = XorWowRandom(seed.toInt(), seed.shr(32).toInt())

/**
 * Gets the next random `Int` from the random number generator in the specified [range].
 * Generates an `Int` random value uniformly distributed in the specified [range]:
 * from `range.start` inclusive to `range.endInclusive` inclusive.
 * @throws IllegalArgumentException if [range] is empty.
 */
@SinceKotlin("1.3")
public fun Random.nextInt(range: IntRange): Int = when {
 range.isEmpty() -> throw IllegalArgumentException("Cannot get random in empty range: $range")
 range.last < Int.MAX_VALUE -> nextInt(range.first, range.last + 1)
 range.first > Int.MIN_VALUE -> nextInt(range.first - 1, range.last) + 1
 else -> nextInt()
}

/**
 * Gets the next random `Long` from the random number generator in the specified [range].
 * Generates a `Long` random value uniformly distributed in the specified [range]:
 * from `range.start` inclusive to `range.endInclusive` inclusive.
 * @throws IllegalArgumentException if [range] is empty.
 */
@SinceKotlin("1.3")
public fun Random.nextLong(range: LongRange): Long = when {
 range.isEmpty() -> throw
 IllegalArgumentException("Cannot get random in empty range: $range")
 range.last < Long.MAX_VALUE ->
 nextLong(range.first, range.last + 1)
 range.first > Long.MIN_VALUE ->
 nextLong(range.first - 1, range.last) +

```

```

1\n else -> nextLong()\n}\n\n\ninternal expect fun defaultPlatformRandom(): Random\n\ninternal expect fun
doubleFromParts(hi26: Int, low27: Int): Double\n\n\n@UseExperimental(ExperimentalStdlibApi::class)\n\ninternal fun
fastLog2(value: Int): Int = 31 - value.countLeadingZeroBits()\n\n\n** Takes upper [bitCount] bits (0..32) from this
number. *\n\ninternal fun Int.takeUpperBits(bitCount: Int): Int =\n this.ushr(32 - bitCount) and (-
bitCount).shr(31)\n\n\ninternal fun checkRangeBounds(from: Int, until: Int) = require(until > from) {
boundsErrorMessage(from, until) }\n\ninternal fun checkRangeBounds(from: Long, until: Long) = require(until >
from) { boundsErrorMessage(from, until) }\n\ninternal fun checkRangeBounds(from: Double, until: Double) =
require(until > from) { boundsErrorMessage(from, until) }\n\n\ninternal fun boundsErrorMessage(from: Any, until:
Any) = "\nRandom range is empty: [$from, $until].\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n * \n\npackage kotlin.random\n\n\n**\n * Gets the next random [UInt]
from the random number generator.\n * \n * Generates a [UInt] random value uniformly distributed between
[UInt.MIN_VALUE] and [UInt.MAX_VALUE] (inclusive).\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic fun Random.nextUInt(): UInt =
nextInt().toUInt()\n\n\n**\n * Gets the next random [UInt] from the random number generator less than the specified
[until] bound.\n * \n * Generates a [UInt] random value uniformly distributed between `0` (inclusive) and the
specified [until] bound (exclusive).\n * \n * @throws IllegalArgumentException if [until] is zero.\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic fun Random.nextUInt(until: UInt): UInt =
nextUInt(0u, until)\n\n\n**\n * Gets the next random [UInt] from the random number generator in the specified
range.\n * \n * Generates a [UInt] random value uniformly distributed between the specified [from] (inclusive) and
[until] (exclusive) bounds.\n * \n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic fun Random.nextUInt(from: UInt, until: UInt):
UInt {\n checkUIntRangeBounds(from, until)\n\n val signedFrom = from.toInt() xor Int.MIN_VALUE\n val
signedUntil = until.toInt() xor Int.MIN_VALUE\n\n val signedResult = nextInt(signedFrom, signedUntil) xor
Int.MIN_VALUE\n\n return signedResult.toUInt()\n}\n\n\n**\n * Gets the next random [UInt] from the random
number generator in the specified [range].\n * \n * Generates a [UInt] random value uniformly distributed in the
specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n * \n * @throws
IllegalArgumentException if [range] is empty.\n * \n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic
fun Random.nextUInt(range: UIntRange): UInt = when {\n range.isEmpty() -> throw
IllegalArgumentException("\nCannot get random in empty range: $range")\n range.last < UInt.MAX_VALUE ->
nextUInt(range.first, range.last + 1u)\n range.first > UInt.MIN_VALUE -> nextUInt(range.first - 1u, range.last) +
1u\n else -> nextUInt()\n}\n\n\n**\n * Gets the next random [ULong] from the random number generator.\n * \n *
Generates a [ULong] random value uniformly distributed between [ULong.MIN_VALUE] and
[ULong.MAX_VALUE] (inclusive).\n * \n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic fun
Random.nextULong(): ULong = nextLong().toULong()\n\n\n**\n * Gets the next random [ULong] from the random
number generator less than the specified [until] bound.\n * \n * Generates a [ULong] random value uniformly
distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n * \n * @throws
IllegalArgumentException if [until] is zero.\n * \n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic
fun Random.nextULong(until: ULong): ULong = nextULong(0uL, until)\n\n\n**\n * Gets the next random [ULong]
from the random number generator in the specified range.\n * \n * Generates a [ULong] random value uniformly
distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n * \n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic fun Random.nextULong(from: ULong, until:
ULong): ULong {\n checkULongRangeBounds(from, until)\n\n val signedFrom = from.toLong() xor
Long.MIN_VALUE\n val signedUntil = until.toLong() xor Long.MIN_VALUE\n\n val signedResult =
nextLong(signedFrom, signedUntil) xor Long.MIN_VALUE\n\n return signedResult.toULong()\n}\n\n\n**\n * Gets
the next random [ULong] from the random number generator in the specified [range].\n * \n * Generates a [ULong]
random value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive`

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inclusive.\n *\n * @throws IllegalArgumentException if [range] is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextULong(range: ULongRange):
ULong = when {\n range.isEmpty() -> throw IllegalArgumentException("Cannot get random in empty range:
$range")\n range.last < ULong.MAX_VALUE -> nextULong(range.first, range.last + 1u)\n range.first >
ULong.MIN_VALUE -> nextULong(range.first - 1u, range.last) + 1u\n else -> nextULong()\n}\n\n**\n * Fills
the specified unsigned byte [array] with random bytes and returns it.\n *\n * @return [array] filled with random
bytes.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(array:
UByteArray): UByteArray {\n nextBytes(array.asByteArray())\n return array\n}\n\n**\n * Creates an unsigned
byte array of the specified [size], filled with random bytes.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(size: Int): UByteArray
= nextBytes(size).asUByteArray()\n\n**\n * Fills a subrange of the specified `UByte` [array] starting from
[fromIndex] inclusive and ending [toIndex] exclusive with random UBytes.\n *\n * @return [array] with the
subrange filled with random bytes.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Random.nextUBytes(array: UByteArray, fromIndex: Int = 0, toIndex: Int = array.size): UByteArray {\n
 nextBytes(array.asByteArray(), fromIndex, toIndex)\n return
array\n}\n\n\n@ExperimentalUnsignedTypes\ninternal fun checkUIntRangeBounds(from: UInt, until: UInt) =
require(until > from) { boundsErrorMessage(from, until) }\n@ExperimentalUnsignedTypes\ninternal fun
checkULongRangeBounds(from: ULong, until: ULong) = require(until > from) { boundsErrorMessage(from, until)
}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.random\n\n**\n * Random number generator, using Marsaglia's "xorwow" algorithm\n *\n *
Cycles after 2^192 - 2^32 repetitions.\n *\n * For more details, see Marsaglia, George (July 2003). "Xorshift
RNGs". Journal of Statistical Software. 8 (14). doi:10.18637/jss.v008.i14\n *\n * Available at
https://www.jstatsoft.org/v08/i14/paper\n *\n\ninternal class XorWowRandom\ninternal constructor(\n private
var x: Int,\n private var y: Int,\n private var z: Int,\n private var w: Int,\n private var v: Int,\n private var
addend: Int\n) : Random() {\n internal constructor(seed1: Int, seed2: Int) : \n this(seed1, seed2, 0, 0,
seed1.inv(), (seed1 shl 10) xor (seed2 ushr 4))\n\n init {\n require((x or y or z or w or v) != 0) { "Initial state
must have at least one non-zero element." }\n\n // some trivial seeds can produce several values with zeroes in
upper bits, so we discard first 64\n repeat(64) { nextInt() }\n }\n\n override fun nextInt(): Int {\n //
Equivalent to the xorxow algorithm\n // From Marsaglia, G. 2003. Xorshift RNGs. J. Statis. Soft. 8, 14, p. 5\n
 var t = x\n t = t xor (t ushr 2)\n x = y\n y = z\n z = w\n val v0 = v\n w = v0\n t = (t
xor (t shl 1)) xor v0 xor (v0 shl 4)\n v = t\n addend += 362437\n return t + addend\n }\n\n override
fun nextBits(bitCount: Int): Int =\n nextInt().takeUpperBits(bitCount)\n}\n", "/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage
kotlin.ranges\n\n**\n * Represents a range of [Comparable] values.\n *\nprivate open class ComparableRange<T :
Comparable<T>>(\n override val start: T,\n override val endInclusive: T\n) : ClosedRange<T> {\n\n override
fun equals(other: Any?): Boolean {\n return other is ComparableRange<*> && (isEmpty() && other.isEmpty())
||\n start == other.start && endInclusive == other.endInclusive\n }\n\n override fun hashCode(): Int
{\n return if (isEmpty()) -1 else 31 * start.hashCode() + endInclusive.hashCode()\n }\n\n override fun
toString(): String = "$start..$endInclusive"\n}\n\n**\n * Creates a range from this [Comparable] value to the
specified [that] value.\n *\n * This value needs to be smaller than [that] value, otherwise the returned range will be
empty.\n *\n * @sample samples.ranges.Ranges.rangeFromComparable\n *\npublic operator fun <T :
Comparable<T>> T.rangeTo(that: T): ClosedRange<T> = ComparableRange(this, that)\n\n**\n * Represents a
range of floating point numbers.\n * Extends [ClosedRange] interface providing custom operation
[lessThanOrEquals] for comparing values of range domain type.\n *\n * This interface is implemented by floating
point ranges returned by [Float.rangeTo] and [Double.rangeTo] operators to\n * achieve IEEE-754 comparison order

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instead of total order of floating point numbers.
@SinceKotlin("1.1")
public interface
ClosedFloatingPointRange<T : Comparable<T>> : ClosedRange<T> {
 override fun contains(value: T): Boolean =
 lessThanOrEquals(start, value) && lessThanOrEquals(value, endInclusive)
 override fun isEmpty(): Boolean =
 !lessThanOrEquals(start, endInclusive)
 /**
 * Compares two values of range domain type and returns true
 if first is less than or equal to second.
 */
 fun lessThanOrEquals(a: T, b: T): Boolean
}

/**
 * A
 * closed range of values of type `Double`.
 * Numbers are compared with the ends of this range according to
 * IEEE-754.
 */
private class ClosedDoubleRange(
 start: Double,
 endInclusive: Double
) :
ClosedFloatingPointRange<Double> {
 private val _start = start
 private val _endInclusive = endInclusive
 override val start: Double get() = _start
 override val endInclusive: Double get() = _endInclusive
 override fun lessThanOrEquals(a: Double, b: Double): Boolean = a <= b
 override fun contains(value: Double): Boolean =
 value >= _start && value <= _endInclusive
 override fun isEmpty(): Boolean = !(_start <= _endInclusive)
 override fun equals(other: Any?): Boolean {
 return other is ClosedDoubleRange && (isEmpty() &&
 other.isEmpty() ||
 _start == other._start && _endInclusive == other._endInclusive)
 }
 override fun hashCode(): Int {
 return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()
 }
 override fun toString(): String = "$_start..$_endInclusive"
}

/**
 * Creates a range from this [Double]
 * value to the specified [that] value.
 * Numbers are compared with the ends of this range according to IEEE-
 * 754.
 */
@sample samples.ranges.Ranges.rangeFromDouble
@SinceKotlin("1.1")
public operator fun
Double.rangeTo(that: Double): ClosedFloatingPointRange<Double> = ClosedDoubleRange(this, that)

/**
 * A closed range of values of type `Float`.
 * Numbers are compared with the ends of this range according to
 * IEEE-754.
 */
private class ClosedFloatRange(
 start: Float,
 endInclusive: Float
) :
ClosedFloatingPointRange<Float> {
 private val _start = start
 private val _endInclusive = endInclusive
 override val start: Float get() = _start
 override val endInclusive: Float get() = _endInclusive
 override fun lessThanOrEquals(a: Float, b: Float): Boolean = a <= b
 override fun contains(value: Float): Boolean = value
 >= _start && value <= _endInclusive
 override fun isEmpty(): Boolean = !(_start <= _endInclusive)
 override fun equals(other: Any?): Boolean {
 return other is ClosedFloatRange && (isEmpty() &&
 other.isEmpty() ||
 _start == other._start && _endInclusive == other._endInclusive)
 }
 override fun hashCode(): Int {
 return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()
 }
 override fun toString(): String = "$_start..$_endInclusive"
}

/**
 * Creates a range from this [Float]
 * value to the specified [that] value.
 * Numbers are compared with the ends of this range according to IEEE-
 * 754.
 */
@sample samples.ranges.Ranges.rangeFromFloat
@SinceKotlin("1.1")
public operator fun
Float.rangeTo(that: Float): ClosedFloatingPointRange<Float> = ClosedFloatRange(this, that)

/**
 * Returns
 * `true` if this iterable range contains the specified [element].
 * Always returns `false` if the [element] is `null`.
 */
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline operator fun <T, R> R.contains(element: T?):
Boolean where T : Any, R : Iterable<T>, R : ClosedRange<T> =
 element != null &&
contains(element)

internal fun checkStepIsPositive(isPositive: Boolean, step: Number) {
 if (!isPositive)
 throw IllegalArgumentException("Step must be positive, was: $step.")
}

/*
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 * Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
@file:kotlin.jvm.JvmName("KClasses")
@file:Suppress("UNCHECKED_CAST")
package
kotlin.reflect
import kotlin.internal.LowPriorityInOverloadResolution

/**
 * Casts the given [value] to the
 * class represented by this [KClass] object.
 * Throws an exception if the value is `null` or if it is not an instance of
 * this class.
 * This is an experimental function that behaves as a similar function from
 * kotlin.reflect.full on
 * JVM.
 * @see [KClass.isInstance]
 * @see [KClass.safeCast]
 */
@SinceKotlin("1.3")
@ExperimentalStdlibApi
@LowPriorityInOverloadResolution
fun <T : Any>
KClass<T>.cast(value: Any?): T {
 if (!isInstance(value)) throw ClassCastException("Value cannot be cast to
 $qualifiedName")
 return value as T
}

/**
 * Casts the given [value] to the class represented by this
 * [KClass] object.
 * Returns `null` if the value is `null` or if it is not an instance of this class.
 * This is an
 * experimental function that behaves as a similar function from
 * kotlin.reflect.full on JVM.
 * @see
 */

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[KClass.isInstance]\n * @see [KClass.cast]\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@LowPriorityInOverloadResolution\nfun <T : Any>
KClass<T>.safeCast(value: Any?): T? {\n return if (isInstance(value)) value as T else null\n}\n", /*\n * Copyright
2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.reflect\n\n**\n
* Returns a runtime representation of the given reified type [T] as an instance of [KType].\n
*\n@Suppress("unused") // KT-12448\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic inline fun
<reified T> typeOf(): KType =\n throw UnsupportedOperationException("This function is implemented as an
intrinsic on all supported platforms.")\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n**\n * An object to which char sequences and values can be appended.\n *\nexpect interface
Appendable {\n /**\n * Appends the specified character [value] to this Appendable and returns this instance.\n
*\n * @param value the character to append.\n *\n fun append(value: Char): Appendable\n\n /**\n *
Appends the specified character sequence [value] to this Appendable and returns this instance.\n *\n * @param
value the character sequence to append. If [value] is `null`, then the four characters `\"null\"` are appended to this
Appendable.\n *\n fun append(value: CharSequence?): Appendable\n\n /**\n * Appends a subsequence of
the specified character sequence [value] to this Appendable and returns this instance.\n *\n * @param value the
character sequence from which a subsequence is appended. If [value] is `null`,\n * then characters are appended
as if [value] contained the four characters `\"null\"`.\n * @param startIndex the beginning (inclusive) of the
subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of the [value] character sequence indices or when `startIndex > endIndex`.\n *\n fun append(value:
CharSequence?, startIndex: Int, endIndex: Int): Appendable\n}\n\n**\n * Appends a subsequence of the specified
character sequence [value] to this Appendable and returns this instance.\n *\n * @param value the character
sequence from which a subsequence is appended. If [value] is `null`,\n * then characters are appended as if [value]
contained the four characters `\"null\"`.\n * @param startIndex the beginning (inclusive) of the subsequence to
append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun <T : Appendable> T.appendRange(value:
CharSequence?, startIndex: Int, endIndex: Int): T {\n @Suppress("UNCHECKED_CAST")\n return
append(value, startIndex, endIndex) as T\n}\n\n**\n * Appends all arguments to the given [Appendable].\n
*\npublic fun <T : Appendable> T.append(vararg value: CharSequence?): T {\n for (item in value)\n append(item)\n return this\n}\n\n\ninternal fun <T> Appendable.appendElement(element: T, transform: ((T) ->
CharSequence?)) {\n when {\n transform != null -> append(transform(element))\n element is
CharSequence? -> append(element)\n element is Char -> append(element)\n else ->
append(element.toString())\n }\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CharsKt")\n\npackage kotlin.text\n\n**\n
* Concatenates this Char and a String.\n *\n * @sample samples.text.Chars.plus\n
*\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Char.plus(other: String): String = this.toString() +
other\n\n**\n * Returns `true` if this character is equal to the [other] character, optionally ignoring character case.\n
*\n * @param ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n *\n * Two
characters are considered the same ignoring case if at least one of the following is `true`:\n * - The two characters
are the same (as compared by the == operator)\n * - Applying the method [toUpperCase] to each character

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produces the same result\n * - Applying the method [toLowerCase] to each character produces the same result\n
*\n * @sample samples.text.Chars.equals\n */\npublic fun Char.equals(other: Char, ignoreCase: Boolean = false):
Boolean {\n if (this == other) return true\n if (!ignoreCase) return false\n\n if (this.toUpperCase() ==
other.toUpperCase()) return true\n if (this.toLowerCase() == other.toLowerCase()) return true\n return
false\n}\n\n/>\n * Returns `true` if this character is a Unicode surrogate code unit.\n */\npublic fun
Char.isSurrogate(): Boolean = this in Char.MIN_SURROGATE..Char.MAX_SURROGATE\n", "/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n/>\n * Trims leading whitespace characters followed by [marginPrefix] from every line of a source
string and removes\n * the first and the last lines if they are blank (notice difference blank vs empty).\n *\n * Doesn't
affect a line if it doesn't contain [marginPrefix] except the first and the last blank lines.\n *\n * Doesn't preserve the
original line endings.\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter. Default is
`|` (pipe character).\n *\n * @sample samples.text.Strings.trimMargin\n * @see trimIndent\n * @see
kotlin.text.isWhitespace\n */\npublic fun String.trimMargin(marginPrefix: String = "|"): String =\n
replaceIndentByMargin("|", marginPrefix)\n\n/>\n * Detects indent by [marginPrefix] as it does [trimMargin] and
replace it with [newIndent].\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter.
Default is `|` (pipe character).\n */\npublic fun String.replaceIndentByMargin(newIndent: String = "|",
marginPrefix: String = "|"): String {\n require(marginPrefix.isNotBlank()) { "\"marginPrefix must be non-blank
string.\""}\n val lines = lines()\n\n return lines.reindent(length + newIndent.length * lines.size,
getIndentFunction(newIndent), { line ->\n val firstNonWhitespaceIndex = line.indexOfFirst { !it.isWhitespace()
}\n\n when {\n firstNonWhitespaceIndex == -1 -> null\n line.startsWith(marginPrefix,
firstNonWhitespaceIndex) -> line.substring(firstNonWhitespaceIndex + marginPrefix.length)\n else -> null\n
}\n })\n}\n\n/>\n * Detects a common minimal indent of all the input lines, removes it from every line and
also removes the first and the last\n * lines if they are blank (notice difference blank vs empty).\n *\n * Note that
blank lines do not affect the detected indent level.\n *\n * In case if there are non-blank lines with no leading
whitespace characters (no indent at all) then the\n * common indent is 0, and therefore this function doesn't change
the indentation.\n *\n * Doesn't preserve the original line endings.\n *\n * @sample
samples.text.Strings.trimIndent\n * @see trimMargin\n * @see kotlin.text.isBlank\n */\npublic fun
String.trimIndent(): String = replaceIndent("\\")\n\n/>\n * Detects a common minimal indent like it does
[trimIndent] and replaces it with the specified [newIndent].\n */\npublic fun String.replaceIndent(newIndent: String
= "\\"): String {\n val lines = lines()\n val minCommonIndent = lines\n .filter(String::isNotBlank)\n
.map(String::indentWidth)\n .min() ?: 0\n\n return lines.reindent(length + newIndent.length * lines.size,
getIndentFunction(newIndent), { line -> line.drop(minCommonIndent) })\n}\n\n/>\n * Prepends [indent] to every
line of the original string.\n *\n * Doesn't preserve the original line endings.\n */\npublic fun
String.prependIndent(indent: String = " "): String =\n lineSequence()\n .map {\n when {\n
it.isBlank() -> {\n when {\n it.length < indent.length -> indent\n else -> it\n
}\n }\n } else -> indent + it\n }\n .joinToString("\n")\n\nprivate fun
String.indentWidth(): Int = indexOfFirst { !it.isWhitespace() }.let { if (it == -1) length else it }\n\nprivate fun
getIndentFunction(indent: String) = when {\n indent.isEmpty() -> { line: String -> line }\n else -> { line: String -
> indent + line }\n}\n\nprivate inline fun List<String>.reindent(\n resultSizeEstimate: Int,\n indentAddFunction:
(String) -> String,\n indentCutFunction: (String) -> String?): String {\n val lastIndex = lastIndex\n return
mapIndexedNotNull { index, value ->\n if ((index == 0 || index == lastIndex) && value.isBlank())\n null\n else\n indentCutFunction(value)?.let(indentAddFunction) ?: value\n }\n
.joinTo(StringBuilder(resultSizeEstimate), "\n")\n .toString()\n}\n", "/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n/>\n * Defines names for
Unicode symbols used in proper Typography.\n */\npublic object Typography {\n /** The character "

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\u2013 quotation mark *^ public const val quote: Char = "\u0022"n /** The character $ \u2013 dollar
sign *^ public const val dollar: Char = "\u0024"n /** The character & \u2013 ampersand *^ public
const val amp: Char = "\u0026"n /** The character < \u2013 less-than sign *^ public const val less:
Char = "\u003C"n /** The character > \u2013 greater-than sign *^ public const val greater: Char =
"\u003E"n /** The non-breaking space character *^ public const val nbsp: Char = "\u00A0"n /** The
character × *^ public const val times: Char = "\u00D7"n /** The character ¢ *^ public const
val cent: Char = "\u00A2"n /** The character £ *^ public const val pound: Char = "\u00A3"n /** The
character § *^ public const val section: Char = "\u00A7"n /** The character © *^ public const
val copyright: Char = "\u00A9"n /** The character « *^ public const val leftGuillemete: Char =
"\u00AB"n /** The character » *^ public const val rightGuillemete: Char = "\u00BB"n /** The
character ® *^ public const val registered: Char = "\u00AE"n /** The character ° *^ public
const val degree: Char = "\u00B0"n /** The character ± *^ public const val plusMinus: Char =
"\u00B1"n /** The character ¶ *^ public const val paragraph: Char = "\u00B6"n /** The character
· *^ public const val middleDot: Char = "\u00B7"n /** The character ½ *^ public const val
half: Char = "\u00BD"n /** The character – *^ public const val ndash: Char = "\u2013"n /** The
character — *^ public const val mdash: Char = "\u2014"n /** The character ‘ *^ public
const val leftSingleQuote: Char = "\u2018"n /** The character ’ *^ public const val rightSingleQuote:
Char = "\u2019"n /** The character ‚ *^ public const val lowSingleQuote: Char = "\u201A"n /**
The character “ *^ public const val leftDoubleQuote: Char = "\u201C"n /** The character ”
*^ public const val rightDoubleQuote: Char = "\u201D"n /** The character „ *^ public const val
lowDoubleQuote: Char = "\u201E"n /** The character † *^ public const val dagger: Char =
"\u2020"n /** The character ‡ *^ public const val doubleDagger: Char = "\u2021"n /** The
character • *^ public const val bullet: Char = "\u2022"n /** The character … *^ public
const val ellipsis: Char = "\u2026"n /** The character ′ *^ public const val prime: Char = "\u2032"n
/** The character ″ *^ public const val doublePrime: Char = "\u2033"n /** The character €
*^ public const val euro: Char = "\u20AC"n /** The character ™ *^ public const val tm: Char =
"\u2122"n /** The character ≈ *^ public const val almostEqual: Char = "\u2248"n /** The character
≠ *^ public const val notEqual: Char = "\u2260"n /** The character ≤ *^ public const val
lessOrEqual: Char = "\u2264"n /** The character ≥ *^ public const val greaterOrEqual: Char =
"\u2265"n}"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*^ public interface MatchGroupCollection : Collection<MatchGroup?> {\n /** Returns a group with the specified [index].\n
*^ @return An instance of [MatchGroup] if the group with the specified [index] was matched or `null` otherwise.\n
*^ * Groups are indexed from 1 to the count of groups in the regular expression. A group with the index 0\n
* corresponds to the entire match.\n *^ public operator fun get(index: Int): MatchGroup?}\n/**\n * Extends
[MatchGroupCollection] by introducing a way to get matched groups by name, when regex supports it.\n
*^ @SinceKotlin("1.1")\n public interface MatchNamedGroupCollection : MatchGroupCollection {\n /**\n
* Returns a named group with the specified [name].\n *^ @return An instance of [MatchGroup] if the group with the
specified [name] was matched or `null` otherwise.\n *^ @throws IllegalArgumentException if there is no group
with the specified [name] defined in the regex pattern.\n *^ @throws UnsupportedOperationException if getting
named groups isn't supported on the current platform.\n *^ public operator fun get(name: String):
MatchGroup?}\n/**\n * Represents the results from a single regular expression match.\n *^ public interface
MatchResult {\n /** The range of indices in the original string where match was captured. *^ public val range:

```

```
IntRange\n /** The substring from the input string captured by this match. */\n public val value: String\n /**\n * A collection of groups matched by the regular expression.\n * This collection has size of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n */\n public val groups:\n MatchGroupCollection\n /**\n * A list of matched indexed group values.\n * This list has size of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n * If the group in the regular expression is optional and there were no match captured by that group,\n * corresponding item in [groupValues] is an empty string.\n */\n @sample\n samples.text.Regexps.matchDestructuringToGroupValues\n */\n public val groupValues: List<String>\n /**\n * An instance of [MatchResult.Destructured] wrapper providing components for destructuring assignment\n of group values.\n * component1 corresponds to the value of the first group, component2 of the\n second, and so on.\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public val destructured: Destructured get() = Destructured(this)\n /** Returns a new [MatchResult] with the\n results for the next match, starting at the position\n * at which the last match ended (at the character after the last\n matched character).\n */\n public fun next(): MatchResult?\n /**\n * Provides components for\n destructuring assignment of group values.\n * [component1] corresponds to the value of the first group,\n [component2] of the second, and so on.\n * If the group in the regular expression is optional and\n there were no match captured by that group,\n * corresponding component value is an empty string.\n */\n @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public class Destructured internal\n constructor(public val match: MatchResult) {\n @kotlin.internal.InlineOnly\n public operator inline fun\n component1(): String = match.groupValues[1]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component2(): String = match.groupValues[2]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component3(): String = match.groupValues[3]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component4(): String = match.groupValues[4]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component5(): String = match.groupValues[5]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component6(): String = match.groupValues[6]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component7(): String = match.groupValues[7]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component8(): String = match.groupValues[8]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component9(): String = match.groupValues[9]\n @kotlin.internal.InlineOnly\n public operator inline fun\n component10(): String = match.groupValues[10]\n /**\n * Returns destructured group values as a list of\n strings.\n * First value in the returned list corresponds to the value of the first group, and so on.\n */\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public fun toList():\n List<String> = match.groupValues.subList(1, match.groupValues.size)\n }n}"/\n * Copyright 2010-2019\n JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the\n Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport\n kotlin.math.abs\n\n@UseExperimental(ExperimentalTime::class)\nprivate inline val storageUnit get() =\n DurationUnit.NANOSECONDS\n\n/**\n * Represents the amount of time one instant of time is away from another\n instant.\n * A negative duration is possible in a situation when the second instant is earlier than the first one.\n * An infinite duration value [Duration.INFINITE] can be used to represent infinite timeouts.\n * To construct a\n duration use either the extension function [toDuration],\n * or the extension properties [hours], [minutes], [seconds],\n and so on,\n * available on [Int], [Long], and [Double] numeric types.\n * To get the value of this duration\n expressed in a particular [duration units][DurationUnit]\n * use the functions [toInt], [toLong], and [toDouble]\n * or the properties [inHours], [inMinutes], [inSeconds], [inNanoseconds], and so on.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\npublic inline class Duration internal constructor(internal val value: Double) :
 Comparable<Duration> {\n // TODO: backend fails on init block, wait for KT-28055\n init {\n //\n require(_value.isNaN().not())\n }\n\n companion object {\n /** The duration equal to exactly 0 seconds.
```

```

*\n public val ZERO: Duration = Duration(0.0)\n\n /** The duration whose value is positive infinity. It is
useful for representing timeouts that should never expire. *\n public val INFINITE: Duration =
Duration(Double.POSITIVE_INFINITY)\n\n /** Converts the given time duration [value] expressed in the
specified [sourceUnit] into the specified [targetUnit]. *\n public fun convert(value: Double, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Double =\n convertDurationUnit(value, sourceUnit, targetUnit)\n
}\n\n // arithmetic operators\n\n /** Returns the negative of this value. *\n public operator fun unaryMinus():
Duration = Duration(-value)\n\n /** Returns a duration whose value is the sum of this and [other] duration values.
*\n public operator fun plus(other: Duration): Duration = Duration(value + other.value)\n\n /** Returns a
duration whose value is the difference between this and [other] duration values. *\n public operator fun
minus(other: Duration): Duration = Duration(value - other.value)\n\n /** Returns a duration whose value is this
duration value multiplied by the given [scale] number. *\n public operator fun times(scale: Int): Duration =
Duration(value * scale)\n\n /** Returns a duration whose value is this duration value multiplied by the given
[scale] number. *\n public operator fun times(scale: Double): Duration = Duration(value * scale)\n\n /**
Returns a duration whose value is this duration value divided by the given [scale] number. *\n public operator fun
div(scale: Int): Duration = Duration(value / scale)\n\n /** Returns a duration whose value is this duration value
divided by the given [scale] number. *\n public operator fun div(scale: Double): Duration = Duration(value /
scale)\n\n /** Returns a number that is the ratio of this and [other] duration values. *\n public operator fun
div(other: Duration): Double = this.value / other.value\n\n /** Returns true, if the duration value is less than zero.
*\n public fun isNegative(): Boolean = value < 0\n\n /** Returns true, if the duration value is greater than zero.
*\n public fun isPositive(): Boolean = value > 0\n\n /** Returns true, if the duration value is infinite. *\n
public fun isInfinite(): Boolean = value.isInfinite()\n\n /** Returns true, if the duration value is finite. *\n
public fun isFinite(): Boolean = value.isFinite()\n\n /** Returns the absolute value of this value. The returned value is
always non-negative. *\n public val absoluteValue: Duration get() = if (isNegative()) -this else this\n\n override
fun compareTo(other: Duration): Int = this.value.compareTo(other.value)\n\n\n // splitting to components\n\n /**\n
 * Splits this duration into days, hours, minutes, seconds, and nanoseconds and executes the given [action]
with these components.\n
 * The result of [action] is returned as the result of this function.\n
 *\n
 * -
`nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute value is less than
1_000_000_000;\n
 * - `seconds` represents the whole number of seconds in this duration, and its absolute value is
less than 60;\n
 * - `minutes` represents the whole number of minutes in this duration, and its absolute value is less
than 60;\n
 * - `hours` represents the whole number of hours in this duration, and its absolute value is less than
24;\n
 * - `days` represents the whole number of days in this duration.\n
 * If the value doesn't fit in [Int] range,
i.e. it's greater than [Int.MAX_VALUE] or less than [Int.MIN_VALUE],\n
 * it is coerced into that range.\n
 *\n
 public inline fun <T> toComponents(action: (days: Int, hours: Int, minutes: Int, seconds: Int, nanoseconds:
Int) -> T): T =\n
 action(inDays.toInt(), hoursComponent, minutesComponent, secondsComponent,
nanosecondsComponent)\n\n /**\n
 * Splits this duration into hours, minutes, seconds, and nanoseconds and
executes the given [action] with these components.\n
 * The result of [action] is returned as the result of this
function.\n
 *\n
 * - `nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute
value is less than 1_000_000_000;\n
 * - `seconds` represents the whole number of seconds in this duration, and its
absolute value is less than 60;\n
 * - `minutes` represents the whole number of minutes in this duration, and its
absolute value is less than 60;\n
 * - `hours` represents the whole number of hours in this duration.\n
 * If the
value doesn't fit in [Int] range, i.e. it's greater than [Int.MAX_VALUE] or less than [Int.MIN_VALUE],\n
 * it is coerced into that range.\n
 *\n
 public inline fun <T> toComponents(action: (hours: Int, minutes: Int, seconds:
Int, nanoseconds: Int) -> T): T =\n
 action(inHours.toInt(), minutesComponent, secondsComponent,
nanosecondsComponent)\n\n /**\n
 * Splits this duration into minutes, seconds, and nanoseconds and executes
the given [action] with these components.\n
 * The result of [action] is returned as the result of this function.\n
 *\n
 * - `nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute
value is less than 1_000_000_000;\n
 * - `seconds` represents the whole number of seconds in this duration, and its absolute
value is less than 60;\n
 * - `minutes` represents the whole number of minutes in this duration.\n
 * If the value

```

```

doesn't fit in [Int] range, i.e. it's greater than [Int.MAX_VALUE] or less than [Int.MIN_VALUE],\n * it is
coerced into that range.\n */\n public inline fun <T> toComponents(action: (minutes: Int, seconds: Int,
nanoseconds: Int) -> T): T =\n action(inMinutes.toInt(), secondsComponent, nanosecondsComponent)\n\n
/**\n * Splits this duration into seconds, and nanoseconds and executes the given [action] with these
components.\n * The result of [action] is returned as the result of this function.\n * \n * - `nanoseconds`
represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n
* - `seconds` represents the whole number of seconds in this duration.\n * If the value doesn't fit in [Long] range,
i.e. it's greater than [Long.MAX_VALUE] or less than [Long.MIN_VALUE],\n * it is coerced into that range.\n
*/\n public inline fun <T> toComponents(action: (seconds: Long, nanoseconds: Int) -> T): T =\n
action(inSeconds.toLong(), nanosecondsComponent)\n\n @PublishedApi\n internal val hoursComponent: Int
get() = (inHours % 24).toInt()\n @PublishedApi\n internal val minutesComponent: Int get() = (inMinutes %
60).toInt()\n @PublishedApi\n internal val secondsComponent: Int get() = (inSeconds % 60).toInt()\n
@PublishedApi\n internal val nanosecondsComponent: Int get() = (inNanoseconds % 1e9).toInt()\n\n //
conversion to units\n /** Returns the value of this duration expressed as a [Double] number of the specified
[unit]. */\n public fun toDouble(unit: DurationUnit): Double = convertDurationUnit(value, storageUnit, unit)\n\n
/**\n * Returns the value of this duration expressed as a [Long] number of the specified [unit].\n * \n * If the
value doesn't fit in the range of [Long] type, it is coerced into that range, see the conversion [Double.toLong] for
details.\n */\n public fun toLong(unit: DurationUnit): Long = toDouble(unit).toLong()\n\n /**\n * Returns
the value of this duration expressed as an [Int] number of the specified [unit].\n * \n * If the value doesn't fit in
the range of [Int] type, it is coerced into that range, see the conversion [Double.toInt] for details.\n */\n public
fun toInt(unit: DurationUnit): Int = toDouble(unit).toInt()\n\n /** The value of this duration expressed as a
[Double] number of days. */\n public val inDays: Double get() = toDouble(DurationUnit.DAYS)\n\n /** The
value of this duration expressed as a [Double] number of hours. */\n public val inHours: Double get() =
toDouble(DurationUnit.HOURS)\n\n /** The value of this duration expressed as a [Double] number of minutes.
*/\n public val inMinutes: Double get() = toDouble(DurationUnit.MINUTES)\n\n /** The value of this duration
expressed as a [Double] number of seconds. */\n public val inSeconds: Double get() =
toDouble(DurationUnit.SECONDS)\n\n /** The value of this duration expressed as a [Double] number of
milliseconds. */\n public val inMilliseconds: Double get() = toDouble(DurationUnit.MILLISECONDS)\n\n /**
The value of this duration expressed as a [Double] number of microseconds. */\n public val inMicroseconds:
Double get() = toDouble(DurationUnit.MICROSECONDS)\n\n /** The value of this duration expressed as a
[Double] number of nanoseconds. */\n public val inNanoseconds: Double get() =
toDouble(DurationUnit.NANOSECONDS)\n\n // shortcuts\n /**\n * Returns the value of this duration
expressed as a [Long] number of nanoseconds.\n * \n * If the value doesn't fit in the range of [Long] type, it is
coerced into that range, see the conversion [Double.toLong] for details.\n * \n * The range of durations that can
be expressed as a `Long` number of nanoseconds is approximately \u00b1292 years.\n */\n public fun
toLongNanoseconds(): Long = toLong(DurationUnit.NANOSECONDS)\n\n /**\n * Returns the value of this
duration expressed as a [Long] number of milliseconds.\n * \n * The value is coerced to the range of [Long]
type, if it doesn't fit in that range, see the conversion [Double.toLong] for details.\n * \n * The range of
durations that can be expressed as a `Long` number of milliseconds is approximately \u00b1292 million years.\n
*/\n public fun toLongMilliseconds(): Long = toLong(DurationUnit.MILLISECONDS)\n\n /**\n * Returns a
string representation of this duration value expressed in the unit which yields the most compact and readable number
value.\n * \n * Special cases:\n * - zero duration is formatted as `0s`\n * - the infinite duration is
formatted as `Infinity` without unit\n * - very small durations (less than 1e-15 s) are expressed in seconds and
formatted in scientific notation\n * - very big durations (more than 1e+7 days) are expressed in days and
formatted in scientific notation\n * \n * @return the value of duration in the automatically determined unit
followed by that unit abbreviated name: `d`, `h`, `m`, `s`, `ms`, `us`, or `ns`.\n * \n * @sample
samples.time.Durations.toStringDefault\n */\n override fun toString(): String = when {\n isInfinite() ->
value.toString()\n value == 0.0 -> `0s`\n else -> {\n val absNs = absoluteValue.inNanoseconds\n

```

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var scientific = false\n var maxDecimals = 0\n val unit = when {\n absNs < 1e-6 ->
DurationUnit.SECONDS.also { scientific = true }\n absNs < 1 -> DurationUnit.NANOSECONDS.also {
maxDecimals = 7 }\n absNs < 1e3 -> DurationUnit.NANOSECONDS\n absNs < 1e6 ->
DurationUnit.MICROSECONDS\n absNs < 1e9 -> DurationUnit.MILLISECONDS\n absNs <
1000e9 -> DurationUnit.SECONDS\n absNs < 60_000e9 -> DurationUnit.MINUTES\n absNs <
3600_000e9 -> DurationUnit.HOURS\n absNs < 86400e9 * 1e7 -> DurationUnit.DAYS\n else ->
DurationUnit.DAYS.also { scientific = true }\n }\n val value = toDouble(unit)\n when {\n scientific -> formatScientific(value)\n maxDecimals > 0 -> formatUpToDecimals(value,
maxDecimals)\n else -> formatToExactDecimals(value, precision(abs(value)))\n } +
unit.shortName()\n }\n }\n\n private fun precision(value: Double): Int = when {\n value < 1 -> 3\n value < 10 -> 2\n value < 100 -> 1\n else -> 0\n }\n\n /**\n * Returns a string representation of this
duration value expressed in the given [unit]\n * and formatted with the specified [decimals] number of digits after
decimal point.\n * \n * Special cases:\n * - the infinite duration is formatted as `"Infinity"` without unit\n * \n * @return the value of duration in the specified [unit] followed by that unit abbreviated name: `d`, `h`, `m`,
`s`, `ms`, `us`, or `ns`.\n * \n * @throws IllegalArgumentException if [decimals] is less than zero.\n * \n * @sample samples.time.Durations.toStringDecimals\n */\n public fun toString(unit: DurationUnit, decimals: Int
= 0): String {\n require(decimals >= 0) { "decimals must be not negative, but was $decimals" }\n if
(isInfinite()) return value.toString()\n val number = toDouble(unit)\n return when {\n abs(number) <
1e14 -> formatToExactDecimals(number, decimals.coerceAtMost(12))\n else -> formatScientific(number)\n } +
unit.shortName()\n }\n\n /**\n * Returns an ISO-8601 based string representation of this duration.\n * \n * The returned value is presented in the format `PThHmMs.fS`, where `h`, `m`, `s` are the integer components
of this duration (see [toComponents])\n * and `f` is a fractional part of second. Depending on the roundness of the
value the fractional part can be formatted with either\n * 0, 3, 6, or 9 decimal digits.\n * \n * If the hours
component absolute value of this duration is greater than [Int.MAX_VALUE], it is replaced with
[Int.MAX_VALUE],\n * so the infinite duration is formatted as `"PT2147483647H"`.\n * \n * Negative
durations are indicated with the sign `-` in the beginning of the returned string, for example, `"PT5M30S"`.\n * \n * @sample samples.time.Durations.toIsoString\n */\n @UseExperimental(ExperimentalStdlibApi::class)\n public fun toIsoString(): String = buildString {\n if
(isNegative()) append('-')\n append("PT")\n absoluteValue.toComponents { hours, minutes, seconds,
nanoseconds -> \n val hasHours = hours != 0\n val hasSeconds = seconds != 0 || nanoseconds != 0\n val hasMinutes = minutes != 0 || (hasSeconds && hasHours)\n if (hasHours) {\n
append(hours).append('H')\n }\n if (hasMinutes) {\n append(minutes).append('M')\n }\n if (hasSeconds || (!hasHours && !hasMinutes)) {\n append(seconds)\n if (nanoseconds
!= 0) {\n append('.')\n val nss = nanoseconds.toString().padStart(9, '0')\n when
{\n nanoseconds % 1_000_000 == 0 -> appendRange(nss, 0, 3)\n nanoseconds %
1_000 == 0 -> appendRange(nss, 0, 6)\n else -> append(nss)\n }\n }\n }\n append('S')\n }\n }\n\n /**\n * Returns a [Duration] equal to this [Int] number of the specified [unit].\n */\n @SinceKotlin("1.3")\n @ExperimentalTime\n public fun Int.toDuration(unit: DurationUnit): Duration =
toDouble().toDuration(unit)\n\n /**\n * Returns a [Duration] equal to this [Long] number of the specified [unit].\n */\n @SinceKotlin("1.3")\n @ExperimentalTime\n public fun Long.toDuration(unit: DurationUnit): Duration =
toDouble().toDuration(unit)\n\n /**\n * Returns a [Duration] equal to this [Double] number of the specified [unit].\n */\n @SinceKotlin("1.3")\n @ExperimentalTime\n public fun Double.toDuration(unit: DurationUnit): Duration =
Duration(convertDurationUnit(this, unit, storageUnit))\n\n /**\n * Returns a [Duration] equal to this [Int] number of nanoseconds.\n */\n @SinceKotlin("1.3")\n @ExperimentalTime\n public val Int.nanoseconds get() =
toDuration(DurationUnit.NANOSECONDS)\n\n /**\n * Returns a [Duration] equal to this [Long] number of
nanoseconds.\n */\n @SinceKotlin("1.3")\n @ExperimentalTime\n public val Long.nanoseconds get() =

```



`toDuration(DurationUnit.NANOSECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Double] number of nanoseconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Double.nanoseconds get() =

`toDuration(DurationUnit.NANOSECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Int] number of microseconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Int.microseconds get() =

`toDuration(DurationUnit.MICROSECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Long] number of microseconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Long.microseconds get() =

`toDuration(DurationUnit.MICROSECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Double] number of microseconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Double.microseconds get() =

`toDuration(DurationUnit.MICROSECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Int] number of milliseconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Int.milliseconds get() =

`toDuration(DurationUnit.MILLISECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Long] number of milliseconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Long.milliseconds get() =

`toDuration(DurationUnit.MILLISECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Double] number of milliseconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Double.milliseconds get() =

`toDuration(DurationUnit.MILLISECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Int] number of seconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Int.seconds get() =

`toDuration(DurationUnit.SECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Long] number of seconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Long.seconds get() =

`toDuration(DurationUnit.SECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Double] number of seconds. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Double.seconds get() =

`toDuration(DurationUnit.SECONDS)`\n\n/\*\* Returns a [Duration] equal to this [Int] number of minutes. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Int.minutes get() =

`toDuration(DurationUnit.MINUTES)`\n\n/\*\* Returns a [Duration] equal to this [Long] number of minutes. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Long.minutes get() =

`toDuration(DurationUnit.MINUTES)`\n\n/\*\* Returns a [Duration] equal to this [Double] number of minutes. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Double.minutes get() =

`toDuration(DurationUnit.MINUTES)`\n\n/\*\* Returns a [Duration] equal to this [Int] number of hours. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Int.hours get() =

`toDuration(DurationUnit.HOURS)`\n\n/\*\* Returns a [Duration] equal to this [Long] number of hours. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Long.hours get() =

`toDuration(DurationUnit.HOURS)`\n\n/\*\* Returns a [Duration] equal to this [Double] number of hours. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Double.hours get() =

`toDuration(DurationUnit.HOURS)`\n\n/\*\* Returns a [Duration] equal to this [Int] number of days. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Int.days get() =

`toDuration(DurationUnit.DAYS)`\n\n/\*\* Returns a [Duration] equal to this [Long] number of days. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Long.days get() =

`toDuration(DurationUnit.DAYS)`\n\n/\*\* Returns a [Duration] equal to this [Double] number of days. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic val Double.days get() =

`toDuration(DurationUnit.DAYS)`\n\n\n/\*\* Returns a duration whose value is the specified [duration] value multiplied by this number. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@kotlin.internal.InlineOnly\npublic inline operator fun Int.times(duration: Duration): Duration = duration \* this\n\n/\*\* Returns a duration whose value is the specified [duration] value multiplied by this number. \*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@kotlin.internal.InlineOnly\npublic inline operator fun Double.times(duration: Duration): Duration = duration \* this\n\n\ninternal expect fun

`formatToExactDecimals(value: Double, decimals: Int): String`\n\ninternal expect fun `formatUpToDecimals(value: Double, decimals: Int): String`\n\ninternal expect fun `formatScientific(value: Double): String`","/\*\n \* Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

```

*^@file:kotlin.jvm.JvmMultifileClass()@file:kotlin.jvm.JvmName("DurationUnitKt()")@package
kotlin.time@n/n/** The list of possible time measurement units, in which a duration can be expressed.
The smallest time unit is [NANOSECONDS] and the largest is [DAYS], which corresponds to exactly 24
[HOURS].
*^@SinceKotlin("1.3")@ExperimentalTime@public expect enum class DurationUnit {
* Time unit representing one nanosecond, which is 1/1000 of a microsecond.
^ NANOSECONDS,
/**
* Time unit representing one microsecond, which is 1/1000 of a millisecond.
^
MICROSECONDS,
/**
* Time unit representing one millisecond, which is 1/1000 of a second.
^
MILLISECONDS,
/**
* Time unit representing one second.
^ SECONDS,
/**
* Time unit
representing one minute.
^ MINUTES,
/**
* Time unit representing one hour.
^
HOURS,
/**
* Time unit representing one day, which is always equal to 24 hours.
^
DAYS;
}
/** Converts the given time duration [value] expressed in the specified [sourceUnit] into the specified
[targetUnit].
*^@SinceKotlin("1.3")@ExperimentalTime@internal expect fun convertDurationUnit(value:
Double, sourceUnit: DurationUnit, targetUnit: DurationUnit):
Double
*^@SinceKotlin("1.3")@ExperimentalTime@internal fun DurationUnit.shortName(): String = when
(this) {
DurationUnit.NANOSECONDS -> "ns"
DurationUnit.MICROSECONDS -> "us"
DurationUnit.MILLISECONDS -> "ms"
DurationUnit.SECONDS -> "s"
DurationUnit.MINUTES ->
"m"
DurationUnit.HOURS -> "h"
DurationUnit.DAYS -> "d"}
/** Copyright 2010-2019
JetBrains s.r.o. and Kotlin Programming Language contributors.
* Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.
*^@package kotlin.time@nimport
kotlin.annotation.AnnotationTarget.*
/** This annotation marks the experimental preview of the standard
library API for measuring time and working with durations.
*
* > Note that this API is in a preview state and has
a very high chance of being changed in the future.
* Do not use it if you develop a library since your library will
become binary incompatible
* with the future versions of the standard library.
*
* Any usage of a declaration
annotated with `@ExperimentalTime` must be accepted either by
* annotating that usage with the [OptIn]
annotation, e.g. `@OptIn(ExperimentalTime::class)`,
* or by using the compiler argument `-Xopt-
in=kotlin.time.ExperimentalTime`.
*^@Suppress("DEPRECATION")@Experimental(level =
Experimental.Level.ERROR)@RequiresOptIn(level =
RequiresOptIn.Level.ERROR)@MustBeDocumented@Retention(AnnotationRetention.BINARY)@Target(
CLASS,
ANNOTATION_CLASS,
PROPERTY,
FIELD,
LOCAL_VARIABLE,
VALUE_PARAMETER,
CONSTRUCTOR,
FUNCTION,
PROPERTY_GETTER,
PROPERTY_SETTER,
TYPEALIAS)
*^@SinceKotlin("1.3")@public annotation class
ExperimentalTime
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contributors.
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license/LICENSE.txt file.
*^@package kotlin.time@n/** A source of time for measuring time intervals.
*
* The only operation provided by the time source is [markNow]. It returns a [TimeMark], which can be used to
query the elapsed time later.
*
* @see [measureTime]
* @see [measureTimedValue]
*^@SinceKotlin("1.3")@ExperimentalTime@public interface TimeSource {
/**
* Marks a point in
time on this time source.
*
* The returned [TimeMark] instance encapsulates the captured time point and
allows querying
* the duration of time interval [elapsed][TimeMark.elapsedNow] from that point.
^
public fun markNow(): TimeMark
/**
* The most precise time source available in the platform.
*
* This time source returns its readings from a source of monotonic time when it is available in a target platform,
* and resorts to a non-monotonic time source otherwise.
^
public object Monotonic : TimeSource by
MonotonicTimeSource {
override fun toString(): String = MonotonicTimeSource.toString()
}
}
public companion object {
}
/** Represents a time point notched on a particular [TimeSource].
Remains bound to the time source it was taken from
* and allows querying for the duration of time elapsed from
that point (see the function [elapsedNow]).
*^@SinceKotlin("1.3")@ExperimentalTime@public abstract class
TimeMark {
/**
* Returns the amount of time passed from this mark measured with the time source from
which this mark was taken.
*
* Note that the value returned by this function can change on subsequent

```

```

invocations.
 *^ public abstract fun elapsedNow(): Duration
 /** Returns a time mark on the same time source that is ahead of this time mark by the specified [duration].
 *^ The returned time mark is more _late_ when the [duration] is positive, and more _early_ when the [duration] is negative.
 *^ public open operator fun plus(duration: Duration): TimeMark = AdjustedTimeMark(this, duration)
 /** Returns a time mark on the same time source that is behind this time mark by the specified [duration].
 *^ The returned time mark is more _early_ when the [duration] is positive, and more _late_ when the [duration] is negative.
 *^ public open operator fun minus(duration: Duration): TimeMark = plus(-duration)
 /** Returns true if this time mark has passed according to the time source from which this mark was taken.
 *^ Note that the value returned by this function can change on subsequent invocations.
 * If the time source is monotonic, it can change only from `false` to `true`, namely, when the time mark becomes behind the current point of the time source.
 *^ public fun hasPassedNow(): Boolean = !elapsedNow().isNegative()
 /** Returns false if this time mark has not passed according to the time source from which this mark was taken.
 *^ Note that the value returned by this function can change on subsequent invocations.
 * If the time source is monotonic, it can change only from `true` to `false`, namely, when the time mark becomes behind the current point of the time source.
 *^ public fun hasNotPassedNow(): Boolean = elapsedNow().isNegative()
}

@ExperimentalTime
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
@Deprecated(" Subtracting one TimeMark from another is not a well defined operation because these time marks could have been obtained from the different time sources.", level = DeprecationLevel.ERROR)
public inline operator fun TimeMark.minus(other: TimeMark): Duration = throw Error("Operation is disallowed.")
@ExperimentalTime
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
@Deprecated(" Comparing one TimeMark to another is not a well defined operation because these time marks could have been obtained from the different time sources.", level = DeprecationLevel.ERROR)
public inline operator fun TimeMark.compareTo(other: TimeMark): Int = throw Error("Operation is disallowed.")
private class AdjustedTimeMark(val mark: TimeMark, val adjustment: Duration) : TimeMark() {
 override fun elapsedNow(): Duration = mark.elapsedNow() - adjustment
 override fun plus(duration: Duration): TimeMark = AdjustedTimeMark(mark, adjustment + duration)
}
@SinceKotlin("1.3")
@ExperimentalTime
@Deprecated(" Use TimeSource interface instead.", ReplaceWith("TimeSource", "kotlin.time.TimeSource"))
public typealias Clock = TimeSource
@SinceKotlin("1.3")
@ExperimentalTime
@Deprecated(" Use TimeMark class instead.", ReplaceWith("TimeMark", "kotlin.time.TimeMark"))
public typealias ClockMark = TimeMark
}

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 */
package kotlin.time
@SinceKotlin("1.3")
@ExperimentalTime
internal expect object MonotonicTimeSource : TimeSource
/** An abstract class used to implement time sources that return their readings as [Long] values in the specified [unit].
 * @property unit The unit in which this time source's readings are expressed.
 */
@SinceKotlin("1.3")
@ExperimentalTime
public abstract class AbstractLongTimeSource(protected val unit: DurationUnit) : TimeSource {
 /** This protected method should be overridden to return the current reading of the time source expressed as a [Long] number
 * in the unit specified by the [unit] property.
 */
 protected abstract fun read(): Long
 private class LongTimeMark(private val startedAt: Long, private val timeSource: AbstractLongTimeSource, private val offset: Duration) : TimeMark() {
 override fun elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset
 override fun plus(duration: Duration): TimeMark = LongTimeMark(startedAt, timeSource, offset + duration)
 }
 override fun markNow(): TimeMark = LongTimeMark(read(), this, Duration.ZERO)
}
/** An abstract class used to implement time sources that return their readings as [Double] values in the specified [unit].
 * @property unit The unit in which this time source's readings are expressed.
 */
@SinceKotlin("1.3")
@ExperimentalTime
public abstract class AbstractDoubleTimeSource(protected val unit: DurationUnit) : TimeSource {
 /** This protected method should be overridden to return the current reading of the time source expressed as a [Double] number
 * in the unit specified by the [unit] property.
 */
}

```

```

*/\n protected abstract fun read(): Double\n\n private class DoubleTimeMark(private val startedAt: Double,
private val timeSource: AbstractDoubleTimeSource, private val offset: Duration) : TimeMark() {\n override fun
elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset\n override fun
plus(duration: Duration): TimeMark = DoubleTimeMark(startedAt, timeSource, offset + duration)\n }\n\n
override fun markNow(): TimeMark = DoubleTimeMark(read(), this, Duration.ZERO)\n}\n\n**\n * A time source
that has programmatically updatable readings. It is useful as a predictable source of time in tests.\n *\n * The current
reading value can be advanced by the specified duration amount with the operator [plusAssign]:\n *\n * ```\n * val
timeSource = TestTimeSource()\n * timeSource += 10.seconds\n * ```\n *\n * Implementation note: the current
reading value is stored as a [Long] number of nanoseconds,\n * thus it's capable to represent a time range of
approximately \u00b1292 years.\n * Should the reading value overflow as the result of [plusAssign] operation, an
[IllegalStateException] is thrown.\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic class TestTimeSource
: AbstractLongTimeSource(unit = DurationUnit.NANOSECONDS) {\n private var reading: Long = 0L\n\n
override fun read(): Long = reading\n\n /**\n * Advances the current reading value of this time source by the
specified [duration].\n *\n * [duration] value is rounded down towards zero when converting it to a [Long]
number of nanoseconds.\n * For example, if the duration being added is `0.6.nanoseconds`, the reading doesn't
advance because\n * the duration value is rounded to zero nanoseconds.\n *\n * @throws
IllegalStateException when the reading value overflows as the result of this operation.\n *\n public operator fun
plusAssign(duration: Duration) {\n val delta = duration.toDouble(unit)\n val longDelta = delta.toLong()\n
reading = if (longDelta != Long.MIN_VALUE && longDelta != Long.MAX_VALUE) {\n // when delta
fits in long, add it as long\n val newReading = reading + longDelta\n if (reading xor longDelta >= 0
&& reading xor newReading < 0) overflow(duration)\n newReading\n } else {\n // when delta is
greater than long, add it as double\n val newReading = reading + delta\n if (newReading >
Long.MAX_VALUE || newReading < Long.MIN_VALUE) overflow(duration)\n newReading.toLong()\n
}\n }\n\n private fun overflow(duration: Duration) {\n throw IllegalStateException("TestTimeSource will
overflow if its reading ${reading}ns is advanced by $duration.")\n
}\n}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use TimeSource.Monotonic instead.",
ReplaceWith("TimeSource.Monotonic", "kotlin.time.TimeSource"))\npublic typealias MonoClock =
TimeSource.Monotonic\n\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use
AbstractLongTimeSource instead.", ReplaceWith("AbstractLongTimeSource",
"kotlin.time.AbstractLongTimeSource"))\npublic typealias AbstractLongClock =
AbstractLongTimeSource\n\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use
AbstractDoubleTimeSource instead.", ReplaceWith("AbstractDoubleTimeSource",
"kotlin.time.AbstractDoubleTimeSource"))\npublic typealias AbstractDoubleClock =
AbstractDoubleTimeSource\n\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use TestTimeSource
instead.", ReplaceWith("TestTimeSource", "kotlin.time.TestTimeSource"))\npublic typealias TestClock =
TestTimeSource\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
*\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n */\n\npackage kotlin.time\n\nimport kotlin.contracts.*\n\n**\n * Executes the given function [block] and returns the
duration of elapsed time interval.\n *\n * The elapsed time is measured with [TimeSource.Monotonic].\n
*\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun measureTime(block: () -> Unit): Duration {\n
contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return
TimeSource.Monotonic.measureTime(block)\n}\n\n\n**\n * Executes the given function [block] and returns the
duration of elapsed time interval.\n *\n * The elapsed time is measured with the specified `this` [TimeSource]
instance.\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun TimeSource.measureTime(block: ()
-> Unit): Duration {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n\n val
mark = markNow()\n block()\n return mark.elapsedNow()\n}\n\n\n**\n * Data class representing a result of
executing an action, along with the duration of elapsed time interval.\n *\n * @property value the result of the
action.\n * @property duration the time elapsed to execute the action.\n

```

```

*^@SinceKotlin("1.3")^@ExperimentalTime^public data class TimedValue<T>(val value: T, val duration:
Duration)^@n/^@n/**^ * Executes the given function [block] and returns an instance of [TimedValue] class, containing
both^ * the result of the function execution and the duration of elapsed time interval.^ *^ * The elapsed time is
measured with [TimeSource.Monotonic].^@n/^@SinceKotlin("1.3")^@ExperimentalTime^public inline fun <T>
measureTimedValue(block: () -> T): TimedValue<T> {^@n contract {^@n callsInPlace(block,
InvocationKind.EXACTLY_ONCE)^@n }^@n return
TimeSource.Monotonic.measureTimedValue(block)^@n/^@n/**^ * Executes the given [block] and returns an
instance of [TimedValue] class, containing both^ * the result of function execution and the duration of elapsed time
interval.^ *^ * The elapsed time is measured with the specified `this` [TimeSource] instance.^@n
*^@SinceKotlin("1.3")^@ExperimentalTime^public inline fun <T> TimeSource.measureTimedValue(block: ()
-> T): TimedValue<T> {^@n contract {^@n callsInPlace(block, InvocationKind.EXACTLY_ONCE)^@n }^@n
val mark = markNow()^@n val result = block()^@n return TimedValue(result, mark.elapsedNow())^@n/^@n/**^ *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.^ * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.^@n/^@n^package
kotlin.^@nimport kotlin.internal.InlineOnly^@n/^@n/**^ * Returns a hash code value for the object or zero if the object
is `null`.^@n *^ * @see Any.hashCode^@n *^@SinceKotlin("1.3")^@InlineOnly^@npublic inline fun
Any?.hashCode(): Int = this?.hashCode() ?: 0^@n/^@n/**^ * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.^ * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.^@n/^@n^package kotlin.^@n/^@n/**^ * Represents a version of the Kotlin standard
library.^@n *^ * [major], [minor] and [patch] are integer components of a version,^@n * they must be non-negative and
not greater than 255 (MAX_COMPONENT_VALUE).^@n *^ * @constructor Creates a version from all three
components.^@n *^@SinceKotlin("1.1")^@npublic class KotlinVersion(val major: Int, val minor: Int, val patch: Int) :
Comparable<KotlinVersion> {^@n /**^ * * Creates a version from [major] and [minor] components, leaving
[patch] component zero.^@n *^@n public constructor(major: Int, minor: Int) : this(major, minor, 0)^@n^@n private val
version = versionOf(major, minor, patch)^@n^@n private fun versionOf(major: Int, minor: Int, patch: Int): Int {^@n
require(major in 0..MAX_COMPONENT_VALUE && minor in 0..MAX_COMPONENT_VALUE && patch in
0..MAX_COMPONENT_VALUE) {^@n "Version components are out of range: $major.$minor.$patch"^@n
}^@n return major.shl(16) + minor.shl(8) + patch^@n }^@n /**^ * * Returns the string representation of this
version.^@n *^@n override fun toString(): String = "$major.$minor.$patch"^@n^@n override fun equals(other:
Any?): Boolean {^@n if (this === other) return true^@n val otherVersion = (other as? KotlinVersion) ?: return
false^@n return this.version == otherVersion.version^@n }^@n^@n override fun hashCode(): Int = version^@n^@n
override fun compareTo(other: KotlinVersion): Int = version - other.version^@n^@n /**^ * * Returns `true` if this
version is not less than the version specified^@n * with the provided [major] and [minor] components.^@n *^@n
public fun isAtLeast(major: Int, minor: Int): Boolean = // this.version >= versionOf(major, minor, 0)^@n
this.major > major || (this.major == major &&^@n this.minor >= minor)^@n^@n /**^ * * Returns `true` if this
version is not less than the version specified^@n * with the provided [major], [minor] and [patch] components.^@n
*^@n public fun isAtLeast(major: Int, minor: Int, patch: Int): Boolean = // this.version >= versionOf(major, minor,
patch)^@n this.major > major || (this.major == major &&^@n (this.minor > minor || this.minor == minor
&&^@n this.patch >= patch))^@n^@n companion object {^@n /**^ * * Maximum value a version
component can have, a constant value 255.^@n *^@n // NOTE: Must be placed before CURRENT because its
initialization requires this field being initialized in JS^@n public const val MAX_COMPONENT_VALUE =
255^@n^@n /**^ * * Returns the current version of the Kotlin standard library.^@n *^@n
@kotlin.jvm.JvmField^@n public val CURRENT: KotlinVersion = KotlinVersion(1, 3, 70) // value is written here
automatically during build^@n }^@n/^@n/**^ * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.^ * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.^@n
*^@n@file:kotlin.jvm.JvmName("LateinitKt")^@n@file:Suppress("unused")^@npackage kotlin.^@nimport
kotlin.internal.InlineOnly^@nimport kotlin.internal.AccessibleLateinitPropertyLiteral^@nimport

```

```

kotlin.reflect.KProperty0\n\n/**\n * Returns `true` if this lateinit property has been assigned a value, and `false`
otherwise.\n *\n * Cannot be used in an inline function, to avoid binary compatibility issues.\n
*\n@SinceKotlin("1.2")\n@InlineOnly\ninline val @receiver:AccessibleLateinitPropertyLiteral
KProperty0<*>.isInitialized: Boolean\n get() = throw NotImplementedError("Implementation is
intrinsic")\n\n","/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmName("LazyKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin\n\nimport
kotlin.reflect.KProperty\n\n/**\n * Represents a value with lazy initialization.\n *\n * To create an instance of
[Lazy] use the [lazy] function.\n *\npublic interface Lazy<out T> {\n /**\n * Gets the lazily initialized value of
the current Lazy instance.\n * Once the value was initialized it must not change during the rest of lifetime of this
Lazy instance.\n *\n public val value: T\n\n /**\n * Returns `true` if a value for this Lazy instance has been
already initialized, and `false` otherwise.\n * Once this function has returned `true` it stays `true` for the rest of
lifetime of this Lazy instance.\n *\n public fun isInitialized(): Boolean\n}\n\n/**\n * Creates a new instance of
the [Lazy] that is already initialized with the specified [value].\n *\npublic fun <T> lazyOf(value: T): Lazy<T> =
InitializedLazyImpl(value)\n\n/**\n * An extension to delegate a read-only property of type [T] to an instance of
[Lazy].\n *\n * This extension allows to use instances of Lazy for property delegation:\n *\n`val property: String by
lazy { initializer }`\n *\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Lazy<T>.getValue(thisRef:
Any?, property: KProperty<*>): T = value\n\n/**\n * Specifies how a [Lazy] instance synchronizes initialization
among multiple threads.\n *\npublic enum class LazyThreadSafetyMode {\n\n /**\n * Locks are used to ensure
that only a single thread can initialize the [Lazy] instance.\n *\n SYNCHRONIZED,\n\n /**\n * Initializer
function can be called several times on concurrent access to uninitialized [Lazy] instance value,\n * but only the
first returned value will be used as the value of [Lazy] instance.\n *\n PUBLICATION,\n\n /**\n * No
locks are used to synchronize an access to the [Lazy] instance value; if the instance is accessed from multiple
threads, its behavior is undefined.\n *\n * This mode should not be used unless the [Lazy] instance is
guaranteed never to be initialized from more than one thread.\n *\n NONE,\n}\n\n\ninternal object
UNINITIALIZED_VALUE\n\n// internal to be called from lazy in JS\ninternal class UnsafeLazyImpl<out
T>(initializer: () -> T) : Lazy<T>, Serializable {\n private var initializer: (() -> T)? = initializer\n private var
_value: Any? = UNINITIALIZED_VALUE\n\n override val value: T\n get() {\n if (_value ===
UNINITIALIZED_VALUE) {\n _value = initializer!!()\n initializer = null\n }\n
\n @Suppress("UNCHECKED_CAST")\n return _value as T\n }\n\n override fun isInitialized():
Boolean = _value !== UNINITIALIZED_VALUE\n\n override fun toString(): String = if (isInitialized())
value.toString() else "Lazy value not initialized yet.\n\n private fun writeReplace(): Any =
InitializedLazyImpl(value)\n}\n\n\ninternal class InitializedLazyImpl<out T>(override val value: T) : Lazy<T>,
Serializable {\n\n override fun isInitialized(): Boolean = true\n\n override fun toString(): String =
value.toString()\n}\n\n","/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("NumbersKt")\npackage kotlin\n\n/**\n *
Counts the number of set bits in the binary representation of this [Int] number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Int.countOneBits(): Int\n\n/**\n * Counts
the number of consecutive most significant bits that are zero in the binary representation of this [Int] number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Int.countLeadingZeroBits(): Int\n\n/**\n *
Counts the number of consecutive least significant bits that are zero in the binary representation of this [Int]
number.\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Int.countTrailingZeroBits():
Int\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Int]
number,\n * or zero, if this number is zero.\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect
fun Int.takeHighestOneBit(): Int\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [Int] number,\n * or zero, if this number is zero.\n

```

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*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Int.takeLowestOneBit(): Int\n\n**\n *
Rotates the binary representation of this [Int] number left by the specified [bitCount] number of bits.\n * The most
significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n *
Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n *
`number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns
the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Int.rotateLeft(bitCount: Int): Int\n\n**\n
* Rotates the binary representation of this [Int] number right by the specified [bitCount] number of bits.\n * The
least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n
*\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns
the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Int.rotateRight(bitCount: Int):
Int\n\n**\n * Counts the number of set bits in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Long.countOneBits(): Int\n\n**\n *
Counts the number of consecutive most significant bits that are zero in the binary representation of this [Long]
number.\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Long.countLeadingZeroBits():
Int\n\n**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of
this [Long] number.\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun
Long.countTrailingZeroBits(): Int\n\n**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun Long.takeHighestOneBit(): Long\n\n**\n
* Returns a number having a single bit set in the position of the least significant set bit of this [Long] number,\n *
or zero, if this number is zero.\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun
Long.takeLowestOneBit(): Long\n\n**\n * Rotates the binary representation of this [Long] number left by the
specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as
the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 64)`\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun
Long.rotateLeft(bitCount: Int): Long\n\n**\n * Rotates the binary representation of this [Long] number right by the
specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number
as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 64)`\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic expect fun
Long.rotateRight(bitCount: Int): Long\n\n**\n * Counts the number of set bits in the binary representation of this
[Byte] number.\n *\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline
fun Byte.countOneBits(): Int = (toInt() and 0xFF).countOneBits()\n\n**\n * Counts the number of consecutive most
significant bits that are zero in the binary representation of this [Byte] number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.countLeadingZeroBits(): Int = (toInt() and 0xFF).countLeadingZeroBits() - (Int.SIZE_BITS -
Byte.SIZE_BITS)\n\n**\n * Counts the number of consecutive least significant bits that are zero in the binary
representation of this [Byte] number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.countTrailingZeroBits(): Int = (toInt() or 0x100).countTrailingZeroBits()\n\n**\n * Returns a number having a
single bit set in the position of the most significant set bit of this [Byte] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun

```

Byte.takeHighestOneBit(): Byte = (toInt() and 0xFF).takeHighestOneBit().toByte()\n\n/\*\*\n \* Returns a number having a single bit set in the position of the least significant set bit of this [Byte] number,\n \* or zero, if this number is zero.\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun Byte.takeLowestOneBit(): Byte = toInt().takeLowestOneBit().toByte()\n\n/\*\*\n \* Rotates the binary representation of this [Byte] number left by the specified [bitCount] number of bits.\n \* The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n \* Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n \* `number.rotateLeft(-n) == number.rotateRight(n)`\n \* Rotating by a multiple of [Byte.SIZE\_BITS] (8) returns the same number, or more generally\n \* `number.rotateLeft(n) == number.rotateLeft(n % 8)`\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun Byte.rotateLeft(bitCount: Int): Byte =\n(toInt().shl(bitCount and 7) or (toInt() and 0xFF).ushr(8 - (bitCount and 7))).toByte()\n\n/\*\*\n \* Rotates the binary representation of this [Byte] number right by the specified [bitCount] number of bits.\n \* The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n \* Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n \* `number.rotateRight(-n) == number.rotateLeft(n)`\n \* Rotating by a multiple of [Byte.SIZE\_BITS] (8) returns the same number, or more generally\n \* `number.rotateRight(n) == number.rotateRight(n % 8)`\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun Byte.rotateRight(bitCount: Int): Byte =\n(toInt().shl(8 - (bitCount and 7)) or (toInt() and 0xFF).ushr(bitCount and 7)).toByte()\n\n/\*\*\n \* Counts the number of set bits in the binary representation of this [Short] number.\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun Short.countOneBits(): Int = (toInt() and 0xFFFF).countOneBits()\n\n/\*\*\n \* Counts the number of consecutive most significant bits that are zero in the binary representation of this [Short] number.\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun Short.countLeadingZeroBits(): Int =\n(toInt() and 0xFFFF).countLeadingZeroBits() - (Int.SIZE\_BITS - Short.SIZE\_BITS)\n\n/\*\*\n \* Counts the number of consecutive least significant bits that are zero in the binary representation of this [Short] number.\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun Short.countTrailingZeroBits(): Int = (toInt() or 0x10000).countTrailingZeroBits()\n\n/\*\*\n \* Returns a number having a single bit set in the position of the most significant set bit of this [Short] number,\n \* or zero, if this number is zero.\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun Short.takeHighestOneBit(): Short = (toInt() and 0xFFFF).takeHighestOneBit().toShort()\n\n/\*\*\n \* Returns a number having a single bit set in the position of the least significant set bit of this [Short] number,\n \* or zero, if this number is zero.\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun Short.takeLowestOneBit(): Short = toInt().takeLowestOneBit().toShort()\n\n/\*\*\n \* Rotates the binary representation of this [Short] number left by the specified [bitCount] number of bits.\n \* The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n \* Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n \* `number.rotateLeft(-n) == number.rotateRight(n)`\n \* Rotating by a multiple of [Short.SIZE\_BITS] (16) returns the same number, or more generally\n \* `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun Short.rotateLeft(bitCount: Int): Short =\n(toInt().shl(bitCount and 15) or (toInt() and 0xFFFF).ushr(16 - (bitCount and 15))).toShort()\n\n/\*\*\n \* Rotates the binary representation of this [Short] number right by the specified [bitCount] number of bits.\n \* The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n \* Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n \* `number.rotateRight(-n) == number.rotateLeft(n)`\n \* Rotating by a multiple of [Short.SIZE\_BITS] (16) returns the same number, or more generally\n \* `number.rotateRight(n) == number.rotateRight(n % 16)`\n \*/\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun Short.rotateRight(bitCount: Int): Short =\n(toInt().shl(16 - (bitCount and 15)) or (toInt() and 0xFFFF).ushr(bitCount and 15)).toShort()\n\n/\* Copyright



```

2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\nimport
kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.2")\n@Suppress("IN
VISIBLE_MEMBER", "INVISIBLE_REFERENCE")\n@RequireKotlin("1.2.30", level =
DeprecationLevel.HIDDEN, versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic inline fun
<R> suspend(noinline block: suspend () -> R): suspend () -> R = block\n", "/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("TuplesKt")\n\npackage kotlin\n\n/**\n * Represents a generic pair of two
values.\n * There is no meaning attached to values in this class, it can be used for any purpose.\n * Pair exhibits
value semantics, i.e. two pairs are equal if both components are equal.\n * An example of decomposing it into
values:\n * @sample samples.misc.Tuples.pairDestructuring\n * @param A type of the first value.\n * @param
B type of the second value.\n * @property first First value.\n * @property second Second value.\n * @constructor
Creates a new instance of Pair.\n */\npublic data class Pair<out A, out B>(\n public val first: A,\n public val
second: B\n) : Serializable {\n /**\n * Returns string representation of the [Pair] including its [first] and
[second] values.\n */\n public override fun toString(): String = "$first, $second"\n}\n\n/**\n * Creates a tuple
of type [Pair] from this and [that].\n * This can be useful for creating [Map] literals with less noise, for
example:\n * @sample samples.collections.Maps.instantiation.mapFromPairs\n */\npublic infix fun <A, B>
A.to(that: B): Pair<A, B> = Pair(this, that)\n\n/**\n * Converts this pair into a list.\n * @sample
samples.misc.Tuples.pairToList\n */\npublic fun <T> Pair<T, T>.toList(): List<T> = listOf(first, second)\n\n/**\n *
Represents a triad of values\n * There is no meaning attached to values in this class, it can be used for any
purpose.\n * Triple exhibits value semantics, i.e. two triples are equal if all three components are equal.\n * An
example of decomposing it into values:\n * @sample samples.misc.Tuples.tripleDestructuring\n * @param A
type of the first value.\n * @param B type of the second value.\n * @param C type of the third value.\n * @property
first First value.\n * @property second Second value.\n * @property third Third value.\n */\npublic data class
Triple<out A, out B, out C>(\n public val first: A,\n public val second: B,\n public val third: C\n) : Serializable
{\n /**\n * Returns string representation of the [Triple] including its [first], [second] and [third] values.\n
 */\n public override fun toString(): String = "$first, $second, $third"\n}\n\n/**\n * Converts this triple into a
list.\n * @sample samples.misc.Tuples.tripleToList\n */\npublic fun <T> Triple<T, T, T>.toList(): List<T> =
listOf(first, second, third)\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport
kotlin.internal.*\n\n/**\n * A range of values of type `UInt`.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic class UIntRange(start: UInt, endInclusive: UInt)
: UIntProgression(start, endInclusive, 1), ClosedRange<UInt> {\n override val start: UInt get() = first\n override
val endInclusive: UInt get() = last\n\n override fun contains(value: UInt): Boolean = first <= value && value <=
last\n\n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n other is UIntRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last\n}\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first.toInt() + last.toInt())\n\n override fun
toString(): String = "$first..$last"\n\n companion object {\n /** An empty range of values of type UInt. */\n
 public val EMPTY: UIntRange = UIntRange(UInt.MAX_VALUE, UInt.MIN_VALUE)\n }\n}\n\n/**\n * A
progression of values of type `UInt`.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic open class
UIntProgression\n internal constructor(\n start: UInt,\n endInclusive: UInt,\n step: Int\n) : Iterable<UInt>
{\n init {\n if (step == 0.toInt()) throw kotlin.IllegalArgumentException("Step must be non-zero.")\n if
(step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than Int.MIN_VALUE
to avoid overflow on negation.")\n }\n\n /**\n * The first element in the progression.\n */\n public val
first: UInt = start\n\n /**\n * The last element in the progression.\n */\n public val last: UInt =

```

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getProgressionLastElement(start, endInclusive, step)\n\n /**\n * The step of the progression.\n */\n public
val step: Int = step\n\n override fun iterator(): UIntIterator = UIntProgressionIterator(first, last, step)\n\n /**
Checks if the progression is empty. *\n public open fun isEmpty(): Boolean = if (step > 0) first > last else first <
last\n\n override fun equals(other: Any?): Boolean =\n other is UIntProgression && (isEmpty() &&
other.isEmpty()) ||\n first == other.first && last == other.last && step == other.step)\n\n override fun
hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * first.toInt() + last.toInt()) + step.toInt())\n\n override fun
toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"*\n\n companion
object {\n /**\n * Creates UIntProgression within the specified bounds of a closed range.\n * The
progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the
specified [step].\n * In order to go backwards the [step] must be negative.\n * [step] must be
greater than `Int.MIN_VALUE` and not equal to zero.\n */\n public fun fromClosedRange(rangeStart:
UInt, rangeEnd: UInt, step: Int): UIntProgression = UIntProgression(rangeStart, rangeEnd, step)\n }\n}\n\n/**\n * An iterator over a progression of values of type `UInt`. *\n * @property step the number by which the value is
incremented on each step.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n private class
UIntProgressionIterator(first: UInt, last: UInt, step: Int) : UIntIterator() {\n private val finalElement = last\n
private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n private val step = step.toUInt() // use 2-
complement math for negative steps\n private var next = if (hasNext) first else finalElement\n\n override fun
hasNext(): Boolean = hasNext\n\n override fun nextUInt(): UInt {\n val value = next\n if (value ==
finalElement) {\n if (!hasNext) throw kotlin.NoSuchElementException()\n hasNext = false\n }
else {\n next += step\n }\n return value\n }\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.collections\n\n/** An iterator over a sequence of values of type `UByte`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class UByteIterator : Iterator<UByte>
{\n override final fun next() = nextUByte()\n\n /** Returns the next value in the sequence without boxing. *\n */\n public abstract fun nextUByte(): UByte\n}\n\n/** An iterator over a sequence of values of type `UShort`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class UShortIterator : Iterator<UShort>
{\n override final fun next() = nextUShort()\n\n /** Returns the next value in the sequence without boxing. *\n */\n public abstract fun nextUShort(): UShort\n}\n\n/** An iterator over a sequence of values of type `UInt`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class UIntIterator : Iterator<UInt> {\n override final fun next() = nextUInt()\n\n /** Returns the next value in the sequence without boxing. *\n */\n public abstract fun nextUInt(): UInt\n}\n\n/** An iterator over a sequence of values of type `ULong`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class ULongIterator : Iterator<ULong>
{\n override final fun next() = nextULong()\n\n /** Returns the next value in the sequence without boxing. *\n */\n public abstract fun nextULong(): ULong\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.ranges\n\nimport kotlin.internal.*\n\n/** A range of values of type `ULong`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public class ULongRange(start: ULong, endInclusive:
ULong) : ULongProgression(start, endInclusive, 1), ClosedRange<ULong> {\n override val start: ULong get() =
first\n override val endInclusive: ULong get() = last\n\n override fun contains(value: ULong): Boolean = first <=
value && value <= last\n\n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?):
Boolean =\n other is ULongRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last
== other.last)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (first xor (first shr 32)).toInt() +
(last xor (last shr 32)).toInt())\n\n override fun toString(): String = \"$first..$last\"\n\n companion object {\n /** An empty range of values of type ULong. *\n */\n public val EMPTY: ULongRange =
ULongRange(ULong.MAX_VALUE, ULong.MIN_VALUE)\n }\n}\n\n/** A progression of values of type
`ULong`.\n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public open class

```

```

ULongProgression\ninternal constructor(\n start: ULong,\n endInclusive: ULong,\n step: Long\n) :
Iterable<ULong> {\n init {\n if (step == 0.toLong()) throw kotlin.IllegalArgumentException(\"Step must be
non-zero.\")\n if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater
than Long.MIN_VALUE to avoid overflow on negation.\")\n }\n\n /**\n * The first element in the
progression.\n */\n public val first: ULong = start\n\n /**\n * The last element in the progression.\n */\n
public val last: ULong = getProgressionLastElement(start, endInclusive, step)\n\n /**\n * The step of the
progression.\n */\n public val step: Long = step\n\n override fun iterator(): ULongIterator =
ULongProgressionIterator(first, last, step)\n\n /** Checks if the progression is empty. */\n public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n
other is ULongProgression && (isEmpty() && other.isEmpty() ||\n first == other.first && last ==
other.last && step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * (first
xor (first shr 32)).toInt()) + (last xor (last shr 32)).toInt()) + (step xor (step ushr 32)).toInt())\n\n override fun
toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n companion
object {\n /**\n * Creates ULongProgression within the specified bounds of a closed range.\n\n * The
progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the
specified [step].\n\n * In order to go backwards the [step] must be negative.\n\n * [step] must be
greater than `Long.MIN_VALUE` and not equal to zero.\n\n */\n public fun fromClosedRange(rangeStart:
ULong, rangeEnd: ULong, step: Long): ULongProgression = ULongProgression(rangeStart, rangeEnd, step)\n
}\n}\n\n/**\n * An iterator over a progression of values of type `ULong`. \n * @property step the number by which
the value is incremented on each step.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\nprivate class
ULongProgressionIterator(first: ULong, last: ULong, step: Long) : ULongIterator() {\n private val finalElement =
last\n private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n private val step =
step.toULong() // use 2-complement math for negative steps\n private var next = if (hasNext) first else
finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n override fun nextULong(): ULong {\n val
value = next\n if (value == finalElement) {\n if (!hasNext) throw kotlin.NoSuchElementException()\n
hasNext = false\n } else {\n next += step\n }\n return value\n }\n}\n\n/**\n * Copyright
2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.math\n\n/**\n *
Returns the smaller of two values.\n\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun min(a:
UInt, b: UInt): UInt {\n return minOf(a, b)\n}\n\n/**\n * Returns the smaller of two values.\n\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun min(a:
ULong, b: ULong): ULong {\n return minOf(a, b)\n}\n\n/**\n * Returns the greater of two values.\n\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun max(a:
UInt, b: UInt): UInt {\n return maxOf(a, b)\n}\n\n/**\n * Returns the greater of two values.\n\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun max(a:
ULong, b: ULong): ULong {\n return maxOf(a, b)\n}\n\n/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"UNumbersKt\")\npackage
kotlin\n\n/**\n * Counts the number of set bits in the binary representation of this [UInt] number.\n\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countOneBits(): Int = toInt().countOneBits()\n\n/**\n * Counts the number of consecutive
most significant bits that are zero in the binary representation of this [UInt] number.\n\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countLeadingZeroBits(): Int = toInt().countLeadingZeroBits()\n\n/**\n * Counts the
number of consecutive least significant bits that are zero in the binary representation of this [UInt] number.\n\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countTrailingZeroBits(): Int = toInt().countTrailingZeroBits()\n\n/**\n * Returns a number

```

having a single bit set in the position of the most significant set bit of this [UInt] number, or zero, if this number is zero.

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeHighestOneBit(): UInt = toInt().takeHighestOneBit().toUInt()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [UInt] number, or zero, if this number is zero.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeLowestOneBit(): UInt = toInt().takeLowestOneBit().toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number left by the specified [bitCount] number of bits. The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:
```

```
`number.rotateLeft(-n) == number.rotateRight(n)`\n\n * Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateLeft(bitCount: Int): UInt = toInt().rotateLeft(bitCount).toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number right by the specified [bitCount] number of bits. The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:
```

```
`number.rotateRight(-n) == number.rotateLeft(n)`\n\n * Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateRight(bitCount: Int): UInt = toInt().rotateRight(bitCount).toUInt()\n\n/**\n * Counts the number of set bits in the binary representation of this [ULong] number.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countOneBits(): Int = toLong().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [ULong] number.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countLeadingZeroBits(): Int = toLong().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [ULong] number.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countTrailingZeroBits(): Int = toLong().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [ULong] number, or zero, if this number is zero.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeHighestOneBit(): ULong = toLong().takeHighestOneBit().toULong()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [ULong] number, or zero, if this number is zero.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeLowestOneBit(): ULong = toLong().takeLowestOneBit().toULong()\n\n/**\n * Rotates the binary representation of this [ULong] number left by the specified [bitCount] number of bits. The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * Rotating by a multiple of [ULong.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateLeft(bitCount: Int): ULong = toLong().rotateLeft(bitCount).toULong()\n\n/**\n * Rotates the binary representation of this [ULong] number right by the specified [bitCount] number of bits. The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.
```

```

*\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [ULong.SIZE_BITS] (64)
returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 64)`\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun ULong.rotateRight(bitCount: Int): ULong = toLong().rotateRight(bitCount).toULong()\n\n**\n
* Counts the number of set bits in the binary representation of this [UByte] number.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UByte.countOneBits(): Int = toUInt().countOneBits()\n\n**\n * Counts the number of
consecutive most significant bits that are zero in the binary representation of this [UByte] number.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UByte.countLeadingZeroBits(): Int = toByte().countLeadingZeroBits()\n\n**\n * Counts the
number of consecutive least significant bits that are zero in the binary representation of this [UByte] number.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UByte.countTrailingZeroBits(): Int = toByte().countTrailingZeroBits()\n\n**\n * Returns a
number having a single bit set in the position of the most significant set bit of this [UByte] number,\n * or zero, if
this number is zero.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UByte.takeHighestOneBit(): UByte = toInt().takeHighestOneBit().toUByte()\n\n**\n * Returns
a number having a single bit set in the position of the least significant set bit of this [UByte] number,\n * or zero, if
this number is zero.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UByte.takeLowestOneBit(): UByte = toInt().takeLowestOneBit().toUByte()\n\n\n**\n *
Rotates the binary representation of this [UByte] number left by the specified [bitCount] number of bits.\n * The
most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n
*\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n *
`number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns
the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 8)`\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UByte.rotateLeft(bitCount: Int): UByte = toByte().rotateLeft(bitCount).toUByte()\n\n**\n
* Rotates the binary representation of this [UByte] number right by the specified [bitCount] number of bits.\n * The
least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n
*\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns
the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 8)`\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UByte.rotateRight(bitCount: Int): UByte = toByte().rotateRight(bitCount).toUByte()\n\n**\n
* Counts the number of set bits in the binary representation of this [UShort] number.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UShort.countOneBits(): Int = toUInt().countOneBits()\n\n**\n * Counts the number of
consecutive most significant bits that are zero in the binary representation of this [UShort] number.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UShort.countLeadingZeroBits(): Int = toShort().countLeadingZeroBits()\n\n**\n * Counts the
number of consecutive least significant bits that are zero in the binary representation of this [UShort] number.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl
y\n public inline fun UShort.countTrailingZeroBits(): Int = toShort().countTrailingZeroBits()\n\n**\n * Returns a
number having a single bit set in the position of the most significant set bit of this [UShort] number,\n * or zero, if
this number is zero.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnl

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y\npublic inline fun UShort.takeHighestOneBit(): UShort = toInt().takeHighestOneBit().toUShort()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeLowestOneBit(): UShort = toInt().takeLowestOneBit().toUShort()\n\n/**\n * Rotates the binary representation of this [UShort] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n *\n * Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or more generally\n * number.rotateLeft(n) == number.rotateLeft(n % 16)\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateLeft(bitCount: Int): UShort = toShort().rotateLeft(bitCount).toUShort()\n\n/**\n * Rotates the binary representation of this [UShort] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *\n * Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or more generally\n * number.rotateRight(n) == number.rotateRight(n % 16)\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateRight(bitCount: Int): UShort = toShort().rotateRight(bitCount).toUShort()\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n*\n@file:UseExperimental(ExperimentalUnsignedTypes::class)\npackage kotlin.internal\n\n(a - b) mod c\nprivate fun differenceModulo(a: UInt, b: UInt, c: UInt): UInt {\n val ac = a % c\n val bc = b % c\n return if (ac >= bc) ac - bc else ac - bc + c\n}\n\nprivate fun differenceModulo(a: ULong, b: ULong, c: ULong): ULong {\n val ac = a % c\n val bc = b % c\n return if (ac >= bc) ac - bc else ac - bc + c\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n *\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n *\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n *\n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * @suppress\n */\n\n*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: UInt, end: UInt, step: Int): UInt = when {\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toUInt())\n step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toUInt())\n else -> throw kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n *\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n *\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n *\n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * @suppress\n */\n\n*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: ULong, end: ULong, step: Long): ULong = when {\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toULong())\n step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toULong())\n else -> throw kotlin.IllegalArgumentException("Step is zero.")\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n*\n@file:kotlin.jvm.JvmName("UStringsKt") // string representation of unsigned numbers\npackage kotlin.text\n\n/**\n * Returns a string representation of this [Byte]

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value in the specified [radix].\n \* \n \* @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun
UByte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this
[Short] value in the specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid radix
for number to string conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun
UShort.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this
[Int] value in the specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid radix for
number to string conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun
UInt.toString(radix: Int): String = this.toLong().toString(radix)\n\n/**\n * Returns a string representation of this
[Long] value in the specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid radix
for number to string conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULong.toString(radix: Int): String = ulongToString(this.toLong(), checkRadix(radix))\n\n/**\n * Parses the string
as a signed [UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
String.toUByte(): UByte = toUByteOrNull() ?: numberFormatException(this)\n\n/**\n * Parses the string as a signed
[UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to
number conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUByte(radix:
Int): UByte = toUByteOrNull(radix) ?: numberFormatException(this)\n\n/**\n * Parses the string as a [UShort]
number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUShort(): UShort =
toUShortOrNull() ?: numberFormatException(this)\n\n/**\n * Parses the string as a [UShort] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUShort(radix: Int): UShort =
toUShortOrNull(radix) ?: numberFormatException(this)\n\n/**\n * Parses the string as an [UInt] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUInt(): UInt = toUIntOrNull() ?:
numberFormatException(this)\n\n/**\n * Parses the string as an [UInt] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUInt(radix: Int): UInt =
toUIntOrNull(radix) ?: numberFormatException(this)\n\n/**\n * Parses the string as a [ULong] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toULong(): ULong =
toULongOrNull() ?: numberFormatException(this)\n\n/**\n * Parses the string as a [ULong] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toULong(radix: Int): ULong =
toULongOrNull(radix) ?: numberFormatException(this)\n\n/**\n * Parses the string as an [UByte] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUByteOrNull(): UByte? =
toUByteOrNull(radix = 10)\n\n/**\n * Parses the string as an [UByte] number and returns the result\n * or `null` if
the string is not a valid representation of a number.\n * \n * @throws IllegalArgumentException when [radix] is not a
valid radix for string to number conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic

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fun String.toUByteOrNull(radix: Int): UByte? {\n val int = this.toUIntOrNull(radix) ?: return null\n if (int >
UByte.MAX_VALUE) return null\n return int.toUByte()\n}\n\n/**\n * Parses the string as an [UShort] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUShortOrNull(): UShort? =
toUShortOrNull(radix = 10)\n\n/**\n * Parses the string as an [UShort] number and returns the result\n * or `null` if
the string is not a valid representation of a number.\n * \n * @throws IllegalArgumentException when [radix] is not a
valid radix for string to number conversion.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun String.toUShortOrNull(radix: Int): UShort? {\n val int = this.toUIntOrNull(radix) ?: return null\n if (int >
UShort.MAX_VALUE) return null\n return int.toUShort()\n}\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun String.toUIntOrNull(radix: Int): UInt? {\n checkRadix(radix)\n\n val length = this.length\n if (length == 0)
return null\n\n val limit: UInt = UInt.MAX_VALUE\n val start: Int\n\n val firstChar = this[0]\n if (firstChar
< '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val
limitForMaxRadix = 119304647u // limit / 36\n\n var limitBeforeMul = limitForMaxRadix\n val uradix =
radix.toUInt()\n var result = 0u\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if
(digit < 0) return null\n if (result > limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n
 limitBeforeMul = limit / uradix\n\n if (result > limitBeforeMul) {\n return
null\n }\n } else {\n return null\n }\n\n result *= uradix\n\n val
beforeAdding =
result\n result += digit.toUInt()\n if (result < beforeAdding) return null // overflow has happened\n }\n\n return result\n }\n}\n\n/**\n * Parses the string as an [ULong] number and returns the result\n * or `null` if the string is
not a valid representation of a number.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
String.toULongOrNull(): ULong? = toULongOrNull(radix = 10)\n\n/**\n * Parses the string as an [ULong] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n * \n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toULongOrNull(radix: Int): ULong?
{\n checkRadix(radix)\n\n val length = this.length\n if (length == 0) return null\n\n val limit: ULong =
ULong.MAX_VALUE\n val start: Int\n\n val firstChar = this[0]\n if (firstChar < '0') {\n if (length == 1 ||
firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val limitForMaxRadix =
512409557603043100uL // limit / 36\n\n var limitBeforeMul = limitForMaxRadix\n val uradix =
radix.toULong()\n var result = 0uL\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if
(digit < 0) return null\n if (result > limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n
 limitBeforeMul = limit / uradix\n\n if (result > limitBeforeMul) {\n return
null\n }\n } else {\n return null\n }\n\n result *= uradix\n\n val
beforeAdding =
result\n result += digit.toUInt()\n if (result < beforeAdding) return null // overflow has happened\n }\n\n return result\n }\n}\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * Marks the API that is dependent on the experimental unsigned
types, including those types themselves.\n * \n * Usages of such API will be reported as warnings unless an explicit
opt-in with\n * the [OptIn] annotation, e.g. `@OptIn(ExperimentalUnsignedTypes::class)`,\n * or with the `-Xopt-in=kotlin.ExperimentalUnsignedTypes` compiler option is given.\n * \n * It's recommended to propagate the
experimental status to the API that depends on unsigned types by annotating it with this annotation.\n
*\n\n@Suppress("DEPRECATION")\n@Experimental(level =

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Experimental.Level.WARNING)\n@RequiresOptIn(level =
RequiresOptIn.Level.WARNING)\n@MustBeDocumented\n@Target(CLASS, ANNOTATION_CLASS,
PROPERTY, FIELD, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION,
PROPERTY_GETTER, PROPERTY_SETTER,
TYPEALIAS)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class ExperimentalUnsignedTypes\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MathKt")\n\npackage
kotlin.math\n\n// constants, can't use them from nativeMath as they are not constants there\n/** Ratio of the
circumference of a circle to its diameter, approximately 3.14159. */\n@SinceKotlin("1.2")\npublic const val PI:
Double = 3.141592653589793\n/** Base of the natural logarithms, approximately 2.71828.
*/\n@SinceKotlin("1.2")\npublic const val E: Double = 2.718281828459045\n\n// region =====
Double Math =====\n\n/** Computes the sine of the angle [x]
given in radians.\n * \n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun sin(x: Double): Double\n\n/** Computes the cosine of the angle [x] given in radians.\n * \n * Special
cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun cos(x: Double):
Double\n\n/** Computes the tangent of the angle [x] given in radians.\n * \n * Special cases:\n * - `tan(NaN|+Inf|-
Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun tan(x: Double): Double\n\n/** Computes the arc
sine of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n * \n * Special
cases:\n * - `asin(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun
asin(x: Double): Double\n\n/** Computes the arc cosine of the value [x];\n * the returned value is an angle in
the range from `0.0` to `PI` radians.\n * \n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is
`NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun acos(x: Double): Double\n\n/** Computes the arc tangent
of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n * \n * Special cases:\n
* - `atan(NaN)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun atan(x: Double): Double\n\n/** Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x,
y)` by computing the arc tangent of the value [y] / [x];\n * the returned value is an angle in the range from `-PI` to
`PI` radians.\n * \n * Special cases:\n * - `atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI`
for `x < 0`\n * - `atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0`\n * - `atan2(y, +Inf)` is `0.0` for `0 < y <
+Inf` and `-0.0` for `-Inf < y < 0`\n * - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n * -
`atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n * - `atan2(+Inf, x)` is `PI/2` for finite `x`\n * -
`atan2(-Inf, x)` is `-PI/2` for finite `x`\n * - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n
*/\n@SinceKotlin("1.2")\npublic expect fun atan2(y: Double, x: Double): Double\n\n/** Computes the
hyperbolic sine of the value [x].\n * \n * Special cases:\n * - `sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is `+Inf`\n *
- `sinh(-Inf)` is `-Inf`\n */\n@SinceKotlin("1.2")\npublic expect fun sinh(x: Double): Double\n\n/** Computes
the hyperbolic cosine of the value [x].\n * \n * Special cases:\n * - `cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is
`+Inf`\n */\n@SinceKotlin("1.2")\npublic expect fun cosh(x: Double): Double\n\n/** Computes the hyperbolic
tangent of the value [x].\n * \n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(+Inf)` is `1.0`\n * - `tanh(-
Inf)` is `-1.0`\n */\n@SinceKotlin("1.2")\npublic expect fun tanh(x: Double): Double\n\n/** Computes the
inverse hyperbolic sine of the value [x].\n * \n * The returned value is `y` such that `sinh(y) == x`.\n * \n * Special
cases:\n * - `asinh(NaN)` is `NaN`\n * - `asinh(+Inf)` is `+Inf`\n * - `asinh(-Inf)` is `-Inf`\n
*/\n@SinceKotlin("1.2")\npublic expect fun asinh(x: Double): Double\n\n/** Computes the inverse hyperbolic
cosine of the value [x].\n * \n * The returned value is positive `y` such that `cosh(y) == x`.\n * \n * Special cases:\n
* - `acosh(NaN)` is `NaN`\n * - `acosh(x)` is `NaN` when `x < 1`\n * - `acosh(+Inf)` is `+Inf`\n
*/\n@SinceKotlin("1.2")\npublic expect fun acosh(x: Double): Double\n\n/** Computes the inverse hyperbolic
tangent of the value [x].\n * \n * The returned value is `y` such that `tanh(y) == x`.\n * \n * Special cases:\n
* - `tanh(NaN)` is `NaN`\n * - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n * - `tanh(1.0)` is `+Inf`\n * - `tanh(-
1.0)` is `-Inf`\n

```

1.0) is  $-\infty$  if any of arguments is infinite  
 $\sqrt{x^2 + y^2}$  without intermediate overflow or underflow.  
Special cases:  
- returns  $+\infty$  if any of arguments is infinite  
- returns  $\text{NaN}$  if any of arguments is  $\text{NaN}$  and the other is not infinite

public expect fun hypot(x: Double, y: Double): Double  
Computes the positive square root of the value [x].  
Special cases:  
-  $\sqrt{x}$  is  $\text{NaN}$  when  $x < 0$  or  $x$  is  $\text{NaN}$

public expect fun sqrt(x: Double): Double  
Computes Euler's number  $e$  raised to the power of the value [x].  
Special cases:  
-  $\exp(\text{NaN})$  is  $\text{NaN}$   
-  $\exp(+\infty)$  is  $+\infty$   
-  $\exp(-\infty)$  is  $0.0$

public expect fun exp(x: Double): Double  
Computes  $\exp(x) - 1$ .  
This function can be implemented to produce more precise result for [x] near zero.  
Special cases:  
-  $\expm1(\text{NaN})$  is  $\text{NaN}$   
-  $\expm1(+\infty)$  is  $+\infty$   
-  $\expm1(-\infty)$  is  $-1.0$   
@see [exp] function.

public expect fun expm1(x: Double): Double  
Computes the logarithm of the value [x] to the given [base].  
Special cases:  
-  $\log(x, b)$  is  $\text{NaN}$  if either  $x$  or  $b$  are  $\text{NaN}$   
-  $\log(x, b)$  is  $\text{NaN}$  when  $x < 0$  or  $b \leq 0$  or  $b == 1.0$   
-  $\log(+\infty, +\infty)$  is  $\text{NaN}$   
-  $\log(+\infty, b)$  is  $+\infty$  for  $b > 1$  and  $-\infty$  for  $b < 1$   
-  $\log(0.0, b)$  is  $-\infty$  for  $b > 1$  and  $+\infty$  for  $b < 1$   
See also logarithm functions for common fixed bases: [ln], [log10] and [log2].

public expect fun log(x: Double, base: Double): Double  
Computes the natural logarithm (base  $E$ ) of the value [x].  
Special cases:  
-  $\ln(\text{NaN})$  is  $\text{NaN}$   
-  $\ln(x)$  is  $\text{NaN}$  when  $x < 0.0$   
-  $\ln(+\infty)$  is  $+\infty$   
-  $\ln(0.0)$  is  $-\infty$

public expect fun ln(x: Double): Double  
Computes the common logarithm (base 10) of the value [x].  
@see [ln] function for special cases.

public expect fun log10(x: Double): Double  
Computes the binary logarithm (base 2) of the value [x].  
@see [ln] function for special cases.

public expect fun log2(x: Double): Double  
Computes  $\ln(x + 1)$ .  
This function can be implemented to produce more precise result for [x] near zero.  
Special cases:  
-  $\ln1p(\text{NaN})$  is  $\text{NaN}$   
-  $\ln1p(x)$  is  $\text{NaN}$  where  $x < -1.0$   
-  $\ln1p(-1.0)$  is  $-\infty$   
-  $\ln1p(+\infty)$  is  $+\infty$   
@see [ln] function  
@see [expm1] function

public expect fun ln1p(x: Double): Double  
Rounds the given value [x] to an integer towards positive infinity.  
@return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.  
Special cases:  
-  $\text{ceil}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.

public expect fun ceil(x: Double): Double  
Rounds the given value [x] to an integer towards negative infinity.  
@return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.  
Special cases:  
-  $\text{floor}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.

public expect fun floor(x: Double): Double  
Rounds the given value [x] to an integer towards zero.  
@return the value [x] having its fractional part truncated.  
Special cases:  
-  $\text{truncate}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.

public expect fun truncate(x: Double): Double  
Rounds the given value [x] towards the closest integer with ties rounded towards even integer.  
Special cases:  
-  $\text{round}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.

public expect fun round(x: Double): Double  
Returns the absolute value of the given value [x].  
Special cases:  
-  $\text{abs}(\text{NaN})$  is  $\text{NaN}$   
@see absoluteValue extension property for [Double]

public expect fun abs(x: Double): Double  
Returns the sign of the given value [x]:  
-  $-1.0$  if the value is negative,  
- zero if the value is zero,  
-  $1.0$  if the value is positive  
Special case:  
-  $\text{sign}(\text{NaN})$  is  $\text{NaN}$

public expect fun sign(x: Double): Double  
Returns the smaller of two values.  
If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .

public expect fun min(a: Double, b: Double): Double  
Returns the greater of two values.  
If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .

public expect fun max(a: Double, b: Double): Double  
Raises this value to the power [x].  
Special cases:  
-  $b.\text{pow}(0.0)$  is  $1.0$   
-  $b.\text{pow}(1.0) == b$   
-  $b.\text{pow}(\text{NaN})$  is  $\text{NaN}$   
-  $\text{NaN}.\text{pow}(x)$  is  $\text{NaN}$  for  $x != 0.0$   
-  $b.\text{pow}(\infty)$  is  $\text{NaN}$  for  $\text{abs}(b) ==$

`1.0` \* - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer  
`@SinceKotlin("1.2")` public expect fun `Double.pow(x: Double): Double` \* Raises this value to the integer power [n]. \* See the other overload of [pow] for details.  
`@SinceKotlin("1.2")` public expect fun `Double.pow(n: Int): Double` \* Returns the absolute value of this value. \* Special cases: \* - `NaN.absoluteValue` is `NaN` \* @see abs function  
`@SinceKotlin("1.2")` public expect val `Double.absoluteValue: Double` \* Returns the sign of this value: \* - `-1.0` if the value is negative, \* - zero if the value is zero, \* - `1.0` if the value is positive \* Special case: \* - `NaN.sign` is `NaN`  
`@SinceKotlin("1.2")` public expect val `Double.sign: Double` \* Returns this value with the sign bit same as of the [sign] value. \* If [sign] is `NaN` the sign of the result is undefined.  
`@SinceKotlin("1.2")` public expect fun `Double.withSign(sign: Double): Double` \* Returns this value with the sign bit same as of the [sign] value.  
`@SinceKotlin("1.2")` public expect fun `Double.withSign(sign: Int): Double` \* Returns the ulp (unit in the last place) of this value. \* An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude. \* Special Cases: \* - `NaN.ulp` is `NaN` \* - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf` \* - `0.0.ulp` is `Double.MIN_VALUE`  
`@SinceKotlin("1.2")` public expect val `Double.ulp: Double` \* Returns the [Double] value nearest to this value in direction of positive infinity.  
`@SinceKotlin("1.2")` public expect fun `Double.nextUp(): Double` \* Returns the [Double] value nearest to this value in direction of negative infinity.  
`@SinceKotlin("1.2")` public expect fun `Double.nextDown(): Double` \* Returns the [Double] value nearest to this value in direction from this value towards the value [to]. \* Special cases: \* - `x.nextTowards(y)` is `NaN` if either `x` or `y` are `NaN` \* - `x.nextTowards(x) == x` \*  
`@SinceKotlin("1.2")` public expect fun `Double.nextTowards(to: Double): Double` \* Rounds this [Double] value to the nearest integer and converts the result to [Int]. \* Ties are rounded towards positive infinity. \* Special cases: \* - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE` \* - `x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE` \* @throws `IllegalArgumentException` when this value is `NaN`  
`@SinceKotlin("1.2")` public expect fun `Double.roundToInt(): Int` \* Rounds this [Double] value to the nearest integer and converts the result to [Long]. \* Ties are rounded towards positive infinity. \* Special cases: \* - `x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE` \* - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE` \* @throws `IllegalArgumentException` when this value is `NaN`  
`@SinceKotlin("1.2")` public expect fun `Double.roundToLong(): Long` // endregion  
// region ===== Float Math  
===== \* Computes the sine of the angle [x] given in radians. \* Special cases: \* - `sin(NaN|+Inf|-Inf)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `sin(x: Float): Float` \* Computes the cosine of the angle [x] given in radians. \* Special cases: \* - `cos(NaN|+Inf|-Inf)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `cos(x: Float): Float` \* Computes the tangent of the angle [x] given in radians. \* Special cases: \* - `tan(NaN|+Inf|-Inf)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `tan(x: Float): Float` \* Computes the arc sine of the value [x]; \* the returned value is an angle in the range from `-PI/2` to `PI/2` radians. \* Special cases: \* - `asin(x)` is `NaN`, when `abs(x) > 1` or `x` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `asin(x: Float): Float` \* Computes the arc cosine of the value [x]; \* the returned value is an angle in the range from `0.0` to `PI` radians. \* Special cases: \* - `acos(x)` is `NaN`, when `abs(x) > 1` or `x` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `acos(x: Float): Float` \* Computes the arc tangent of the value [x]; \* the returned value is an angle in the range from `-PI/2` to `PI/2` radians. \* Special cases: \* - `atan(NaN)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `atan(x: Float): Float` \* Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond \* to the rectangular coordinates `(x, y)` by computing the arc tangent of the value `[y] / [x]`; \* the returned value is an angle in the range from `-PI` to `PI` radians. \* Special cases: \* - `atan2(0.0, 0.0)` is `0.0` \* - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI` for `x < 0` \* - `atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0` \* - `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for `-Inf < y < 0` \* - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0` \* -

`atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`.  
`atan2(+Inf, x)` is `PI/2` for finite `x`.  
`atan2(-Inf, x)` is `-PI/2` for finite `x`.  
`atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`.

`atan2(y: Float, x: Float): Float`  
 Computes the hyperbolic sine of the value `[x]`.  
 Special cases:  
`sinh(NaN)` is `NaN`.  
`sinh(+Inf)` is `+Inf`.  
`sinh(-Inf)` is `-Inf`.

`sinh(x: Float): Float`  
 Computes the hyperbolic cosine of the value `[x]`.  
 Special cases:  
`cosh(NaN)` is `NaN`.  
`cosh(+Inf|-Inf)` is `+Inf`.

`cosh(x: Float): Float`  
 Computes the hyperbolic tangent of the value `[x]`.  
 Special cases:  
`tanh(NaN)` is `NaN`.  
`tanh(+Inf)` is `1.0`.  
`tanh(-Inf)` is `-1.0`.

`tanh(x: Float): Float`  
 Computes the inverse hyperbolic sine of the value `[x]`.  
 The returned value is `y` such that `sinh(y) == x`.  
 Special cases:  
`asinh(NaN)` is `NaN`.  
`asinh(+Inf)` is `+Inf`.  
`asinh(-Inf)` is `-Inf`.

`asinh(x: Float): Float`  
 Computes the inverse hyperbolic cosine of the value `[x]`.  
 The returned value is positive `y` such that `cosh(y) == x`.  
 Special cases:  
`acosh(NaN)` is `NaN`.  
`acosh(x)` is `NaN` when `x < 1`.  
`acosh(+Inf)` is `+Inf`.

`acosh(x: Float): Float`  
 Computes the inverse hyperbolic tangent of the value `[x]`.  
 The returned value is `y` such that `tanh(y) == x`.  
 Special cases:  
`atanh(NaN)` is `NaN`.  
`atanh(x)` is `NaN` when `x > 1` or `x < -1`.  
`atanh(1.0)` is `+Inf`.  
`atanh(-1.0)` is `-Inf`.

`atanh(x: Float): Float`  
 Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.  
 Special cases:  
 - returns `+Inf` if any of arguments is infinite.  
 - returns `NaN` if any of arguments is `NaN` and the other is not infinite.

`hypot(x: Float, y: Float): Float`  
 Computes the positive square root of the value `[x]`.  
 Special cases:  
`sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`.

`sqrt(x: Float): Float`  
 Computes Euler's number `e` raised to the power of the value `[x]`.  
 Special cases:  
`exp(NaN)` is `NaN`.  
`exp(+Inf)` is `+Inf`.  
`exp(-Inf)` is `0.0`.

`exp(x: Float): Float`  
 Computes `exp(x)`.  
 This function can be implemented to produce more precise result for `[x]` near zero.

`expm1(NaN)` is `NaN`.  
`expm1(+Inf)` is `+Inf`.  
`expm1(-Inf)` is `-1.0`.

`expm1(x: Float): Float`  
 Computes the logarithm of the value `[x]` to the given `[base]`.  
 Special cases:  
`log(x, b)` is `NaN` if either `x` or `b` are `NaN`.  
`log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`.  
`log(+Inf, +Inf)` is `NaN`.  
`log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`.  
`log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`.

See also logarithm functions for common fixed bases: `[ln]`, `[log10]` and `[log2]`.

`log(x: Float, base: Float): Float`  
 Computes the natural logarithm (base 'E') of the value `[x]`.  
 Special cases:  
`ln(NaN)` is `NaN`.  
`ln(x)` is `NaN` when `x < 0.0`.  
`ln(+Inf)` is `+Inf`.  
`ln(0.0)` is `-Inf`.

`ln(x: Float): Float`  
 Computes the common logarithm (base 10) of the value `[x]`.  
 @see `[ln]` function for special cases.

`log10(x: Float): Float`  
 Computes the binary logarithm (base 2) of the value `[x]`.  
 @see `[ln]` function for special cases.

`log2(x: Float): Float`  
 Computes `ln(a + 1)`.  
 This function can be implemented to produce more precise result for `[x]` near zero.

`ln1p(NaN)` is `NaN`.  
`ln1p(x)` is `NaN` where `x < -1.0`.  
`ln1p(-1.0)` is `-Inf`.  
`ln1p(+Inf)` is `+Inf`.

`ln1p(x: Float): Float`  
 Rounds the given value `[x]` to an integer towards positive infinity.  
 @return the smallest `Float` value that is greater than or equal to the given value `[x]` and is a mathematical integer.

`ceil(x): Float`  
 Rounds the given value `[x]` to an integer towards negative infinity.  
 @return the largest `Float` value that is smaller than or equal to the given value `[x]` and is a mathematical integer.

`floor(x): Float`  
 Rounds the given value `[x]` to an integer towards positive infinity.  
 @return the smallest `Float` value that is greater than or equal to the given value `[x]` and is a mathematical integer.

\*\n@SinceKotlin("1.2")\npublic expect fun floor(x: Float): Float\n\n\*\*\n \* Rounds the given value [x] to an integer towards zero.\n \* @return the value [x] having its fractional part truncated.\n \* Special cases:\n \* - truncate(x) is x where x is NaN or +Inf or -Inf or already a mathematical integer.\n

\*\n@SinceKotlin("1.2")\npublic expect fun truncate(x: Float): Float\n\n\*\*\n \* Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n \* Special cases:\n \* - round(x) is x where x is NaN or +Inf or -Inf or already a mathematical integer.\n

\*\n@SinceKotlin("1.2")\npublic expect fun round(x: Float): Float\n\n\*\*\n \* Returns the absolute value of the given value [x].\n \* Special cases:\n \* - abs(NaN) is NaN\n \* @see absoluteValue extension property for [Float]\n

\*\n@SinceKotlin("1.2")\npublic expect fun abs(x: Float): Float\n\n\*\*\n \* Returns the sign of the given value [x]:\n \* - -1.0 if the value is negative,\n \* - zero if the value is zero,\n \* - 1.0 if the value is positive\n \* Special case:\n \* - sign(NaN) is NaN\n

\*\n@SinceKotlin("1.2")\npublic expect fun sign(x: Float): Float\n\n\*\*\n \* Returns the smaller of two values.\n \* If either value is NaN, then the result is NaN.\n

\*\n@SinceKotlin("1.2")\npublic expect fun min(a: Float, b: Float): Float\n\n\*\*\n \* Returns the greater of two values.\n \* If either value is NaN, then the result is NaN.\n

\*\n@SinceKotlin("1.2")\npublic expect fun max(a: Float, b: Float): Float\n\n// extensions\n\n\*\*\n \* Raises this value to the power [x].\n \* Special cases:\n \* - b.pow(0.0) is 1.0\n \* - b.pow(1.0) == b\n \* - b.pow(NaN) is NaN\n \* - NaN.pow(x) is NaN for x != 0.0\n \* - b.pow(Inf) is NaN for abs(b) == 1.0\n \* - b.pow(x) is NaN for b < 0 and x is finite and not an integer\n

\*\n@SinceKotlin("1.2")\npublic expect fun Float.pow(x: Float): Float\n\n\*\*\n \* Raises this value to the integer power [n].\n \* See the other overload of [pow] for details.\n

\*\n@SinceKotlin("1.2")\npublic expect fun Float.pow(n: Int): Float\n\n\*\*\n \* Returns the absolute value of this value.\n \* Special cases:\n \* - NaN.absoluteValue is NaN\n \* @see abs function\n

\*\n@SinceKotlin("1.2")\npublic expect val Float.absoluteValue: Float\n\n\*\*\n \* Returns the sign of this value:\n \* - -1.0 if the value is negative,\n \* - zero if the value is zero,\n \* - 1.0 if the value is positive\n \* Special case:\n \* - NaN.sign is NaN\n

\*\n@SinceKotlin("1.2")\npublic expect val Float.sign: Float\n\n\*\*\n \* Returns this value with the sign bit same as of the [sign] value.\n \* If [sign] is NaN the sign of the result is undefined.\n

\*\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Float): Float\n\n\*\*\n \* Returns this value with the sign bit same as of the [sign] value.\n

\*\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Int): Float\n\n\*\*\n \* Rounds this [Float] value to the nearest integer and converts the result to [Int].\n \* Ties are rounded towards positive infinity.\n \* Special cases:\n \* - x.roundToInt() == Int.MAX\_VALUE when x > Int.MAX\_VALUE\n \* - x.roundToInt() == Int.MIN\_VALUE when x < Int.MIN\_VALUE\n \* @throws IllegalArgumentException when this value is NaN\n

\*\n@SinceKotlin("1.2")\npublic expect fun Float.roundToInt(): Int\n\n\*\*\n \* Rounds this [Float] value to the nearest integer and converts the result to [Long].\n \* Ties are rounded towards positive infinity.\n \* Special cases:\n \* - x.roundToLong() == Long.MAX\_VALUE when x > Long.MAX\_VALUE\n \* - x.roundToLong() == Long.MIN\_VALUE when x < Long.MIN\_VALUE\n \* @throws IllegalArgumentException when this value is NaN\n

\*\n@SinceKotlin("1.2")\npublic expect fun Float.roundToLong(): Long\n\n\*\*\n // endregion\n\n \* Returns the absolute value of the given value [n].\n \* Special cases:\n \* - abs(Int.MIN\_VALUE) is Int.MIN\_VALUE due to an overflow\n \* @see absoluteValue extension property for [Int]\n

\*\n@SinceKotlin("1.2")\npublic expect fun abs(n: Int): Int\n\n\*\*\n \* Returns the smaller of two values.\n

\*\n@SinceKotlin("1.2")\npublic expect fun min(a: Int, b: Int): Int\n\n\*\*\n \* Returns the greater of two values.\n

\*\n@SinceKotlin("1.2")\npublic expect fun max(a: Int, b: Int): Int\n\n\*\*\n \* Returns the absolute value of this value.\n \* Special cases:\n \* - Int.MIN\_VALUE.absoluteValue is Int.MIN\_VALUE due to an overflow\n \* @see abs function\n

\*\n@SinceKotlin("1.2")\npublic expect val Int.absoluteValue: Int\n\n\*\*\n \* Returns the sign of this value:\n \* - -1 if the value is negative,\n \* - 0 if the value is zero,\n \* - 1 if the value is positive\n

\*\n@SinceKotlin("1.2")\npublic expect val Int.sign: Int\n\n\*\*\n \* Returns the absolute value of the given value [n].\n \* Special cases:\n \* - abs(Long.MIN\_VALUE) is Long.MIN\_VALUE due to an overflow\n \* @see absoluteValue extension property for [Long]\n

\*\n@SinceKotlin("1.2")\npublic expect fun

```

abs(n: Long): Long\n\n/**\n * Returns the smaller of two values.\n *\n@SinceKotlin("1.2")\npublic expect fun
min(a: Long, b: Long): Long\n\n/**\n * Returns the greater of two values.\n *\n@SinceKotlin("1.2")\npublic
expect fun max(a: Long, b: Long): Long\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n
* - `Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n *\n * @see abs function\n
*\n@SinceKotlin("1.2")\npublic expect val Long.absoluteValue: Long\n\n/**\n * Returns the sign of this value:\n
* - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is positive\n
*\n@SinceKotlin("1.2")\npublic expect val Long.sign: Int\n\n//
endregion\n",null,null,null,null,null,null,null,null], "names": [], "mappings": "AAWC,CAXA,yB;EACG,IAAI,OA
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d,C;UAAc,uB;UACV,cAAc,UAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAE nC,M  
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,E;K;IAGX,2C;MAIkB,Q;MAAA,OOAQ,WAAR,wBAAQ,CAAR,W;MAAd,OAAC,cAAd,C;QAAC,uB;QACV,IA  
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CI,UA5OqD,WA4O3C,CAAY,OAAZ,C;UO1/QP,U;UADP,YP4/Qe,WO5/QH,WP4/QwB,GO5/QxB,C;UACL,IAA  
I,aAAJ,C;YACH,aP0/QuC,gB;YAA5B,WOz/QX,aPy/QgC,GOz/QhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPs/Q  
A,iB;UACA,IAAK,WAAI,OAAJ,C;;QA9OT,OAgPO,W;O;KAZPX,C;sFAYA,yB;MAAA,wE;MAgPA,+D;MAhP  
A,yC;QASW,kBAAU,oB;QAgPD,Q;QAaHb,iD;UAAgB,cAAhB,e;UACI,UAJpM,D,WaiPzC,CAAY,OAAZ,C;UO  
3gRP,U;UADP,YP6gRe,WO7gRH,WP6gRwB,GO7gRxB,C;UACL,IAAI,aAAJ,C;YACH,aP2gRuC,gB;YAA5B,W  
O1gRX,aP0gRgC,GO1gRhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPugRA,iB;UACA,IAAK,WAAI,OAAJ,C;;QA  
nPT,OAgPO,W;O;KA9PX,C;sFAYA,yB;MAAA,wE;MAqPA,+D;MARPA,yC;QASW,kBAAU,oB;QAqPD,Q;QAa  
hB,iD;UAAgB,cAAhB,e;UACI,UAtPoD,WAsP1C,CAAY,OAAZ,C;UO5hRP,U;UADP,YP8hRe,WO9hRH,WP8h  
RwB,GO9hRxB,C;UACL,IAAI,aAAJ,C;YACH,aP4hRuC,gB;YAA5B,WO3hRX,aP2hRgC,GO3hRhC,EAAS,MA  
AT,C;YACA,e;;YAEA,c;;UPwhRA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAxPT,OA0PO,W;O;KANQX,C;sFAYA,y  
B;MAAA,wE;MA0PA,+D;MA1PA,yC;QASW,kBAAU,oB;QA0PD,Q;QAaHb,iD;UAAgB,cAAhB,e;UACI,UA3P  
qD,WA2P3C,CAAY,OAAZ,C;UO7iRP,U;UADP,YP+iRe,WO/iRH,WP+iRwB,GO/iRxB,C;UACL,IAAI,aAAJ,C;  
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,W;O;KA7QX,C;sFAYA,yB;MAAA,wE;MAoQA,+D;MApQA,yC;QASW,kBAAU,oB;QAoQD,Q;QAAhB,iD;UA  
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B,C;UACL,IAAI,aAAJ,C;YACH,aP+kRuC,gB;YAA5B,W09kRX,aP8kRgC,GO9kRhC,EAAS,MAAT,C;YACA,e;  
;YAEA,c;;UP2kRA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAvQT,OAYQO,W;O;KAIRX,C;sFAYA,yB;MAAA,wE;M  
AyQA,oC;MAAA,+D;MAAA,gC;MAzQA,yC;QASW,kBAAU,oB;QAYQD,Q;QAAhB,iD;UAAgB,cAAhB,0B;UA  
CI,UA1QoD,WA0Q1C,CAAY,oBAAZ,C;UOhmRP,U;UADP,YPkmRe,WolmRH,WpkmRwB,GOlmRxB,C;UAC  
L,IAAI,aAAJ,C;YACH,aPgmRuC,gB;YAA5B,WO/IRX,aP+IRgC,GO/IRhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;  
UP4IRA,iB;UACA,IAAK,WAAI,oBAAJ,C;;QA5QT,OA8QO,W;O;KAvRX,C;sFAYA,yB;MAAA,wE;MA8QA,+  
D;MA9QA,yD;QAUW,kBAAU,oB;QA8QD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UA/QiD,WA+QvC,CAAY,O  
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P,U;UADP,YPsoRe,WotoRH,WpsoRwB,GOtoRxB,C;UACL,IAAI,aAAJ,C;YACH,aPooRuC,gB;YAA5B,WOnoR  
X,aPmoRgC,GOnoRhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPgoRA,iB;UACA,IAAK,WatRyD,cAsRrD,CAAE,  
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U,oB;QAwRD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UazRiD,WAYRvC,CAAY,OAAZ,C;UOtpRP,U;UADP,YP  
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CA,e;;YAEA,c;;UPsrRA,iB;UACA,IAAK,WArSyD,cAqSrD,CAAE,OAaf,CAAJ,C;;QArST,OAuSO,W;O;KAjTX,  
C;uFAaA,yB;MAAA,wE;MAuSA,+D;MAvSA,yD;QAUW,kBAAU,oB;QAUdS,Q;QAAhB,iD;UAAgB,cAAhB,e;  
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wsRA,iB;UACA,IAAK,WA1SyD,cA0SrD,CAAE,OAaf,CAAJ,C;;QA1ST,OA4SO,W;O;KATX,C;uFAaA,yB;MA  
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D;MAjTA,yD;QAUW,kBAAU,oB;QaiTD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UaitiD,WaktvC,CAAY,OA  
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AoTrD,CAAE,OAaf,CAAJ,C;;QApTT,OAsTO,W;O;KAhUX,C;uFAaA,yB;MAAA,wE;MAStA,oC;MAAA,+D;M  
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O,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAAhB,wBAAgB,SAAhB,gB;UAAgB,cAAA,SA  
AhB,M;UACI,UAAU,YAAY,OAAZ,C;UOz+QP,U;UADP,YP2+Qe,W03+QH,Wp2+QwB,GO3+QxB,C;UACL,I



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SoB,Q;QAAhB,wBAAgB,SAAhB,gB;UAAgB,cAAA,SAAhB,M;UACI,UAAU,YAAY,OAAZ,C;UO1/QP,U;UAD  
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C,GOz/QhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPs/QA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;  
KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAAhB,wBAAgB,SAAhB,gB;UAAgB,cAAA,SAAhB,M;  
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,C;YACH,aP2gRuC,gB;YAA5B,WO1gRX,aP0gRgC,GO1gRhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPugRA,iB;  
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C,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPwhRA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;  
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,C;YACA,e;;YAEA,c;;UP0jRA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAA  
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QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,oC;MAAA,+D;MAAA,gC;MAAA,sD;QASoB,Q;QAAhB,wBA  
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C;0FAiBA,yB;MAAA,+D;MAAA,sE;QAUoB,Q;QAAhB,wBAAgB,SAAhB,gB;UAAgB,cAAA,SAAhB,M;UACI,  
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,C;UACL,IAAI,aAAJ,C;YACH,aP0rRuC,gB;YAA5B,WOzrRX,aPyrRgC,GOzrRhC,EAAS,MAAT,C;YACA,e;;Y  
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,+D;MAAA,sE;QAUoB,Q;QAAhB,wBAAgB,SAAhB,gB;UAAgB,cAAA,SAAhB,M;UACI,UAAU,YAAY,OAAZ,  
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YACA,e;;YAEA,c;;UP0tRA,iB;UACA,IAAK,WAAI,eAAe,OAAf,CAAJ,C;;QAET,OAAO,W;O;KafX,C;2FAkBA  
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QACI,iBAAK,CAAL,EAAU,MAAM,CAAN,CAAV,C;;K;IAIR,uC;MACI,OAAO,gBAAKB,IAAIB,O;K;IAGX,iF;  
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qB,QAArB,C;QACtB,WAAy,KAAI,QAAJ,EAAC,iBAAd,C;;QAExB,IAAI,WAAW,WAAx,IAA0B,qBAAqB,UA  
AnD,C;UACI,iBAAC,CAAd,UAAAsB,SAAtB,U;YACI,YAAy,oBAAoB,KAApB,IAAZ,IAAyC,OAAO,aAAa,KAA  
b,IAAP,C;;UAG7C,mBAAC,YAAy,CAAZ,IAAd,aAAmC,CAAnC,Y;YACI,YAAy,oBAAoB,OAAPB,IAAZ,IAA  
yC,OAAO,aAAa,OAAb,IAAP,C;;;K;8GAMzD,qB;MAEGf,gB;K;kGAehF,yB;MAAA,4D;MAAA,4B;QAC8E,O  
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CU,sE;MAAA,qB;QAAE,QAAO,gBAAP,mB;O;K;4DAA3G,oB;MAAmE,Q;MAAD,OAA6B,YAA5B,iEAA4B,E  
AAU,oDAAV,C;K;gDAE/F,Y;MACI,eAAe,IAAK,W;MACpB,OAAO,QAAS,UAAhB,C;QACI,QAAS,O;QACT,Q  
AAS,S;;K;iDAIjB,Y;MACyB,OAAA,IAAK,U;K;;IC9BkB,+B;MAAiC,oC;MACjF,gBAA8B,C;K;8CAM9B,mB;M  
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Ac,K;MACJ,0B;MAAV,OAAU,cAAV,C;QAAU,mB;QACN,kBAAI,eAAJ,EAAI,uBAAJ,WAAc,CAAd,C;QACA,



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mB;O;K;sDAA9E,oB;MAAkE,yBAAU,8CAAV,C;K;6CAGIE,Y;MAAqD,iD;K;mDAErD,mB;MAAoD,0BAAQ,O  
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B,OAAzB,C;K;wDAE5E,8B;MAII,eAAe,0BAAa,SAAb,C;MACf,YAAO,UAAU,SAAV,I;MtDgEX,iBAAc,CAAd,  
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CA,eAAQ,W;MACR,cAAO,E;K;IAOqB,6D;MAHpC,oB;MAGmD,wD;MAG3C,oCAAa,4BAAmB,KAAaB,EAA  
0B,WAAyB,KAAaD,C;MACb,eAAa,K;K;iEAGjB,Y;MAAsC,sBAAQ,C;K;+DAE9C,Y;MAAgC,mB;K;8DAEhC,  
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4E;Q1DpExB,MAAM,6BAAsB,OAAQ,WAA9B,C;O0DqEF,wBAAYB,WAAzB,EAAiC,OAAjC,C;K;:IAIgb,+D;  
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d,C;K;wDAC/B,Y;MAAkC,iEAAc,IAAd,C;K;sDACIC,iB;MAA4C,+DAAY,IAAZ,EAAkB,KAAIB,C;K;:Iad5C,8  
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,oBAAoB,oCAAQ,W;MAC5B,6G;K;0FAOJ,mB;MACI,IAAI,+CAAY,OAAZ,CAAJ,C;QACI,4BAAwB,cAAO,O  
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;K;IAQc,iG;MAAA,sD;MAAS,oC;K;yFACf,mB;MAAwC,MAAM,qCAA8B,gCAA9B,C;K;qFAC9C,Y;MAAuB,4  
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N,C;MAAqB,qC;MAA5B,OAAO,CAAa,OzDsCjB,SyDtCI,2D;K;oCAGX,mB;MACU,oBAAY,MAAK,OAAAL,C;  
MACIB,qC;MACA,OAAO,I;K;sCAGX,0B;MACU,oBAAY,QAAO,mCAAoB,KAApB,CAAP,EAAmC,CAAnC,E  
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K0B,+B;QAAA,kBAAuB,C;MALjD,mD;MAKsD,sBpBdX,EoBcW,C;MALtD,Y;K;IAOA,2C;MAAA,mD;MAGq  
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,gC;QACX,KAAY,MAAK,UAAL,C;;QAEIB,UAAU,KAAY,EAAC,CAAxC,EAAd,cAAN,KAAM,CAAjD,EA  
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E3E+pWV,sB2E/pWU,Y3E+pWD,I;;Q;I2E3pWvC,4D;MAEI,IAAI,UAAS,GAAb,C;QACI,OAAO,K;OAGX,aAA  
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C,2BAAR,OAAQ,C;eACnC,sC;YAAmC,2BAAR,OAAQ,C;eACnC,uC;YAAmC,2BAAR,OAAQ,C;;YAEA,kBAA

R,OAAQ,C;;QATvC,wB;QAYA,SAAS,MAAK,MAAL,QAAC,WAAd,I;;MAEb,OAAO,M;K;;;ICRP,uC;MAAA,2  
C;K;2DACI,0B;MAA2D,sBAAU,MAAV,C;K;gEAE3D,iB;MAA6C,Q;MAAA,wEAAqB,C;K;;;IAHtE,mD;MAAA  
,kD;QAAA,iC;OAAA,2C;K;;;MCuBA,iC;MAKA,8B;MA8CA,0BAAmE,I;;IA1EnE,kC;MAAA,oB;MAA+B,6B;K;  
2CAE3B,mB;MAAyD,MAAM,qCAA8B,iCAA9B,C;K;uCAC/D,Y;MACI,WAAa,Q;K;gDAGjB,mB;MAAUe,yCA  
Ac,OAAAd,C;K;0CAEvE,Y;MAAwE,OAAA,iCAAY,W;K;8CAEpF,mB;MACI,IAAI,oBAAS,OAAT,CAAJ,C;QAC  
I,WAAa,cAAO,OAAQ,IAAf,C;QACb,OAAO,I;OAEX,OAAO,K;K;oEAGY,Y;MAAQ,OAAA,WAAa,K;K;;8BA8  
ChD,Y;MACI,0BAA,Y;Q;K;0CAIhB,e;MAAmD,OAAA,0BAA,Y,gBAAS,GAAT,C;K;4CAE/D,iB;MAAmE,gBAA  
Z,0B;MAAY,c;;Q3Dk7CnD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAP,e;SACrB,2B;QAAh  
B,OAAgB,cAAhB,C;UAAgB,yB;UAAM,I2D17CmD,uBAAS,gB3Dk7C9C,O2D17CwD,MAAV,Q3Dk7C5D,C;YA  
AwB,aAAO,I;YAAP,e;;QAC9C,aAAO,K;;;M2Dn7CgD,iB;K;8DAInD,Y;MACI,IAAI,+BAAJ,C;QACI,0BAAW,q  
B;OAEf,OAAO,sC;K;uCAGf,Y;MAAiF,iC;K;kCAEjF,e;MAA+C,OAAA,0BAA,Y,WAAI,GAAJ,C;K;oCAE3D,sB;  
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2DAEvB,Y;MAAQ,OAAA,0BAA,Y,K;K;;IA7DID,0C;MAAA,iD;MAAUd,8B;MArC3D,mB;MAcCQ,8BAAmB,W  
;MACnB,2BAAgB,WAA,Y,S;MAFhC,Y;K;IAKA,+B;MAAA,iD;MAGuB,aAAK,kEAAL,Q;MAHvB,Y;K;IAKA,4  
D;MASyC,0B;QAAA,aAAoB,G;MAT7D,iD;MASqE,qB;MjElCrE,IAAI,EiEoCQ,mBAAmB,CjEpC3B,CAAJ,C;Q  
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AK,eAAL,EAAsB,GAAtB,Q;MAA3C,Y;K;IAGA,yC;MAAA,iD;MAG8C,qB;MAC1C,KAak,gBAAO,QAAP,C;  
MAJT,Y;K;IAqCJ,4B;MAK8E,gBAAnE,aAAmB,gEAAmB,C;MAA2E,wB;MAAIF,O7DrCO,S;K;;M8DnEP,yB;;k  
CA0CA,mB;MACI,UAAU,kBAAI,aAAI,OAAJ,EAaa,IAAb,C;MACd,OAAO,W;K;8BAGX,Y;MACI,kBAAI,Q;K  
;uCAOR,mB;MAA6D,OAAA,kBAAI,mBAA,Y,OAAZ,C;K;gCAEjE,Y;MAAyC,OAAA,kBAAI,U;K;iCAE7C,Y;  
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;MAAQ,OAAA,kBAAI,K;K;;IA7D1C,6B;MAAA,iD;MAGoB,8B;MAVxB,mB;MAWQ,sBAAM,gB;MAJV,Y;K;I  
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P,C;MALJ,Y;K;IAQA,4D;MASyC,0B;QAAA,aAAoB,G;MAT7D,iD;MASkE,8B;MA/BtE,mB;MAGCQ,sBAAM,e  
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A3C,Y;K;IAEA,oC;MAAA,iD;MAM0C,8B;MA3C9C,mB;MA4CQ,sBAAW,G;MAPf,Y;K;IAMCJ,+B;MAKuC,g  
BAA5B,eAAQ,eAAR,C;MAAoC,6B;MAA3C,O9DLO,S;K;I+DzD6B,uC;MAAC,kC;MAErC,oBAakC,kB;MACI  
C,sBAAyB,C;K;2EAHY,Y;MAAA,8B;K;uEAGrC,Y;MAAA,0B;K,OAAA,gB;MAAA,0B;K;gDAGA,sB;MACI,e  
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BAAO,KAAM,IAAb,EAakB,GAaIB,CAAb,C;YACI,OAAO,KAAM,gBAAS,KAAT,C;;YAEb,kBAAW,QAAX,I  
AAuB,CAAQ,KAAR,EAAe,mCAAY,GAaz,EAAiB,KAAjB,CAAf,C;YACvB,6B;YACA,OAAO,I;;;UAIX,YAAu  
C,Y;UACvC,cAAkB,wBAAN,KAAM,EAAiB,GAajB,C;UACIB,IAAI,eAAJ,C;YACI,OAAO,OAAM,gBAAS,KA  
AT,C;WAEX,KAAY,MAAK,mCAAY,GAaz,EAAiB,KAAjB,CAAL,C;;;MAG1B,6B;MAEA,OAAO,I;K;iDAGX,  
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B,GAaIB,CAAb,C;UpBzDR,OoB0D6B,iBp1DvB,CoB0DmC,Qp1DnC,C;UoB2DM,6B;UACA,OAAO,KAAM,  
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C;;YAEtB,6B;YAEA,OAAO,OAAM,M;;;MAIzB,OAAO,I;K;0CAGX,Y;MACI,oBAAa,kB;MACb,YAAO,C;K;m  
DAGX,e;MAAyC,uBAAS,GAAT,S;K;8CAEzC,e;MAA+B,Q;MAAA,+BAAS,GAAT,8B;K;+CAE/B,e;MACuB,Q;  
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O,K;;UAEP,OAAO,I;;;QAGX,YAAuC,Y;QACvC,OAAa,wBAAN,KAAM,EAAiB,GAajB,C;;K;uDAlrB,0B;MAC  
IsB;;QhFujCY,Q;QAAhB,iD;UAAgB,cAAhB,e;UAAsB,IgFvjCK,aAAS,gBhFujCA,OgFvjCa,IAAb,MhFujCd,C;Y  
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YAA0B,MAAa,MAAK,qCAAL,C;MACvC,gBA Ae,E;MAEf,oBAA4B,I;MAC5B,eAAc,K;MACd,iBAAgB,E;MAChB,iBAAqC,I;K;yEAERc,Y;MACl,IAAI,6BAAwB,YAA5B,C;QACl,gBAAqB,iBAAqD,O;QACIE,IAAI,4DAAC,SAAlB,C;UACl,OAAO,C;OAGf,IAAI,yDAAa,SAAK,OAAtB,C;QACl,oBAAe,2CAAW,UAAK,aAAL,CAAX,C;QACf,eAAU,iC;QACV,iBAAy,C;QACZ,OAAO,C;;QAEP,oBAAe,I;QACf,OAAO,C;;K;mEAlf,Y;MACl,IAAI,eAAS,EAAb,C;QACl,aaaQ,oB;MACZ,OAAO,eAAS,C;K;gEAGpB,Y;MAEOB,Q;MADhB,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;MACN,IAAI,YAAJ,C;QACZ,yBAAqD,cAArD,C;;QAEa,OAAb,iB;;MAHJ,oB;MAKA,iBAAiB,S;MACjB,aaaQ,E;MACR,OAAO,S;K;kEAGX,Y;MnE/CR,ImEgDyB,cnEhDrB,QAAJ,C;QACl,cAhByB,0B;QAiBzB,MAAM,6BAAsB,OAAQ,WAA9B,C;OmE+CE,6BAAyB,cAAO,6BAAy,IAAnB,C;MACzB,iBAAy,I;MAEZ,uC;K;;6CAtdZ,Y;MAEI,2D;K;4DAyDJ,oB;MACl,mBAAmB,kBAAW,QAAX,C;MACnB,OAAW,iBAAiB,SAArB,GAAgC,IAAhC,GAAOC,Y;K;;;wCCtKrD,Y;MACl,aAAR,MAAM,OAAe,CAAP,IAAO,C;MAEb,OAAO,KAAp,IAAgB,C;MrBXpB,OqBYqB,MrBzf,CqBYuB,KrBZvB,C;MqBaF,OAAO,M;K;;ICNuB,qC;MAAC,kC;MAEnC,oBAAkC,kB;MACIC,sBAAyB,C;K;yEAHU,Y;MAAA,8B;K;qEAGnC,Y;MAAA,0B;K,OAAA,gB;MAAA,0B;K;;iDAWA,e;MACl,IAAI,0BAAJ,C;QAAoB,OAAO,K;MAC3B,OAAO,kBAAW,GAAX,MAAoB,S;K;4CAG/B,e;MACl,IAAI,0BAAJ,C;QAAoB,OAAO,I;MAC3B,YAAy,kBAAW,GAAX,C;MACZ,OAAW,UAAU,SAArB,GAAgC,KAAhC,GAA2D,I;K;8CAI/D,sB;MrEVA,IAAI,EqEWQ,uBrEXR,CAAJ,C;QACl,cAda,qB;QAEb,MAAM,gCAAyB,OAAQ,WAAjC,C;OqEUN,eAAe,kBAAW,GAAX,C;MACf,kBAAW,GAAX,IAAkB,K;MAEIB,IAAI,aAAa,SAAjB,C;QACl,6B;QAEA,OAAO,I;;QAGP,OAAO,Q;;K;+CAIf,e;MACl,IAAI,0BAAJ,C;QAAoB,OAAO,I;MAC3B,YAAy,kBAAW,GAAX,C;MACZ,IAAI,UAAU,SAAd,C;QtBnDJ,OsBoDyB,iBtBpDnB,CsBoD+B,GtBpD/B,C;QsBqDE,6B;QAEA,OAAO,K;;QAGP,OAAO,I;;K;wCAKf,Y;MACl,oBAAa,kB;MACb,YAAO,C;K;IAKA,0E;MAAA,oD;MACH,cAAkC,MAAa,MAAK,mCAAL,C;MAC/C,kBAA4B,qBAAL,WAAK,C;MAC5B,iBAA+B,I;K;iEAE/B,Y;MAAkC,OAAA,eAAS,U;K;8DAE3C,Y;MAIuB,gB;MAHnB,UAAU,eAAS,O;MACnB,iBAAU,G;MAES,+E;MAAnB,OAAO,iD;K;gEAGX,Y;MAEKc,UAA9B,M;MAAA,oC;MAA8B,YAAa,c;MrEchD,uB;MAEP,IAfoB,KAEhB,QAAJ,C;QACl,cAhByB,0B;QAiBzB,MAAM,6BAAsB,OAAQ,WAA9B,C;;QAEN,sBAnBgB,K;;MqEde,oBAAO,sFAAP,C;K;;2CAjBnC,Y;MACl,yD;K;IAqBkD,0F;MAAA,8B;MAAA,oD;K;8FAC9B,Y;MAAQ,uB;K;gGACN,Y;MAAQ,6CAAuB,gBAAvB,C;K;2EAE9B,oB;MAAwC,OAAA,2BAAuB,aAAI,gBAAJ,EAAS,QAAT,C;K;qEAE/D,Y;MAA+B,OAAA,mCAAY,uBAAc,IAAd,C;K;qEAC3C,Y;MAAkC,OAAA,mCAAY,uBAAc,IAAd,C;K;mEAC9C,iB;MAA4C,OAAA,mCAAY,qBAAy,IAAZ,EAakB,KAAIB,C;K;;gDAR5D,e;MAASD,iE;K;;;MCNtD,sBAOsC,I;MA6CtC,yB;;IArH8B,8C;MAAqB,0CAAqC,GAArC,EAA0C,KAA1C,C;MAC/C,oBAAuC,I;MACvC,oBAAuC,I;K;;IAG3C,wC;MAAA,oB;MAA+B,6B;K;IAE3B,sD;MAAA,oB;MACl,cACsC,I;MAEtC,cACsC,I;MAGlC,cAAO,iC;K;6DAIX,Y;MACl,OAAO,gBAAS,I;K;0DAGpB,Y;MAEI,IAAI,CAAC,cAAL,C;QAAGB,MAAM,6B;MAEtB,cAAc,0B;MACd,cAAO,O;MACa,gBAAb,OAAQ,a;;MAAf,cIE8DS,SkE9DoB,KAAO,iCIE8DzC,GAAqB,SAArB,GAA+B,I;MkE7D1B,OAAO,O;K;4DAGX,Y;MIE8BR,IAAI,EsE7Bc,eAAQ,IE6BtB,CAAJ,C;QACl,cAdW,e;QAeX,MAAM,6BAAsB,OAAQ,WAA9B,C;OsE5BS,oCAAP,0BAAO,C;MACP,gCAAI,cAAO,0BAAO,IAAd,C;MAEJ,cAAO,I;K;;iDAIf,mB;MAAyD,MAAM,qCAA8B,iCAA9B,C;K;6CAC/D,Y;MACl,WAAmB,Q;K;sDAGvB,mB;MAAuE,yCAAc,OAAc,C;K;gDAEvE,Y;MAAwE,qD;K;oDAExE,mB;MACl,IAAI,oBAAS,OAAT,CAAJ,C;QACl,WAAmB,cAAO,OAAQ,IAAf,C;QACnB,OAAO,I;OAEX,OAAO,K;K;0EAGY,Y;MAAQ,OAAA,WAAmB,K;K;;iDAatD,qB;MtEXA,IAAI,EsEgBM,0BAAQ,IAAR,IAAgB,0BAAQ,IEhB9B,CAAJ,C;QACl,cAdW,e;QAeX,MAAM,6BAAsB,OAAQ,WAA9B,C;OsEgBN,YAAy,mB;MACZ,IAAI,SAAS,IAAb,C;QACl,sBAAO,S;QACP,yBAAO,S;QACP,yBAAO,S;;QAGK,YAAa,KAAM,a;QTERhC,uB;QAEP,IAfoB,KAEhB,QAAJ,C;UACl,gBAhByB,0B;UAiBzB,MAAM,6BAAsB,SAAQ,WAA9B,C;;UAEN,sBAnBgB,K;;QsEQZ,+B;QAEA,yBAAO,K;QACP,yBAAO,K;QAEP,qBAAa,S;QACb,qBAAa,S;;K;+CAIrB,qB;MAII,IAAI,SAAK,aAAL,KAAc,SAAlB,C;QAEI,sBAAO,I;;QAEP,IAAI,wBAAS,SAAb,C;UAEL,sBAAO,sB;SAEX,qDAAC,sB;QACd,qDAAC,sB;;MAEIB,yBAAO,I;MACP,yBAAO,I;K;oCA6CX,Y;MACl,kBAAI,Q;MACJ,sBAAO,I;K;gDASX,e;MAAmD,OAAA,kBAAI,mBAAy,GAAZ,C;K;kDAEvD,iB;MACiC,Q;MAAA,0B;MAAA,iB;QAAQ,OAAO,K;OAA5C,WAA6B,I;;QAEzB,IAAI,OAAA,IAAK,MAAL,EAAc,KAAc,CAAJ,C;UACl,OAAO,I;SAEX,OAAO,cAAA,IAAK,aAAL,C;;MACF,iBAAS,mBAAT,C;MACT,OAAO,K;K;6CAIX,Y;MAA2E,uC;K;wCAE3E,e;MAAmD,Q;MAAJ,QAAI,OAAJ,kBAAI,WAAI,GAJJ,CAAJ,6B;K;0CAE/C,sB;MACl,UAAU,kBAAI,WAAI,GAJJ,C;MACd,IAAI,OAAO,IAAX,C;QACl,eAAe,6BAAW,GAAX,EAAGB,KAAhB,C;QACf,kBAAI,aAAI,GAJJ,EAAS,QAAT,C;QACK,wBAAT,QAAS,C;QACT,OAA

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M;;MAJJ,a;K;IA7D+E,8C;MAAE,6B;K;IAGO,iD;MAAE,0B;K;IAME,kD;MAAE,8B;K;IAGZ,+C;MAAE,6B;K;I  
AGC,gD;MAAE,6B;K;IAGR,8C;MAAE,6B;K;IAGI,gD;MAAE,6B;K;IAGC,iD;MAAE,6B;K;IAGH,gD;MAAE,y  
B;K;IAGD,iD;MAAE,6B;K;IAGM,oD;MAAE,mC;K;IAGO,uD;MAAE,gC;K;IAGL,oD;MAAE,6B;K;IAGJ,oD;M  
AAE,6B;K;IAGE,qD;MAAE,8B;K;IAGR,mD;MAAE,4B;K;IAGJ,oD;MAAE,6B;K;IAGQ,qD;MAAE,8B;K;IAGC,  
sD;MAAE,+B;K;;IA5DvH,wC;MAAA,uC;QAAA,sB;OAAA,gC;K;;ICCA,2B;MACkE,yBAakB,MAAlB,C;K;IA  
EIE,oC;MAEU,IAAN,I;MAAA,Q9DH0C,O8DG3B,CAAf,C;aACI,Q;UAA6B,OAAjB,8BAAiB,Y;UAA7B,K;aAC  
A,Q;UAAy,OAAI,CAAY,CvDAhC,GuDAmC,CAAf,MAAkC,CAAtC,GAAyC,8BAAiB,SAAlD,GAAwE,8BAAi  
B,Y;UAArG,K;aACA,S;UAA8B,OAAjB,8BAAiB,a;UAA9B,K;aACA,U;UAA+B,OAAjB,8BAAiB,eAAgB,CAA  
Y,OAA5B,C;UAA/B,K;gBAGQ,6B;YAAsC,OAAjB,8BAAiB,kB;eACtC,0B;YAAmC,OAAjB,8BAAiB,e;eACnC,  
0B;YAAmC,OAAjB,8BAAiB,e;eACnC,2B;YAAoC,OAAjB,8BAAiB,gB;eACpC,yB;YAAkC,OAAjB,8BAAiB,c;e  
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B;MAI8D,gB;K;ICIDb,2C;MAC7C,qBAAwC,Q;K;iDAExC,Y;MACmB,Q;MAAA,yB;MAAA,iB;QAAe,MAAM,6  
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C5E,8C;MAAA,kE;MAAuB,qCAAK,IAAL,C;MAAvB,Y;K;ICD8B,gC;MAGB9B,gBAAiC,YAAY,SAAhB,GAA2  
B,OAA3B,GAAwC,E;K;mEAGjE,Y;MAAQ,OAAO,aAAY,O;K;yCAE/B,iB;MACW,gBAAP,a;M7FiEG,Q;MAA

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B,C;;UAGf,gCAAY,GAAZ,C;;MAGR,gBAAS,Q;MACT,OAAO,I;K;6CAGX,iB;MAOI,iBAAgB,SAAN,KAAM,  
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D,E2FW3D,K3FX2D,C2FW/E,YAA6B,KAA7B,IAAqC,a3Fd2B,W2FcV,K3FdU,C;M2FezE,OAAO,I;K;6CAGX,  
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,EAA8B,QAA9B,EAAwC,WAAxC,C;MAEA,gBAAS,a3FzP+E,W2FyP9D,C3FzP8D,E2FyP3D,U3FzP2D,C2FyP/  
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B,qB;MAAQ,OAAQ,O;K;qFAEf,qB;MAAQ,OAAS,Q;K;qGAET,qB;MAAQ,OAAiB,gB;K;+FI3Q/F,gB;MACkC,  
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MACb,EAAE,MAAF,IAAY,I;MACZ,EAAE,OAAF,IAAa,K;MACb,EAAE,OAAF,IAAa,K;MACb,EAAE,SAAF,I  
AAe,O;MACf,EAAE,WAAF,IAAiB,S;MACjB,EAAE,UAAF,IAAgB,Q;MACHB,EAAE,QAAF,IAAc,M;MACd,E  
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Q,E;MACR,EAAE,QAAF,IAAc,M;MACd,EAAE,OAAF,IAAa,K;MACb,EAAE,MAAF,IAAY,I;MACZ,OAAO,C;  
K;qHASX,e;MACyC,mB;QAAA,MAAe,E;MACpD,QAAQ,E;MACR,EAAE,KAAF,IAAW,G;MACX,OAAO,C;K  
;mHA2BX,+D;MACqE,sB;QAAA,SAAkB,E;MAAI,uB;QAAA,UAAoB,K;MAAO,0B;QAAA,aAAuB,K;MAAO,  
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Q,OAAO,M;K;yFAEhB,qB;MAAQ,OAAM,K;K;yFAEd,qB;MAAQ,OAAM,K;K;yGCvJ3F,uB;MACsC,qB;QAAA  
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R,EAAE,qBAAF,IAA2B,mB;MAC3B,EAAE,MAAF,IAAY,I;MACZ,OAAO,C;K;yGAmBX,yC;MACsC,uB;QAA  
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AF,IAAe,O;MACf,EAAE,YAAF,IAAkB,U;MACIB,EAAE,UAAF,IAAgB,Q;MACHB,OAAO,C;K;yGA0BX,2B;MA  
EI,QAAQ,E;MACR,EAAE,QAAF,IAAc,M;MACd,EAAE,SAAF,IAAe,O;MACf,OAAO,C;K;+FAgCX,sE;MACo  
D,wB;QAAA,WAAoB,I;MAAM,wB;QAAA,WAAqB,K;MAAO,uB;QAAA,UAAoB,K;MAAO,0B;QAAA,aAAuB  
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,UAAF,IAAgB,Q;MACHB,OAAO,C;K;6GAYBX,0D;MAC2D,sB;QAAA,SAAkB,M;MAAQ,uB;QAAA,UAAoB,K  
;MAAO,0B;QAAA,aAAuB,K;MAAO,wB;QAAA,WAAqB,K;MAC/J,QAAQ,E;MACR,EAAE,SAAF,IAAe,O;MA  
Cf,EAAE,QAAF,IAAc,M;MACd,EAAE,SAAF,IAAe,O;MACf,EAAE,YAAF,IAAkB,U;MACIB,EAAE,UAAF,IA  
AgB,Q;MACHB,OAAO,C;K;2GAeX,qC;MAC4D,sB;QAAA,SAAkB,S;MAAW,uB;QAAA,UAA0B,S;MAC/G,QA  
AQ,E;MACR,EAAE,UAAF,IAAgB,Q;MACHB,EAAE,QAAF,IAAc,M;MACd,EAAE,SAAF,IAAe,O;MACf,OAA  
O,C;K;uHAuCX,mF;MAC6C,oB;QAAA,OAAa,S;MAAW,sB;QAAA,SAAkB,S;MAAW,2B;QAAA,cAAuB,S;MA



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B,K;MAAO,wB;QAAA,WAAqB,K;MACpT,QAAQ,E;MACR,EAAE,MAAF,IAAY,I;MACZ,EAAE,QAAF,IAAc,  
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AAF,IAAe,O;MACf,EAAE,YAAF,IAAkB,U;MACIB,EAAE,UAAF,IAAgB,Q;MACHB,OAAO,C;K;qGA+BX,6D;  
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IAAkB,U;MACIB,EAAE,WAAF,IAAiB,S;MACjB,OAAO,C;K;yGAKBX,4C;MACsC,oB;QAAA,OAAgB,S;MAA  
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EAAE,MAAF,IAAY,I;MACZ,EAAE,SAAF,IAAe,O;MACf,EAAE,UAAF,IAAgB,Q;MACHB,EAAE,SAAF,IAAe,  
O;MACf,OAAO,C;K;+FAiCmE,qB;MAAQ,OAAa,Y;K;6FAEtB,qB;MAAQ,OAAy,W;K;+FAEnB,qB;MAAQ,OA  
Aa,Y;K;6FAEtB,qB;MAAQ,OAAy,W;K;6FAEpB,qB;MAAQ,OAAy,W;K;6FAQtC,qB;MAAQ,OAAy,W;K;6FA  
EpB,qB;MAAQ,OAAy,W;K;uFAEvB,qB;MAAQ,OAAQ,Q;K;qFAEnB,qB;MAAQ,OAAO,M;K;uFAQX,qB;MAA  
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C3ZrE,0E;MACoC,gC;QAAA,mBAA6B,K;MAAO,sB;QAAA,SAAkB,C;MAAG,qB;QAAA,QAAiB,C;MAAG,uB  
;QAAA,UAAoB,K;MAAO,0B;QAAA,aAAuB,K;MAAO,wB;QAAA,WAAqB,K;MAC3L,QAAQ,E;MACR,EAAE  
,kBAAF,IAAwB,gB;MACxB,EAAE,QAAF,IAAc,M;MACd,EAAE,OAAF,IAAa,K;MACb,EAAE,SAAF,IAAe,O;  
MACf,EAAE,YAAF,IAAkB,U;MACIB,EAAE,UAAF,IAAgB,Q;MACHB,OAAO,C;K;mFAS8E,qB;MAAQ,OAA  
G,E;K;+FAEL,qB;MAAQ,OAAc,a;K;iFAE7B,qB;MAAQ,OAAO,M;K;yFAEX,qB;MAAQ,OAAW,U;K;+EAEvB,  
qB;MAAQ,OAAO,M;K;+EAEf,qB;MAAQ,OAAO,M;K;ICvHnE,6B;MAAC,qB;QAAA,8C;MAAA,kB;K;IACjC,2  
C;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,yC;MAAA,4C;O;MAKI,0E;MAEA,sE;K;;IAFA,kD;MAAA,+B;MAA  
A,0C;K;;IAEA,gD;MAAA,+B;MAAA,wC;K;;IAPJ,qC;MAAA,yF;K;;IAAA,0C;MAAA,a;MAAA,S;UAAA,+C;aA  
AA,O;UAAA,6C;gBAAA,8D;;K;;IAyBmC,sC;MACnC,8B;K;;IAMqC,sC;MACrC,8B;K;;IC1DJ,iC;K;;ICMA,4B;  
K;;ICCA,qC;K;;IA4BA,+B;K;;ICRqC,uC;MACjC,uB;QAAA,UAAsB,E;MACTB,qB;QAAA,+C;MADA,sB;MACA  
,kB;K;IAEA,4C;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,0C;MAAA,6C;O;MAKI,4E;MAGA,wE;K;;IAHA,mD;  
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S;UAAA,gD;aAAA,O;UAAA,8C;gBAAA,+D;;K;;IAyByB,4B;MACzB,8B;K;;IC/C4C,8B;K;kDAI5C,mB;MAA6  
D,c;;QhI4/C7C,Q;QADhB,IAAI,mCAAsB,cAA1B,C;UAAqC,aAAO,K;UAAP,e;SACrB,sB;QAaHb,OAAgB,cAA  
hB,C;UAAgB,2B;UAAM,IgI5/C6C,OhI4/CB,SgI5/C+B,UhI4/C7C,C;YAAwB,aAAO,I;YAAP,e;;QAC9C,aAAO,  
K;;MgI7/CsD,iB;K;uDAE7D,oB;MACa,c;;QhIo+CG,Q;QADhB,IAAI,cgIn+CA,QhIm+CA,iBgIn+CA,QhIm+CsB  
,UAA1B,C;UAAqC,aAAO,I;UAAP,e;SACrB,OgIp+CZ,QhIo+CY,W;QAaHb,OAAgB,cAAhB,C;UAAgB,yB;UA  
AM,IAAI,CgIp+CP,oBhIo+CkB,OgIp+CIB,ChIo+CG,C;YAAyB,aAAO,K;YAAP,e;;QAC/C,aAAO,I;;MgIr+CH,i  
B;K;2CAEJ,Y;MAAkC,qBAAQ,C;K;IAEqB,qE;MAAA,qB;QAC3D,OAAI,OAAO,uBAAX,GAAiB,mBAAjB,GA  
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A7B,C;K;2CAIIC,Y;MAI4C,uBAAgB,IAAhB,C;K;mDAE5C,iB;MAI4D,yBAAgB,IAAhB,EAAsB,KAAtB,C;K;;I  
C/BhE,8B;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,4B;MAAA,+B;O;MACI,4C;MACA,kD;MACA,0C;MACA,8  
C;K;;IAHA,mC;MAAA,kB;MAAA,2B;K;;IACA,sC;MAAA,kB;MAAA,8B;K;;IACA,kC;MAAA,kB;MAAA,0B;K  
;;IACA,oC;MAAA,kB;MAAA,4B;K;;IAJJ,wB;MAAA,sH;K;;IAAA,6B;MAAA,a;MAAA,O;UAAA,gC;aAAA,U;U  
AAA,mC;aAAA,M;UAAA,+B;aAAA,Q;UAAA,iC;gBAAA,6D;;K;;IAOA,4B;MAKI,mD;MACA,2BAA4B,I;K;yC  
AE5B,Y;MAEiB,IAAN,I;MvIUX,IAAI,EuIXQ,mDvIWR,CAAJ,C;QACI,cAda,qB;QAeb,MAAM,gCAAyB,OAA  
Q,WAAjC,C;OuIZC,QAAM,oBAAN,M;aACH,M;UAAc,Y;UAAAd,K;aACA,O;UAAe,W;UAAf,K;gBACQ,wC;UA  
HL,K;;MAAP,W;K;sCAOJ,Y;MAIW,Q;MAHP,IAAI,CAAC,cAAL,C;QAAGB,MAAM,6B;MACTB,mD;MAEA,O  
AAO,2F;K;4DAGX,Y;MACI,iD;MACA,kB;MACA,OAAO,kD;K;+CAeX,iB;MAII,2BAAY,K;MACZ,gD;K;sCA  
GJ,Y;MAII,+C;K;;ICIDkC,wB;MAoFtC,oC;MAPFgE,6B;K;sCAIH,E,Y;MAAuC,0C;K;2CAEvC,mB;MAAWd,uB;;  
QII6R3C,Q;QADb,YAAY,C;QACC,sB;QAAb,OAAa,cAAb,C;UAAa,sB;UACT,Iki9RmE,OII8RrD,Iki9RqD,UII8  
RnE,C;YACI,sBAAO,K;YAAP,wB;WACJ,qB;;QAEJ,sBAAO,E;;MkIISiD,0B;K;+CAExD,mB;MAA4D,sB;;QII  
T5D,eAAoB,0BAAa,SAAb,C;QACpB,OAAO,QAAS,cAAhB,C;UACI,IkIXTsE,OIIwTxD,QAAS,WkIXt+C,UIIwT  
tE,C;YACI,qBAAO,QAAS,Y;YAAhB,uB;;QAGR,qBAAO,E;;MkI5TqD,yB;K;0CAE5D,Y;MAA+C,+CAAiB,CA  
AjB,C;K;kDAE/C,iB;MAAyD,+CAAiB,KAAjB,C;K;6CAEzD,8B;MAA8D,gCAAQ,IAAR,EAAC,SAAd,EAAYB,

OAAzB,C;K;IAEIC,wD;MAAgF,uB;MAA/E,kB;MAAmC,4B;MAC5D,eAAyB,C;MAGrB,+DAaKB,gBAAIB,EA  
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DAEtB,Y;MAAkC,sBAAQ,gB;K;+CAE1C,Y;MAEe,gB;MADX,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;MAC  
X,iE;MAAX,OAAO,+B;K;;IAO0B,sD;MAHzC,oB;MAGwD,iD;MAGhD,gEAAmB,KAAAnB,EAA0B,WAAkB,KA  
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U,IAA/B,C;QACI,MAAM,8BAA0B,gBAAa,SAAb,mBAaKc,OAAIC,gBAaKd,IAA5E,C;OAEV,IAAI,YAAy,O  
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,iBAAc,C;MACL,mB;MAAV,OAAU,cAAV,C;QAAU,mB;QACN,aAAW,MAAK,UAAAL,SAAiB,6DAAiB,CAAI  
C,K;;MAEf,OAAO,U;K;6DAGX,oB;MAIiB,Q;MAHb,IAAI,CAAE,KAAF,KAAU,KAAM,KAApB,C;QAA0B,OA  
AO,K;MAEjC,oBAAoB,KAAM,W;MACb,mB;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,gBAAGB,aAAc,O;QAC9  
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;;ICnFwC,uB;MAyHxC,mC;MAzCA,uBAC6B,I;MAMc7B,yBACsC,I;K;8CAnHtC,e;MACI,OAAO,6BAAC,GAA  
d,S;K;gDAGX,iB;MAAwE,gBAAR,Y;MAAQ,c;;QnIo/CxD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAA  
O,K;UAAp,e;SACrB,2B;QAAhB,OAAGB,cAAhB,C;UAAgB,yB;UAAM,ImIp/CwD,OnIo/C1C,OmIp/C6C,MAA  
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;QAA+B,OAAO,K;MACtC,UAAU,KAAM,I;MACHb,YAAy,KAAM,M;M/IwMO,Q;M+IvMzB,e/IuM4C,CAAnB  
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B,K;K;;+DAb5D,Y;MACI,IAAI,4BAAJ,C;QACI,+E;OAcJ,OAAO,mC;K;IAOWD,uD;MAAA,qB;QAAE,2CAAS,  
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,OACY,W;O;KA7BhB,C;iFAgCA,yB;MAAA,gB;MAAA,8B;M/FhFA,wE;M+FgFA,qD;QA7FW,kB/FqBiD,oB;Q  
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A,gB;MAAA,8B;M/F9HA,wE;M+F8HA,uC;QA3IW,kB/FqBiD,oB;Q+FM9C,Q;QAAA,OAAK,0B;QAAf,OAAU,  
cAAV,C;UAAU,mB;UACN,UAAU,sBAAM,CAAN,C;UACV,kBAaKB,sBAAY,GAAZ,C;UACC,oB;UAKIc,U;U  
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GAKIX,EAAe,UAIIC,WakID,6DAAf,EAII6B,CAkI7B,C;;UAIIB,W/F6JJ,a+F7JgB,G/F6JhB,mB;;Q+F7BA,OA9  
HO,W;O;KA2GX,C;sFAwBA,yB;MAAA,gB;MAAA,8B;MAAA,oD;QAxIc,Q;QAAA,OAAK,0B;QAAf,OAAU,c  
AAV,C;UAAU,mB;UACN,UAAU,sBAAM,CAAN,C;UACV,kBA6JQ,WA7JU,WAAy,GAAZ,C;UACC,oB;UA8J  
c,U;UAAjC,IA9JkD,uBAAuB,CA4JjE,WA5J8E,mBAAY,GAAZ,CA8JtF,C;YADA,mBA7J+C,C;;YA6J/C,mBACK  
B,UA9JW,GA8JX,EAAe,UA9JC,WA8JD,6DAAf,EA9J6B,CA8J7B,C;;UAFV,W/FCZ,a+F7JgB,G/F6JhB,mB;;Q+  
FDA,OAAy,W;O;KAvBhB,C;IA6BA,6C;MArKc,Q;MAAA,OAAK,0B;MAAf,OAAU,cAAV,C;QAAU,mB;QAC  
N,UAAU,sBAAM,CAAN,C;QACV,kBA+KG,WA/Ke,WAAy,GAAZ,C;QA2GgE,U;QAOE/E,W/FjBP,a+F7JgB,G  
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B;K;;wCAN7D,Y;MAMsC,iB;K;wCANtC,Y;MAM6D,iB;K;0CAN7D,wB;MAAA,wBAMsC,qCANtC,EAM6D,q  
CAN7D,C;K;sCAA,Y;MAAA,OAMsC,mDANtC,IAM6D,wCAN7D,O;K;sCAA,Y;MAAA,c;MAMsC,sD;MA  
AuB,sD;MAN7D,a;K;oCAA,iB;MAAA,4IAMsC,sCANtC,IAM6D,sCAN7D,I;K;wF/IEA,yB;MAAA,kC;MAAA,  
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+B,sBAA/B,GAAgD,S;;QALpE,OAoY,sB;K;IAGhB,gD;MAGQ,kBADE,SACF,O;QADJ,OACc,S;WACV,kBAF E,SAEF,c;QAFJ,OAE8B,mBAAL,SAAK,CAAT,GAA+B,sBAA/B,GAAgD,S;;QAFrE,OAGY,sB;K;IAIhB,8B;MA MoB,Q;MADhB,aAAa,gB;MACG,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACL,OAAP,MAAO,EAAO,OA AP,C;;MAEX,OAAO,M;K;IAGX,4B;MAUiB,Q;MAHb,mBAAmB,mCAAwB,EAAXB,C;MACnB,YAAY,iBAAa, YAAb,C;MACZ,YAAY,iBAAa,YAAb,C;MACC,2B;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,KAAM,WAAI,IAA K,MAAT,C;QACN,KAAM,WAAI,IAAK,OAAT,C;;MAEV,OAAO,UAAS,KAAT,C;K;wFU/EX,qB;MAKqE,gB; K;IAErE,iC;MAMoE,4BAAiB,SAAJB,C;K;uFAEpE,gC;MAKI,OAAgB,mBAAhB,C;QAAgB,8B;QAAM,UAAU, OAAV,C;;K;IAMY,oC;MAAC,0B;MACnC,eAAoB,C;K;yCACpB,Y;MAAwC,OAAA,eAAS,U;K;sCACjD,Y;MA A6E,Q;MAAhC,wBAAa,oBAAmB,mBAAnB,EAAMb,2BAAnB,QAAb,EAA0C,eAAS,OAAAnD,C;K;;sFsI5BjD,y B;MAAA,4E;MAAA,gB;MAAA,8B;MAAA,+C;QAUiC,Q;QAA7B,OAA6B,wCAAqB,QAAS,aAA9B,0D;O;KAV jC,C;wFAYA,yB;MAAA,4E;MAAA,gB;MAAA,8B;MAAA,+C;QAWiC,Q;QAA7B,OAA6B,wCAAqB,QAAS,aA A9B,0D;O;KAXjC,C;wFAaA,yB;MAAA,4E;MAAA,gB;MAAA,8B;MAAA,+C;QAKiC,Q;QAA7B,OAA6B,wCA AqB,QAAS,aAA9B,0D;O;KALjC,C;sFAOA,+C;MAQI,SAAK,aAAI,QAAS,aAAb,EAAMb,KAAnB,C;K;IC1CT,8 C;MAUI,IAAI,wCAAJ,C;QACI,OAAO,SAAK,4BAAqB,GAARb,C;MAET,4B;MrJ0SI,Q;MALX,YAAY,oBqJrSa, GrJqSb,C;MACZ,IAAI,iBAAiB,CAAC,4BqJtSG,GrJsSH,CAAtB,C;QqJtSgC,MAAM,2BAAuB,wCAAvB,C;;QrJ0 SIC,2BAAO,sE;;MqJ1SX,+B;K;IAGJ,8C;MAUQ,kBADE,SACF,kB;QADJ,OACkC,YAAT,SAAK,IAAI,EAAy,Y AAZ,C;;QADIC,OAeY,uBAAMb,SAAnB,EAAYB,YAAzB,C;K;IAGhB,gD;MAWQ,kBADE,SACF,yB;QADJ,OA CyC,cAAT,SAAK,IAAI,EAAy,YAAZ,C;;QADzC,OAeY,8BAA0B,SAAI1B,EAAgC,YAAhC,C;K;;IAC0B,4C; MAAC,wB;MAAoC,0B;K;qEAApC,Y;MAAA,yB;K;0CACvC,iB;MAA4C,OAAI,OAAJ,QAAI,EAAO,KAAP,C;K ;4CAChD,Y;MAA+B,OAAI,SAAJ,QAAI,C;K;4CACnC,Y;MAAkC,OAAA,QAAI,W;K;sEAcF,Y;MAAQ,OAAA, QAAI,K;K;2CACnC,Y;MAAkC,OAAA,QAAI,U;K;qDACtC,e;MAA4C,OAAA,QAAI,mBAAY,GAAZ,C;K;uDA ChD,iB;MAAgE,OAAA,QAAI,qBAAc,KAAd,C;K;6CACpE,e;MAA+B,OAAA,QAAI,WAAI,GAAJ,C;K;sEACT, Y;MAAQ,OAAA,QAAI,K;K;wEACH,Y;MAAQ,OAAA,QAAI,O;K;yEACJ,Y;MAAQ,OAAA,QAAI,Q;K;8DAEv D,e;MAAMd,gBAAJ,Q;MAAI,4B;MrJkPxC,Q;MALX,YAAY,oBqJ7OyD,GrJ6OzD,C;MACZ,IAAI,iBAAiB,CAA C,4BqJ9O+C,GrJ8O/C,CAAtB,C;QACI,2BqJ/OwE,mB;;QrJkPxE,2BAAO,sE;;MqJlPoC,+B;K;;IAGN,mD;MAAC, wB;MAA2C,0B;K;4EAA3C,Y;MAAA,yB;K;iDAC1C,iB;MAA4C,OAAI,OAAJ,QAAI,EAAO,KAAP,C;K;mDAC hD,Y;MAA+B,OAAI,SAAJ,QAAI,C;K;mDACnC,Y;MAAkC,OAAA,QAAI,W;K;6EAcF,Y;MAAQ,OAAA,QAAI ,K;K;kDACnC,Y;MAAkC,OAAA,QAAI,U;K;4DACtC,e;MAA4C,OAAA,QAAI,mBAAY,GAAZ,C;K;8DACHD,i B;MAAgE,OAAA,QAAI,qBAAc,KAAd,C;K;oDACpE,e;MAA+B,OAAA,QAAI,WAAI,GAAJ,C;K;6EACF,Y;MA AQ,OAAA,QAAI,K;K;+EACH,Y;MAAQ,OAAA,QAAI,O;K;gFACU,Y;MAAQ,OAAA,QAAI,Q;K;sDAE5E,sB; MAAYC,OAAA,QAAI,aAAI,GAAJ,EAAS,KAAT,C;K;uDAC7C,e;MAAkC,OAAA,QAAI,cAAO,GAAP,C;K;yD ACtC,gB;MAA2C,QAAI,gBAAO,IAAP,C;K;gDAC/C,Y;MAAuB,QAAI,Q;K;qEAE3B,e;MAAMd,gBAAJ,Q;MA AI,4B;MrJ6NxC,Q;MALX,YAAY,oBqJxNyD,GrJwNzD,C;MACZ,IAAI,iBAAiB,CAAC,4BqJzN+C,GrJyN/C,CA AtB,C;QACI,2BqJ1NwE,mB;;QrJ6NxE,2BAAO,sE;;MqJ7NoC,+B;K;;IrJvFnD,oB;MAAA,wB;MACI,8C;K;gCAE A,iB;MAA4C,oCAAsB,KAAM,U;K;kCACxE,Y;MAA+B,Q;K;kCAC/B,Y;MAAkC,W;K;4DAEX,Y;MAAQ,Q;K;i CAC/B,Y;MAAkC,W;K;2CAEIC,e;MAA+C,Y;K;6CAC/C,iB;MAAsD,Y;K;mCACTd,e;MAAwC,W;K;+DACy,Y; MAAQ,6B;K;4DAC/B,Y;MAAQ,6B;K;8DACI,Y;MAAQ,8B;K;uCAEjD,Y;MAAiC,6B;K;;IAjBrC,gC;MAAA,+B ;QAAA,c;OAAA,wB;K;IAoBA,oB;MAMuE,Q;MAA7B,OAA6B,uE;K;IAEvE,wB;MAAI,OAAI,KAAM,OAAN,G AAa,CAAjB,GAA0B,QAAN,KAAM,EAAM,qBAAc,YAAY,KAAM,OAAIB,CAAd,CAAN,CAA1B,GAA6E,U;K; kFAEjF,yB;MAAA,oD;MAAA,mB;QA08C,iB;O;KAP9C,C;8FASA,yB;MAAA,wE;MAAA,mB;QAQ4D,2B;O;K AR5D,C;IAUA,+B;MAyID,gBAA7C,qBAAoB,YAAY,KAAM,OAAIB,CAApB,C;MAAQd,wB;MAArD,OUJO,S; K;wFVMX,yB;MAAA,4D;MAAA,mB;QA0sD,qB;O;KAPtD,C;IASA,4B;MAM8G,gBAAvC,eAAc,YAAY,KAA M,OAAIB,CAAd,C;MAA+C,wB;MAA/C,OUrB5D,S;K;4FVuBX,yB;MAAA,wE;MAAA,mB;QAK8D,2B;O;KAL 9D,C;IAOA,8B;MAU+E,OAAM,QAAN,KAAM,EAAM,qBAAc,YAAY,KAAM,OAAIB,CAAd,CAAN,C;K;sFAE rF,yB;MAAA,wE;MAAA,gC;QAgBiC,gBAAtB,oB;QAA4B,aU3DnC,W;QV2DA,OU1DO,S;O;KV0CX,C;uFAmB A,yB;MAAA,4E;MAAA,0D;MAAA,uE;MAAA,0C;QAoBI,qBAAqB,QAArB,C;QACKd,gBAA3C,mBAAoB,YA AY,QAAZ,CAApB,C;QAAiD,aUnFxD,W;QVmfA,OUIFO,S;O;KV6DX,C;4FAsCA,qB;MAE+D,QAAC,mB;K;k GAehE,qB;MAWI,OAAO,qBAAgB,mB;K;sFAG3B,yB;MAAA,oD;MAAA,4B;QAM2D,uCAAQ,U;O;KANnE,C;

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Bb,aZnvB0B,SYmvBtB,CAAY,OAAZ,CAAJ,EAAYC,OZnvBC,MYmvB1C,C;;MZnvBhB,OAA6B,W;K;IAGjC,k  
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;MAMqD,QAAM,cAAN,C;aAcjD,C;UADiD,OAC5C,U;aACL,C;UAFiD,Oalb8B,uB;gBbk9B,OAGzC,uB;;K;IA  
GZ,iC;MAMmE,4BAAC,SAAd,C;K;IAEnE,yC;MAKI,WAAoB,0B;MAAPB,kB;K;IAEJ,kC;MAOI,Q;MAAA,IAA

I,SAAK,UAAT,C;QAAA,OAAoB,MAAM,IAAN,C;;QAAqC,kBAApB,qBAAC,SAAd,C;QAA4B,wBAAS,UAAT, EAAqB,WAArB,C;QAAjE,OUthBO,W;;MVshBP,W;K;IAEJ,mC;MAOI,Q;MAAA,IAAI,SAAK,UAAT,C;QAAA, OAA0B,MAAN,KAAM,C;;QAAiC,kBAApB,qBAAC,SAAd,C;QAA4B,4B;QAAAnE,OU/hBO,W;;MV+hBP,W;K;I A E J , m C ; M A O I , Q ; M A A A , I A A I , S A A K , U A A T , C ; Q A A A , O A A 0 B , Q A A N , K A A M , C ; ; Q A A i C , k B A A p B , q B A A c , S A A d , C ; Q A A 4 B , 0 B ; Q A A n E , O U x i B O , W ; ; M V w i B P , W ; K ; I A E J , m C ; M A O w B , k B A A p B , q B A A c , S A A d , C ; M A A 4 B , 4 B ; M A A 5 B , O A A 4 C , o B U j j B r C , W V i j B q C , C ; K ; I A E h D , i C ; M A O w B , k B A A p B , q B A A c , S A A d , C ; M A A 4 B , + B ; M A A 5 B , O U 1 j B O , W ; K ; 0 F V 6 j B X , 2 B ; M A K I , s B A A I , I A A K , M A A T , E A A g B , I A A K , O A A r B , C ; K ; 4 F A G J , y B ; M A A A , g D ; M A A A , m C ; Q A K I , k B A A O , K A A P , C ; O ; K A L J , C ; 4 F A Q A , y B ; M A A A , g D ; M A A A , m C ; Q A K I , k B A A O , K A A P , C ; O ; K A L J , C ; 4 F A Q A , 0 B ; M A K I , y B A A O , G A A P , C ; K ; I A G J , k C ; M A O w B , k B A A f , a A A L , S A A K , C ; M A s C L , 6 B ; M A t C A , O A A + C , o B U 5 m B x C , W V 4 m B w C , C ; K ; I A E n D , m C ; M A Q w B , k B A A f , a A A L , S A A K , C ; M A q C K , Y A A L , g B A A K , O ; M A r C V , O A A g D , o B U t n B z C , W V s n B y C , C ; K ; I A E p D , m C ; M A Q w B , k B A A f , a A A L , S A A K , C ; M A o C K , Y A A L , g B A A K , O ; M A p C V , O A A g D , o B U h o B z C , W V g o B y C , C ; K ; I A E p D , m C ; M A Q w B , k B A A f , a A A L , S A A K , C ; M A m C K , Y A A L , g B A A K , O ; M A n C V , O A A g D , o B U 1 o B z C , W V 0 o B y C , C ; K ; 4 F A E p D , 0 B ; M A M I , u B A A O , G A A P , C ; K ; 8 F A G J , y B ; M A A A , s D ; M A A A , k C ; Q A M c , U A A V , S A A K , K A A K , E A A U , I A A V , C ; O ; K A N d , C ; 8 F A S A , y B ; M A A A , s D ; M A A A , k C ; Q A M c , U A A V , S A A K , K A A K , E A A U , I A A V , C ; O ; K A N d , C ; I A U A , w C ; M A C s D , Q A A M , c A A N , C ; a A C I D , C ; U A D k D , O A C 7 C , U ; a A C L , C ; U A F k D , g B ; g B A A A , O A G 1 C , S ; ; K ; o F s J 5 v B Z , y B ; M A A A , 8 D ; M A A A , 8 B ; M A A A , q C ; Q A U i C , Q ; Q A A 7 B , O A A 2 D , C A A 9 B , s E A A 8 B , e A A O , O A A P , C ; O ; K A V / D , C ; w F A Y A , y B ; M A A A , 8 D ; M A A A , 8 B ; M A A A , s C ; Q A S i C , Q ; Q A A 7 B , O A A 2 D , C A A 9 B , s E A A 8 B , o B A A U , Q A A V , C ; O ; K A T / D , C ; w F A W A , y B ; M A A A , 8 D ; M A A A , 8 B ; M A A A , s C ; Q A S i C , Q ; Q A A 7 B , O A A 2 D , C A A 9 B , s E A A 8 B , o B A A U , Q A A V , C ; O ; K A T / D , C ; 4 F A W A , 8 B ; M A K I , S A A K , W A A I , O A A J , C ; K ; 4 F A G T , y B ; M A A A , g D ; M A A A , s C ; Q A K S , O A A L , S A A K , E A A O , Q A A P , C ; O ; K A L T , C ; 4 F A Q A , y B ; M A A A , g D ; M A A A , s C ; Q A K S , O A A L , S A A K , E A A O , Q A A P , C ; O ; K A L T , C ; 8 F A Q A , 8 B ; M A K I , S A A K , c A A O , O A A P , C ; K ; 8 F A G T , y B ; M A A A , s D ; M A A A , s C ; Q A K S , U A A L , S A A K , E A A U , Q A A V , C ; O ; K A L T , C ; 8 F A Q A , y B ; M A A A , s D ; M A A A , s C ; Q A K S , U A A L , S A A K , E A A U , Q A A V , C ; O ; K A L T , C ; 8 F A Q A , y B ; M A A A , s D ; M A A A , s C ; Q A K S , U A A L , S A A K , E A A U , Q A A V , C ; O ; K A L T , C ; I A Q A , q C ; M A I U , I A I e , I ; M A H j B , k B A D E , Q A C F , c ; Q A A i B , O A A O , y B A A O , Q A A P , C ; ; Q A E p B , a A A s B , K ; Q A C T , 0 B ; Q A A b , O A A a , c A A b , C ; U A A a , s B ; U A C T , I A A I , o B A A I , I A A J , C A A J , C ; Y A A e , S A A S , I ; ; Q A C 5 B , O A A O , M ; ; K ; I A K n B , u C ; M A K i B , Q ; M A D b , a A A s B , K ; M A C T , 0 B ; M A A b , O A A a , c A A b , C ; Q A A a , s B ; Q A C T , I A A I , o B A A I , I A A J , C A A J , C ; U A A e , S A A S , I ; ; M A E 5 B , O A A O , M ; K ; I A G X , u C ; M A I I , O A A O , y B A A g B , O A A T , Q A A S , C A A h B , C ; K ; I A G X , 0 C ; M A I W , i B A A m B , g C A A T , Q A A S , E A A g C , S A A h C , C ; M A I H G , Q ; M A K H 7 B , O A I H 2 D , C A A 9 B , s E A A 8 B , o B A A U , U A A V , C ; K ; I A q H / D , 0 C ; M A I I , U A A m B , Y A A T , Q A A S , C ; M A C n B , O v J 6 D w D , C u J 7 D j D , G v J 6 D k D , U u J 7 D i D , I A A o B , 4 B A A U , G A A V , C ; K ; I A G / B , 0 C ; M A I I , 0 7 J q I N O , E 6 J r I N A , Q 7 J 6 g N A , Y A A Q , C A w E R , C 6 J r I N A , I A A y B , 4 B A A m B , U A A T , Q A A S , C A A n B , C ; K ; I A G p C , 0 C ; M A I W , i B A A m B , g C A A T , Q A A S , E A A g C , S A A h C , C ; M A 7 H G , Q ; M A 6 H 7 B , O A 7 H 2 D , C A A 9 B , s E A A 8 B , o B A A U , U A A V , C ; K ; I A g I / D , 0 C ; M A I I , I 7 J u k N O , E 6 J v k N H , Q 7 J + / M G , Y A A Q , C A w E R , C 6 J v k N P , C ; Q A C I , O A A O , 4 B A A m B , U A A T , Q A A S , C A A n B , C ; ; Q A E P , O A A O , w B ; K ; I A G f , 0 C ; M A I I , U A A m B , Y A A T , Q A A S , C ; M A C n B , I v J 6 B w D , C u J 7 B p D , G v J 6 B q D , U u J 7 B z D , C ; Q A C I , O A A O , 4 B A A U , G A A V , C ; ; Q A E P , O A A O , w B ; K ; I A G f , k C ; M A C I , a v J s B w D , C A A C , m B ; M u J r B z D , i B ; M A C A , O A A O , M ; K ; I A I X , 2 C ; M A K k F , g C A A c , S A A d , E A A y B , I A A z B , C ; K ; I A E I F , 2 C ; M A K k F , g C A A c , S A A d , E A A y B , K A A z B , C ; K ; I A E I F , s E ; M A C I , i B A A a , K A A b , C ; M 5 I I j B , k B 4 I m J X , o B ; M A C D , O A A O , q B A A P , C ; Q A C I , I A A I , U A A U , k B A A V , 6 B A A J , C ; U A C I , o B ; U A C A , W A A S , I ; S A G r B , O A A O , Q ; K ; I A I X , u C ; M A K + E , k B A A h B , 0 B ; M A A w B , 8 B ; M A A x B , 0 5 I r J p D , W ; K ; o F 4 I w J X , 4 B ; M A M 6 D , k C A A S , K A A T , C ; K ; I A E 7 D , g C ; M A K i D , I A A I , m B A A J , C ; Q A A e , M A A M , 2 B A A u B , g B A A v B , C ; ; Q A A r B , O A A m E , 2 B A A S , C A A T , C ; K ; I A E p H , s C ; M A K w D , O A A I , m B A A J , G A A e , I A A f , G A A y B , 2 B A A S , C A A T , C ; K ; I A E j F , + B ; M A K g D , I A A I , m B A A J , C ; Q A A e , M A A M , 2 B A A u B , g B A A v B , C ; ; Q A A r B , O A A m E , 2 B A A S , 2 B A A T , C ; K ; I A E n H , q C ; M A K u D , O A A I , m B A A J , G A A e , I A A f , G A A y B , 2 B A A S , 2 B A A T , C ; K ; I A E h F , 2 C ; M A K 8 E , k C A A c , S A A d , E A A y B , I A A z B , C ; K ; I A E 9 E , 2 C ; M A K 8 E , k C A A c , S A A d , E A A y B , K A A z B , C ; K ; I A E 9 E , w E ; M A E g B , U A G S , M A H T , E A c Y , M A d Z , E A c 6 B , M ; M A f z C , I A A I , u C A A J , C ; Q A C I , O A A o C , c A A 5 B , s E A A 4 B , E A A c , S A A d , E A A y B , u B A A z B , C ; M A E x C , i B A A s B , C ; M A C D , o C ; M A A r B , q B A A k B , C A A I B , m C ; Q A C I , c A A c , s B A A K , S A A L , C ; Q A C d , I A A I , U A A U , O A A V , M A A s B , u B A A 1 B , C ; U A C I , Q ; Q A E J , I A A I , e A A c , S A A I B , C ; U A C I , s B A A

K,UAAAL,EAAMb,OAAnB,C;QAEJ,+B;;MAEJ,IAAI,aAAa,cAAjB,C;QACwB,oC;QAAiB,mB;QAARc,oE;UACI,2BAAS,WAAT,C;QAEJ,OAAO,I;;QAEp,OAAO,K;;K;IAIf,sC;MAOI,aAAU,2BAAV,OAA2B,CAA3B,M;QACI,QAAQ,MAAO,iBAAQ,IAAI,CAAJ,IAAR,C;QACf,WAAW,sBAAK,CAAL,C;QACX,sBAAK,CAAL,EAAU,sBA AK,CAAL,CAAV,C;QACA,sBAAK,CAAL,EAAU,IAAV,C;;K;ICvTsC,wC;MAAkC,uB;MAAJC,OB;K;wEACpB, Y;MAAQ,OAAA,eAAS,K;K;iDACxC,iB;MAAkC,mCAAS,OBAAoB,KAApB,CAAT,C;K;;IAGT,gC;MAAyC,8B; MAAXC,OB;K;gEACH,Y;MAAQ,OAAA,eAAS,K;K;yCACxC,iB;MAAkC,mCAAS,OBAAoB,KAApB,CAAT,C;K ;mCAEIC,Y;MAAuB,eAAS,Q;K;8CAChC,iB;MAAuC,OAAA,eAAS,kBAAS,OBAAoB,KAApB,CAAT,C;K;yCA EhD,OB;MAA8C,OAAA,eAAS,aAAI,OBAAoB,KAApB,CAAJ,EAAgC,OAAhC,C;K;yCACvD,OB;MACI,eAAS,a AAI,2BAAqB,KAArB,CAAJ,EAAiC,OAAjC,C;K;;IAIjB,+C;MACoB,Q;MAAA,kC;MAAhB,IAAa,CAAT,OBAAJ ,C;QAAA,OAA2B,8BAAy,KAAZ,I;;QAAuB,MAAM,8BAA0B,mBAAgB,KAAhB,2BAA0C,gBAAG,2BAAH,C AA1C,OAA1B,C;K;IAE5D,gD;MACoB,Q;MAAA,qB;MAAhB,IAAa,CAAT,OBAAJ,C;QAAA,OAA5B,iBAAO,K AAP,I;;QAAkB,MAAM,8BAA0B,oBAAiB,KAAjB,2BAA2C,gBAAG,cAAH,CAA3C,OAA1B,C;K;IAGID,+B;M AK+C,gCAAqB,SAARb,C;K;IAE/C,iC;MAM6D,wBAAa,SAAb,C;K;;;IIJtC7D,oD;MAQuF,wC;K;IARvF,8CASI, Y;MAAuC,8B;K;IAT3C,gF;ImJc8G,wC;MAAA,mB;QAAE,kBAAS,aAAT,C;O;K;IAThY,yB;MASqG,oCAAS,sB AAT,C;K;8FAErG,yB;MAAA,kD;MnJhBA,kC;MAAA,OC;MAAA,kD;QAQuF,wC;O;MARvF,4CASI,Y;QAAuC, 8B;O;MAT3C,8E;MmJmB2I,qD;QAAA,mB;UAAE,gBAAS,qBAAT,C;S;O;MAH7I,gC;QAGkI,kCAAS,mCAAT, C;O;KAHII,C;IAKA,2B;MAQI,eAAe,6B;MACf,oBAA0B,+BAAN,KAAM,EAAwC,QAAxC,EAA+D,QAA/D,C; MAC1B,OAAO,Q;K;8FAGX,yB;MAAA,kD;MAAA,gC;QAGkI,gBAAS,aAAT,C;O;KAHII,C;IAGb0C,yB;K;+CA oBtC,kC;MAOI,IAAI,uCAA0B,QAAS,UAAvC,C;QAAkD,M;MACID,OAAO,sBAAS,QAAS,WAAIB,e;K;+CAG X,kC;MAQqD,6BAAS,QAAS,WAAIB,e;K;;;IAezD,mC;MAA2C,wB;MACvC,eAAoB,C;MACpB,mBAA4B,I; MAC5B,sBAAyC,I;MACzC,gBAAoC,I;K;gDAEpC,Y;MACI,OAAO,IAAP,C;QACI,QAAM,YAAN,C;eACI,C;Y AAA,K;eACA,C;YACI,IAAI,kCAAe,UAAAnB,C;cACI,eAAQ,C;cACR,OAAO,I;;cAEP,sBAAe,I;;YALvB,K;eAO A,C;YAAc,OAAO,K;eACrB,C;eAAA,C;YAAgC,OAAO,I;kBAC/B,MAAM,yB;;QAGIB,eAAQ,C;QACR,WAAW ,4B;QACX,gBAAW,I;QACX,ItGhGR,oBD6CQ,WuGmDY,kBvGnDZ,CC7CR,C;;K;6CsGoGA,Y;MACU,IASe,I; MATrB,QAAM,YAAN,C;aACI,C;aAAA,C;UAA5C,OAAO,qB;aAC7C,C;UACI,eAAQ,C;UACR,OAAO,kCAAe, O;aAE1B,C;UACI,eAAQ,C;UACR,aACa,mF;UACb,mBAAy,I;UACZ,OAAO,M;gBAEH,MAAM,yB;;K;uDAltB, Y;MACI,IAAI,CAAC,cAAL,C;QAAGB,MAAM,6B;;QAA8B,OAAO,W;K;2DAG/D,Y;MAA4C,QAAM,YAAN,C; aACxC,C;UADwC,OAC1B,6B;aACd,C;UAFwC,OAExB,6BAAsB,sBAAtB,C;gBAFwB,OAGhC,6BAAsB,uCAA oC,YAA1D,C;;K;IAOqC,4E;MAAA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O;K;oDALR,+B;MACI,mBAAy, K;MACZ,eAAQ,C;MACR,OAA6C,0CAAtC,c;K;IAUsC,+E;MAAA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O; K;yDANR,kC;MACI,IAAI,CAAC,QAAS,UAAaD,C;QAAyB,M;MACzB,sBAAe,Q;MACf,eAAQ,C;MACR,OAA6 C,6CAAtC,c;K;2DAMX,kB;MvGvBO,Q;MADP,euG0BI,MvG1BJ,C;MACO,QuGyBH,MvGzBG,+D;MuG0BH,e AAQ,C;K;8EAIR,Y;MAAQ,OC;K;;InJ5LhB,oD;MAQuF,wC;K;IARvF,8CASI,Y;MAAuC,8B;K;IAT3C,gF;sFAA A,yB;MAAA,kC;MAAA,OC;MAAA,kD;QAQuF,wC;O;MARvF,4CASI,Y;QAAuC,8B;O;MAT3C,8E;MAAA,2B; QAQuF,2C;O;KARvF,C;IAiBgE,+C;MAAA,mB;QAAE,sB;O;K;IALIE,kC;MAKuD,OAakB,2CAAT,+BAAS,E;K ;IAEzE,8B;MAK6D,OAAI,QZ6oNtD,YAAQ,CY7oN0C,GAAwB,eAAxB,GAAsD,WAAT,QAAS,C;K;IAEnH,yB; MAG8C,kC;K;IAE9C,yB;MAAA,6B;K;uCACI,Y;MAA6C,kC;K;2CAC7C,a;MAA4B,kC;K;2CAC5B,a;MAA4B,k C;K;;IAHhC,qC;MAAA,oC;QAAA,mB;OAAA,6B;K;oFAMA,yB;MAAA,2D;MAAA,4B;QAM4D,uCAAQ,e;O; KANpE,C;IAGb4F,mH;MAAA,wC;MAAA,6B;MAAA,yB;MAAA,wC;MAAA,wD;MAAA,kC;K;;;kDAAA,Y;;; cACxF,eAAe,uBAAa,W;cAC5B,IAAI,QAAS,UAAb,C;gBACI,gB;gCAAA,sCAAS,QAAT,O;oBAAA,2C;yBAAA ,yB;gBAAA,Q;;gBAEA,gB;gCAAA,sCAAS,iCAAT,O;oBAAA,2C;yBAAA,yB;gBAAA,Q;;;cAJJ,W;;cAAA,W;; ;K;IADwF,gE;MAAA,yD;uBAAA,uG;YAAA,S;IBAAA,Q;;IBAAA,uB;O;K;IAP5F,4C;MAOmF,gBAAS, uCAAT,C;K;IACb,4B;MAAE,OAAA,EAAG,W;K;IAL3E,8B;MAK8D,4BAAQ,cAAR,C;K;IAQQ,8B;MAAE,OA AA,EAAG,W;K;IAN3E,8B;MAM8D,4BAAQ,gBAAR,C;K;IAM1B,8B;MAAE,S;K;IAJtC,wC;MAEgB,Q;MADZ, IAAI,8CAAJ,C;QACI,OAA4C,CAApC,2EAAoC,kBAAQ,QAAR,C;OAEhD,OAAO,uBAAmB,SAAnB,EAAyB,g BAAzB,EAAiC,QAAjC,C;K;IAGX,4B;MAUiB,Q;MAFb,YAAy,gB;MACZ,YAAy,gB;MACC,2B;MAAb,OAAA, cAAb,C;QAAa,sB;QACT,KAAM,WAAI,IAAK,MAAT,C;QACN,KAAM,WAAI,IAAK,OAAT,C;;MAEV,OAAO, UAAS,KAAT,C;K;IAUwB,OD;MAE/B,wB;QAAA,WAAgC,I;MADhC,OB;MACA,OB;MACA,4B;K;IAGuC,OE;M

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+B;MAAA,wB;QAEuD,sBAAM,IAAK,KAAK,KAAK,KAAM,KAAX,CAAhB,C;O;KAFvD,C;8FAIA,yB;M9B4I  
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7D,+B;M4B1GA,8C;MANA,wB;QAEuD,OAMD,YAAY,IAAZ,E5BiHjB,eAAW,oB4BvHgB,K5BuHrB,KAAK,C  
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\* /opt/cola/permits/1175636870\_1624449445.69/0/kotlin-1-3-70-tgz/package/kotlin.js.map

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## 1.82 dropwizard-jetty 2.0.28

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## 1.83 okio 2.5.0

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```
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/BouncyCastlePemReader.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslCertificateCompressionAlgorithm.java
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jar/io/netty/handler/traffic/ChannelTrafficShapingHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/traffic/GlobalTrafficShapingHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/traffic/TrafficCounter.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
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jar/io/netty/handler/ssl/SslHandshakeCompletionEvent.java
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* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslSessionTicketKey.java
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* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/SslContextBuilder.java
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* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ApplicationProtocolNegotiationHandler.java
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* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/util/LazyJavaxX509Certificate.java
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolNames.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolAccessor.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/SslCompletionEvent.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/AbstractSniHandler.java

```
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/Conscrypt.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/SniCompletionEvent.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ConscryptAlpnSslEngine.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ocsp/OcspClientHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OptionalSslHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/JdkAlpnSslUtils.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ocsp/package-info.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/SslCloseCompletionEvent.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/SslClientHelloHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
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image/io.netty.netty-handler/native-image.properties
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* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/timeout/TimeoutException.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/stream/ChunkedNioFile.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/timeout/IdleStateEvent.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/logging/package-info.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/stream/ChunkedFile.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/SslHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/stream/ChunkedWriteHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/stream/ChunkedNioStream.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/timeout/IdleState.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/package-info.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/NotSslRecordException.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/util/package-info.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/logging/LogLevel.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/timeout/ReadTimeoutHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/timeout/WriteTimeoutException.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
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jar/io/netty/handler/timeout/package-info.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/stream/ChunkedStream.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/stream/ChunkedInput.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/logging/LoggingHandler.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/timeout/WriteTimeoutHandler.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/timeout/IdleStateHandler.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/timeout/ReadTimeoutException.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/stream/package-info.java

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jar/io/netty/handler/ssl/OpenSslCertificateCompressionConfig.java

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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/address/ResolveAddressHandler.java

\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/SslClosedEngineException.java

\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/SslHandshakeTimeoutException.java

\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/IpSubnetFilterRuleComparator.java

\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/util/FingerprintTrustManagerFactoryBuilder.java

\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/IpSubnetFilter.java

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jar/io/netty/handler/ssl/OpenSsl.java

\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/ssl/SslUtils.java

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jar/io/netty/handler/ssl/OpenSslEngineMap.java

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jar/io/netty/handler/ssl/OpenSslServerContext.java

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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/util/SimpleTrustManagerFactory.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/IpFilterRule.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/SniHandler.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/util/LazyX509Certificate.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/JdkSslEngine.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/IpSubnetFilterRule.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/IdentityCipherSuiteFilter.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslSessionStats.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslDefaultApplicationProtocolNegotiator.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/JettyAlpnSslEngine.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/IpFilterRuleType.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/SslProvider.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslClientContext.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/JdkDefaultApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/JdkNpnApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/util/ThreadLocalInsecureRandom.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslNpnApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/RuleBasedIpFilter.java

\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/PemReader.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/package-info.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslEngine.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslSessionContext.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/JdkSslClientContext.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ipfilter/AbstractRemoteAddressFilter.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolConfig.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/util/BouncyCastleSelfSignedCertGenerator.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/util/OpenJdkSelfSignedCertGenerator.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/JdkSslContext.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/JettyNpnSslEngine.java

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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslAsyncPrivateKeyMethod.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslSessionId.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/BouncyCastleAlpnSslEngine.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/OpenSslSessionCache.java  
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-jar/io/netty/handler/ssl/SslProtocols.java  
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jar/io/netty/handler/ssl/util/KeyManagerFactoryWrapper.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/ssl/util/TrustManagerFactoryWrapper.java

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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/ssl/StacklessSSLHandshakeException.java

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Found in path(s):

```
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslKeyMaterial.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/SignatureAlgorithmConverter.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/DefaultOpenSslKeyMaterial.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslCachingKeyMaterialProvider.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslCachingX509KeyManagerFactory.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ExtendedOpenSslSession.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslX509TrustManagerWrapper.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslSession.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslPrivateKey.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslX509KeyManagerFactory.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslKeyMaterialProvider.java
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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/PcapWriteHandler.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/PcapHeaders.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/TCPPacket.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/package-info.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/UDPPacket.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/EthernetPacket.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/PcapWriter.java  
\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-  
jar/io/netty/handler/pcap/IPPacket.java

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\* /opt/cola/permits/1698848164\_1685285720.1511803/0/netty-handler-4-1-93-final-sources-

```
jar/io/netty/handler/flow/package-info.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslCertificateException.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/OpenSslKeyMaterialManager.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/DelegatingSslContext.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/PemPrivateKey.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/PemX509Certificate.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ReferenceCountedOpenSslContext.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/util/X509TrustManagerWrapper.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/PemValue.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ReferenceCountedOpenSslEngine.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/flush/FlushConsolidationHandler.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ReferenceCountedOpenSslClientContext.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/flush/package-info.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/Java8SslUtils.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/ReferenceCountedOpenSslServerContext.java
* /opt/cola/permits/1698848164_1685285720.1511803/0/netty-handler-4-1-93-final-sources-
jar/io/netty/handler/ssl/PemEncoded.java
```

## 1.86 groovy-macro 3.0.9

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#global transformation for macro support  
org.codehaus.groovy.transform.MacroTransformation  
org.codehaus.groovy.transform.MacroClassTransformation

Found in path(s):

\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/META-INF/services/org.codehaus.groovy.transform.ASTTransformation  
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\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/transform/MacroTransformation.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/runtime/Macro.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/transform/MacroCallTransformingVisitor.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/MatcherUtils.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/transform/MacroClassTransformation.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/transform/MacroMethodsCache.java

\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/ASTFinder.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/internal/ConstraintPredicate.groovy  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/NodeComparator.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/transform/MacroClass.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/ASTNodePredicate.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/runtime/MacroStub.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/ASTMatcher.groovy  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/methods/MacroGroovyMethods.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/TreeContext.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/runtime/MacroContext.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/internal/AnyTokenMatch.groovy  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/ContextualClassCodeVisitor.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/TreeContextAction.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/runtime/MacroBuilder.java  
\* /opt/cola/permits/1551848967\_1675381009.5169692/0/groovy-macro-3-0-9-sources-1-jar/org/codehaus/groovy/macro/matcher/MatchingConstraints.groovy

## 1.87 httpcomponents-core 4.4.10

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```

jar/io/netty/handler/codec/dns/DnsOptEcsRecord.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DefaultDnsOptEcsRecord.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsPtrRecord.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DefaultDnsPtrRecord.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsOptPseudoRecord.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/AbstractDnsOptPseudoRrRecord.java  
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\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsRecordEncoder.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsQuestion.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/AbstractDnsMessage.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DatagramDnsQueryDecoder.java  
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\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DefaultDnsQuery.java  
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\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsRecord.java  
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\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsRecordType.java  
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\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsResponse.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsResponseCode.java  
\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/DnsQuery.java  
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\* /opt/cola/permits/1698848115\_1685285754.4189835/0/netty-codec-dns-4-1-93-final-sources-jar/io/netty/handler/codec/dns/TcpDnsQueryEncoder.java  
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```

```
NOTE: This implementation of supporting multiple file extensions is experimental and
the exact implementation details may vary when modularization gets introduced in
groovy 2.0. However, in terms of the behavior, this support will remain intact.
groovy
```

```
Found in path(s):
```

```
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-jar/META-
INF/groovy/org.codehaus.groovy.source.Extensions
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```

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```

```
global transformation to handle @Grab annotation
groovy.grape.GrabAnnotationTransformation
```

```
Found in path(s):
```

```
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-jar/META-
INF/services/org.codehaus.groovy.transform.ASTTransformation
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Found in path(s):

- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/java/java.g
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/groovy.g

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Found in path(s):

- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/vmplugin/v5/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/io/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/xml/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/typehandling/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/stmt/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/javac/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/package.html
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-

jar/org/codehaus/groovy/antlr/treewalker/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/syntax/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/runtime/wrappers/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/grape/defaultGrapeConfig.xml  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/runtime/metaclass/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/classgen/asm/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/overview.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/vmplugin/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/reflection/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/io/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/overviewj.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/control/messages/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/inspect/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/security/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/control/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/time/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/runtime/package.html  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/package.html  
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\*/

Found in path(s):

```
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-
jar/org/apache/groovy/util/concurrent/concurrentlinkedhashmap/package-info.java
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-
jar/org/apache/groovy/util/concurrent/concurrentlinkedhashmap/LinkedDeque.java
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```

```
/*
```

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```

Found in path(s):

```
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-
jar/org/apache/groovy/util/concurrent/concurrentlinkedhashmap/EntryWeigher.java
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```

```
/** JSR-241 Groovy Recognizer.
```

```
*
* Run 'java Main [-showtree] directory-full-of-groovy-files'
*
* [The -showtree option pops up a Swing frame that shows
* the AST constructed from the parser.]
*
* Contributing authors:
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* John Rose rose00@mac.com
* Jeremy Rayner groovy@ross-rayner.com
```

- \* Alex Popescu      the.mindstorm@gmail.com
- \* Martin Kempf      mkempf@hsr.ch
- \* Reto Kleeb      rkleeb@hsr.ch
- \*
- \* Version 1.00 December 9, 1997 -- initial release
- \* Version 1.01 December 10, 1997
- \*     fixed bug in octal def (0..7 not 0..8)
- \* Version 1.10 August 1998 (parrrt)
- \*     added tree construction
- \*     fixed definition of WS,comments for mac,pc,unix newlines
- \*     added unary plus
- \* Version 1.11 (Nov 20, 1998)
- \*     Added "shutup" option to turn off last ambig warning.
- \*     Fixed inner class def to allow named class defs as statements
- \*     synchronized requires compound not simple statement
- \*     add [] after builtInType DOT class in primaryExpression
- \*     "const" is reserved but not valid..removed from modifiers
- \* Version 1.12 (Feb 2, 1999)
- \*     Changed LITERAL\_XXX to xxx in tree grammar.
- \*     Updated java.g to use tokens {...} now for 2.6.0 (new feature).
- \*
- \* Version 1.13 (Apr 23, 1999)
- \*     Didn't have (stat)? for else clause in tree parser.
- \*     Didn't gen ASTs for interface extends. Updated tree parser too.
- \*     Updated to 2.6.0.
- \* Version 1.14 (Jun 20, 1999)
- \*     Allowed final/abstract on local classes.
- \*     Removed local interfaces from methods
- \*     Put instanceof precedence where it belongs...in relationalExpr
- \*         It also had expr not type as arg; fixed it.
- \*     Missing ! on SEMI in classBlock
- \*     fixed: (expr) + "string" was parsed incorrectly (+ as unary plus).
- \*     fixed: didn't like Object[].class in parser or tree parser
- \* Version 1.15 (Jun 26, 1999)
- \*     Screwed up rule with instanceof in it. :( Fixed.
- \*     Tree parser didn't like (expr).something; fixed.
- \*     Allowed multiple inheritance in tree grammar. oops.
- \* Version 1.16 (August 22, 1999)
- \*     Extending an interface built a wacky tree: had extra EXTENDS.
- \*     Tree grammar didn't allow multiple superinterfaces.
- \*     Tree grammar didn't allow empty var initializer: { }
- \* Version 1.17 (October 12, 1999)
- \*     ESC lexer rule allowed 399 max not 377 max.
- \*     java.tree.g didn't handle the expression of synchronized
- \*     statements.
- \* Version 1.18 (August 12, 2001)
- \*     Terence updated to Java 2 Version 1.3 by
- \*     observing/combining work of Allan Jacobs and Steve

- \* Messick. Handles 1.3 src. Summary:
- \* o primary didn't include boolean.class kind of thing
- \* o constructor calls parsed explicitly now:
- \* see explicitConstructorInvocation
- \* o add strictfp modifier
- \* o missing objBlock after new expression in tree grammar
- \* o merged local class definition alternatives, moved after declaration
- \* o fixed problem with ClassName.super.field
- \* o reordered some alternatives to make things more efficient
- \* o long and double constants were not differentiated from int/float
- \* o whitespace rule was inefficient: matched only one char
- \* o add an examples directory with some nasty 1.3 cases
- \* o made Main.java use buffered IO and a Reader for Unicode support
- \* o supports UNICODE?
- \* Using Unicode charVocabulary makes code file big, but only
- \* in the bitsets at the end. I need to make ANTLR generate
- \* unicode bitsets more efficiently.
- \* Version 1.19 (April 25, 2002)
- \* Terence added in nice fixes by John Pybus concerning floating
- \* constants and problems with super() calls. John did a nice
- \* reorg of the primary/postfix expression stuff to read better
- \* and makes f.g.super() parse properly (it was METHOD\_CALL not
- \* a SUPER\_CTOR\_CALL). Also:
- \* o "finally" clause was a root...made it a child of "try"
- \* o Added stuff for asserts too for Java 1.4, but \*commented out\*
- \* as it is not backward compatible.
- \* Version 1.20 (October 27, 2002)
- \* Terence ended up reorging John Pybus' stuff to
- \* remove some nondeterminisms and some syntactic predicates.
- \* Note that the grammar is stricter now; e.g., this(...) must
- \* be the first statement.
- \* Trinary ?: operator wasn't working as array name:
- \* (isBig ? bigDigits : digits)[i];
- \* Checked parser/tree parser on source for
- \* Resin-2.0.5, jive-2.1.1, jdk 1.3.1, Lucene, antlr 2.7.2a4,
- \* and the 110k-line jGuru server source.
- \* Version 1.21 (October 17, 2003)
- \* Fixed lots of problems including:
- \* Ray Waldin: add typeDefinition to interfaceBlock in java.tree.g
- \* He found a problem/fix with floating point that start with 0
- \* Ray also fixed problem that (int.class) was not recognized.
- \* Thorsten van Ellen noticed that \n are allowed incorrectly in strings.

- \* TJP fixed CHAR\_LITERAL analogously.
- \*
- \* Version 1.21.2 (March, 2003)
- \* Changes by Matt Quail to support generics (as per JDK1.5/JSR14)
- \* Notes:
  - \* o We only allow the "extends" keyword and not the "implements" keyword, since that's what JSR14 seems to imply.
  - \* o Thanks to Monty Zukowski for his help on the antlr-interest mail list.
  - \* o Thanks to Alan Eliassen for testing the grammar over his Fink source base
- \*
- \* Version 1.22 (July, 2004)
- \* Changes by Michael Studman to support Java 1.5 language extensions
- \* Notes:
  - \* o Added support for annotations types
  - \* o Finished off Matt Quail's generics enhancements to support bound type arguments
  - \* o Added support for new for statement syntax
  - \* o Added support for static import syntax
  - \* o Added support for enum types
  - \* o Tested against JDK 1.5 source base and source base of jdigraph project
  - \* o Thanks to Matt Quail for doing the hard part by doing most of the generics work
- \*
- \* Version 1.22.1 (July 28, 2004)
- \* Bug/omission fixes for Java 1.5 language support
  - \* o Fixed tree structure bug with classOrInterface - thanks to Pieter Vangorpto for spotting this
  - \* o Fixed bug where incorrect handling of SR and BSR tokens would cause type parameters to be recognised as type arguments.
  - \* o Enabled type parameters on constructors, annotations on enum constants and package definitions
  - \* o Fixed problems when parsing if ((char.class.equals(c))) {} - solution by Matt Quail at Cenqua
- \*
- \* Version 1.22.2 (July 28, 2004)
- \* Slight refactoring of Java 1.5 language support
  - \* o Refactored for/"foreach" productions so that original literal "for" literal is still used but the for sub-clauses vary by token type
  - \* o Fixed bug where type parameter was not included in generic constructor's branch of AST
- \*
- \* Version 1.22.3 (August 26, 2004)
- \* Bug fixes as identified by Michael Stahl; clean up of tabs/spaces and other refactorings
  - \* o Fixed typeParameters omission in identPrimary and newStatement
  - \* o Replaced GT reconciliation code with simple semantic predicate
  - \* o Adapted enum/assert keyword checking support from Michael Stahl's java15 grammar
  - \* o Refactored typeDefinition production and field productions to reduce duplication
- \*
- \* Version 1.22.4 (October 21, 2004)



- \* Small bux fixes
- \* o Added typeArguments to explicitConstructorInvocation, e.g. new <String>MyParameterised()
- \* o Added typeArguments to postfixExpression productions for anonymous inner class super constructor invocation, e.g. new Outer().<String>super()
- \* o Fixed bug in array declarations identified by Geoff Roy
- \*
- \* Version 1.22.4.g.1
- \* o I have taken java.g for Java1.5 from Michael Studman (1.22.4) and have applied the groovy.diff from java.g (1.22) by John Rose back onto the new root (1.22.4) - Jeremy Rayner (Jan 2005)
- \*
- \* Version 1.22.4.g.2
- \* o mkempf, rkleeb, Dec 2007
- \* o fixed various rules so that they call the correct Create Method to make sure that the line information are correct
- \*
- \* Based on an original grammar released in the PUBLIC DOMAIN
- \*/

Found in path(s):

- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/parser/GroovyRecognizer.java

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*/

/**
* The Groovy grammar is based on the official grammar for Java:
* https://github.com/antlr/grammars-v4/blob/master/java/Java.g4
*/
parser grammar GroovyParser;

options {
 tokenVocab = GroovyLexer;
 contextSuperClass = GroovyParserRuleContext;
 superClass = AbstractParser;
}

@header {
 import java.util.Map;
 import org.codehaus.groovy.ast.NodeMetaDataHandler;
}

@members {

 public static class GroovyParserRuleContext extends ParserRuleContext implements NodeMetaDataHandler {
 private Map metaDataMap = null;

 public GroovyParserRuleContext() {}

 public GroovyParserRuleContext(ParserRuleContext parent, int invokingStateNumber) {
 super(parent, invokingStateNumber);
 }

 @Override
 public Map<?, ?> getMetaDataMap() {
 return this.metaDataMap;
 }

 @Override
 public void setMetaDataMap(Map<?, ?> metaDataMap) {
 this.metaDataMap = metaDataMap;
 }

 @Override
 public int getSyntaxErrorSource() {
 return GroovySyntaxError.PARSER;
 }
 }
}

```

```

@Override
public int getErrorLine() {
 Token token = _input.LT(-1);

 if (null == token) {
 return -1;
 }

 return token.getLine();
}

@Override
public int getErrorColumn() {
 Token token = _input.LT(-1);

 if (null == token) {
 return -1;
 }

 return token.getCharPositionInLine() + 1 + token.getText().length();
}
}

// starting point for parsing a groovy file
compilationUnit
: nls (packageDeclaration sep)? scriptStatements? EOF
;

scriptStatements
: scriptStatement (sep scriptStatement)* sep?
;

scriptStatement
: importDeclaration // Import statement. Can be used in any scope. Has "import x as y" also.
| typeDeclaration
// validate the method in the AstBuilder#visitMethodDeclaration, e.g. method without method body is not allowed
| { !SemanticPredicates.isInvalidMethodDeclaration(_input) }?
methodDeclaration[3, 9]
| statement
;

packageDeclaration
: annotationsOpt PACKAGE qualifiedName
;

importDeclaration
: annotationsOpt IMPORT STATIC? qualifiedName (DOT MUL | AS alias=identifier)?

```

```

;

typeDeclaration
: classOrInterfaceModifiersOpt classDeclaration
;

modifier
: classOrInterfaceModifier
| m=(NATIVE
 | SYNCHRONIZED
 | TRANSIENT
 | VOLATILE
 | DEF
 | VAR
)
;

modifiersOpt
: (modifiers nls)?
;

modifiers
: modifier (nls modifier)*
;

classOrInterfaceModifiersOpt
: (classOrInterfaceModifiers
 NL* /* Use `NL*` here for better performance, so DON'T replace it with `nls` */
)?
;

classOrInterfaceModifiers
: classOrInterfaceModifier (nls classOrInterfaceModifier)*
;

classOrInterfaceModifier
: annotation // class or interface
| m=(PUBLIC // class or interface
 | PROTECTED // class or interface
 | PRIVATE // class or interface
 | STATIC // class or interface
 | ABSTRACT // class or interface
 | FINAL // class only -- does not apply to interfaces
 | STRICTFP // class or interface
 | DEFAULT // interface only -- does not apply to classes
)
;

```

```

variableModifier
: annotation
| m=(FINAL
 | DEF
 | VAR
 // Groovy supports declaring local variables as instance/class fields,
 // e.g. import groovy.transform.*; @Field static List awe = [1, 2, 3]
 // e.g. import groovy.transform.*; def a = { @Field public List awe = [1, 2, 3] }
 // Notice: Groovy 2.4.7 just allows to declare local variables with the following modifiers when using
 annotations(e.g. @Field)
 // TODO check whether the following modifiers accompany annotations or not. Because the legacy codes(e.g.
 benchmark/bench/heapsort.groovy) allow to declare the special instance/class fields without annotations, we leave it
 as it is for the time being
 | PUBLIC
 | PROTECTED
 | PRIVATE
 | STATIC
 | ABSTRACT
 | STRICTFP
)
;

variableModifiersOpt
: (variableModifiers nls)?
;

variableModifiers
: variableModifier (nls variableModifier)*
;

typeParameters
: LT nls typeParameter (COMMA nls typeParameter)* nls GT
;

typeParameter
: className (EXTENDS nls typeBound)?
;

typeBound
: type (BITAND nls type)*
;

typeList
: type (COMMA nls type)*
;

```

```

/**
 * t 0: class; 1: interface; 2: enum; 3: annotation; 4: trait
 */
classDeclaration
locals[int t]
: (CLASS { $t = 0; }
 | INTERFACE { $t = 1; }
 | ENUM { $t = 2; }
 | AT INTERFACE { $t = 3; }
 | TRAIT { $t = 4; }
)
 identifier
 (nls typeParameters)?
 (nls EXTENDS nls scs=typeList)?
 (nls IMPLEMENTS nls is=typeList)?
 nls classBody[$t]
;

// t see the comment of classDeclaration
classBody[int t]
: LBRACE nls
 (
 /* Only enum can have enum constants */
 { 2 == $t }?
 enumConstants (nls COMMA)? sep?
 |
)
 (classBodyDeclaration[$t] (sep classBodyDeclaration[$t])*? sep? RBRACE
;

enumConstants
: enumConstant (nls COMMA nls enumConstant)*
;

enumConstant
: annotationsOpt identifier arguments? anonymousInnerClassDeclaration[1]?
;

classBodyDeclaration[int t]
: (STATIC nls)? block
| memberDeclaration[$t]
;

memberDeclaration[int t]
: methodDeclaration[0, $t]
| fieldDeclaration
| modifiersOpt classDeclaration
;

```

```

/**
 * t 0: *class member* all kinds of method declaration AND constructor declaration,
 * 1: normal method declaration, 2: abstract method declaration
 * 3: normal method declaration OR abstract method declaration
 * ct 9: script, other see the comment of classDeclaration
 */

```

```

methodDeclaration[int t, int ct]
 : modifiersOpt typeParameters? (returnType[$ct] nls)?
 methodName formalParameters
 (
 DEFAULT nls elementValue
 |
 (nls THROWS nls qualifiedClassNameList)?
 (nls methodBody)?
)?
 ;

```

```

methodName
 : identifier
 | stringLiteral
 ;

```

```

returnType[int ct]
 :
 standardType
 | VOID
 ;

```

```

fieldDeclaration
 : variableDeclaration[1]
 ;

```

```

variableDeclarators
 : variableDeclarator (COMMA nls variableDeclarator)*
 ;

```

```

variableDeclarator
 : variableDeclaratorId (nls ASSIGN nls variableInitializer)?
 ;

```

```

variableDeclaratorId
 : identifier
 ;

```

```

variableInitializer
 : enhancedStatementExpression
 ;

```

```
variableInitializers
 : variableInitializer (nls COMMA nls variableInitializer)* nls COMMA?
 ;
```

```
emptyDims
 : (annotationsOpt LBRACK RBRACK)+
 ;
```

```
emptyDimsOpt
 : emptyDims?
 ;
```

```
standardType
options { baseContext = type; }
 : annotationsOpt
 (
 primitiveType
 |
 standardClassOrInterfaceType
)
 emptyDimsOpt
 ;
```

```
type
 : annotationsOpt
 (
 (
 primitiveType
 |
 // !!! Error Alternative !!!
 VOID
)
 |
 generalClassOrInterfaceType
)
 emptyDimsOpt
 ;
```

```
classOrInterfaceType
 : (qualifiedClassName
 | qualifiedStandardClassName
) typeArguments?
 ;
```

```
generalClassOrInterfaceType
options { baseContext = classOrInterfaceType; }
 : qualifiedClassName typeArguments?
```



```

;

standardClassOrInterfaceType
options { baseContext = classOrInterfaceType; }
: qualifiedStandardClassName typeArguments?
;

primitiveType
: BuiltInPrimitiveType
;

typeArguments
: LT nls typeArgument (COMMA nls typeArgument)* nls GT
;

typeArgument
: type
| annotationsOpt QUESTION ((EXTENDS | SUPER) nls type)?
;

annotatedQualifiedClassName
: annotationsOpt qualifiedClassName
;

qualifiedClassNameList
: annotatedQualifiedClassName (COMMA nls annotatedQualifiedClassName)*
;

formalParameters
: LPAREN formalParameterList? rparen
;

formalParameterList
: (formalParameter | thisFormalParameter) (COMMA nls formalParameter)*
;

thisFormalParameter
: type THIS
;

formalParameter
: variableModifiersOpt type? ELLIPSIS? variableDeclaratorId (nls ASSIGN nls expression)?
;

methodBody
: block
;

```

```

qualifiedName
 : qualifiedNameElement (DOT qualifiedNameElement)*
 ;

/**
 * Java doesn't have the keywords 'as', 'in', 'def', 'trait' so we make some allowances
 * for them in package names for better integration with existing Java packages
 */
qualifiedNameElement
 : identifier
 | DEF
 | IN
 | AS
 | TRAIT
 ;

qualifiedNameElements
 : (qualifiedNameElement DOT)*
 ;

qualifiedClassName
 : qualifiedNameElements identifier
 ;

qualifiedStandardClassName
 : qualifiedNameElements className (DOT className)*
 ;

literal
 : IntegerLiteral #integerLiteralAlt
 | FloatingPointLiteral #floatingPointLiteralAlt
 | stringLiteral #stringLiteralAlt
 | BooleanLiteral #booleanLiteralAlt
 | NullLiteral #nullLiteralAlt
 ;

// GSTRING

gstring
 : GStringBegin gstringValue (GStringPart gstringValue)* GStringEnd
 ;

gstringValue
 : gstringPath
 | closure
 ;

gstringPath

```

```

: identifier GStringPathPart*
;

// LAMBDA EXPRESSION
lambdaExpression
options { baseContext = standardLambdaExpression; }
: lambdaParameters nls ARROW nls lambdaBody
;

// JAVA STANDARD LAMBDA EXPRESSION
standardLambdaExpression
: standardLambdaParameters nls ARROW nls lambdaBody
;

lambdaParameters
options { baseContext = standardLambdaParameters; }
: formalParameters

// { a -> a * 2 } can be parsed as a lambda expression in a block, but we expect a closure.
// So it is better to put parameters in the parentheses and the following single parameter without parentheses is
limited
// | variableDeclaratorId
;

standardLambdaParameters
: formalParameters
| variableDeclaratorId
;

lambdaBody
: block
| statementExpression
;

// CLOSURE
closure
: LBRACE (nls (formalParameterList nls)? ARROW)? sep? blockStatementsOpt RBRACE
;

// GROOVY-8991: Difference in behaviour with closure and lambda
closureOrLambdaExpression
: closure
| lambdaExpression
;

blockStatementsOpt
: blockStatements?

```

```

;

blockStatements
: blockStatement (sep blockStatement)* sep?
;

// ANNOTATIONS

annotationsOpt
: (annotation (nls annotation)* nls)?
;

annotation
: AT annotationName (nls LPAREN elementValues? rparen)?
;

elementValues
: elementValuePairs
| elementValue
;

annotationName : qualifiedClassName ;

elementValuePairs
: elementValuePair (COMMA elementValuePair)*
;

elementValuePair
: elementValuePairName nls ASSIGN nls elementValue
;

elementValuePairName
: identifier
| keywords
;

// TODO verify the potential performance issue because rule expression contains sub-rule
assignments(https://github.com/antlr/grammars-v4/issues/215)
elementValue
: elementValueArrayInitializer
| annotation
| expression
;

elementValueArrayInitializer
: LBRACK (elementValue (COMMA elementValue)* COMMA?)? RBRACK
;

```

```

// STATEMENTS / BLOCKS

block
 : LBRACE sep? blockStatementsOpt RBRACE
 ;

blockStatement
 : localVariableDeclaration
 | statement
 ;

localVariableDeclaration
 : { !SemanticPredicates.isInvalidLocalVariableDeclaration(_input) }?
 variableDeclaration[0]
 ;

/**
 * t 0: local variable declaration; 1: field declaration
 */
variableDeclaration[int t]
 : modifiers nls
 (type? variableDeclarators
 | typeNamePairs nls ASSIGN nls variableInitializer
)
 |
 type variableDeclarators
 ;

typeNamePairs
 : LPAREN typeNamePair (COMMA typeNamePair)* rparen
 ;

typeNamePair
 : type? variableDeclaratorId
 ;

variableNames
 : LPAREN variableDeclaratorId (COMMA variableDeclaratorId)+ rparen
 ;

conditionalStatement
 : ifElseStatement
 | switchStatement
 ;

ifElseStatement
 : IF expressionInPar nls tb=statement ((nls | sep) ELSE nls fb=statement)?
 ;

```

```

switchStatement
: SWITCH expressionInPar nls LBRACE nls (switchBlockStatementGroup+ nls)? RBRACE
;

loopStatement
: FOR LPAREN forControl rparen nls statement #forStmtAlt
| WHILE expressionInPar nls statement #whileStmtAlt
| DO nls statement nls WHILE expressionInPar #doWhileStmtAlt
;

continueStatement
: CONTINUE
 identifier?
;

breakStatement
: BREAK
 identifier?
;

tryCatchStatement
: TRY resources? nls block
 (nls catchClause)*
 (nls finallyBlock)?
;

assertStatement
: ASSERT ce=expression (nls (COLON | COMMA) nls me=expression)?
;

statement
: block #blockStmtAlt
| conditionalStatement #conditionalStmtAlt
| loopStatement #loopStmtAlt
| tryCatchStatement #tryCatchStmtAlt
| SYNCHRONIZED expressionInPar nls block #synchronizedStmtAlt
| RETURN expression? #returnStmtAlt
| THROW expression #throwStmtAlt
| breakStatement #breakStmtAlt
| continueStatement #continueStmtAlt
| identifier COLON nls statement #labeledStmtAlt
| assertStatement #assertStmtAlt
| localVariableDeclaration #localVariableDeclarationStmtAlt
| statementExpression #expressionStmtAlt
| SEMI #emptyStmtAlt
;

```

catchClause  
: CATCH LPAREN variableModifiersOpt catchType? identifier rparen nls block  
;

catchType  
: qualifiedClassName (BITOR qualifiedClassName)\*  
;

finallyBlock  
: FINALLY nls block  
;

resources  
: LPAREN nls resourceList sep? rparen  
;

resourceList  
: resource (sep resource)\*  
;

resource  
: localVariableDeclaration  
| expression  
;

/\*\* Matches cases then statements, both of which are mandatory.  
\* To handle empty cases at the end, we add switchLabel\* to statement.  
\*/

switchBlockStatementGroup  
: switchLabel (nls switchLabel)\* nls blockStatements  
;

switchLabel  
: CASE expression COLON  
| DEFAULT COLON  
;

forControl  
: enhancedForControl  
| classicalForControl  
;

enhancedForControl  
: variableModifiersOpt type? variableDeclaratorId (COLON | IN) expression  
;

classicalForControl

```

: forInit? SEMI expression? SEMI forUpdate?
;

forInit
: localVariableDeclaration
| expressionList[false]
;

forUpdate
: expressionList[false]
;

// EXPRESSIONS

castParExpression
: LPAREN type rparen
;

parExpression
: expressionInPar
;

expressionInPar
: LPAREN enhancedStatementExpression rparen
;

expressionList[boolean canSpread]
: expressionListElement[$canSpread] (COMMA expressionListElement[$canSpread])*
;

expressionListElement[boolean canSpread]
: MUL? expression
;

enhancedStatementExpression
: statementExpression
| standardLambdaExpression
;

statementExpression
: commandExpression #commandExprAlt
;

postfixExpression
: pathExpression op=(INC | DEC)?
;

```



```

expression
// must come before postfixExpression to resolve the ambiguities between casting and call on parentheses
expression, e.g. (int)(1 / 2)
: castParExpression castOperandExpression #castExprAlt

// qualified names, array expressions, method invocation, post inc/dec
| postfixExpression #postfixExprAlt

// ~(BNOT)! (LNOT) (level 1)
| (BITNOT | NOT) nls expression #unaryNotExprAlt

// math power operator (**) (level 2)
| left=expression op=POWER nls right=expression #powerExprAlt

// ++(prefix)--(prefix)/(unary)/(unary) (level 3)
| op=(INC | DEC | ADD | SUB) expression #unaryAddExprAlt

// multiplication/division/modulo (level 4)
| left=expression nls op=(MUL | DIV | MOD) nls right=expression #multiplicativeExprAlt

// binary addition/subtraction (level 5)
| left=expression op=(ADD | SUB) nls right=expression #additiveExprAlt

// bit shift expressions (level 6)
| left=expression nls
 (
 (dlOp=LT LT
 | tgOp=GT GT GT
 | dgOp=GT GT
)
 | rangeOp=(RANGE_INCLUSIVE
 | RANGE_EXCLUSIVE
)
) nls
right=expression #shiftExprAlt

// boolean relational expressions (level 7)
| left=expression nls op=(AS | INSTANCEOF | NOT_INSTANCEOF) nls type #relationalExprAlt
| left=expression nls op=(LE | GE | GT | LT | IN | NOT_IN) nls right=expression #relationalExprAlt

// equality/inequality (==/!=) (level 8)
| left=expression nls
 op=(IDENTICAL
 | NOT_IDENTICAL
 | EQUAL
 | NOTEQUAL
 | SPACESHIP
) nls
right=expression #equalityExprAlt

```

```

// regex find and match (=~ and ==~) (level 8.5)
// jez: moved =~ closer to precedence of == etc, as...
// 'if (foo =~ "a.c")' is very close in intent to 'if (foo == "abc")'
| left=expression nls op=(REGEX_FIND | REGEX_MATCH) nls right=expression #regexExprAlt

// bitwise or non-short-circuiting and (&) (level 9)
| left=expression nls op=BITAND nls right=expression #andExprAlt

// exclusive or (^) (level 10)
| left=expression nls op=XOR nls right=expression #exclusiveOrExprAlt

// bitwise or non-short-circuiting or (|) (level 11)
| left=expression nls op=BITOR nls right=expression #inclusiveOrExprAlt

// logical and (&&) (level 12)
| left=expression nls op=AND nls right=expression #logicalAndExprAlt

// logical or (||) (level 13)
| left=expression nls op=OR nls right=expression #logicalOrExprAlt

// conditional test (level 14)
| <assoc=right> con=expression nls
 (QUESTION nls tb=expression nls COLON nls
 | ELVIS nls
)
 fb=expression #conditionalExprAlt

// assignment expression (level 15)
// "(a) = [1]" is a special case of multipleAssignmentExprAlt, it will be handle by assignmentExprAlt
| <assoc=right> left=variableNames nls op=ASSIGN nls right=statementExpression
#multipleAssignmentExprAlt
| <assoc=right> left=expression nls
 op=(ASSIGN
 | ADD_ASSIGN
 | SUB_ASSIGN
 | MUL_ASSIGN
 | DIV_ASSIGN
 | AND_ASSIGN
 | OR_ASSIGN
 | XOR_ASSIGN
 | RSHIFT_ASSIGN
 | URSHIFT_ASSIGN
 | LSHIFT_ASSIGN
 | MOD_ASSIGN
 | POWER_ASSIGN
 | ELVIS_ASSIGN
) nls

```

```

 enhancedStatementExpression #assignmentExprAlt
 ;

castOperandExpression
options { baseContext = expression; }
: castParExpression castOperandExpression #castExprAlt

| postfixExpression #postfixExprAlt

// ~(BNOT)!/(LNOT)
| (BITNOT | NOT) nls castOperandExpression #unaryNotExprAlt

// ++(prefix)--(prefix)/(unary)/(unary)
| op=(INC | DEC | ADD | SUB) castOperandExpression #unaryAddExprAlt
;

commandExpression
: expression
 (
 { !SemanticPredicates.isFollowingArgumentsOrClosure($expression.ctx) }?
 argumentList
 |
 /* if pathExpression is a method call, no need to have any more arguments */
)

 commandArgument*
;

commandArgument
: commandPrimary
 // what follows is either a normal argument, parens,
 // an appended block, an index operation, or nothing
 // parens (a b already processed):
 // a b c() d e -> a(b).c().d(e)
 // a b c()() d e -> a(b).c().call().d(e)
 // index (a b already processed):
 // a b c[x] d e -> a(b).c[x].d(e)
 // a b c[x][y] d e -> a(b).c[x][y].d(e)
 // block (a b already processed):
 // a b c {x} d e -> a(b).c({x}).d(e)
 //
 // parens/block completes method call
 // index makes method call to property get with index
 //
 (pathElement+
 | argumentList
)?
;

```

```

/**
 * A "path expression" is a name or other primary, possibly qualified by various
 * forms of dot, and/or followed by various kinds of brackets.
 * It can be used for value or assigned to, or else further qualified, indexed, or called.
 * It is called a "path" because it looks like a linear path through a data structure.
 * Examples: x.y, x?.y, x*.y, x.@y; x[], x[y], x[y,z]; x(), x(y), x(y,z); x{s}; a.b[n].c(x).d{s}
 * (Compare to a C lvalue, or LeftHandSide in the JLS section 15.26.)
 * General expressions are built up from path expressions, using operators like '+' and '='.
 *
 * t 0: primary, 1: namePart, 2: arguments, 3: closureOrLambdaExpression, 4: indexPropertyArgs, 5:
namedPropertyArgs,
 * 6: non-static inner class creator
 */
pathExpression returns [int t]
: (
 primary
 |
 // if 'static' followed by DOT, we can treat them as identifiers, e.g. static.unused = { -> }
 { _input.LT(2).getType() == DOT }?
 STATIC
) (pathElement { $t = $pathElement.t; })*
;

pathElement returns [int t]
: nls
(
 DOT nls NEW creator[1]
 { $t = 6; }
 |
 // AT: foo.@bar selects the field (or attribute), not property
 (
 (DOT // The all-powerful dot.
 | SPREAD_DOT // Spread operator: x*.y === x?.collect{it.y}
 | SAFE_DOT // Optional-null operator: x?.y === (x==null)?null:x.y
 | SAFE_CHAIN_DOT // Optional-null chain operator: x??y.z === x?.y?.z
) nls (AT | nonWildcardTypeArguments)?
 |
 METHOD_POINTER nls // Method pointer operator: foo.&y == foo.metaClass.getMethodPointer(foo,
"y")
 |
 METHOD_REFERENCE nls // Method reference: System.out::println
)
 namePart
 { $t = 1; }

 // Can always append a block, as foo{bar}
 | closureOrLambdaExpression

```

```

 { $t = 3; }
)

| arguments
 { $t = 2; }

// Element selection is always an option, too.
// In Groovy, the stuff between brackets is a general argument list,
// since the bracket operator is transformed into a method call.
| indexPropertyArgs
 { $t = 4; }

| namedPropertyArgs
 { $t = 5; }
;

/**
 * This is the grammar for what can follow a dot: x.a, x.@a, x.&a, x.'a', etc.
 */
namePart
:
 (identifier

 // foo.'bar' is in all ways same as foo.bar, except that bar can have an arbitrary spelling
 | stringLiteral

 | dynamicMemberName

 /* just a PROPOSAL, which has not been implemented yet!
 // PROPOSAL, DECIDE: Is this inline form of the 'with' statement useful?
 // Definition: a.{foo} === {with(a) {foo}}
 // May cover some path expression use-cases previously handled by dynamic scoping (closure delegates).
 | block
 */

 // let's allow common keywords as property names
 | keywords
)
;

/**
 * If a dot is followed by a parenthesized or quoted expression, the member is computed dynamically,
 * and the member selection is done only at runtime. This forces a statically unchecked member access.
 */
dynamicMemberName
: parExpression
| gstring
;

```

```

/** An expression may be followed by [...].
 * Unlike Java, these brackets may contain a general argument list,
 * which is passed to the array element operator, which can make of it what it wants.
 * The brackets may also be empty, as in T[]. This is how Groovy names array types.
 */
indexPropertyArgs
: QUESTION? LBRACK expressionList[true]? RBRACK
;

namedPropertyArgs
: QUESTION? LBRACK (namedPropertyArgList | COLON) RBRACK
;

primary
:
 // Append `typeArguments?` to `identifier` to support constructor reference with generics, e.g.
 HashMap<String, Integer>::new
 // Though this is not a graceful solution, it is much faster than replacing `builtInType` with `type`
 identifier typeArguments? #identifierPrmrAlt
| literal #literalPrmrAlt
| gstring #gstringPrmrAlt
| NEW nls creator[0] #newPrmrAlt
| THIS #thisPrmrAlt
| SUPER #superPrmrAlt
| parExpression #parenPrmrAlt
| closureOrLambdaExpression #closureOrLambdaExpressionPrmrAlt
| list #listPrmrAlt
| map #mapPrmrAlt
| builtInType #builtInTypePrmrAlt
;

namedPropertyArgPrimary
options { baseContext = primary; }
: identifier #identifierPrmrAlt
| literal #literalPrmrAlt
| gstring #gstringPrmrAlt
| parExpression #parenPrmrAlt
;

namedArgPrimary
options { baseContext = primary; }
: identifier #identifierPrmrAlt
| literal #literalPrmrAlt
| gstring #gstringPrmrAlt
;

commandPrimary

```

```
options { baseContext = primary; }
: identifier #identifierPrmrAlt
| literal #literalPrmrAlt
| gstring #gstringPrmrAlt
;
```

```
list
: LBRACK expressionList[true]? COMMA? RBRACK
;
```

```
map
: LBRACK
(mapEntryList COMMA?
| COLON
)
RBRACK
;
```

```
mapEntryList
: mapEntry (COMMA mapEntry)*
;
```

```
namedPropertyArgList
options { baseContext = mapEntryList; }
: namedPropertyArg (COMMA namedPropertyArg)*
;
```

```
mapEntry
: mapEntryLabel COLON nls expression
| MUL COLON nls expression
;
```

```
namedPropertyArg
options { baseContext = mapEntry; }
: namedPropertyArgLabel COLON nls expression
| MUL COLON nls expression
;
```

```
namedArg
options { baseContext = mapEntry; }
: namedArgLabel COLON nls expression
| MUL COLON nls expression
;
```

```
mapEntryLabel
: keywords
| primary
;
```

```

namedPropertyArgLabel
options { baseContext = mapEntryLabel; }
: keywords
| namedPropertyArgPrimary
;

namedArgLabel
options { baseContext = mapEntryLabel; }
: keywords
| namedArgPrimary
;

/**
 * t 0: general creation; 1: non-static inner class creation
 */
creator[int t]
: createdName
(nls arguments anonymousInnerClassDeclaration[0]?
| dim+ (nls arrayInitializer)?
)
;

dim
: annotationsOpt LBRACK expression? RBRACK
;

arrayInitializer
: LBRACE nls (variableInitializers nls)? RBRACE
;

/**
 * t 0: anonymous inner class; 1: anonymous enum
 */
anonymousInnerClassDeclaration[int t]
: classBody[0]
;

createdName
: annotationsOpt
(primitiveType
| qualifiedClassName typeArgumentsOrDiamond?
)
;

nonWildcardTypeArguments
: LT nls typeList nls GT
;

```



typeArgumentsOrDiamond

```
: LT GT
| typeArguments
;
```

arguments

```
: LPAREN enhancedArgumentListInPar? COMMA? rparen
;
```

argumentList

```
options { baseContext = enhancedArgumentListInPar; }
: firstArgumentListElement
 (COMMA nls
 argumentListElement
)*
;
```

enhancedArgumentList

```
options { baseContext = enhancedArgumentListInPar; }
: firstEnhancedArgumentListElement
 (COMMA nls
 enhancedArgumentListElement
)*
;
```

enhancedArgumentListInPar

```
: enhancedArgumentListElement
 (COMMA nls
 enhancedArgumentListElement
)*
;
```

firstArgumentListElement

```
options { baseContext = enhancedArgumentListElement; }
: expressionListElement[true]
| namedArg
;
```

argumentListElement

```
options { baseContext = enhancedArgumentListElement; }
: expressionListElement[true]
| namedPropertyArg
;
```

firstEnhancedArgumentListElement

```
options { baseContext = enhancedArgumentListElement; }
: expressionListElement[true]
```

```
| standardLambdaExpression
| namedArg
;

enhancedArgumentListElement
: expressionListElement[true]
| standardLambdaExpression
| namedPropertyArg
;

stringLiteral
: StringLiteral
;

className
: CapitalizedIdentifier
;

identifier
: Identifier
| CapitalizedIdentifier
| VAR
| IN
// | DEF
| TRAIT
| AS
;

builtInType
: BuiltInPrimitiveType
| VOID
;

keywords
: ABSTRACT
| AS
| ASSERT
| BREAK
| CASE
| CATCH
| CLASS
| CONST
| CONTINUE
| DEF
| DEFAULT
| DO
| ELSE
| ENUM
```

| EXTENDS  
| FINAL  
| FINALLY  
| FOR  
| GOTO  
| IF  
| IMPLEMENTS  
| IMPORT  
| IN  
| INSTANCEOF  
| INTERFACE  
| NATIVE  
| NEW  
| PACKAGE  
| RETURN  
| STATIC  
| STRICTFP  
| SUPER  
| SWITCH  
| SYNCHRONIZED  
| THIS  
| THROW  
| THROWS  
| TRANSIENT  
| TRAIT  
| THREADSAFE  
| TRY  
| VAR  
| VOLATILE  
| WHILE

| NullLiteral  
| BooleanLiteral

| BuiltInPrimitiveType  
| VOID

| PUBLIC  
| PROTECTED  
| PRIVATE  
;

rparen  
: RPAREN  
;

nls  
: NL\*

;

sep : (NL | SEMI)+

;

Found in path(s):

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/GroovyParser.g4

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Found in path(s):

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/metaclass/MetaClass.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/Tuple1.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/ModifierNode.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/reflection/ReflectionCache.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/ProcessGroovyMethods.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/dgmimpl/arrays/BooleanArrayGetAtMetaMethod.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/Trait.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/ClassGenerator.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/MapEntryExpression.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/javac/MemJavaFileObject.java

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-

jar/org/codehaus/groovy/runtime/ReverseListIterator.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/transform/ThreadInterruptibleASTTransformation.groovy  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/IndentPrinter.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/runtime/callsite/PojoMetaMethodSite.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/control/io/ReaderSource.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/io/GroovyPrintStream.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/MetaMethod.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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 jar/groovy/lang/MissingClassException.java  
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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/time/BaseDuration.java

- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/javac/RawJavaFileObject.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/ConstructorMetaClassSite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/lang/annotation/Incubating.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/UnaryPlusExpression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/BaseScriptASTTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/dgmimpl/arrays/CharacterArrayPutAtMetaMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/MethodCallerMultiAdapter.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/stc/SharedVariableCollector.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/beans/BindableASTTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/dgmimpl/arrays/FloatArrayGetAtMetaMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/io/LineColumnReader.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/PrimitiveHelper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/FieldNode.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/ExpressionTransformer.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/stmt/BreakStatement.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/wrappers/IntWrapper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/reflection/CacheAccessControlException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/treewalker/NodeCollector.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/sc/transformers/ListExpressionTransformer.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/trait/NaryOperationRewriter.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/CompilationFailedException.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/ObjectRange.java
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/reflection/GroovyClassValueFactory.java  
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/stc/SimpleType.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/io/AbstractReaderSource.java

- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/options/Visibility.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/stc/StaticTypesMarker.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/WithReadLock.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/metaclass/MethodSelectionException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/ReflectionMethodInvoker.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/cli/UnparsedField.groovy
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/vmplugin/v8/TypeTransformers.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/StaticMetaMethodSite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/powerassert/SourceText.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/apache/groovy/parser/antlr4/SyntaxErrorReportable.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/vmplugin/v8/IndyMath.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/metaclass/ClosureMetaClass.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/stmt/ContinueStatement.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/AbstractInterruptibleASTTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/ScriptBytecodeAdapter.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/Finalizable.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/dgmimpl/arrays/ByteArrayGetAtMetaMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/reflection/GeneratedMetaMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/stc/FromString.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/MissingPropertyException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/customizers/builder/ASTTransformationCustomizerFactory.groovy
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/metaclass/ClosureMetaMethod.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/io/URLReaderSource.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/WithWriteLock.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/m12n/MetaInfExtensionModule.java
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/OptimizingStatementWriter.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/KnownImmutable.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/Tuple4.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/GroovyCollections.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/CharArrayIterator.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/vmplugin/VMPluginFactory.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/MethodKey.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/sc/StaticTypesCallSiteWriter.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/stc/IncorrectTypeHintException.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/MethodNode.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/NullCallSite.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/treewalker/TraversalHelper.java  
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/Compiler.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/MethodCaller.java  
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/MethodRankHelper.java  
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/SpreadListEvaluatingException.java
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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/ResourceException.java  
 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/Main.java  
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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/memoize/ProtectionStorage.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/LoaderConfiguration.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/GenericsType.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/GStringExpression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/time/TimeCategory.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/sc/StaticCompileTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/GroovyObject.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/vmplugin/v7/IndyArrayAccess.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/memoize/CommonCache.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/HashCodeHelper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/Verifier.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/PogoMetaClassSite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/MissingMethodException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/EnumConstantClassNode.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/beans/PropertyWriter.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/ArrayIterable.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/ConditionalInterrupt.groovy
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/Range.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/stc/PropertyLookupVisitor.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/AstToTextHelper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/metaclass/MethodMetaProperty.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/namespace/QName.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/DelegatingScript.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/util/BeanUtils.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/MetaProperty.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/tailrec/HasRecursiveCalls.groovy
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/ManagedConcurrentValueMap.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/GroovyBugError.java

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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/Janitor.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/BytecodeSequence.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/SourceUnit.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/MetaMethodSite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/ConfigObject.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/grape/GrapeEngine.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/TrampolineClosure.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/tools/GeneralUtils.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/SortableASTTransformation.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/VariableScopeVisitor.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/GroovyCategorySupport.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/NamedParams.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/ExternalizeVerifierASTTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/EnumVisitor.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/AutoClone.java

- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/Delegate.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/DefaultMethodKey.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/ComposedClosure.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/FloatArrayIterator.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/plugin/GroovyRunner.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/ClassNode.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/reflection/SunClassLoader.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/tailrec/VariableExpressionReplacer.groovy
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/AdaptingMetaClass.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/Expression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/sc/TemporaryVariableExpression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/MetaClassConstructorSite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/syntax/ASTHelper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/sc/StaticTypesBinaryExpressionMultiTypeDispatcher.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/NonEmptySequence.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/ResourceConnector.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/ASTTest.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/internal/util/Function.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/stc/FirstParam.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/stmt/BlockStatement.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/PogoMetaClassGetPropertySite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/builder/AstBuilder.groovy
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/MetaClassRegistryChangeEventListner.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/tailrec/AstHelper.groovy
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/powerassert/Value.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/RangeExpression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/m12n/SimpleExtensionModule.java



- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/ConstructorSite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/sc/StaticTypesTypeChooser.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/BinaryDoubleExpressionHelper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/AbstractCallSite.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/GroovyException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/ArgumentListExpression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/ImmutableASTTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/ClosureInvokingMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/NamedVariantASTTransformation.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/dgmimpl/arrays/BooleanArrayPutAtMetaMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/metaclass/MissingMethodExceptionNoStack.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/parser/antlr4/PositionInfo.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/InvokerInvocationException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/CompilerConfiguration.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/internal/metaclass/MetaClassConstant.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/dgmimpl/arrays/DoubleArrayGetAtMetaMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/ReadOnlyPropertyException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/UnicodeEscapingReader.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/SocketGroovyMethods.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/beans/VetoableASTTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/parser/antlr4/GroovydocManager.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/CallSiteAwareMetaMethod.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/TypeCheckingMode.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/GString.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/vmplugin/v8/Java8.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/GroovyScriptEngine.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/SingletonASTTransformation.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/PropertyOptions.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/RegexSupport.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/sc/transformers/RangeExpressionTransformer.java
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jar/org/codehaus/groovy/runtime/metaclass/TemporaryMethodKey.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/Lazy.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/runtime/callsite/PojoMetaClassSite.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/GroovyCodeSource.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/ast/expr/MethodReferenceExpression.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/control/ClassNodeResolver.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/tools/shell/util/Preferences.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/antlr/treewalker/CompositeVisitor.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/ast/expr/ConstantExpression.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/apache/groovy/util/ObjectHolder.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/classgen/DummyClassGenerator.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/control/XStreamUtils.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/control/customizers/ASTTransformationCustomizer.groovy  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/antlr/AntlrASTProcessor.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/classgen/genMathModification.groovy  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/codehaus/groovy/runtime/callsite/MetaClassSite.java  
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jar/org/codehaus/groovy/syntax/TokenMismatchException.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/DelegatesTo.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/typehandling/IntegerMath.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/GroovySourceAST.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/BinaryExpressionMultiTypeDispatcher.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/stc/ClosureSignatureHint.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/tools/PropertyNodeUtils.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/inspect/Inspector.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/stmt/TryCatchStatement.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/typehandling/ShortTypeHandling.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/DgmConverter.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/IllegalPropertyAccessException.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/AnnotationConstantsVisitor.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/reflection/stdclasses/ArrayCachedClass.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/cli/OptionField.groovy
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/GetEffectivePogoFieldSite.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/tools/BeanUtils.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/ParserPlugin.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/syntax/CSTNode.java
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- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/wrappers/CharWrapper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-

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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/ClosureException.java  
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 jar/groovy/beans/DefaultPropertyWriter.java  
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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
 jar/org/codehaus/groovy/runtime/MetaClassHelper.java  
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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
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 jar/org/codehaus/groovy/ast/GroovyCodeVisitor.java  
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 \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/GrabExclude.java

- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/plugin/DefaultRunners.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/m12n/ExtensionModuleScanner.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/ConversionHandler.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/java/PreJava2GroovyConverter.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/options/PropertyHandler.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/DoubleArrayIterator.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/TransformingCodeVisitor.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/parser/antlr4/AbstractLexer.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/LexerFrame.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/UnaryExpressionHelper.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/parser/antlr4/internal/atnmanager/ParserAtnManager.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/ASTTransformationCollectorCodeVisitor.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/ImportNode.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/transform/stc/StaticTypeCheckingVisitor.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/apache/groovy/util/SystemUtil.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/DelegatingMetaClass.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/PropertyAccessInterceptor.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/stmt/ForStatement.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/VariableExpression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/SpreadMapExpression.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/transform/BaseScript.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/metaclass/ThreadManagedMetaBeanProperty.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/Tuple9.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/GroovyInterceptable.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/shell/IO.java
- \* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/tools/RootLoader.java
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\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/dgmimpl/arrays/LongArrayGetAtMetaMethod.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/AttributeExpression.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/grape/GrabAnnotationTransformation.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/treewalker/VisitorAdapter.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/ClosureComparator.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/InvokerHelper.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/control/ResolveVisitor.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/util/LongArrayIterable.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/vmplugin/v8/MethodHandleWrapper.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/ast/expr/ClassExpression.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/runtime/callsite/PogoMetaMethodSite.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/GroovySourceToken.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/util/PermutationGenerator.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/indy/sc/IndyStaticTypesMultiTypeDispatcher.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/classgen/asm/indy/InvokeDynamicWriter.java

```
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-
jar/org/codehaus/groovy/reflection/GroovyClassValuePreJava7.java
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-jar/groovy/lang/Tuple11.java
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-
jar/groovy/transform/stc/ClosureSignatureConflictResolver.java
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-
jar/org/codehaus/groovy/tools/StringHelper.java
```

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```
/** Java 1.5 Recognizer
```

```
*
```

```
* Run 'java Main [-showtree] directory-full-of-java-files'
```

```
*
```

```
* [The -showtree option pops up a Swing frame that shows
```

```
* the AST constructed from the parser.]
```

```
*
```

```
* Run 'java Main <directory full of java files>'
```

```
*
```

```
* Contributing authors:
```

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```
*
```

```
* Version 1.00 December 9, 1997 -- initial release
```

```
* Version 1.01 December 10, 1997
```

```
* fixed bug in octal def (0..7 not 0..8)
```

```
* Version 1.10 August 1998 (parrt)
```

```
* added tree construction
```

```
* fixed definition of WS,comments for mac,pc,unix newlines
```

```
* added unary plus
```

```
* Version 1.11 (Nov 20, 1998)
```

```
* Added "shutup" option to turn off last ambig warning.
```

```
* Fixed inner class def to allow named class defs as statements
```

```
* synchronized requires compound not simple statement
```

```
* add [] after builtInType DOT class in primaryExpression
```

```
* "const" is reserved but not valid..removed from modifiers
```

```
* Version 1.12 (Feb 2, 1999)
```

```
* Changed LITERAL_XXX to XXX in tree grammar.
```

```
* Updated java.g to use tokens {...} now for 2.6.0 (new feature).
```

```
*
```

```
* Version 1.13 (Apr 23, 1999)
```

- \* Didn't have (stat)? for else clause in tree parser.
- \* Didn't gen ASTs for interface extends. Updated tree parser too.
- \* Updated to 2.6.0.
- \* Version 1.14 (Jun 20, 1999)
- \* Allowed final/abstract on local classes.
- \* Removed local interfaces from methods
- \* Put instanceof precedence where it belongs...in relationalExpr
- \* It also had expr not type as arg; fixed it.
- \* Missing ! on SEMI in classBlock
- \* fixed: (expr) + "string" was parsed incorrectly (+ as unary plus).
- \* fixed: didn't like Object[].class in parser or tree parser
- \* Version 1.15 (Jun 26, 1999)
- \* Screwed up rule with instanceof in it. :( Fixed.
- \* Tree parser didn't like (expr).something; fixed.
- \* Allowed multiple inheritance in tree grammar. oops.
- \* Version 1.16 (August 22, 1999)
- \* Extending an interface built a wacky tree: had extra EXTENDS.
- \* Tree grammar didn't allow multiple superinterfaces.
- \* Tree grammar didn't allow empty var initializer: { }
- \* Version 1.17 (October 12, 1999)
- \* ESC lexer rule allowed 399 max not 377 max.
- \* java.tree.g didn't handle the expression of synchronized
- \* statements.
- \* Version 1.18 (August 12, 2001)
- \* Terence updated to Java 2 Version 1.3 by
- \* observing/combining work of Allan Jacobs and Steve
- \* Messick. Handles 1.3 src. Summary:
- \* o primary didn't include boolean.class kind of thing
- \* o constructor calls parsed explicitly now:
- \* see explicitConstructorInvocation
- \* o add strictfp modifier
- \* o missing objBlock after new expression in tree grammar
- \* o merged local class definition alternatives, moved after declaration
- \* o fixed problem with ClassName.super.field
- \* o reordered some alternatives to make things more efficient
- \* o long and double constants were not differentiated from int/float
- \* o whitespace rule was inefficient: matched only one char
- \* o add an examples directory with some nasty 1.3 cases
- \* o made Main.java use buffered IO and a Reader for Unicode support
- \* o supports UNICODE?
- \* Using Unicode charVocabulay makes code file big, but only
- \* in the bitsets at the end. I need to make ANTLR generate
- \* unicode bitsets more efficiently.
- \* Version 1.19 (April 25, 2002)
- \* Terence added in nice fixes by John Pybus concerning floating
- \* constants and problems with super() calls. John did a nice
- \* reorg of the primary/postfix expression stuff to read better
- \* and makes f.g.super() parse properly (it was METHOD\_CALL not

- \* a SUPER\_CTOR\_CALL). Also:
- \*
- \* o "finally" clause was a root...made it a child of "try"
- \* o Added stuff for asserts too for Java 1.4, but \*commented out\*
- \* as it is not backward compatible.
- \*
- \* Version 1.20 (October 27, 2002)
- \*
- \* Terence ended up reorging John Pybus' stuff to
- \* remove some nondeterminisms and some syntactic predicates.
- \* Note that the grammar is stricter now; e.g., this(...) must
- \* be the first statement.
- \*
- \* Ternary ?: operator wasn't working as array name:
- \* (isBig ? bigDigits : digits)[i];
- \*
- \* Checked parser/tree parser on source for
- \* Resin-2.0.5, jive-2.1.1, jdk 1.3.1, Lucene, antlr 2.7.2a4,
- \* and the 110k-line jGuru server source.
- \*
- \* Version 1.21 (October 17, 2003)
- \* Fixed lots of problems including:
- \* Ray Waldin: add typeDefinition to interfaceBlock in java.tree.g
- \* He found a problem/fix with floating point that start with 0
- \* Ray also fixed problem that (int.class) was not recognized.
- \* Thorsten van Ellen noticed that \n are allowed incorrectly in strings.
- \* TJP fixed CHAR\_LITERAL analogously.
- \*
- \* Version 1.21.2 (March, 2003)
- \* Changes by Matt Quail to support generics (as per JDK1.5/JSR14)
- \* Notes:
- \* o We only allow the "extends" keyword and not the "implements"
- \* keyword, since that's what JSR14 seems to imply.
- \* o Thanks to Monty Zukowski for his help on the antlr-interest
- \* mail list.
- \* o Thanks to Alan Eliassen for testing the grammar over his
- \* Fink source base
- \*
- \* Version 1.22 (July, 2004)
- \* Changes by Michael Studman to support Java 1.5 language extensions
- \* Notes:
- \* o Added support for annotations types
- \* o Finished off Matt Quail's generics enhancements to support bound type arguments
- \* o Added support for new for statement syntax
- \* o Added support for static import syntax
- \* o Added support for enum types
- \* o Tested against JDK 1.5 source base and source base of jdigraph project
- \* o Thanks to Matt Quail for doing the hard part by doing most of the generics work

- \*
  - \* Version 1.22.1 (July 28, 2004)
    - \* Bug/omission fixes for Java 1.5 language support
      - \* o Fixed tree structure bug with classOrInterface - thanks to Pieter Vangorpto for spotting this
      - \* o Fixed bug where incorrect handling of SR and BSR tokens would cause type parameters to be recognised as type arguments.
      - \* o Enabled type parameters on constructors, annotations on enum constants and package definitions
      - \* o Fixed problems when parsing `if ((char.class.equals(c))) {}` - solution by Matt Quail at Cenqua
  - \* Version 1.22.2 (July 28, 2004)
    - \* Slight refactoring of Java 1.5 language support
      - \* o Refactored `for/"foreach"` productions so that original literal `"for"` literal is still used but the `for` sub-clauses vary by token type
      - \* o Fixed bug where type parameter was not included in generic constructor's branch of AST
  - \* Version 1.22.3 (August 26, 2004)
    - \* Bug fixes as identified by Michael Stahl; clean up of tabs/spaces and other refactorings
      - \* o Fixed typeParameters omission in `identPrimary` and `newStatement`
      - \* o Replaced GT reconciliation code with simple semantic predicate
      - \* o Adapted `enum/assert` keyword checking support from Michael Stahl's `java15` grammar
      - \* o Refactored `typeDefinition` production and field productions to reduce duplication
  - \* Version 1.22.4 (October 21, 2004)
    - \* Small bux fixes
      - \* o Added `typeArguments` to `explicitConstructorInvocation`, e.g. `new <String>MyParameterised()`
      - \* o Added `typeArguments` to `postfixExpression` productions for anonymous inner class super constructor invocation, e.g. `new Outer().<String>super()`
      - \* o Fixed bug in array declarations identified by Geoff Roy
  - \* Version 1.22.4.j.1
    - \* Changes by Jeremy Rayner to support `java2groovy` tool
      - \* o I have taken `java.g` for Java 1.5 from Michael Studman (1.22.4) and have made some changes to enable use by `java2groovy` tool (Jan 2007)
- \* Based on an original grammar released in the PUBLIC DOMAIN

Found in path(s):

\* `/opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-jar/org/codehaus/groovy/antlr/java/JavaRecognizer.java`

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Found in path(s):

\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/apache/groovy/util/concurrent/concurrentlinkedhashmap/Weighers.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/apache/groovy/util/concurrent/concurrentlinkedhashmap/ConcurrentLinkedHashMap.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/apache/groovy/util/concurrent/concurrentlinkedhashmap/Weigher.java  
\* /opt/cola/permits/1223665761\_1635937334.8/0/groovy-3-0-9-sources-  
jar/org/apache/groovy/util/concurrent/concurrentlinkedhashmap/EvictionListener.java  
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/\*  
\* This file is adapted from the Antlr4 Java grammar which has the following license  
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```

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*/

/**
* The Groovy grammar is based on the official grammar for Java:
* https://github.com/antlr/grammars-v4/blob/master/java/Java.g4
*/
lexer grammar GroovyLexer;

options {
 superClass = AbstractLexer;
}

@header {
 import java.util.Deque;
 import java.util.ArrayDeque;
 import java.util.Map;
 import java.util.HashMap;
 import java.util.Set;
 import java.util.HashSet;
 import java.util.Collections;
 import java.util.Arrays;
 import java.util.stream.IntStream;
 import java.util.logging.Logger;
 import java.util.logging.Level;
 import java.util.EmptyStackException;
 import org.apache.groovy.util.Maps;
 import static org.apache.groovy.parser.antlr4.SemanticPredicates.*;
}

@members {
 private static final Logger LOGGER = Logger.getLogger(GroovyLexer.class.getName());

 private boolean errorIgnored;
 private long tokenIndex;
 private int lastTokenType;
 private int invalidDigitCount;

 /**
 * Record the index and token type of the current token while emitting tokens.
 */
 @Override
 public void emit(Token token) {
 this.tokenIndex++;

 int tokenType = token.getType();

```



```

 if (Token.DEFAULT_CHANNEL == token.getChannel()) {
 this.lastTokenType = tokenType;
 }

 if (RollBackOne == tokenType) {
 this.rollbackOneChar();
 }

 super.emit(token);
}

private static final int[] REGEX_CHECK_ARRAY = {
 DEC,
 INC,
 THIS,
 RBRACE,
 RBRACK,
 RPAREN,
 GStringEnd,
 NullLiteral,
 StringLiteral,
 BooleanLiteral,
 IntegerLiteral,
 FloatingPointLiteral,
 Identifier, CapitalizedIdentifier
};
static {
 Arrays.sort(REGEX_CHECK_ARRAY);
}

private boolean isRegexAllowed() {
 return (Arrays.binarySearch(REGEX_CHECK_ARRAY, this.lastTokenType) < 0);
}

/**
 * just a hook, which will be overridden by GroovyLangLexer
 */
protected void rollbackOneChar() {}

private static class Paren {
 private String text;
 private int lastTokenType;
 private int line;
 private int column;

 public Paren(String text, int lastTokenType, int line, int column) {
 this.text = text;
 this.lastTokenType = lastTokenType;
 }
}

```

```

 this.line = line;
 this.column = column;
 }

 public String getText() {
 return this.text;
 }

 public int getLastTokenType() {
 return this.lastTokenType;
 }

 public int getLine() {
 return line;
 }

 public int getColumn() {
 return column;
 }

 @Override
 public int hashCode() {
 return (int) (text.hashCode() * line + column);
 }

 @Override
 public boolean equals(Object obj) {
 if (!(obj instanceof Paren)) {
 return false;
 }

 Paren other = (Paren) obj;

 return this.text.equals(other.text) && (this.line == other.line && this.column == other.column);
 }
}

protected void enterParenCallback(String text) {}

protected void exitParenCallback(String text) {}

private final Deque<Paren> parenStack = new ArrayDeque<>(32);

private void enterParen() {
 String text = getText();
 enterParenCallback(text);

 parenStack.push(new Paren(text, this.lastTokenType, getLine(), getCharPositionInLine()));
}

```

```

}

private void exitParen() {
 String text = getText();
 exitParenCallback(text);

 Paren paren = parenStack.peek();
 if (null == paren) return;
 parenStack.pop();
}

private boolean isInsideParens() {
 Paren paren = parenStack.peek();

 // We just care about "(" and "[", inside which the new lines will be ignored.
 // Notice: the new lines between "{" and}" can not be ignored.
 if (null == paren) {
 return false;
 }

 return ("(".equals(paren.getText()) && TRY != paren.getLastTokenType()) // we don't treat try-paren(i.e. try
(...) as parenthesis
 || "[".equals(paren.getText()));
}

private void ignoreTokenInsideParens() {
 if (!this.isInsideParens()) {
 return;
 }

 this.setChannel(Token.HIDDEN_CHANNEL);
}

private void ignoreMultiLineCommentConditionally() {
 if (!this.isInsideParens() && isFollowedByWhiteSpaces(_input)) {
 return;
 }

 this.setChannel(Token.HIDDEN_CHANNEL);
}

@Override
public int getSyntaxErrorSource() {
 return GroovySyntaxError.LEXER;
}

@Override
public int getErrorLine() {
 return getLine();
}

```

```

@Override
public int getErrorColumn() {
 return getCharPositionInLine() + 1;
}

@Override
public int popMode() {
 try {
 return super.popMode();
 } catch (EmptyStackException ignored) { // raised when parens are unmatched: too many),], or }
 if (LOGGER.isLoggable(Level.FINEST)) {
 LOGGER.finest(org.codehaus.groovy.runtime.DefaultGroovyMethods.asString(ignored));
 }
 }

 return Integer.MIN_VALUE;
}

private static boolean isJavaIdentifierStartAndNotIdentifierIgnorable(int codePoint) {
 return Character.isJavaIdentifierStart(codePoint) && !Character.isIdentifierIgnorable(codePoint);
}

private static boolean isJavaIdentifierPartAndNotIdentifierIgnorable(int codePoint) {
 return Character.isJavaIdentifierPart(codePoint) && !Character.isIdentifierIgnorable(codePoint);
}

public boolean isErrorIgnored() {
 return errorIgnored;
}

public void setErrorIgnored(boolean errorIgnored) {
 this.errorIgnored = errorIgnored;
}
}

```

// 3.10.5 String Literals

StringLiteral

```

: GStringQuotationMark DqStringCharacter* GStringQuotationMark
| SqStringQuotationMark SqStringCharacter* SqStringQuotationMark
| Slash { this.isRegexAllowed() && _input.LA(1) != '*' }? SlashyStringCharacter+ Slash

| TdqStringQuotationMark TdqStringCharacter* TdqStringQuotationMark
| TsqStringQuotationMark TsqStringCharacter* TsqStringQuotationMark
| DollarSlashyGStringQuotationMarkBegin DollarSlashyStringCharacter+
DollarSlashyGStringQuotationMarkEnd
;

```

```

GStringBegin
 : GStringQuotationMark DqStringCharacter* Dollar -> pushMode(DQ_GSTRING_MODE),
pushMode(GSTRING_TYPE_SELECTOR_MODE)
 ;
TdqGStringBegin
 : TdqStringQuotationMark TdqStringCharacter* Dollar -> type(GStringBegin),
pushMode(TDQ_GSTRING_MODE), pushMode(GSTRING_TYPE_SELECTOR_MODE)
 ;
SlashyGStringBegin
 : Slash { this.isRegexAllowed() && _input.LA(1) != '*' }? SlashyStringCharacter* Dollar {
isFollowedByJavaLetterInGString(_input) }? -> type(GStringBegin), pushMode(SLASHY_GSTRING_MODE),
pushMode(GSTRING_TYPE_SELECTOR_MODE)
 ;
DollarSlashyGStringBegin
 : DollarSlashyGStringQuotationMarkBegin DollarSlashyStringCharacter* Dollar {
isFollowedByJavaLetterInGString(_input) }? -> type(GStringBegin),
pushMode(DOLLAR_SLASHY_GSTRING_MODE), pushMode(GSTRING_TYPE_SELECTOR_MODE)
 ;

mode DQ_GSTRING_MODE;
GStringEnd
 : GStringQuotationMark -> popMode
 ;
GStringPart
 : Dollar -> pushMode(GSTRING_TYPE_SELECTOR_MODE)
 ;
GStringCharacter
 : DqStringCharacter -> more
 ;

mode TDQ_GSTRING_MODE;
TdqGStringEnd
 : TdqStringQuotationMark -> type(GStringEnd), popMode
 ;
TdqGStringPart
 : Dollar -> type(GStringPart), pushMode(GSTRING_TYPE_SELECTOR_MODE)
 ;
TdqGStringCharacter
 : TdqStringCharacter -> more
 ;

mode SLASHY_GSTRING_MODE;
SlashyGStringEnd
 : Dollar? Slash -> type(GStringEnd), popMode
 ;
SlashyGStringPart
 : Dollar { isFollowedByJavaLetterInGString(_input) }? -> type(GStringPart),
pushMode(GSTRING_TYPE_SELECTOR_MODE)

```

```

;
SlashyGStringCharacter
: SlashyStringCharacter -> more
;

mode DOLLAR_SLASHY_GSTRING_MODE;
DollarSlashyGStringEnd
: DollarSlashyGStringQuotationMarkEnd -> type(GStringEnd), popMode
;
DollarSlashyGStringPart
: Dollar { isFollowedByJavaLetterInGString(_input) }? -> type(GStringPart),
pushMode(GSTRING_TYPE_SELECTOR_MODE)
;
DollarSlashyGStringCharacter
: DollarSlashyStringCharacter -> more
;

mode GSTRING_TYPE_SELECTOR_MODE;
GStringLBrace
: '{' { this.enterParen(); } -> type(LBRACE), popMode, pushMode(DEFAULT_MODE)
;
GStringIdentifier
: IdentifierInGString -> type(Identifier), popMode, pushMode(GSTRING_PATH_MODE)
;

mode GSTRING_PATH_MODE;
GStringPathPart
: Dot IdentifierInGString
;
RollBackOne
: . {
// a trick to handle GStrings followed by EOF properly
int readChar = _input.LA(-1);
if (EOF == _input.LA(1) && ("" == readChar || "'" == readChar)) {
setType(GStringEnd);
} else {
setChannel(HIDDEN);
}
} -> popMode
;

mode DEFAULT_MODE;
// character in the double quotation string. e.g. "a"
fragment
DqStringCharacter
: ~["\r\n\\$]

```

```

| EscapeSequence
;

// character in the single quotation string. e.g. 'a'
fragment SqStringCharacter
: ~[\'r\n\\]
| EscapeSequence
;

// character in the triple double quotation string. e.g. """a"""
fragment TdqStringCharacter
: ~[\"\\$]
| GStringQuotationMark { _input.LA(1) != '"' || _input.LA(2) != '"' || _input.LA(3) == '"' && (_input.LA(4) != '"'
|| _input.LA(5) != '"') }?
| EscapeSequence
;

// character in the triple single quotation string. e.g. "a"
fragment TsqStringCharacter
: ~[\\]
| SqStringQuotationMark { _input.LA(1) != '\'' || _input.LA(2) != '\'' || _input.LA(3) == '\'' && (_input.LA(4) !=
'\'' || _input.LA(5) != '\') }?
| EscapeSequence
;

// character in the slashy string. e.g. /a/
fragment SlashyStringCharacter
: SlashEscape
| Dollar { !isFollowedByJavaLetterInGString(_input) }?
| ~[/$\u0000]
;

// character in the dollar slashy string. e.g. $/a/$
fragment DollarSlashyStringCharacter
: DollarSlashEscape | DollarDollarEscape
| Slash { _input.LA(1) != '$' }?
| Dollar { !isFollowedByJavaLetterInGString(_input) }?
| ~[/$\u0000]
;

// Groovy keywords
AS : 'as';
DEF : 'def';
IN : 'in';
TRAIT : 'trait';
THREADSAFE : 'threadsafe'; // reserved keyword

```

```
// the reserved type name of Java10
```

```
VAR : 'var';
```

```
// 3.9 Keywords
```

```
BuiltInPrimitiveType
```

```
 : BOOLEAN
```

```
 | CHAR
```

```
 | BYTE
```

```
 | SHORT
```

```
 | INT
```

```
 | LONG
```

```
 | FLOAT
```

```
 | DOUBLE
```

```
 ;
```

```
ABSTRACT : 'abstract';
```

```
ASSERT : 'assert';
```

```
fragment
```

```
BOOLEAN : 'boolean';
```

```
BREAK : 'break';
```

```
fragment
```

```
BYTE : 'byte';
```

```
CASE : 'case';
```

```
CATCH : 'catch';
```

```
fragment
```

```
CHAR : 'char';
```

```
CLASS : 'class';
```

```
CONST : 'const';
```

```
CONTINUE : 'continue';
```

```
DEFAULT : 'default';
```

```
DO : 'do';
```

```
fragment
```

```
DOUBLE : 'double';
```

```
ELSE : 'else';
```

```
ENUM : 'enum';
```

```
EXTENDS : 'extends';
```

```
FINAL : 'final';
```

```
FINALLY : 'finally';
```

```
fragment
```



FLOAT : 'float';

FOR : 'for';

IF : 'if';

GOTO : 'goto';

IMPLEMENTS : 'implements';

IMPORT : 'import';

INSTANCEOF : 'instanceof';

fragment

INT : 'int';

INTERFACE : 'interface';

fragment

LONG : 'long';

NATIVE : 'native';

NEW : 'new';

PACKAGE : 'package';

PRIVATE : 'private';

PROTECTED : 'protected';

PUBLIC : 'public';

RETURN : 'return';

fragment

SHORT : 'short';

STATIC : 'static';

STRICTFP : 'strictfp';

SUPER : 'super';

SWITCH : 'switch';

SYNCHRONIZED : 'synchronized';

THIS : 'this';

THROW : 'throw';

THROWS : 'throws';

TRANSIENT : 'transient';

TRY : 'try';

VOID : 'void';

VOLATILE : 'volatile';

WHILE : 'while';

// 3.10.1 Integer Literals

IntegerLiteral

```

: (DecimalIntegerLiteral
 | HexIntegerLiteral
 | OctalIntegerLiteral
 | BinaryIntegerLiteral
)(Underscore { require(errorIgnored, "Number ending with underscores is invalid", -1, true); })?

// !!! Error Alternative !!!
| Zero ([0-9] { invalidDigitCount++; }+ { require(errorIgnored, "Invalid octal number", -(invalidDigitCount +
1), true); } IntegerTypeSuffix?
;

fragment
Zero
: '0'
;

fragment
DecimalIntegerLiteral
: DecimalNumeral IntegerTypeSuffix?
;

fragment
HexIntegerLiteral
: HexNumeral IntegerTypeSuffix?
;

fragment
OctalIntegerLiteral
: OctalNumeral IntegerTypeSuffix?
;

fragment
BinaryIntegerLiteral
: BinaryNumeral IntegerTypeSuffix?
;

fragment
IntegerTypeSuffix
: [LiIgG]
;

fragment
DecimalNumeral
: Zero
| NonZeroDigit (Digits? | Underscores Digits)
;

fragment

```

Digits  
: Digit (DigitOrUnderscore\* Digit)?  
;

fragment  
Digit  
: Zero  
| NonZeroDigit  
;

fragment  
NonZeroDigit  
: [1-9]  
;

fragment  
DigitOrUnderscore  
: Digit  
| Underscore  
;

fragment  
Underscores  
: Underscore+  
;

fragment  
Underscore  
: '\_'  
;

fragment  
HexNumeral  
: Zero [xX] HexDigits  
;

fragment  
HexDigits  
: HexDigit (HexDigitOrUnderscore\* HexDigit)?  
;

fragment  
HexDigit  
: [0-9a-fA-F]  
;

fragment  
HexDigitOrUnderscore

```

: HexDigit
| Underscore
;

fragment
OctalNumeral
: Zero Underscores? OctalDigits
;

fragment
OctalDigits
: OctalDigit (OctalDigitOrUnderscore* OctalDigit)?
;

fragment
OctalDigit
: [0-7]
;

fragment
OctalDigitOrUnderscore
: OctalDigit
| Underscore
;

fragment
BinaryNumeral
: Zero [bB] BinaryDigits
;

fragment
BinaryDigits
: BinaryDigit (BinaryDigitOrUnderscore* BinaryDigit)?
;

fragment
BinaryDigit
: [01]
;

fragment
BinaryDigitOrUnderscore
: BinaryDigit
| Underscore
;

// 3.10.2 Floating-Point Literals

```

FloatingPointLiteral  
: ( DecimalFloatingPointLiteral  
| HexadecimalFloatingPointLiteral  
) (Underscore { require(errorIgnored, "Number ending with underscores is invalid", -1, true); })?  
;

fragment  
DecimalFloatingPointLiteral  
: Digits? Dot Digits ExponentPart? FloatTypeSuffix?  
| Digits ExponentPart FloatTypeSuffix?  
| Digits FloatTypeSuffix  
;

fragment  
ExponentPart  
: ExponentIndicator SignedInteger  
;

fragment  
ExponentIndicator  
: [eE]  
;

fragment  
SignedInteger  
: Sign? Digits  
;

fragment  
Sign  
: [+\\-]  
;

fragment  
FloatTypeSuffix  
: [fFdDgG]  
;

fragment  
HexadecimalFloatingPointLiteral  
: HexSignificand BinaryExponent FloatTypeSuffix?  
;

fragment  
HexSignificand  
: HexNumeral Dot?  
| Zero [xX] HexDigits? Dot HexDigits  
;

```
fragment
BinaryExponent
: BinaryExponentIndicator SignedInteger
;
```

```
fragment
BinaryExponentIndicator
: [pP]
;
```

```
fragment
Dot : '.'
;
```

```
// 3.10.3 Boolean Literals
```

```
BooleanLiteral
: 'true'
| 'false'
;
```

```
// 3.10.6 Escape Sequences for Character and String Literals
```

```
fragment
EscapeSequence
: Backslash [btnfrs"\\]
| OctalEscape
| UnicodeEscape
| DollarEscape
| LineEscape
;
```

```
fragment
OctalEscape
: Backslash OctalDigit
| Backslash OctalDigit OctalDigit
| Backslash ZeroToThree OctalDigit OctalDigit
;
```

```
// Groovy allows 1 or more u's after the backslash
```

```
fragment
UnicodeEscape
: Backslash 'u' HexDigit HexDigit HexDigit HexDigit
;
```

```
fragment
ZeroToThree
: [0-3]
;
```

```
// Groovy Escape Sequences
```

```
fragment
DollarEscape
: Backslash Dollar
;
```

```
fragment
LineEscape
: Backslash LineTerminator
;
```

```
fragment
LineTerminator
: '\r'? '\n' | '\r'
;
```

```
fragment
SlashEscape
: Backslash Slash
;
```

```
fragment
Backslash
: '\\'
;
```

```
fragment
Slash
: '/'
;
```

```
fragment
Dollar
: '$'
;
```

```
fragment
GStringQuotationMark
: ""
;
```

```
fragment
```

SqStringQuotationMark

: \"  
;

fragment

TdqStringQuotationMark

: \"\"\"\"  
;

fragment

TsqStringQuotationMark

: \"\\\"  
;

fragment

DollarSlashyGStringQuotationMarkBegin

: '\$/'  
;

fragment

DollarSlashyGStringQuotationMarkEnd

: '\$'  
;

fragment

DollarSlashEscape

: '\$/'  
;

fragment

DollarDollarEscape

: '\$\$'  
;

// 3.10.7 The Null Literal

NullLiteral

: 'null'  
;

// Groovy Operators

RANGE\_INCLUSIVE : '..';  
RANGE\_EXCLUSIVE : '..<';  
SPREAD\_DOT : '\*.';  
SAFE\_DOT : '?.';  
SAFE\_CHAIN\_DOT : '??.';  
ELVIS : '??:';  
METHOD\_POINTER : '!&';



```

METHOD_REFERENCE : '::';
REGEX_FIND : '=~';
REGEX_MATCH : '==~';
POWER : '**';
POWER_ASSIGN : '**=';
SPACESHIP : '<=>';
IDENTICAL : '===';
NOT_IDENTICAL : '!==';
ARROW : '->';

```

// !internalPromise will be parsed as !internalPromise, so semantic predicates are necessary

```

NOT_INSTANCEOF : '!instanceof' { isFollowedBy(_input, ' ', '\t', '\r', '\n') }?;
NOT_IN : '!in' { isFollowedBy(_input, ' ', '\t', '\r', '\n', '[', '(', '{') }?;

```

// 3.11 Separators

```

LPAREN : '(' { this.enterParen(); } -> pushMode(DEFAULT_MODE);
RPAREN : ')' { this.exitParen(); } -> popMode;

```

```

LBRACE : '{' { this.enterParen(); } -> pushMode(DEFAULT_MODE);
RBRACE : '}' { this.exitParen(); } -> popMode;

```

```

LBRACK : '[' { this.enterParen(); } -> pushMode(DEFAULT_MODE);
RBRACK : ']' { this.exitParen(); } -> popMode;

```

```

SEMI : ';';
COMMA : ',';
DOT : 'Dot';

```

// 3.12 Operators

```

ASSIGN : '=';
GT : '>';
LT : '<';
NOT : '!';
BITNOT : '~';
QUESTION : '?';
COLON : ':';
EQUAL : '==';
LE : '<=';
GE : '>=';
NOTEQUAL : '!=';
AND : '&&';
OR : '||';
INC : '++';
DEC : '--';
ADD : '+';

```

```
SUB : '-';
MUL : '*';
DIV : Slash;
BITAND : '&';
BITOR : '|';
XOR : '^';
MOD : '%';
```

```
ADD_ASSIGN : '+=';
SUB_ASSIGN : '-=';
MUL_ASSIGN : '*=';
DIV_ASSIGN : '/=';
AND_ASSIGN : '&=';
OR_ASSIGN : '|=';
XOR_ASSIGN : '^=';
MOD_ASSIGN : '%=';
LSHIFT_ASSIGN : '<<=';
RSHIFT_ASSIGN : '>>=';
URSHIFT_ASSIGN : '>>>=';
ELVIS_ASSIGN : '?=';
```

// 3.8 Identifiers (must appear after all keywords in the grammar)

CapitalizedIdentifier

```
: JavaLetter { Character.isUpperCase(_input.LA(-1)) }? JavaLetterOrDigit*
;
```

Identifier

```
: JavaLetter JavaLetterOrDigit*
;
```

fragment

IdentifierInGString

```
: JavaLetterInGString JavaLetterOrDigitInGString*
;
```

fragment

JavaLetter

```
: [a-zA-Z$_] // these are the "java letters" below 0x7F
| // covers all characters above 0x7F which are not a surrogate
 ~[\u0000-\u007F\uD800-\uDBFF]
 { isJavaIdentifierStartAndNotIdentifierIgnorable(_input.LA(-1)) }?
| // covers UTF-16 surrogate pairs encodings for U+10000 to U+10FFFF
 [\uD800-\uDBFF] [\uDC00-\uDFFF]
 { Character.isJavaIdentifierStart(Character.toCodePoint((char) _input.LA(-2), (char) _input.LA(-1))) }?
;
```

```

fragment
JavaLetterInGString
 : JavaLetter { _input.LA(-1) != '$' }?
 ;

fragment
JavaLetterOrDigit
 : [a-zA-Z0-9$_] // these are the "java letters or digits" below 0x7F
 | // covers all characters above 0x7F which are not a surrogate
 ~[\u0000-\u007F\uD800-\uDBFF]
 { isJavaIdentifierPartAndNotIdentifierIgnorable(_input.LA(-1)) }?
 | // covers UTF-16 surrogate pairs encodings for U+10000 to U+10FFFF
 [\uD800-\uDBFF] [\uDC00-\uDFFF]
 { Character.isJavaIdentifierPart(Character.toCodePoint((char) _input.LA(-2), (char) _input.LA(-1))) }?
 ;

fragment
JavaLetterOrDigitInGString
 : JavaLetterOrDigit { _input.LA(-1) != '$' }?
 ;

fragment
ShCommand
 : ~[\r\n\uFFFF]*
 ;

//
// Additional symbols not defined in the lexical specification
//

AT : '@';
ELLIPSIS : '...';

//
// Whitespace, line escape and comments
//
WS : ([\t]+ | LineEscape+) -> skip
 ;

// Inside (...) and [...] but not {...}, ignore newlines.
NL : LineTerminator { this.ignoreTokenInsideParens(); }
 ;

// Multiple-line comments (including groovydoc comments)
ML_COMMENT
 : /*! .*? */ { this.ignoreMultiLineCommentConditionally(); } -> type(NL)
 ;

```

```

// Single-line comments
SL_COMMENT
: '/' ~[\r\n\uFFFF]* { this.ignoreTokenInsideParens(); } -> type(NL)
;

// Script-header comments.
// The very first characters of the file may be "#!". If so, ignore the first line.
SH_COMMENT
: '#!' { require(errorIgnored || 0 == this.tokenIndex, "Shebang comment should appear at the first line", -2, true); }
ShCommand (LineTerminator '#!' ShCommand)* -> skip
;

// Unexpected characters will be handled by groovy parser later.
UNEXPECTED_CHAR
: . { require(errorIgnored, "Unexpected character: " + getText().replace("'", "\'") + "'", -1, false); }
;

Found in path(s):
* /opt/cola/permits/1223665761_1635937334.8/0/groovy-3-0-9-sources-jar/GroovyLexer.g4

```

# 1.95 httpcore-nio 4.4.4

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\*

\*/

/\*\*

\* Embedded non-blocking server and server bootstrap.

\*/

package org.apache.http.impl.nio.bootstrap;

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core/src/java/org/apache/lucene/util/compress/LZ4.java is a Java implementation of the LZ4 (<https://github.com/lz4/lz4/tree/dev/lib>) compression format for Lucene's DataInput/DataOutput abstractions.

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\* /opt/cola/permits/1613098386\_1679654443.4759493/0/auto-service-1-0-rc6-sources-1-  
jar/com/google/auto/service/processor/package-info.java

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\* /opt/cola/permits/1613098386\_1679654443.4759493/0/auto-service-1-0-rc6-sources-1-  
jar/com/google/auto/service/processor/AutoServiceProcessor.java

\* /opt/cola/permits/1613098386\_1679654443.4759493/0/auto-service-1-0-rc6-sources-1-  
jar/com/google/auto/service/processor/ServicesFiles.java

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```
* /opt/cola/permits/1743695117_1689340444.9948363/0/netty-resolver-dns-native-macos-4-1-93-final-jar/META-INF/maven/io.netty/netty-resolver-dns-native-macos/pom.xml
```

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Manifest-Version: 1.0

Implementation-Title: Netty/Resolver/DNS/Native/MacOS

Bundle-Description: Netty is an asynchronous event-driven network application framework for rapid development of maintainable high performance protocol servers and clients.

Automatic-Module-Name: io.netty.resolver.dns.macos.osx.aarch\_64

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Bundle-SymbolicName: io.netty.resolver-dns-native-macos

Implementation-Version: 4.1.93.Final

Built-By: norman

Bnd-LastModified: 1684999969345

Bundle-ManifestVersion: 2

Implementation-Vendor-Id: io.netty

Bundle-DocURL: <https://netty.io/>

Bundle-Vendor: The Netty Project

Import-Package: sun.nio.ch;resolution:=optional,org.eclipse.jetty.npn;version="[1,2)";resolution:=optional,org.eclipse.jetty.alpn;version="[1,2)";resolution:=optional

Tool: Bnd-6.3.1.202206071316  
Implementation-Vendor: The Netty Project  
Bundle-Name: Netty/Resolver/DNS/Native/MacOS  
Bundle-Version: 4.1.93.Final  
Build-Jdk-Spec: 1.8  
Created-By: Apache Maven Bundle Plugin 5.1.8  
Build-Jdk: 1.8.0\_252  
Implementation-URL: <https://netty.io/netty-resolver-dns-native-macos/>

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\* /opt/cola/permits/1743695117\_1689340444.9948363/0/netty-resolver-dns-native-macos-4-1-93-final-jar/META-INF/MANIFEST.MF

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## 1.107 jackson 2.15.0



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```
*/opt/cola/permits/1743888319_1689253531.703963/0/netty-transport-native-kqueue-4-1-93-final-sources-1-jar/netty_kqueue_eventarray.h
*/opt/cola/permits/1743888319_1689253531.703963/0/netty-transport-native-kqueue-4-1-93-final-sources-1-jar/netty_kqueue_eventarray.c
*/opt/cola/permits/1743888319_1689253531.703963/0/netty-transport-native-kqueue-4-1-93-final-sources-1-jar/netty_kqueue_native.c
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*/opt/cola/permits/1743888319_1689253531.703963/0/netty-transport-native-kqueue-4-1-93-final-sources-1-jar/netty_kqueue_bsdsocket.h
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\* /opt/cola/permits/1698848023\_1685285715.8732626/0/netty-handler-ssl-ocsp-4-1-93-final-sources-jar/io/netty/handler/ssl/ocsp/package-info.java  
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\* /opt/cola/permits/1698848023\_1685285715.8732626/0/netty-handler-ssl-ocsp-4-1-93-final-sources-jar/io/netty/handler/ssl/ocsp/OcspResponse.java

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\* /opt/cola/permits/1698848023\_1685285715.8732626/0/netty-handler-ssl-ocsp-4-1-93-final-sources-jar/META-INF/maven/io.netty/netty-handler-ssl-ocsp/pom.xml

# 1.114 logback-core 1.2.11

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## 1.116 jackson-datatype-jsr310 2.14.1

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# 1.118 jaxb-core 2.2.6

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- \* /opt/cola/permits/1657506237\_1684232473.9945633/0/protobuf-java-3-22-2-jar/google/protobuf/struct.proto
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## 1.120 asm 9.2

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## 1.121 feign-jackson 8.15.1

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# 1.123 auto-service-annotations 1.0-rc6

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```

Found in path(s):

```
* /opt/cola/permits/1613098325_1680160344.6102023/0/auto-service-annotations-1-0-rc6-sources-1-
jar/com/google/auto/service/AutoService.java
```

# 1.124 httpcomponents-client 4.5.6

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# 1.125 websocket-common 9.4.51.v20230217

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- \* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

- \* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

- \* org.eclipse.jetty.orbit:javax.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

- \* javax.servlet:javax.servlet-api
- \* javax.annotation:javax.annotation-api
- \* javax.transaction:javax.transaction-api
- \* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

- \* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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org.ow2.asm:asm-commons

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org.apache.taglibs:taglibs-standard-spec

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org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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* /opt/cola/permits/1698848108_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-
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jar/io/netty/handler/codec/stomp/StompCommand.java
* /opt/cola/permits/1698848108_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-
```

jar/io/netty/handler/codec/stomp/DefaultStompFrame.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/StompHeadersSubframe.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/StompSubframeDecoder.java  
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\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/LastStompContentSubframe.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/StompSubframe.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/StompSubframeEncoder.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/StompFrame.java  
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\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/DefaultLastStompContentSubframe.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/DefaultStompHeaders.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/DefaultStompContentSubframe.java  
\* /opt/cola/permits/1698848108\_1685285740.2876117/0/netty-codec-stomp-4-1-93-final-sources-jar/io/netty/handler/codec/stomp/DefaultStompHeadersSubframe.java  
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## 1.131 netty-transport-classes-kqueue

### 4.1.93.Final

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- \* /opt/cola/permits/1698848143\_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-jar/io/netty/channel/kqueue/AbstractKQueueStreamChannel.java
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- \* /opt/cola/permits/1698848143\_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-jar/io/netty/channel/kqueue/KQueueDatagramChannelConfig.java
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- \* /opt/cola/permits/1698848143\_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-jar/io/netty/channel/kqueue/AcceptFilter.java
- \* /opt/cola/permits/1698848143\_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-jar/io/netty/channel/kqueue/KQueueChannelOption.java
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* /opt/cola/permits/1698848143_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-
jar/io/netty/channel/kqueue/package-info.java
* /opt/cola/permits/1698848143_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-
jar/io/netty/channel/kqueue/BsdSocket.java
* /opt/cola/permits/1698848143_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-
jar/io/netty/channel/kqueue/NativeLongArray.java
* /opt/cola/permits/1698848143_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-
jar/io/netty/channel/kqueue/KQueueServerSocketChannelConfig.java
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* /opt/cola/permits/1698848143_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-
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* /opt/cola/permits/1698848143_1685285738.842649/0/netty-transport-classes-kqueue-4-1-93-final-sources-
jar/io/netty/channel/kqueue/KQueueDomainDatagramChannelConfig.java
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## 1.132 reflections 0.9.10

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## 1.135 netty-transport-rxtx 4.1.93.Final

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* /opt/cola/permits/1698848122_1685285731.1049192/0/netty-transport-rxtx-4-1-93-final-sources-
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## 1.136 dropwizard-request-logging 2.0.28

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\* /opt/cola/permits/1670772660\_1683726510.4201603/0/dropwizard-logging-2-0-28-sources-1-jar/io/dropwizard/logging/ResilientOutputStreamBase.java

# 1.138 guice-grapher 3.0

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\* /opt/cola/permits/1257333064\_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/action/AppendArgumentAction.java  
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MySQL Connector/J 8.0

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JUnit 5

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# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library. It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007.

It is currently developed by a community of developers.

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A list of contributors may be found from CREDITS file, which is included in some artifacts (usually source distributions); but is always available from the source code management (SCM) system project uses.

# 1.144 jetty-proxy 9.4.51.v20230217

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Eclipse

The following artifacts are EPL.

\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

\* org.eclipse.jetty.orbit:javafx.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javafx.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl



These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

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MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-el-api

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Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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\* org.eclipse.jetty.orbit:javax.mail.glassfish

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

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\* java.sun.security.ssl

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<http://openjdk.java.net/legal/gplv2+ce.html>

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org.ow2.asm:asm-commons  
org.ow2.asm:asm

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org.apache.taglibs:taglibs-standard-impl

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org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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jar/feign/RequestTemplate.java  
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\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/RetryableException.java  
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\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/codec/StringDecoder.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/Retryer.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/codec/DecodeException.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/Util.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/auth/Base64.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/FeignException.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/Client.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/MethodMetadata.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/Response.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/Feign.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/RequestInterceptor.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/Contract.java  
\* /opt/ws\_local/PERMITS\_SQL/1041687624\_1590960580.15/0/feign-core-8-15-1-sources-jar/feign/Target.java

# 1.150 commons-net 3.3

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## 1.151 jackson-datatype-guava 2.15.0

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## 1.152 dropwizard-validation 2.0.34

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## 1.153 snake-yaml 2.0

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```
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 */
```

Found in path(s):

```
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/representer/SafeRepresenter.java
```

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/parser/Parser.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/env/EnvScalarConstructor.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/ScalarNode.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/ValueToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/StreamEndEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/AbstractConstruct.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/CollectionEndEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/ScalarAnalysis.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/AliasEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/ScalarEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/EmitterState.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/DirectiveToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/StreamStartEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/CommentEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/AliasToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/Construct.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/ImplicitTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/CustomClassLoaderConstructor.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/Property.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/parser/Production.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/resolver/ResolverTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/Scanner.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/composer/ComposerException.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/MappingNode.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/Emitable.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowMappingEndToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/DumperOptions.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowSequenceEndToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/AnchorNode.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/representer/Represent.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/Node.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowMappingStartToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/reader/ReaderException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/SafeConstructor.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/Constant.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/NodeId.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/serializer/AnchorGenerator.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/DocumentEndToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/parser/ParserImpl.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/ScalarToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/MethodProperty.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/CollectionStartEvent.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/util/UriEncoder.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/reader/UnicodeReader.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/BlockMappingStartToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/CollectionNode.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/StreamStartToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/DocumentStartToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/BlockSequenceStartToken.java  
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/representer/BaseRepresenter.java  
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jar/org/yaml/snakeyaml/tokens/FlowSequenceStartToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/nodes/SequenceNode.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/resolver/Resolver.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/inspector/TagInspector.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/constructor/Constructor.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/scanner/SimpleKey.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/events/DocumentStartEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/FlowEntryToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/comments/CommentEventsCollector.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/TagToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/Token.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/serializer/NumberAnchorGenerator.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/AnchorToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-

jar/org/yaml/snakeyaml/error/MissingEnvironmentVariableException.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/constructor/BaseConstructor.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/StreamEndToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/composer/Composer.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/extensions/compactnotation/CompactData.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/introspector/PropertyUtils.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/nodes/Tag.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/events/NodeEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/introspector/PropertySubstitute.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/reader/StreamReader.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/internal/Logger.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/events/MappingStartEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/scanner/ScannerImpl.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/KeyToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/TagTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/BlockEntryToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/introspector/MissingProperty.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/events/Event.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/constructor/DuplicateKeyException.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/extensions/compactnotation/CompactConstructor.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/comments/CommentType.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/introspector/GenericProperty.java

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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org.yaml/snakeyaml/external/com/google/gdata/util/common/base/Escaper.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org.yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org.yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java

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/\*\*

\* A Base64 encoder/decoder.

\*

\* <p>

\* This class is used to encode and decode data in Base64 format as described in RFC 1521.

\*

\* <p>

\* Project home page: <a href="http://www.source-code.biz/base64coder/java/">www.

\* source-code.biz/base64coder/java</a><br>

\* Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland<br>

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\*/



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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/external/biz/base64Coder/Base64Coder.java

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## 1.154 jcl-over-slf4j 1.7.32

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```
* /opt/cola/permits/1192230980_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-
jar/org/apache/commons/logging/Log.java
* /opt/cola/permits/1192230980_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-
jar/org/apache/commons/logging/LogFactory.java
* /opt/cola/permits/1192230980_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-
jar/org/apache/commons/logging/impl/SLF4JLog.java
* /opt/cola/permits/1192230980_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-
jar/org/apache/commons/logging/impl/NoOpLog.java
* /opt/cola/permits/1192230980_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-
jar/org/apache/commons/logging/impl/SLF4JLocationAwareLog.java
* /opt/cola/permits/1192230980_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-
```

jar/org/apache/commons/logging/LogConfigurationException.java  
\* /opt/cola/permits/1192230980\_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-  
jar/org/apache/commons/logging/impl/SimpleLog.java  
\* /opt/cola/permits/1192230980\_1629146682.85/0/jcl-over-slf4j-1-7-32-sources-  
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## 1.155 groovy-json 3.0.9

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#
org.apache.groovy.json.DefaultFastStringServiceFactory
```

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```
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* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonBuilder.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/Value.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/Dates.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonDelegate.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/FastStringService.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/CharScanner.java
```

- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/StringEscapeUtils.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/Type.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/ValueContainer.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/DefaultFastStringServiceFactory.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/StreamingJsonBuilder.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/JsonParserCharArray.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/LazyMap.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/ByteScanner.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/ValueList.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/DefaultFastStringService.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/ValueMapImpl.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/JsonFastParser.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/Exceptions.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonParserType.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/JsonParserLax.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/ValueMap.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/CharBuf.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonToken.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/Cache.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/Sys.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonSlurper.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/JsonStringDecoder.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonOutput.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonParser.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonTokenType.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonException.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonLexer.java
- \* /opt/cola/permits/1223665998\_1635937393.33/0/groovy-json-3-0-9-sources-jar/org/apache/groovy/json/internal/MapItemValue.java



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* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/groovy/json/JsonSlurperClassic.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/CharSequenceValue.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/ReaderCharacterSource.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/JsonParserUsingCharacterSource.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/IO.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/SimpleCache.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/FastStringServiceFactory.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/Chr.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/CacheType.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/BaseJsonParser.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/FastStringUtils.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/ArrayUtils.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-jar/groovy/json/JsonGenerator.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/NumberValue.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/groovy/json/DefaultJsonGenerator.java
* /opt/cola/permits/1223665998_1635937393.33/0/groovy-json-3-0-9-sources-
jar/org/apache/groovy/json/internal/LazyValueMap.java

```

## 1.156 javaparser-core 3.23.0

## 1.157 j2objc-annotations 1.3

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## 1.159 metrics-servlets 4.1.29

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## 1.160 rxjava 1.3.0

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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/producers/SingleDelayedProducer.java  
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Found in path(s):

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\*/

Found in path(s):

\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/util/unsafe/SpSCArrayQueue.java

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\*/

Found in path(s):

\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/util/atomic/LinkedQueueNode.java

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jar/rx/internal/operators/package.html

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\*/

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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/util/unsafe/BaseLinkedQueue.java

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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OnSubscribeCombineLatest.java

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\*/

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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/util/atomic/SpscUnboundedAtomicArrayQueue.java

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Found in path(s):

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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/util/unsafe/SpSCUnboundedArrayQueue.java

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- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/exceptions/OnCompletedFailedException.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorSubscribeOn.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/Scheduler.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/observers/SerializedSubscriber.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/CompletableOnSubscribeMerge.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Function.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Action.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/plugins/RxJavaObservableExecutionHookDefault.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/subjects/PublishSubject.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OnSubscribeAutoConnect.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorTakeLast.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/observables/ConnectableObservable.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorElementAt.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorReplay.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OnSubscribeSingle.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/Producer.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorToObservableList.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/util/RxRingBuffer.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Action1.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/subjects/BehaviorSubject.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/subjects/SubjectSubscriptionManager.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorTimeoutWithSelector.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/Notification.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Func6.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/schedulers/NewThreadScheduler.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/FuncN.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorDoOnUnsubscribe.java
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jar/rx/internal/operators/OperatorTakeWhile.java  
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jar/rx/internal/schedulers/CachedThreadScheduler.java  
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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/schedulers/TestScheduler.java

- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/schedulers/TrampolineScheduler.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorTakeLastTimed.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/exceptions/OnErrorNotImplementedException.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorDoOnRequest.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorAsObservable.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/subscriptions/SerialSubscription.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/subscriptions/SequentialSubscription.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorMaterialize.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Action4.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/observers/SerializedObserver.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorIgnoreElements.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Action2.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/schedulers/EventLoopsScheduler.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/plugins/RxJavaErrorHandler.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorWithLatestFromMany.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Functions.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/Observer.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/CachedObservable.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorDoOnSubscribe.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorObserveOn.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Action6.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Func4.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/schedulers/ImmediateScheduler.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Action7.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/BlockingOperatorToIterator.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/observables/GroupedObservable.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorTakeUntilPredicate.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-

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- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/CompletableOnSubscribeConcatIterable.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Func9.java
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- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/util/atomic/SpscLinkedListArrayQueue.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OnSubscribeDelaySubscriptionWithSelector.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OperatorWindowWithObservable.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/schedulers/ExecutorScheduler.java
- \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-

jar/rx/internal/operators/OperatorDistinctUntilChanged.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorPublish.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorDistinct.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/schedulers/NewThreadWorker.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/schedulers/ScheduledAction.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorSampleWithObservable.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorBufferWithTime.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OnSubscribeDelaySubscription.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorSkipUntil.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorEagerConcatMap.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OnSubscribeTimerPeriodically.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorBufferWithStartEndObservable.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorBufferWithSize.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorWithLatestFrom.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OnSubscribeTimerOnce.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorBufferWithSingleObservable.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorDebounceWithTime.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorTakeTimed.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorSwitch.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorRetryWithPredicate.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorSampleWithTime.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OperatorWindowWithSize.java

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This package contains code that relies on sun.misc.Unsafe. Before using it you MUST assert  
UnsafeAccess.isUnsafeAvailable() == true

Much of the code in this package comes from or is inspired by the JCTools project:

<https://github.com/JCTools/JCTools>

JCTools has now published artifacts (<https://github.com/JCTools/JCTools/issues/17>) so RxJava could add JCTools as a "shadow" dependency (<https://github.com/ReactiveX/RxJava/issues/1735>).

RxJava has a "zero dependency" policy for the core library, so if we do add it as a dependency, it won't be an externally visible dependency that results in a separate jar.

The license for the JCTools code is <https://github.com/JCTools/JCTools/blob/master/LICENSE>

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Found in path(s):

\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/util/unsafe/README.md

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Found in path(s):

\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/plugins/RxJavaHooks.java

\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-

jar/rx/internal/operators/OnSubscribeOnAssemblyCompletable.java

\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-

jar/rx/internal/subscriptions/Unsubscribed.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/util/ActionNotificationObserver.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/BackpressureOverflow.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/observers/SafeCompletableSubscriber.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/exceptions/package-info.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OnSubscribeCreate.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/EmptyObservableHolder.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/SingleDelay.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/SingleTakeUntilCompletable.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/util/ActionSubscriber.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/util/InternalObservableUtils.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/plugins/RxJavaSingleExecutionHookDefault.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/observables/package-  
info.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/exceptions/AssemblyStackTraceException.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/observers/AsyncCompletableSubscriber.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/subjects/package-info.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/SingleFromObservable.java  
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jar/rx/internal/operators/SingleOnErrorReturn.java  
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jar/rx/internal/util/ActionObserver.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/Cancellable.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/observers/package-info.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/plugins/RxJavaCompletableExecutionHook.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/SingleDoOnSubscribe.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/plugins/package-info.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/SingleDoOnUnsubscribe.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
jar/rx/internal/operators/OnSubscribeOnAssemblySingle.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-

jar/rx/internal/util/ObserverSubscriber.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/SingleObserveOn.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/plugins/RxJavaSingleExecutionHook.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/SingleLiftObservableOperator.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/singles/package-info.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/annotations/package-  
 info.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/SingleFromCallable.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/OnSubscribeLift.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/OnSubscribeFlattenIterable.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/OnSubscribeOnAssembly.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
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 jar/rx/internal/schedulers/SchedulePeriodicHelper.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/OnSubscribeDetach.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
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 jar/rx/internal/schedulers/GenericScheduledExecutorServiceFactory.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/SingleTakeUntilSingle.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/schedulers/SchedulerWhen.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/observers/AssertableSubscriber.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/Emitter.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/OnSubscribeThrow.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/subscriptions/package-  
 info.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/functions/package-info.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/CompletableFlatMapSingleToCompletable.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/SingleTimeout.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/SingleFromFuture.java  
 \* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-  
 jar/rx/internal/operators/SingleFromEmitter.java

```
* /opt/cola/permits/1128344293_1676352144.1405265/0/rxjava-1-3-0-sources-1-
jar/rx/internal/operators/NeverObservableHolder.java
* /opt/cola/permits/1128344293_1676352144.1405265/0/rxjava-1-3-0-sources-1-
jar/rx/internal/operators/SingleTakeUntilObservable.java
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*
* Inspired from https://code.google.com/p/guava-
libraries/source/browse/guava/src/com/google/common/annotations/Beta.java
*/
```

Found in path(s):

```
* /opt/cola/permits/1128344293_1676352144.1405265/0/rxjava-1-3-0-sources-1-
jar/rx/annotations/Experimental.java
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*/
/**
* This plugin class provides 2 ways to customize {@link Scheduler} functionality
* 1. You may redefine entire schedulers, if you so choose. To do so, override
* the 3 methods that return Scheduler (io(), computation(), newThread()).
* 2. You may wrap/decorate an {@link Action0}, before it is handed off to a Scheduler. The system-
```

\* supplied Schedulers (Schedulers.ioScheduler, Schedulers.computationScheduler,  
\* Scheduler.newThreadScheduler) all use this hook, so it's a convenient way to  
\* modify Scheduler functionality without redefining Schedulers wholesale.  
\*  
\* Also, when redefining Schedulers, you are free to use/not use the onSchedule decoration hook.  
\* <p>  
\* See { @link RxJavaPlugins } or the RxJava GitHub Wiki for information on configuring plugins:  
\* <a  
href="https://github.com/ReactiveX/RxJava/wiki/Plugins">https://github.com/ReactiveX/RxJava/wiki/Plugins</a>.  
\*/

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jar/rx/plugins/RxJavaSchedulersHook.java  
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libraries/source/browse/guava/src/com/google/common/annotations/Beta.java  
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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OnSubscribeCollect.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/DeferredScalarSubscriber.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/DeferredScalarSubscriberSafe.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OnSubscribePublishMulticast.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OnSubscribeReduceSeed.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/SingleOperatorOnErrorResumeNext.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/SingleOperatorZip.java  
\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/schedulers/SchedulerLifecycle.java  
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\* /opt/cola/permits/1128344293\_1676352144.1405265/0/rxjava-1-3-0-sources-1-jar/rx/internal/operators/OnSubscribeFromCallable.java  
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\*/

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\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/json/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/FastLz.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/Bzip2Encoder.java  
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\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/Bzip2DivSufSort.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-

jar/io/netty/handler/codec/compression/Bzip2MoveToFrontTable.java  
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jar/io/netty/handler/codec/compression/Bzip2Rand.java  
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jar/io/netty/handler/codec/compression/Bzip2BitWriter.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-  
jar/io/netty/handler/codec/compression/Bzip2HuffmanStageEncoder.java  
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jar/io/netty/handler/codec/compression/Bzip2HuffmanStageDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-  
jar/io/netty/handler/codec/compression/Bzip2BlockCompressor.java  
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jar/io/netty/handler/codec/compression/Bzip2HuffmanAllocator.java  
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jar/io/netty/handler/codec/compression/Lz4FrameDecoder.java  
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jar/io/netty/handler/codec/compression/Lz4FrameEncoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-  
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\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/ProtocolDetectionState.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufEncoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufEncoderNano.java  
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\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufVarint32LengthFieldPrepender.java  
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jar/io/netty/handler/codec/DatagramPacketEncoder.java  
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\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-  
jar/io/netty/handler/codec/CharSequenceValueConverter.java  
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* under the License.
*/
/*
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* https://creativecommons.org/licenses/publicdomain
*/
/**
* Utility class for { @link ByteBuf } that encodes and decodes to and from
* Base64 notation.
* <p>
* The encoding and decoding algorithm in this class has been derived from
* http://iharder.sourceforge.net/current/java/base64/>Robert Harder's Public Domain
* Base64 Encoder/Decoder.
*/

```

Found in path(s):

```

* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/base64/Base64.java

```

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*/
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* https://creativecommons.org/licenses/publicdomain
*/
/**
* Enumeration of supported Base64 dialects.

```

\* <p>  
\* The internal lookup tables in this class has been derived from  
\* <a href="http://iharder.sourceforge.net/current/java/base64/">Robert Harder's Public Domain  
\* Base64 Encoder/Decoder</a>.  
\*/

Found in path(s):

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/base64/Base64Dialect.java

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\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/package-info.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/bytes/ByteArrayEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/JZlibDecoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/ChannelBufferByteInput.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/UnmarshallerProvider.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/DelimiterBasedFrameDecoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/MarshallingDecoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/CompactObjectOutputStream.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ObjectDecoderInputStream.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/UnsupportedMessageTypeException.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/DecompressionException.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/bytes/ByteArrayDecoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/FixedLengthFrameDecoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ObjectEncoderOutputStream.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/JdkZlibEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/package-info.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/base64/Base64Encoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/CompactObjectInputStream.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/MessageToMessageCodec.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/ZlibDecoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/EncoderException.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/MarshallingEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/CompatibleMarshallingEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/ZlibEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ClassLoaderClassResolver.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/MarshallerProvider.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/ZlibUtil.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ObjectEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/MessageAggregator.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/JZlibEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/string/StringEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/MessageToMessageEncoder.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/base64/Base64Decoder.java



\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/LineBasedFrameDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/CompatibleMarshallingDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/ContextBoundUnmarshallerProvider.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/xml/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/TooLongFrameException.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/DecoderException.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/base64/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/MessageToMessageDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/CompressionException.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/ByteToMessageDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/DecoderResult.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/CodecException.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/ReplayingDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ReferenceMap.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/SnappyFrameDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/PrematureChannelClosureException.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/Snappy.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/MessageToByteEncoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/SnappyFrameEncoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/ByteToMessageCodec.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/protobuf/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/SoftReferenceMap.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/ThreadLocalMarshallerProvider.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/ReplayingDecoderByteBuf.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ObjectDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/CompatibleObjectEncoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/string/StringDecoder.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/LimitingByteInput.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/Delimiters.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/ZlibCodecFactory.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/bytes/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/LengthFieldPrepender.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/WeakReferenceMap.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/CorruptedFrameException.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/ChannelBufferByteOutput.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/DefaultMarshallerProvider.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/compression/ZlibWrapper.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/marshalling/ThreadLocalUnmarshallerProvider.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/CachingClassResolver.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ClassResolvers.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/string/package-info.java  
\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/io/netty/handler/codec/serialization/ClassResolver.java  
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*/
/**
* A decoder that splits the received {@link ByteBuf}s dynamically by the
* value of the length field in the message. It is particularly useful when you
* decode a binary message which has an integer header field that represents the
* length of the message body or the whole message.
* <p>
* {@link LengthFieldBasedFrameDecoder} has many configuration parameters so
* that it can decode any message with a length field, which is often seen in
* proprietary client-server protocols. Here are some example that will give
* you the basic idea on which option does what.
*
* <h3>2 bytes length field at offset 0, do not strip header</h3>
*
* The value of the length field in this example is <tt>12 (0x0C)</tt> which
* represents the length of "HELLO, WORLD". By default, the decoder assumes
* that the length field represents the number of the bytes that follows the
* length field. Therefore, it can be decoded with the simplistic parameter
* combination.
* <pre>
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = 0
* initialBytesToStrip = 0 (= do not strip header)
*
* BEFORE DECODE (14 bytes) AFTER DECODE (14 bytes)
* +-----+-----+ +-----+-----+
* | Length | Actual Content |---->| Length | Actual Content |
* | 0x000C | "HELLO, WORLD" | | 0x000C | "HELLO, WORLD" |
* +-----+-----+ +-----+-----+
* </pre>
*
* <h3>2 bytes length field at offset 0, strip header</h3>
*
* Because we can get the length of the content by calling
* {@link ByteBuf#readableBytes()}, you might want to strip the length
* field by specifying <tt>initialBytesToStrip</tt>. In this example, we
* specified <tt>2</tt>, that is same with the length of the length field, to
* strip the first two bytes.
* <pre>

```

```

* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = 0
* initialBytesToStrip = 2 (= the length of the Length field)
*
* BEFORE DECODE (14 bytes) AFTER DECODE (12 bytes)
* +-----+-----+ +-----+
* | Length | Actual Content |---->| Actual Content |
* | 0x000C | "HELLO, WORLD" | | "HELLO, WORLD" |
* +-----+-----+ +-----+
* </pre>
*
* <h3>2 bytes length field at offset 0, do not strip header, the length field
* represents the length of the whole message</h3>
*
* In most cases, the length field represents the length of the message body
* only, as shown in the previous examples. However, in some protocols, the
* length field represents the length of the whole message, including the
* message header. In such a case, we specify a non-zero
* <tt>lengthAdjustment</tt>. Because the length value in this example message
* is always greater than the body length by <tt>2</tt>, we specify <tt>-2</tt>
* as <tt>lengthAdjustment</tt> for compensation.
* </pre>
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = -2 (= the length of the Length field)
* initialBytesToStrip = 0
*
* BEFORE DECODE (14 bytes) AFTER DECODE (14 bytes)
* +-----+-----+ +-----+-----+
* | Length | Actual Content |---->| Length | Actual Content |
* | 0x000E | "HELLO, WORLD" | | 0x000E | "HELLO, WORLD" |
* +-----+-----+ +-----+-----+
* </pre>
*
* <h3>3 bytes length field at the end of 5 bytes header, do not strip header</h3>
*
* The following message is a simple variation of the first example. An extra
* header value is prepended to the message. <tt>lengthAdjustment</tt> is zero
* again because the decoder always takes the length of the prepended data into
* account during frame length calculation.
* </pre>
* lengthFieldOffset = 2 (= the length of Header 1)
* lengthFieldLength = 3
* lengthAdjustment = 0
* initialBytesToStrip = 0
*
* BEFORE DECODE (17 bytes) AFTER DECODE (17 bytes)

```

```

* +-----+-----+-----+ +-----+-----+-----+
* | Header 1 | Length | Actual Content |---->| Header 1 | Length | Actual Content |
* | 0xCAFE | 0x00000C | "HELLO, WORLD" | | 0xCAFE | 0x00000C | "HELLO, WORLD" |
* +-----+-----+-----+ +-----+-----+-----+
* </pre>
*
* <h3>3 bytes length field at the beginning of 5 bytes header, do not strip header</h3>
*
* This is an advanced example that shows the case where there is an extra
* header between the length field and the message body. You have to specify a
* positive <tt>lengthAdjustment</tt> so that the decoder counts the extra
* header into the frame length calculation.
* <pre>
* lengthFieldOffset = 0
* lengthFieldLength = 3
* lengthAdjustment = 2 (= the length of Header 1)
* initialBytesToStrip = 0
*
* BEFORE DECODE (17 bytes) AFTER DECODE (17 bytes)
* +-----+-----+-----+ +-----+-----+-----+
* | Length | Header 1 | Actual Content |---->| Length | Header 1 | Actual Content |
* | 0x00000C | 0xCAFE | "HELLO, WORLD" | | 0x00000C | 0xCAFE | "HELLO, WORLD" |
* +-----+-----+-----+ +-----+-----+-----+
* </pre>
*
* <h3>2 bytes length field at offset 1 in the middle of 4 bytes header,
* strip the first header field and the length field</h3>
*
* This is a combination of all the examples above. There are the prepended
* header before the length field and the extra header after the length field.
* The prepended header affects the <tt>lengthFieldOffset</tt> and the extra
* header affects the <tt>lengthAdjustment</tt>. We also specified a non-zero
* <tt>initialBytesToStrip</tt> to strip the length field and the prepended
* header from the frame. If you don't want to strip the prepended header, you
* could specify <tt>0</tt> for <tt>initialBytesToSkip</tt>.
* <pre>
* lengthFieldOffset = 1 (= the length of HDR1)
* lengthFieldLength = 2
* lengthAdjustment = 1 (= the length of HDR2)
* initialBytesToStrip = 3 (= the length of HDR1 + LEN)
*
* BEFORE DECODE (16 bytes) AFTER DECODE (13 bytes)
* +-----+-----+-----+ +-----+-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x000C | 0xFE | "HELLO, WORLD" | | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+ +-----+-----+-----+
* </pre>
*

```

```

* <h3>2 bytes length field at offset 1 in the middle of 4 bytes header,
* strip the first header field and the length field, the length field
* represents the length of the whole message</h3>
*
* Let's give another twist to the previous example. The only difference from
* the previous example is that the length field represents the length of the
* whole message instead of the message body, just like the third example.
* We have to count the length of HDR1 and Length into <tt>lengthAdjustment</tt>.
* Please note that we don't need to take the length of HDR2 into account
* because the length field already includes the whole header length.
* <pre>
* lengthFieldOffset = 1
* lengthFieldLength = 2
* lengthAdjustment = -3 (= the length of HDR1 + LEN, negative)
* initialBytesToStrip = 3
*
* BEFORE DECODE (16 bytes) AFTER DECODE (13 bytes)
* +-----+-----+-----+-----+-----+ +-----+-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x0010 | 0xFE | "HELLO, WORLD" | | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+-----+-----+ +-----+-----+-----+
* </pre>
* @see LengthFieldPrepender
*/

```

Found in path(s):

```

* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/LengthFieldBasedFrameDecoder.java

```

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Found in path(s):

```

* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-

```

jar/io/netty/handler/codec/EmptyHeaders.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-

jar/io/netty/handler/codec/Headers.java

\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-

jar/io/netty/handler/codec/DefaultHeaders.java

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jar/io/netty/handler/codec/compression/Lz4XXHash32.java

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\* /opt/cola/permits/1698847974\_1685285733.3736825/0/netty-codec-4-1-93-final-sources-jar/META-

INF/maven/io.netty.netty-codec/pom.xml

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Found in path(s):

```
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/BrotliEncoder.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/Zstd.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/BrotliDecoder.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/StandardCompressionOptions.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/ZstdOptions.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/DeflateOptions.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/BrotliOptions.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/ZstdConstants.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/Brotli.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/CompressionOptions.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/ZstdEncoder.java
* /opt/cola/permits/1698847974_1685285733.3736825/0/netty-codec-4-1-93-final-sources-
jar/io/netty/handler/codec/compression/GzipOptions.java
```

## 1.162 dropwizard-configuration 2.0.28



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# 1.163 jhardware 0.8.6

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- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/display/AbstractDisplayInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/processor/windows/WindowsProcessorInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/model/DisplayInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/HardwareInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/model/MotherboardInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/bios/windows/WindowsBiosInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/bios/unix/UnixBiosInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/motherboard/AbstractMotherboardInfo.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/HardwareFactory.java
- \* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/processor/unix/UnixProcessorInfo.java
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\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/model/MemoryInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/motherboard/unix/UnixMotherboardInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/util/HardwareInfoUtils.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/bios/AbstractBiosInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/InfoType.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/model/ProcessorInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/memory/unix/UnixMemoryInfo.java  
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\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/processor/AbstractProcessorInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/HardwareInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/display/windows/WindowsDisplayInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/os/unix/UnixOSInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/model/OSInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/network/AbstractNetworkInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/model/BiosInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/network/unix/UnixNetworkInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/os/AbstractOSInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/display/unix/UnixDisplayInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/memory/windows/WindowsMemoryInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/memory/AbstractMemoryInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/motherboard/windows/WindowsMotherboardInfo.java  
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\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/util/DirectXInfoLoader.java  
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\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/graphicscard/AbstractGraphicsCardInfo.java  
\* /opt/cola/permits/1268278445\_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/info/graphicscard/windows/WindowsGraphicsCardInfo.java  
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```

```
* /opt/cola/permits/1268278445_1675380984.0905662/0/jhardware-0-8-6-sources-jar/org/jutils/jhardware/model/Display.java
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## 1.164 jcommander 1.78

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\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/UnixStyleUsageFormatter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/JCommander.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/DefaultUsageFormatter.java

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\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/URLConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/internal/Lists.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/ParameterException.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/internal/DefaultConverterFactory.java

\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/IntegerConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/FileConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/StringConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/IStringConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/internal/Sets.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/LongConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/internal/Maps.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/InetAddressConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/Parameters.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/ParameterDescription.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/URICConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/BaseConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/CharArrayConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/PathConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/ParametersDelegate.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/ResourceBundle.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/defaultprovider/PropertyFileDefaultProvider.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/IDefaultProvider.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/DoubleConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/BigDecimalConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/FloatConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/MissingCommandException.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/NoConverter.java  
\* /opt/cola/permits/1135840359\_1613613123.36/0/jcommander-1-78-sources-2-jar/com/beust/jcommander/converters/BooleanConverter.java

```
* /opt/cola/permits/1135840359_1613613123.36/0/jcommander-1-78-sources-2-
jar/com/beust/jcommander/Parameter.java
* /opt/cola/permits/1135840359_1613613123.36/0/jcommander-1-78-sources-2-
jar/com/beust/jcommander/converters/ISO8601DateConverter.java
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```

```
/**
```

```
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*/
```

Found in path(s):

```
* /opt/cola/permits/1135840359_1613613123.36/0/jcommander-1-78-sources-2-
jar/com/beust/jcommander/validators/NoValidator.java
* /opt/cola/permits/1135840359_1613613123.36/0/jcommander-1-78-sources-2-
jar/com/beust/jcommander/validators/PositiveInteger.java
* /opt/cola/permits/1135840359_1613613123.36/0/jcommander-1-78-sources-2-
jar/com/beust/jcommander/validators/NoValueValidator.java
* /opt/cola/permits/1135840359_1613613123.36/0/jcommander-1-78-sources-2-
jar/com/beust/jcommander/IPParameterValidator.java
* /opt/cola/permits/1135840359_1613613123.36/0/jcommander-1-78-sources-2-
jar/com/beust/jcommander/IPParameterValidator2.java
```

## 1.165 dropwizard-jackson 2.0.28

### 1.165.1 Available under license :

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## 1.166 quartz 2.3.2

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# 1.167 bouncy-castle 1.72

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```
public DomainParameters(BigInteger p, BigInteger g, BigInteger q, BigInteger j,
```

Found in path(s):

```
* /opt/cola/permits/1487838996_1674089109.076011/0/src-116-
zip/org/bouncycastle/asn1/x9/DomainParameters.java
```

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```
/**
```

```
* Copyright (c) 2011 Tim Bukt (tbukt@hotmail.com)
```

```
*
```

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```

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```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1487838996_1674089109.076011/0/src-116-
zip/org/bouncycastle/pqc/legacy/math/ntru/euclid/test/IntEuclideanTest.java
```

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```
/**
```

```
* The Bouncy Castle License
```

```
*
```

```
* Copyright (c) 2000-2022 The Legion Of The Bouncy Castle Inc. (https://www.bouncycastle.org)
```

```
* <p>
```

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```

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// now keep space is free to use

Found in path(s):

\* /opt/cola/permits/1487838996\_1674089109.076011/0/src-116-  
zip/org/bouncycastle/pqc/legacy/crypto/gmss/GMSSPrivateKeyParameters.java  
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/\*\*

\* Magic value for proprietary OpenSSH private key.

\*\*/

Found in path(s):

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zip/org/bouncycastle/crypto/util/OpenSSHPrivateKeyUtil.java  
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/\*\*

\* Poly1305 message authentication code, designed by D. J. Bernstein.

\* <p>

\* Poly1305 computes a 128-bit (16 bytes) authenticator, using a 128 bit nonce and a 256 bit key  
\* consisting of a 128 bit key applied to an underlying cipher, and a 128 bit key (with 106  
\* effective key bits) used in the authenticator.

\* <p>

\* The polynomial calculation in this implementation is adapted from the public domain <a

\* href="https://github.com/floodyberry/poly1305-donna">poly1305-donna-unrolled</a> C implementation  
\* by Andrew M (@floodyberry).  
\* @see Poly1305KeyGenerator  
\*/

Found in path(s):

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/\*\*

\* Contains the polynomial classes used in the NTRU round 3 algorithm.

\*

\* <p>

\* This implementation is based on the C reference implementation submitted for the round 3 NIST PQC competition,

\* released under CC0-1.0 license.

\* </p>

\*

\* <p><a href="https://csrc.nist.gov/CSRC/media/Projects/post-quantum-cryptography/documents/round-3/submissions/NTRU-Round3.zip">NIST submission files</a></p>

\* <p><a href="https://github.com/jschanck/ntru/blob/master/LICENSE">License of reference implementation</a></p>

\*/

Found in path(s):

\* /opt/cola/permits/1487838996\_1674089109.076011/0/src-116-zip/org/bouncycastle/pqc/math/ntru/package-info.java

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/\*\*

\* SPHINCS-256 signer.

\* <p>

\* This implementation is heavily based on the reference implementation in SUPERCOP, the main difference being the digests used

\* for message hashing and tree construction are now configurable (within limits...) and that the implementation produces

\* detached signatures.

\* </p>

\* <p>

\* The SPHINCS reference implementation is public domain, as per the statement in the second last paragraph of section 1 in https://eprint.iacr.org/2014/795.pdf

\* </p>

\*/

Found in path(s):

\* /opt/cola/permits/1487838996\_1674089109.076011/0/src-116-zip/org/bouncycastle/pqc/crypto/sphincs/SPHINCS256Signer.java

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```
/**
 * The NTRU algorithm based on the round 3 submission of the NIST post-quantum cryptography. For the old
 * NTRU, see
 * { @link org.bouncycastle.pqc.legacy.crypto.ntru }.
 *
 * <p>
 * This implementation is based on the C reference implementation submitted for the round 3 NIST PQC
 * competition,
 * released under CC0-1.0 license.
 * </p>
 *
 * <p><a href="https://csrc.nist.gov/CSRC/media/Projects/post-quantum-cryptography/documents/round-
 * 3/submissions/NTRU-Round3.zip">NIST submission files</p>
 * <p>License of reference
 * implementation</p>
 *
 * @see NIST round 3
 * PQC submissions page
 * @see NTRU website
 * @see NTRU specification
 */
```

Found in path(s):

```
*/opt/cola/permits/1487838996_1674089109.076011/0/src-116-zip/org/bouncycastle/pqc/crypto/ntru/package-
info.java
```

# 1.168 hamcrest 1.3

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## 1.171 jline 2.14.6

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It is currently developed by a community of developers.

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## 1.176 antlr 4.6

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```

```

/** How to generate rules derived from left-recursive rules.

```

```

* These rely on recRuleAltPredicate(),
* recRuleArg(), recRuleSetResultAction(), recRuleSetReturnAction()
* templates in main language.stg
*/

```

```

group LeftRecursiveRules;

```

```

recRule(ruleName, argName, primaryAlts, opAlts, setResultAction,
 userRetvals, leftRecursiveRuleRefLabels) ::=

```

```

<<

```

```

<ruleName><if(userRetvals)> returns [<userRetvals>]<endif>
: ({ } <primaryAlts:{ alt | <alt.altText> }; separator="\n | ">
)
 (
 <opAlts; separator="\n | ">
)*
;

```

```

>>

```

```

recRuleAlt(alt, precOption, opPrec, pred) ::= <<
{<pred>}?{\<precOption>=<opPrec>|> <alt.altText>
>>

```

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```

* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
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\*/

location(file, line, column) ::= "<file>(<line>,<column>)"

message(id, text) ::= "error <id> : <text>"

report(location, message, type) ::= "<location> : <type> <message.id> : <message.text>"

wantsSingleLineMessage() ::= "true"

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- \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/LL1OptionalBlockSingleAlt.java
- \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/Sync.java
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 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/MatchToken.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/ast/ActionAST.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/target/SwiftTarget.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/ErrorSeverity.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/misc/Graph.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/decl/ElementListDecl.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/chunk/RulePropertyRef\_ctx.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/decl/RuleContextDecl.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/chunk/SetAttr.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/semantics/UseDefAnalyzer.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/ToolANTLRLexer.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/GrammarSemanticsMessage.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/Wildcard.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/ast/NotAST.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/LL1StarBlockSingleAlt.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/chunk/RulePropertyRef.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/LeftRecursiveRule.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/DOTGenerator.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/ExceptionClause.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/DefaultToolListener.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/decl/ContextRuleListIndexedGetterDecl.java  
 \* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/SrcOp.java

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/ThrowEarlyExitException.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/target/JavaTarget.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/CodeGenPipeline.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/SerializedATN.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/RuleFunction.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/CaptureNextTokenType.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/decl/Decl.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/chunk/RulePropertyRef\_parser.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/AddToLabelList.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/InvokeRule.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/ScopeParser.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/semantics/BlankActionSplitterListener.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/decl/TokenTypeDecl.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/ast/RangeAST.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/ListenerFile.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/OutputModelWalker.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/BuildDependencyGenerator.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/semantics/AttributeChecks.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/semantics/ActionSniffer.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/ThrowRecognitionException.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/misc/CharSupport.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/chunk/TokenPropertyRef\_channel.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/chunk/TokenRef.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/ast/PlusBlockAST.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/chunk/ActionChunk.java  
\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/ActionSplitterListener.java

```

* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/gui/JFileChooserConfirmOverwrite.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/codegen/model/Parser.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/misc/OrderedHashMap.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/ErrorMessage.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/automata/ATNPrinter.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/codegen/OutputModelFactory.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/analysis/LeftRecursionDetector.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/codegen/model/chunk/TokenPropertyRef_pos.java
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/misc/Utils.java
No license file was found, but licenses were detected in source scan.

```

```

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*/

```

```

tree grammar BlockSetTransformer;
options {
language = Java;

```

```

tokenVocab = ANTLRParser;
ASTLabelType = GrammarAST;
output = AST;
filter = true;
}

```

```

@header {
package org.antlr.v4.parse;
import org.antlr.v4.misc.Utils;
import org.antlr.v4.misc.*;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
import java.util.List;
import java.util.Set;
import java.util.HashSet;
import java.util.ArrayList;
import org.antlr.v4.runtime.misc.IntervalSet;
}

```

```

@members {
public String currentRuleName;
public GrammarAST currentAlt;
public Grammar g;
public BlockSetTransformer(TreeNodeStream input, Grammar g) {
 this(input, new RecognizerSharedState());
 this.g = g;
}
}

```

```

topdown
: ^(RULE (id=TOKEN_REF|id=RULE_REF) {currentRuleName=$id.text;} .+)
| setAlt
| ebnfBlockSet
| blockSet
;

```

```

setAlt
: {inContext("RULE BLOCK")}?
ALT {currentAlt = $start;}
;

```

```

// (BLOCK (ALT (+ (BLOCK (ALT INT) (ALT ID))))))
ebnfBlockSet
@after {
GrammarTransformPipeline.setGrammarPtr(g, $tree);
}
: ^(ebnfSuffix blockSet) -> ^(ebnfSuffix ^(BLOCK<BlockAST> ^(ALT<AltAST> blockSet)))
;

```

```

ebnfSuffix
@after {$tree = (GrammarAST)adaptor.dupNode($start);}
: OPTIONAL
| CLOSURE
| POSITIVE_CLOSURE
;

blockSet
@init {
boolean inLexer = Grammar.isTokenName(currentRuleName);
}
@after {
GrammarTransformPipeline.setGrammarPtr(g, $tree);
}
: {inContext("RULE")}? // top-level: rule block and > 1 alt
^(BLOCK ^(alt=ALT elementOptions? {((AltAST)$alt).altLabel==null}? setElement[inLexer]) (^(ALT
elementOptions? setElement[inLexer])))+
-> ^(BLOCK<BlockAST>[$BLOCK.token] ^(ALT<AltAST>[$BLOCK.token,"ALT"] ^(SET[$BLOCK.token,
"SET"] setElement+)))
| {!inContext("RULE")}? // if not rule block and > 1 alt
^(BLOCK ^(ALT elementOptions? setElement[inLexer]) (^(ALT elementOptions? setElement[inLexer])))+
-> ^(SET[$BLOCK.token, "SET"] setElement+)
;

setElement[boolean inLexer]
@after {
GrammarTransformPipeline.setGrammarPtr(g, $tree);
}
: (^(a=STRING_LITERAL elementOptions) {!inLexer ||
CharSupport.getCharValueFromGrammarCharLiteral($a.getText())!=-1}?
| a=STRING_LITERAL {!inLexer || CharSupport.getCharValueFromGrammarCharLiteral($a.getText())!=-1}?
| {!inLexer}?=> ^(TOKEN_REF elementOptions)
| {!inLexer}?=> TOKEN_REF
| {!inLexer}?=> ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
{CharSupport.getCharValueFromGrammarCharLiteral($a.getText())!=-1 &&
CharSupport.getCharValueFromGrammarCharLiteral($b.getText())!=-1}?
)
;

elementOptions
: ^(ELEMENT_OPTIONS elementOption*)
;

elementOption
: ID
| ^(ASSIGN id=ID v=ID)
| ^(ASSIGN ID v=STRING_LITERAL)

```

```
| ^(ASSIGN ID v=ACTION)
```

```
| ^(ASSIGN ID v=INT)
```

```
;
```

Found in path(s):

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/parse/BlockSetTransformer.g
```

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```
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```

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```
*/
```

```
// args must be <object-model-object>, <fields-resulting-in-STs>
```

```
ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
```

```
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
```

```
<if(file.genPackage)>
```

```
namespace <file.genPackage> {
```

```
<endif>
```

```
<namedActions.header>
```

```
using System;
```

```

using System.Text;
using System.Diagnostics;
using System.Collections.Generic;
using Antlr4.Runtime;
using Antlr4.Runtime.Atn;
using Antlr4.Runtime.Misc;
using Antlr4.Runtime.Tree;
using DFA = Antlr4.Runtime.Dfa.DFA;

```

```

<parser>
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

```

```

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>
using Antlr4.Runtime.Misc;
using IParseTreeListener = Antlr4.Runtime.Tree.IParseTreeListener;
using IToken = Antlr4.Runtime.IToken;

```

```

/// \<summary>
/// This interface defines a complete listener for a parse tree produced by
/// \<see cref="<csIdentifier.(file.parserName)>">/.
/// \</summary>
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public interface I<file.grammarName>Listener : IParseTreeListener {
<file.listenerNames>: {Iname |
/// \<summary>
<if(file.listenerLabelRuleNames.(Iname))>
/// Enter a parse tree produced by the \<c><Iname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(Iname)>">/.
<else>
/// Enter a parse tree produced by \<see cref="<file.parserName>.<Iname>">/.
<endif>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
void Enter<Iname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<Iname; format="cap">Context
context);
/// \<summary>
<if(file.listenerLabelRuleNames.(Iname))>
/// Exit a parse tree produced by the \<c><Iname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(Iname)>">/.

```

```

<else>
// Exit a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
void Exit<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname; format="cap">Context
context);}; separator="\n">
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

```

```

BaseListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>

```

```

using Antlr4.Runtime.Misc;
using IErrorNode = Antlr4.Runtime.Tree.IErrorNode;
using ITerminalNode = Antlr4.Runtime.Tree.ITerminalNode;
using IToken = Antlr4.Runtime.IToken;
using ParserRuleContext = Antlr4.Runtime.ParserRuleContext;

```

```

/// \<summary>
/// This class provides an empty implementation of \<see cref="I<file.grammarName>Listener"/>,
/// which can be extended to create a listener which only needs to handle a subset
/// of the available methods.
/// \</summary>
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <file.grammarName>BaseListener : I<file.grammarName>Listener {
 <file.listenerNames:{lname |
/// \<summary>
<if(file.listenerLabelRuleNames.(lname))>
/// Enter a parse tree produced by the \<c><lname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(lname)>"/>.
<else>
/// Enter a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \<para>The default implementation does nothing.\</para>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
public virtual void Enter<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname;
format="cap">Context context) { \}
/// \</summary>

```



```

<if(file.listenerLabelRuleNames.(Iname))>
 /// Exit a parse tree produced by the \<c><Iname>\</c>
 /// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(Iname)>"/>.
<else>
 /// Exit a parse tree produced by \<see cref="<file.parserName>.<Iname>"/>.
<endif>
 /// \<para>The default implementation does nothing.\</para>
 /// \</summary>
 /// \<param name="context">The parse tree.\</param>
 public virtual void Exit<Iname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<Iname;
 format="cap">Context context) { \} }; separator="\n">

 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void EnterEveryRule([NotNull] ParserRuleContext context) { }
 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void ExitEveryRule([NotNull] ParserRuleContext context) { }
 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void VisitTerminal([NotNull] ITerminalNode node) { }
 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void VisitErrorNode([NotNull] IErrorNode node) { }
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

```

```

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>
using Antlr4.Runtime.Misc;
using Antlr4.Runtime.Tree;
using IToken = Antlr4.Runtime.IToken;

 /// \<summary>
 /// This interface defines a complete generic visitor for a parse tree produced
 /// by \<see cref="<csIdentifier.(file.parserName)>"/>.
 /// \</summary>
 /// \<typeparam name="Result">The return type of the visit operation.\</typeparam>
 [System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
 [System.CLSCompliant(false)]
 public interface I<file.grammarName>Visitor<Result> : IParseTreeVisitor<Result> {

```

```

<file.visitorNames:{Iname |
/// \<summary>
<if(file.visitorLabelRuleNames.(Iname))>
/// Visit a parse tree produced by the \<c><Iname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.visitorLabelRuleNames.(Iname)>">/.
<else>
/// Visit a parse tree produced by \<see cref="<file.parserName>.<Iname>">/.
<endif>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
/// \<return>The visitor result.\</return>
Result Visit<Iname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<Iname; format="cap">Context
context);); separator="\n"
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

```

```

BaseVisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>
using Antlr4.Runtime.Misc;
using Antlr4.Runtime.Tree;
using IToken = Antlr4.Runtime.IToken;
using ParserRuleContext = Antlr4.Runtime.ParserRuleContext;

/// \<summary>
/// This class provides an empty implementation of \<see cref="I<file.grammarName>Visitor<Result>">,
/// which can be extended to create a visitor which only needs to handle a subset
/// of the available methods.
/// \</summary>
/// \<typeparam name="Result">The return type of the visit operation.\</typeparam>
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <file.grammarName>BaseVisitor<Result> : AbstractParseTreeVisitor<Result>,
I<file.grammarName>Visitor<Result> {
<file.visitorNames:{Iname |
/// \<summary>
<if(file.visitorLabelRuleNames.(Iname))>
/// Visit a parse tree produced by the \<c><Iname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.visitorLabelRuleNames.(Iname)>">/.
<else>
/// Visit a parse tree produced by \<see cref="<file.parserName>.<Iname>">/.
<endif>

```

```

/// \<para>
/// The default implementation returns the result of calling \<see
cref="AbstractParseTreeVisitor{Result}.VisitChildren(IRuleNode)"/>
/// on \<paramref name="context"/>.
/// \</para>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
/// \<return>The visitor result.\</return>
public virtual Result Visit<Iname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<Iname;
format="cap">Context context) { return VisitChildren(context); \}}; separator="\n">
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

fileHeader(grammarFileName, ANTLRVersion) ::= <<
//-----
// \<auto-generated>
// This code was generated by a tool.
// ANTLR Version: <ANTLRVersion>
//
// Changes to this file may cause incorrect behavior and will be lost if
// the code is regenerated.
// \</auto-generated>
//-----

// Generated from <grammarFileName> by ANTLR <ANTLRVersion>

// Unreachable code detected
#pragma warning disable 0162
// The variable '...' is assigned but its value is never used
#pragma warning disable 0219
// Missing XML comment for publicly visible type or member '...'
#pragma warning disable 1591
// Ambiguous reference in cref attribute
#pragma warning disable 419

>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <csIdentifier.(parser.name)> : <superClass; null="Parser"> {

```

```

protected static DFA[] decisionToDFA;
protected static PredictionContextCache sharedContextCache = new PredictionContextCache();
<if(parser.tokens)>
public const int
<parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator=", ", wrap, anchor>;
<endif>
public const int
<parser.rules:{r | RULE_<r.name> = <r.index>}; separator=", ", wrap, anchor>;
public static readonly string[] ruleNames = {
<parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
};

<vocabulary(parser.literalNames, parser.symbolicNames)>

public override string GrammarFileName { get { return "<parser.grammarFileName>"; } }

public override string[] RuleNames { get { return ruleNames; } }

public override string SerializedAtn { get { return _serializedATN; } }

static <csIdentifier.(parser.name)>() {
decisionToDFA = new DFA[_ATN.NumberOfDecisions];
for (int i = 0; i < _ATN.NumberOfDecisions; i++) {
decisionToDFA[i] = new DFA(_ATN.GetDecisionState(i), i);
}
}

<namedActions.members>
<parser:(ctor)()>
<funcs; separator="\n">

<if(sempredFuncs)>
public override bool Sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
switch (ruleIndex) {
<parser.sempredFuncs.values:{f}
case <f.ruleIndex>: return <f.name>_sempred((<f.ctxType>)_localctx, predIndex);}; separator="\n">
}
return true;
}
<sempredFuncs.values; separator="\n">
<endif>

<atn>
}
>>

vocabulary(literalNames, symbolicNames) ::= <<
private static readonly string[] _LiteralNames = {

```

```

<literalNames:{t | <t>}; null="null", separator=", ", wrap, anchor>
};
private static readonly string[] _SymbolicNames = {
<symbolicNames:{t | <t>}; null="null", separator=", ", wrap, anchor>
};
public static readonly IVocabulary DefaultVocabulary = new Vocabulary(_LiteralNames, _SymbolicNames);

[NotNull]
public override IVocabulary Vocabulary
{
 get
 {
 return DefaultVocabulary;
 }
}
>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
public override void Action(RuleContext _localctx, int ruleIndex, int actionIndex) {
 switch (ruleIndex) {
 <recog.actionFuncs.values:{f}
case <f.ruleIndex> : <f.name>_action(<if(!recog.modes)><f.ctxType><endif>_localctx, actionIndex); break;};
separator="\n">
 }
}
<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
public override bool Sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
 switch (ruleIndex) {
 <recog.sempredFuncs.values:{f}
case <f.ruleIndex> : return <f.name>_sempred(<if(!recog.modes)><f.ctxType><endif>_localctx, predIndex);};
separator="\n">
 }
 return true;
}
<sempredFuncs.values; separator="\n">
<endif>
>>

parser_ctor(parser) ::= <<
public <csIdentifier.(parser.name)>(ITokenStream input)
: base(input)
{
 Interpreter = new ParserATNSimulator(this, _ATN, decisionToDFA, sharedContextCache);
}
}
>>

```

```

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/

```

```

RuleActionFunction(r, actions) ::= <<
private void <r.name>_action(<r.ctxType> _localctx, int actionIndex) {
 switch (actionIndex) {
 <actions:{index|
case <index>: <actions.(index)> break;}; separator="\n">
 }
}
>>

```

```

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/

```

```

RuleSempredFunction(r, actions) ::= <<
private bool <r.name>_sempred(<r.ctxType> _localctx, int predIndex) {
 switch (predIndex) {
 <actions:{index|
case <index>: return <actions.(index)>;}; separator="\n">
 }
 return true;
}
>>

```

```

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

```

```

<if(ruleCtx)>
<ruleCtx>
<endif>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

```

```

[RuleVersion(<namedActions.version; null="0">)]
<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)><(args; separator=", "> {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, State<currentRule.args:{a | ,
<csIdentifier.(a.name)>}>);
 EnterRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>);
 <namedActions.init>
 <locals; separator="\n">
 try {
 <if(currentRule.hasLookaheadBlock)>
 int _alt;
 <endif>
 <code>
 <postamble; separator="\n">

```

```

 <namedActions.after>
 }
 <if(exceptions)>
 <exceptions; separator="\n">
 <else>
 catch (RecognitionException re) {
 _localctx.exception = re;
 ErrorHandler.ReportError(this, re);
 ErrorHandler.Recover(this, re);
 }
 <endif>
 finally {
 <finallyAction>
 ExitRule();
 }
 return _localctx;
}
>>

```

```

LeftFactoredRuleFunction(currentRule,args,code,locals,namedActions,finallyAction,postamble) ::=
<<

```

```

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>private <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)><(args; separator=", "> {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, State<currentRule.args:{a | ,
 <csIdentifier.(a.name)>>>);
 EnterLeftFactoredRule(_localctx, <currentRule.startState>, RULE_<currentRule.variantOf>);
 <namedActions.init>
 <locals; separator="\n">
 try {
 <if(currentRule.hasLookaheadBlock)>
 int _alt;
 <endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
 catch (RecognitionException re) {
 _localctx.exception = re;
 ErrorHandler.ReportError(this, re);
 ErrorHandler.Recover(this, re);
 }
 finally {
 <finallyAction>
 ExitRule();
 }
 return _localctx;
}

```

>>

```
// This behaves similar to RuleFunction (enterRule is called, and no adjustments
// are made to the parse tree), but since it's still a variant no context class
// needs to be generated.
```

```
LeftUnfactoredRuleFunction(currentRule,args,code,locals,namedActions,finallyAction,postamble) ::=
```

<<

```
<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>private <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)><(args; separator=", "> {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, State<currentRule.args:{a | ,
<csIdentifier.(a.name)>>>);
 EnterRule(_localctx, <currentRule.startState>, RULE_<currentRule.variantOf>);
 <namedActions.init>
 <locals; separator="\n">
 try {
<if(currentRule.hasLookaheadBlock)>
 int _alt;
<endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
 catch (RecognitionException re) {
 _localctx.exception = re;
 ErrorHandler.ReportError(this, re);
 ErrorHandler.Recover(this, re);
 }
 finally {
 <finallyAction>
 ExitRule();
 }
 return _localctx;
}
>>
```

```
LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
```

<<

```
<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
```

```
[RuleVersion(<namedActions.version; null="0">)]
```

```
<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)><(args; separator=", "> {
 return <csIdentifier.(currentRule.name)><(0<currentRule.args:{a | , <csIdentifier.(a.name)>>>);
}
}
```



```

private <currentRule.ctxType> <csIdentifier.(currentRule.name)>(int _p<args:{a | , <a>}>)> {
 ParserRuleContext _parentctx = Context;
 int _parentState = State;
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, _parentState<currentRule.args:{a | ,
 <csIdentifier.(a.name)>}>);
 <currentRule.ctxType> _prevctx = _localctx;
 int _startState = <currentRule.startState>;
 EnterRecursionRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>, _p);
 <namedActions.init>
 <locals; separator="\n">
 try {
 <if(currentRule.hasLookaheadBlock)>
 int _alt;
 <endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
 catch (RecognitionException re) {
 _localctx.exception = re;
 ErrorHandler.ReportError(this, re);
 ErrorHandler.Recover(this, re);
 }
 finally {
 <finallyAction>
 UnrollRecursionContexts(_parentctx);
 }
 return _localctx;
 }
 >>

```

```

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
 <if(currentOuterMostAltCodeBlock.altLabel)>_localctx = new <currentOuterMostAltCodeBlock.altLabel;
 format="cap">Context(_localctx);<endif>
 EnterOuterAlt(_localctx, <currentOuterMostAltCodeBlock.alt.altNum>);
 <CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
 >>

```

```

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
 {
 <locals; separator="\n">
 <preamble; separator="\n">
 <ops; separator="\n">
 }
 >>

```

```

LL1AltBlock(choice, preamble, alts, error) ::= <<

```

```

State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<if(choice.label)><labelref(choice.label)> = TokenStream.LT(1);<endif>
<preamble; separator="\n">
switch (TokenStream.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
<alt>
break;}; separator="\n">
default:
<error>
}
>>

```

```

LL1OptionalBlock(choice, alts, error) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
switch (TokenStream.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
<alt>
break;}; separator="\n">
default:
<error>
}
>>

```

```

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<preamble; separator="\n">
if (<expr>) {
<alts; separator="\n">
}
<!else if (!(<followExpr>)) <error!>
>>

```

```

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<preamble; separator="\n">
while (<loopExpr>) {
<alts; separator="\n">
State = <choice.loopBackStateNumber>;
ErrorHandler.Sync(this);
<iteration>
}
>>

```

```

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<

```

```

State = <choice.blockStartStateNumber>;<! alt block decision !>
ErrorHandler.Sync(this);
<preamble; separator="\n">
do {
 <alts; separator="\n">
 State = <choice.stateNumber>;<! loopback/exit decision !>
 ErrorHandler.Sync(this);
 <iteration>
} while (<loopExpr>);
>>

// LL(*) stuff

AltBlock(choice, preamble, alts, error) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<if(choice.label)><labelref(choice.label)> = TokenStream.LT(1);<endif>
<preamble; separator="\n">
switch (Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context)) {
<alts:{ alt |
case <i>:
 <alt>
 break;}; separator="\n">
}
>>

OptionalBlock(choice, alts, error) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
switch (Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context)) {
<alts:{ alt |
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
}
>>

StarBlock(choice, alts, sync, iteration) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
_alt = Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context);
while (!_alt!=<choice.exitAlt> && !_alt!=global::Antlr4.Runtime.Atn.ATN.INVALID_ALT_NUMBER) {
if (!_alt==1<if(!choice.ast.greedy)>+1<endif>) {
 <iteration>
 <alts><! should only be one !>
}
State = <choice.loopBackStateNumber>;
ErrorHandler.Sync(this);

```

```

_alt = Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context);
}
>>

```

```

PlusBlock(choice, alts, error) ::= <<
State = <choice.blockStartStateNumber>;<! alt block decision !>
ErrorHandler.Sync(this);
_alt = 1<if(!choice.ast.greedy)>+1<endif>;
do {
switch (_alt) {
<alts:{alt|
case <i><if(!choice.ast.greedy)>+1<endif>:
<alt>
break;}; separator="\n">
default:
<error>
}
State = <choice.loopBackStateNumber>;<! loopback/exit decision !>
ErrorHandler.Sync(this);
_alt = Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context);
} while (_alt!=<choice.exitAlt> && _alt!=global::Antlr4.Runtime.Atn.ATN.INVALID_ALT_NUMBER);
>>

```

```

Sync(s) ::= "Sync(<s.expecting.name>);"

```

```

ThrowNoViableAlt(t) ::= "throw new NoViableAltException(this);"

```

```

TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">
>>

```

```

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

```

```

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShift(s.varName, bits.shift)>})> && ((1L \<< <offsetShift(s.varName, bits.shift)>) &
(<bits.ttypes:{ttype | (1L \<< <offsetShift(tokenType.(ttype), bits.shift)>}); separator=" | ">) != 0)
%>

```

```

isZero ::= [
"0":true,
default:false
]

```

```

offsetShift(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><shiftAmount> - <offset><else><shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<tokenType.(ttype)>}; separator=" || ">
%>

cases(ttypes) ::= <<
<ttypes:{t | case <tokenType.(t)>}; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
State = <r.stateNumber>; <if(r.labels)><r.labels:{l | <labelref(l)> =
}><endif><csIdentifier.(r.name)><(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)><endif><endif><arg
ExprsChunks>;
>>

MatchToken(m) ::= <<
State = <m.stateNumber>; <if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>Match(<tokenType.(m.name)>);
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

CommonSetStuff(m, expr, capture, invert) ::= <<
State = <m.stateNumber>;
<if(m.labels)><m.labels:{l | <labelref(l)> = }>TokenStream.LT(1);<endif>
<capture>
if (<if(invert)><m.varName> \<= 0 || <else>!<endif><expr>) {
 <if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>ErrorHandler.RecoverInline(this);
}
else {
 ErrorHandler.ReportMatch(this);
 Consume();
}
>>

Wildcard(w) ::= <<
State = <w.stateNumber>;
<if(w.labels)><w.labels:{l | <labelref(l)> = }><endif>MatchWildcard();
>>

// ACTION STUFF

Action(a, foo, chunks) ::= "<chunks>"

```

```

ArgAction(a, chunks) ::= "<chunks>"

SemPred(p, chunks, failChunks) ::= <<
State = <p.stateNumber>;
if (!<chunks>)) throw new FailedPredicateException(this, <p.predicate><if(failChunks)>,
<failChunks><elseif(p.msg)>, <p.msg><endif>);
>>

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand() ::= "Skip();"
LexerMoreCommand() ::= "More();"
LexerPopModeCommand() ::= "PopMode();"

LexerTypeCommand(arg, grammar) ::= "_type = <tokenType.(arg)>);"
LexerChannelCommand(arg, grammar) ::= "_channel = <channelName.(arg)>);"
LexerModeCommand(arg, grammar) ::= "_mode = <modeName.(arg)>);"
LexerPushModeCommand(arg, grammar) ::= "PushMode(<modeName.(arg)>);"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "_localctx.<csIdentifier.(a.name)>"
LocalRef(a) ::= "_localctx.<csIdentifier.(a.name)>"
RetValRef(a) ::= "_localctx.<csIdentifier.(a.name)>"
QRetValRef(a) ::= "<ctx(a)>.<a.dict>.<csIdentifier.(a.name)>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<csIdentifier.(tokenType.(t.name))>"
LabelRef(t) ::= "<ctx(t)>.<csIdentifier.(t.name)>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(csIdentifier.(t.name))>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<csIdentifier.(s.name)> = <rhsChunks>);"

TokenLabelType() ::= "<file.TokenLabelType; null={IToken}>"
InputSymbolType() ::= "<file.InputSymbolType; null={IToken}>"

TokenPropertyRef_text(t) ::= "<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Text:null)"
TokenPropertyRef_type(t) ::= "<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Type:0)"
TokenPropertyRef_line(t) ::= "<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Line:0)"
TokenPropertyRef_pos(t) ::=
"<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.CharPositionInLine:0)"
TokenPropertyRef_channel(t) ::=
"<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Channel:0)"

```

```

TokenPropertyRef_index(t) ::=
"<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.TokenIndex:0)"
TokenPropertyRef_int(t) ::=
"<ctx(t)>.<tokenType.(t.label)>!=null?int.Parse(<ctx(t)>.<tokenType.(t.label)>.Text):0)"

RulePropertyRef_start(r) ::= "<ctx(r)>.<r.label>!=null?(<ctx(r)>.<r.label>.Start):null)"
RulePropertyRef_stop(r) ::= "<ctx(r)>.<r.label>!=null?(<ctx(r)>.<r.label>.Stop):null)"
RulePropertyRef_text(r) ::=
"<ctx(r)>.<r.label>!=null?TokenStream.GetText(<ctx(r)>.<r.label>.Start,<ctx(r)>.<r.label>.Stop):null)"
RulePropertyRef_ctx(r) ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r) ::= "this"

ThisRulePropertyRef_start(r) ::= "_localctx.Start"
ThisRulePropertyRef_stop(r) ::= "_localctx.Stop"
ThisRulePropertyRef_text(r) ::= "TokenStream.GetText(_localctx.Start, TokenStream.LT(-1))"
ThisRulePropertyRef_ctx(r) ::= "_localctx"
ThisRulePropertyRef_parser(r) ::= "this"

NonLocalAttrRef(s) ::= <%((<s.ruleName;
format="cap">Context)GetInvokingContext(<s.ruleIndex>)).<csIdentifier.(s.name)>%>
SetNonLocalAttr(s, rhsChunks) ::=
<%((<s.ruleName; format="cap">Context)GetInvokingContext(<s.ruleIndex>)).<csIdentifier.(s.name)> =
<rhsChunks>;%>

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.Add(<labelref(a.label)>);"

TokenDecl(t) ::= "<TokenLabelType() <csIdentifier.(tokenType.(t.name))>"
TokenTypeDecl(t) ::= "int <csIdentifier.(tokenType.(t.name))>);"
TokenListDecl(t) ::= "IList<IToken> <csIdentifier.(tokenType.(t.name))> = new List<IToken>()"
RuleContextDecl(r) ::= "<r.ctxName> <csIdentifier.(r.name)>"
RuleContextListDecl(rdecl) ::= "IList<<rdecl.ctxName>> <csIdentifier.(rdecl.name)> = new
List<<rdecl.ctxName>>()"

contextGetterCollection(elementType) ::= <%
<elementType>[]
%>

ContextTokenGetterDecl(t) ::=
"public ITerminalNode <csIdentifier.(tokenType.(t.name))>() { return
GetToken(<csIdentifier.(parser.name)>.<csIdentifier.(tokenType.(t.name))>, 0); }"
ContextTokenListGetterDecl(t) ::= <<
public <contextGetterCollection("ITerminalNode")> <csIdentifier.(tokenType.(t.name))>() { return
GetTokens(<csIdentifier.(parser.name)>.<csIdentifier.(tokenType.(t.name))>); }
>>
ContextTokenListIndexedGetterDecl(t) ::= <<
public ITerminalNode <csIdentifier.(tokenType.(t.name))>(int i) {
return GetToken(<csIdentifier.(parser.name)>.<csIdentifier.(tokenType.(t.name))>, i);
}

```

```

>>
ContextRuleGetterDecl(r) ::= <<
public <r.ctxName> <csIdentifier.(r.name)>() {
 return GetRuleContext\<<r.ctxName>\>(0);
}
>>
ContextRuleListGetterDecl(r) ::= <<
public <contextGetterCollection({<r.ctxName>})> <csIdentifier.(r.name)>() {
 return GetRuleContexts\<<r.ctxName>\>();
}
>>
ContextRuleListIndexedGetterDecl(r) ::= <<
public <r.ctxName> <csIdentifier.(r.name)>(int i) {
 return GetRuleContext\<<r.ctxName>\>(i);
}
>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
 * r becomes rContext.
 */
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenType.(tokenName)>"
ImplicitRuleLabel(ruleName) ::= "_<ruleName>"
ImplicitSetLabel(id) ::= "_tset<id>"
ListLabelName(label) ::= "_<label>"

CaptureNextToken(d) ::= "<d.varName> = TokenStream.LT(1);"
CaptureNextTokenType(d) ::= "<d.varName> = TokenStream.LA(1);"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers,
 superClass={ParserRuleContext}) ::= <<
public partial class <struct.name> :
<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif><if(interfaces)>, <interfaces>
separator=", "><endif> {
 <attrs:{a | public <a>;}; separator="\n">
 <getters:{g | <g>;}; separator="\n">
 <if(ctorAttrs)>public <struct.name>(ParserRuleContext parent, int invokingState) : base(parent, invokingState) {
 }<endif>
 public <struct.name>(ParserRuleContext parent, int invokingState<ctorAttrs:{a | , <a>>})
 : base(parent, invokingState)
 {
 <struct.ctorAttrs:{a | this.<csIdentifier.(a.name)> = <csIdentifier.(a.name)>;}; separator="\n">
 }
 public override int RuleIndex { get { return RULE_<struct.derivedFromName>; } }
 <if(struct.provideCopyFrom)><! don't need copy unless we have subclasses !>

```



```

public <struct.name>() { }
public virtual void CopyFrom(<struct.name> context) {
 base.CopyFrom(context);
 <struct.attrs:{ a | this.<csIdentifier.(a.name)> = context.<csIdentifier.(a.name)>; }; separator="\n">
}
<endif>
<dispatchMethods; separator="\n">
<extensionMembers; separator="\n">
}
>>

```

```

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
public partial class <struct.name> : <currentRule.name; format="cap">Context {
 <attrs:{ a | public <a>; }; separator="\n">
 <getters:{ g | <g>; }; separator="\n">
 public <struct.name>(<currentRule.name; format="cap">Context context) { CopyFrom(context); }
 <dispatchMethods; separator="\n">
}
>>

```

```

ListenerDispatchMethod(method) ::= <<
public override void <if(method.isEnter)>Enter<else>Exit<endif>Rule(IParseTreeListener listener) {
 I<parser.grammarName>Listener typedListener = listener as I<parser.grammarName>Listener;
 if (typedListener != null) typedListener.<if(method.isEnter)>Enter<else>Exit<endif><struct.derivedFromName;
format="cap">(this);
}
>>

```

```

VisitorDispatchMethod(method) ::= <<
public override TResult Accept<\<TResult>(IParseTreeVisitor<TResult> visitor) {
 I<parser.grammarName>Visitor<\<TResult> typedVisitor = visitor as I<parser.grammarName>Visitor<\<TResult>;
 if (typedVisitor != null) return typedVisitor.Visit<struct.derivedFromName; format="cap">(this);
 else return visitor.VisitChildren(this);
}
>>

```

```

AttributeDecl(d) ::= "<d.type> <csIdentifier.(d.name)><if(d.initValue)> = <d.initValue><endif>"

```

```

/** If we don't know location of label def x, use this template */

```

```

labelref(x) ::= "<if(!x.isLocal)><typedContext(x.ctx)>.<endif><csIdentifier.(x.name)>"

```

```

/** For any action chunk, what is correctly-typed context struct ptr? */

```

```

ctx(actionChunk) ::= "<typedContext(actionChunk.ctx)>"

```

```

// only casts _localctx to the type when the cast isn't redundant (i.e. to a sub-context for a labeled alt)

```

```

typedContext(ctx) ::= "<if(ctx.provideCopyFrom)>((<ctx.name>)_localctx)<else>_localctx<endif>"

```

```

// used for left-recursive rules

```

```

recRuleAltPredicate(ruleName,opPrec) ::= "Precpred(Context, <opPrec>)"
recRuleSetReturnAction(src,name) ::= "$<name>=<src>.<name>;"
recRuleSetStopToken() ::= "Context.Stop = TokenStream.LT(-1);"

```

```

recRuleAltStartAction(ruleName, ctxName, label, isListLabel) ::= <<
 _localctx = new <ctxName>Context(_parentctx, _parentState);
 <if(label)>
 <if(isListLabel)>
 _localctx.<label>.Add(_prevctx);
 <else>
 _localctx.<label> = _prevctx;
 <endif>
 <endif>
 PushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
 >>

```

```

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
 _localctx = new <currentAltLabel; format="cap">Context(new <ruleName; format="cap">Context(_parentctx,
 _parentState));
 <if(label)>
 <if(isListLabel)>
 ((<currentAltLabel; format="cap">Context)_localctx).<label>.Add(_prevctx);
 <else>
 ((<currentAltLabel; format="cap">Context)_localctx).<label> = _prevctx;
 <endif>
 <endif>
 PushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
 >>

```

```

recRuleReplaceContext(ctxName) ::= <<
 _localctx = new <ctxName>Context(_localctx);
 Context = _localctx;
 _prevctx = _localctx;
 >>

```

```

recRuleSetPrevCtx() ::= <<
 if (ParseListeners!=null)
 TriggerExitRuleEvent();
 _prevctx = _localctx;
 >>

```

```

LexerFile(file, lexer, namedActions) ::= <<
 <fileHeader(file.grammarFileName, file.ANTLRVersion)>
 <if(file.genPackage)>
 namespace <file.genPackage> {
 <endif>
 <namedActions.header>

```

```

using System;
using System.Text;
using Antlr4.Runtime;
using Antlr4.Runtime.Atn;
using Antlr4.Runtime.Misc;
using DFA = Antlr4.Runtime.Dfa.DFA;

<lexer>
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <csIdentifier.(lexer.name)> : <superClass; null="Lexer"> {
protected static DFA[] decisionToDFA;
protected static PredictionContextCache sharedContextCache = new PredictionContextCache();
public const int
<lexer.tokens:{k | <tokenType.(k)>=<lexer.tokens.(k)>}; separator=", ", wrap, anchor>;
<if(lexer.channels)>
public const int
<lexer.channels:{k | <csIdentifier.(k)>=<lexer.channels.(k)>}; separator=", ", wrap, anchor>;
<endif>
<rest(lexer.modes):{m | public const int <modeName.(m)> = <i>;}; separator="\n">
public static string[] modeNames = {
<lexer.modes:{m | "<m>"}; separator=", ", wrap, anchor>
};

public static readonly string[] ruleNames = {
<lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
};

<namedActions.members>

public <csIdentifier.(lexer.name)>(ICharStream input)
: base(input)
{
Interpreter = new LexerATNSimulator(this, _ATN, decisionToDFA, sharedContextCache);
}

<vocabulary(lexer.literalNames, lexer.symbolicNames)>

public override string GrammarFileName { get { return "<lexer.grammarFileName>"; } }

public override string[] RuleNames { get { return ruleNames; } }

```

```

public override string[] ModeNames { get { return modeNames; } }

public override string SerializedAtn { get { return _serializedATN; } }

static <csIdentifier.(lexer.name)>() {
 decisionToDFA = new DFA[_ATN.NumberOfDecisions];
 for (int i = 0; i < _ATN.NumberOfDecisions; i++) {
 decisionToDFA[i] = new DFA(_ATN.GetDecisionState(i), i);
 }
}
<dumpActions(lexer, "", actionFuncs, sempredFuncs)>
<atn>
}
>>

```

```

SerializedATN(model) ::= <<
private static string _serializedATN = _serializeATN();
private static string _serializeATN()
{
 StringBuilder sb = new StringBuilder();
 sb.Append("<model.serialized; wrap={}><\n><\t>sb.Append(">");
 return sb.ToString();
}

public static readonly ATN _ATN =
 new ATNDeserializer().Deserialize(_serializedATN.ToCharArray());

```

```
>>
```

```

initValue(typeName) ::= <<
default(<typeName>)
>>

```

```
codeFileExtension() ::= ".cs"
```

```

modeName ::= [
 "DEFAULT_MODE" : "DefaultMode",
 default : key
]

```

```

channelName ::= [
 "HIDDEN" : "Hidden",
 "DEFAULT_TOKEN_CHANNEL" : "DefaultTokenChannel",
 default : key
]

```

```
tokenType ::= [
 "EOF" : "Eof",
 default : key
]
```

```
csIdentifier ::= [
 "abstract" : "@abstract",
 "as" : "@as",
 "base" : "@base",
 "bool" : "@bool",
 "break" : "@break",
 "byte" : "@byte",
 "case" : "@case",
 "catch" : "@catch",
 "char" : "@char",
 "checked" : "@checked",
 "class" : "@class",
 "const" : "@const",
 "continue" : "@continue",
 "decimal" : "@decimal",
 "default" : "@default",
 "delegate" : "@delegate",
 "do" : "@do",
 "double" : "@double",
 "else" : "@else",
 "enum" : "@enum",
 "event" : "@event",
 "explicit" : "@explicit",
 "extern" : "@extern",
 "false" : "@false",
 "finally" : "@finally",
 "fixed" : "@fixed",
 "float" : "@float",
 "for" : "@for",
 "foreach" : "@foreach",
 "goto" : "@goto",
 "if" : "@if",
 "implicit" : "@implicit",
 "in" : "@in",
 "int" : "@int",
 "interface" : "@interface",
 "internal" : "@internal",
 "is" : "@is",
 "lock" : "@lock",
 "long" : "@long",
 "namespace" : "@namespace",
 "new" : "@new",
 "null" : "@null",
```

```
"object" : "@object",
"operator" : "@operator",
"out" : "@out",
"override" : "@override",
"params" : "@params",
"private" : "@private",
"protected" : "@protected",
"public" : "@public",
"readonly" : "@readonly",
"ref" : "@ref",
"return" : "@return",
"sbyte" : "@sbyte",
"sealed" : "@sealed",
"short" : "@short",
"sizeof" : "@sizeof",
"stackalloc" : "@stackalloc",
"static" : "@static",
"string" : "@string",
"struct" : "@struct",
"switch" : "@switch",
"this" : "@this",
"throw" : "@throw",
>true" : "@true",
"try" : "@try",
"typeof" : "@typeof",
"uint" : "@uint",
"ulong" : "@ulong",
"unchecked" : "@unchecked",
"unsafe" : "@unsafe",
"ushort" : "@ushort",
"using" : "@using",
"virtual" : "@virtual",
"void" : "@void",
"volatile" : "@volatile",
"while" : "@while",
default : key
]
```

Found in path(s):

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/tool/templates/codegen/CSharp/CSharp.stg
```

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/*
```

```
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```

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```

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\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-  
jar/org/antlr/v4/tool/templates/codegen/Cpp/Cpp.stg

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// File : A3Lexer.g

// Author : Jim Idle (jimi@temporal-wave.com)

// Copyright : Free BSD - See @header clause below

// Version : First implemented as part of ANTLR 3.2 this is the self

// hosting ANTLR 3 Lexer.



```

//
// Description
// -----
// This is the definitive lexer grammar for parsing ANTLR V3.x.x grammars. All other
// grammars are derived from this grammar via source code control integration (perforce)
// or by the gdiff tool.
//
// This grammar and its associated grmmars A3Parser.g and A3Walker.g exhibit the following
// traits, which are recommended for all production quality grammars:
//
// 1) They are separate grammars, not composite grammars;
// 2) They implement all supporting methods in a superclass (at least this is recommended
// for language targets that support inheritance;
// 3) All errors are pushed as far down the parsing chain as possible, which means
// that the lexer tries to defer error reporting to the parser, and the parser
// tries to defer error reporting to a semantic phase consisting of a single
// walk of the AST. The reason for this is that the error messages produced
// from later phases of the parse will generally have better context and so
// be more useful to the end user. Consider the message: "Syntax error at 'options'"
// vs: "You cannot specify two options{ } sections in a single grammar file".
// 4) The lexer is 'programmed' to catch common mistakes such as unterminated literals
// and report them specifically and not just issue confusing lexer mismatch errors.
//
/** Read in an ANTLR grammar and build an AST. Try not to do
 * any actions, just build the tree.
 *
 * The phases are:
 *
 * A3Lexer.g (this file)
 * A3Parser.g
 * A3Verify.g (derived from A3Walker.g)
 * assign.types.g
 * define.g
 * buildnfa.g
 * antlr.print.g (optional)
 * codegen.g
 *
 * Terence Parr
 * University of San Francisco
 * 2005
 * Jim Idle (this v3 grammar)
 * Temporal Wave LLC
 * 2009
 */
lexer grammar ANTLRLexer;

// =====

```

```

// Note that while this grammar does not care about order of constructs
// that don't really matter, such as options before @header etc, it must first
// be parsed by the original v2 parser, before it replaces it. That parser does
// care about order of structures. Hence we are constrained by the v2 parser
// for at least the first bootstrap release that causes this parser to replace
// the v2 version.
// =====

// -----
// Options
//
// V3 option directives to tell the tool what we are asking of it for this
// grammar.
//
options {

// Target language is Java, which is the default but being specific
// here as this grammar is also meant as a good example grammar for
// for users.
//
language = Java;

// The super class that this lexer should expect to inherit from, and
// which contains any and all support routines for the lexer. This is
// commented out in this baseline (definitive or normative grammar)
// - see the ANTLR tool implementation for hints on how to use the super
// class
//
//superclass = AbstractA3Lexer;
}

tokens { SEMPREP; TOKEN_REF; RULE_REF; LEXER_CHAR_SET; ARG_ACTION; }

// Include the copyright in this source and also the generated source
//
@lexer::header {
/*
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```

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```
*/
```

```
package org.antlr.v4.parse;
import org.antlr.v4.tool.*;
}
```

```
@members {
```

```
public static final int COMMENTS_CHANNEL = 2;
```

```
public CommonTokenStream tokens; // track stream we push to; need for context info
```

```
public boolean isLexerRule = false;
```

```
public void grammarError(ErrorType etype, org.antlr.runtime.Token token, Object... args) { }
```

```
/** scan backwards from current point in this.tokens list
```

```
 * looking for the start of the rule or subrule.
```

```
 * Return token or null if for some reason we can't find the start.
```

```
*/
```

```
public Token getRuleOrSubruleStartToken() {
```

```
 if (tokens==null) return null;
```

```
 int i = tokens.index();
```

```
 int n = tokens.size();
```

```
 if (i>=n) i = n-1; // seems index == n as we lex
```

```
 while (i>=0 && i<n) {
```

```
 int ttype = tokens.get(i).getType();
```

```
 if (ttype == LPAREN || ttype == TOKEN_REF || ttype == RULE_REF) {
```

```
 return tokens.get(i);
```

```
 }
```

```
 i--;
```

```
 }
```

```
 return null;
```

```
 }
```

```
 }
```

```

// -----
// Comments
//
// ANTLR comments can be multi or single line and we don't care
// which particularly. However we also accept Javadoc style comments
// of the form: /** ... */ and we do take care to distinguish those
// from ordinary multi-line comments
// Note how we guide the lexical PATH because we want to issue a decriptive
// error message in case of a standalone '/' character, which makes no
// sense in ANTLR source code. We also trap unterminated multi-line comments
//
fragment DOC_COMMENT : ;
COMMENT
@init {

// Record the start line and offsets as if we need to report an
// unterminated comment, then we want to show the start of the comment
// we think is broken, not the end, where people will have to try and work
// it out themselves.
//
int startLine = $line;
int offset = getCharPositionInLine();
}
: // Eat the first character only, then see if we have a comment
 // or something silly.
 //
 '/' // Comment introducer

(
 // Single line comment, possibly with embedded src/line directives
 // in a similar style to the C pre-processor, allowing generated
 // code to refer the programmer back to the original source code
 // in case of error.
 //
 '/'
 (
 (' $ANTLR')=> ' $ANTLR' SRC
 | ~(NLCHARS)*
)

| // Multi-line comment, which may be a documentation comment
 // if it starts /** (note that we protect against accidentally
 // recognizing a comment /**/ as a documentation comment
 //
 /** (
 { input.LA(2) != '/' }?=> '*' { $type = DOC_COMMENT; }
 | { true }?=> // Required to cover all alts with predicates
)
)

```

```

// Should we support embedded multiline comments here?
//
(
 // Pick out end of multiline comment and exit the loop
 // if we find it.
 //
 { !(input.LA(1) == '*' && input.LA(2) == '/') }?

 // Anything else other than the non-greedy match of
 // the comment close sequence
 //
 .
)*
(
 // Look for the comment terminator, but if it is accidentally
 // unterminated, then we will hit EOF, which will trigger the
 // epsilon alt and hence we can issue an error message relative
 // to the start of the unterminated multi-line comment
 //
 /*'

|// Unterminated comment!
//
{
 // ErrorManager.msg(Msg.UNTERMINATED_DOC_COMMENT, startLine, offset, $pos, startLine,
offset, $pos, (Object)null);
}
)

|// There was nothing that made sense following the opening '/' and so
// we issue an error regarding the malformed comment
//
{
 // TODO: Insert error message relative to comment start
 //
}
)
{
 // We do not wish to pass the comments in to the parser. If you are
 // writing a formatter then you will want to preserve the comments off
 // channel, but could just skip and save token space if not.
 //
 $channel=COMMENTS_CHANNEL;
}
;

```

ARG\_OR\_CHARSET

```

options {k=1;}
: {isLexerRule}?=> LEXER_CHAR_SET {$type=LEXER_CHAR_SET;}
| {!isLexerRule}?=> ARG_ACTION
{
$type=ARG_ACTION;
// Set the token text to our gathered string minus outer []
String t = $text;
t = t.substring(1,t.length()-1);
setText(t);
}
;

```

```

fragment
LEXER_CHAR_SET

```

```

: '['
 ('\w ~(\r|\n)
 | ~(\r|\n|\\|'])
)*
']'
;

```

```
// -----
```

```
// Argument specs
```

```
//
```

```
// Certain argument lists, such as those specifying call parameters
```

```
// to a rule invocation, or input parameters to a rule specification
```

```
// are contained within square brackets. In the lexer we consume them
```

```
// all at once and sort them out later in the grammar analysis.
```

```
//
```

```
fragment
```

```
ARG_ACTION
```

```

: '['
 (
 ARG_ACTION

 | ('')=>ACTION_STRING_LITERAL

 | ('\')=>ACTION_CHAR_LITERAL

 | ~('[|'])
)*
']'
;

```

```
// -----
```

```
// Actions
```

```
//
```

```

// Other than making sure to distinguish between { and } embedded
// within what we have assumed to be literals in the action code, the
// job of the lexer is merely to gather the code within the action
// (delimited by {}) and pass it to the parser as a single token.
// We know that this token will be asked for its text somewhere
// in the upcoming parse, so setting the text here to exclude
// the delimiting {} is no additional overhead.
//
ACTION
: NESTED_ACTION
('?' {$type = SEMPRED;}
((WSNLCHARS* '=>') => WSNLCHARS* '=>' // v3 gated sempred
{
Token t = new CommonToken(input, state.type, state.channel, state.tokenStartCharIndex, getCharIndex()-1);
t.setLine(state.tokenStartLine);
t.setText(state.text);
t.setCharPositionInLine(state.tokenStartCharPositionInLine);
grammarError(ErrorType.V3_GATED_SEMPRED, t);
}
)?
)?
;

// -----
// Action structure
//
// Many language targets use {} as block delimiters and so we
// must recursively match {} delimited blocks to balance the
// braces. Additionally, we must make some assumptions about
// literal string representation in the target language. We assume
// that they are delimited by ' or " and so consume these
// in their own alts so as not to inadvertently match {}.
// This rule calls itself on matching a {
//
fragment
NESTED_ACTION
@init {

// Record the start line and offsets as if we need to report an
// unterminated block, then we want to show the start of the comment
// we think is broken, not the end, where people will have to try and work
// it out themselves.
//
int startLine = getLine();
int offset = getCharPositionInLine();
}

: // Action and other blocks start with opening {

```

```

//
'{'
(
// And now we can match one of a number of embedded
// elements within the action until we find a
// } that balances the opening {. If we do not find
// the balanced } then we will hit EOF and can issue
// an error message about the brace that we believe to
// be mismatched. This won't be foolproof but we will
// be able to at least report an error against the
// opening brace that we feel is in error and this will
// guide the user to the correction as best we can.
//

// An embedded {} block
//
NESTED_ACTION

|// What appears to be a literal
//
ACTION_CHAR_LITERAL

|// We have assumed that the target language has C/Java
// type comments.
//
COMMENT

|// What appears to be a literal
//
ACTION_STRING_LITERAL

|// What appears to be an escape sequence
//
ACTION_ESC

|// Some other single character that is not
// handled above
//
~(\\|\"|\'|/|{|})

)*

(
// Correctly balanced closing brace
//
}'

```



```

| // Looks like have an imbalanced {} block, report
 // with respect to the opening brace.
 //
 {
 // TODO: Report imbalanced {}
 System.out.println("Block starting at line " + startLine + " offset " + (offset+1) + " contains imbalanced {} or
is missing a }");
 }
)
;

```

```

// Keywords
// -----
// keywords used to specify ANTLR v3 grammars. Keywords may not be used as
// labels for rules or in any other context where they would be ambiguous
// with the keyword vs some other identifier
// OPTIONS, TOKENS, and CHANNELS must also consume the opening brace that captures
// their option block, as this is the easiest way to parse it separate
// to an ACTION block, despite it using the same {} delimiters.
//
OPTIONS : 'options' WSNLCHARS* '{' ;
TOKENS_SPEC : 'tokens' WSNLCHARS* '{' ;
CHANNELS : 'channels' WSNLCHARS* '{' ;

```

```

IMPORT : 'import' ;
FRAGMENT : 'fragment' ;
LEXER : 'lexer' ;
PARSER : 'parser' ;
GRAMMAR : 'grammar' ;
TREE_GRAMMAR : 'tree' WSNLCHARS* 'grammar' ;
PROTECTED : 'protected' ;
PUBLIC : 'public' ;
PRIVATE : 'private' ;
RETURNS : 'returns' ;
LOCALS : 'locals' ;
THROWS : 'throws' ;
CATCH : 'catch' ;
FINALLY : 'finally' ;
MODE : 'mode' ;

```

```

// -----
// Punctuation
//
// Character sequences used as separators, delimiters, operators, etc
//
COLON : ':'
 {

```

```

// scan backwards, looking for a RULE_REF or TOKEN_REF.
// which would indicate the start of a rule definition.
// If we see a LPAREN, then it's the start of the subrule.
// this.tokens is the token string we are pushing into, so
// just loop backwards looking for a rule definition. Then
// we set isLexerRule.
Token t = getRuleOrSubruleStartToken();
if (t!=null) {
 if (t.getType()==RULE_REF) isLexerRule = false;
 else if (t.getType()==TOKEN_REF) isLexerRule = true;
 // else must be subrule; don't alter context
}
}
;

COLONCOLON : '::' ;
COMMA : ',' ;
SEMI : ';' ;
LPAREN : '(' ;
RPAREN : ')' ;
RARROW : '->' ;
LT : '<' ;
GT : '>' ;
ASSIGN : '=' ;
QUESTION : '?' ;
SYNPRED : '=>' ;
{
 Token t = new CommonToken(input, state.type, state.channel,
 state.tokenStartCharIndex, getCharIndex()-1);
 t.setLine(state.tokenStartLine);
 t.setText(state.text);
 t.setCharPositionInLine(state.tokenStartCharPositionInLine);
 grammarError(ErrorType.V3_SYNPRED, t);
 $channel=HIDDEN;
}
;

STAR : '*' ;
PLUS : '+' ;
PLUS_ASSIGN : '+=' ;
OR : '|' ;
DOLLAR : '$' ;
DOT : '.' ; // can be WILDCARD or DOT in qid or imported rule ref
RANGE : '..' ;
AT : '@' ;
POUND : '#' ;
NOT : '~' ;
RBRACE : '}' ;

/** Allow unicode rule/token names */

```

```

ID : a=NameStartChar NameChar*
{
 if (Grammar.isTokenName($a.text)) $type = TOKEN_REF;
 else $type = RULE_REF;
}
;

```

fragment

```

NameChar : NameStartChar
| '0'..'9'
| '_'
| '\u00B7'
| '\u0300'..'u036F'
| '\u203F'..'u2040'
;

```

fragment

```

NameStartChar
: 'A'..'Z' | 'a'..'z'
| '\u00C0'..'u00D6'
| '\u00D8'..'u00F6'
| '\u00F8'..'u02FF'
| '\u0370'..'u037D'
| '\u037F'..'u1FFF'
| '\u200C'..'u200D'
| '\u2070'..'u218F'
| '\u2C00'..'u2FEF'
| '\u3001'..'uD7FF'
| '\uF900'..'uFDCF'
| '\uFDF0'..'uFEFE'
| '\uFF00'..'uFFFD'
; // ignores | [\u10000-\uEFFFF] ;

```

// -----

// Literals embedded in actions

//

// Note that we have made the assumption that the language used within

// actions uses the fairly standard " and ' delimiters for literals and

// that within these literals, characters are escaped using the \ character.

// There are some languages which do not conform to this in all cases, such

// as by using /string/ and so on. We will have to deal with such cases if

// if they come up in targets.

//

// Within actions, or other structures that are not part of the ANTLR

// syntax, we may encounter literal characters. Within these, we do

// not want to inadvertently match things like '}' and so we eat them

// specifically. While this rule is called CHAR it allows for the fact that

```

// some languages may use/allow ' as the string delimiter.
//
fragment
ACTION_CHAR_LITERAL
: "\"" ((\\)=>ACTION_ESC | ~\")* "\""
;

// Within actions, or other structures that are not part of the ANTLR
// syntax, we may encounter literal strings. Within these, we do
// not want to inadvertently match things like '}' and so we eat them
// specifically.
//
fragment
ACTION_STRING_LITERAL
: "\"" ((\\)=>ACTION_ESC | ~\")* "\""
;

// Within literal strings and characters that are not part of the ANTLR
// syntax, we must allow for escaped character sequences so that we do not
// inadvertently recognize the end of a string or character when the terminating
// delimiter has been escaped.
//
fragment
ACTION_ESC
: "\\" .
;

// -----
// Integer
//
// Obviously (I hope) match an arbitrary long sequence of digits.
//
INT : ('0'..'9')+
;

// -----
// Source spec
//
// A fragment rule for picking up information about an originating
// file from which the grammar we are parsing has been generated. This allows
// ANTLR to report errors against the originating file and not the generated
// file.
//
fragment
SRC : 'src' WSCHARS+ file=ACTION_STRING_LITERAL WSCHARS+ line=INT
{
 // TODO: Add target specific code to change the source file name and current line number
}
//

```

```

 }
 ;

// -----
// Literal string
//
// ANTLR makes no distinction between a single character literal and a
// multi-character string. All literals are single quote delimited and
// may contain unicode escape sequences of the form \uxxxx, where x
// is a valid hexadecimal number (as per Java basically).
STRING_LITERAL
: \" ((ESC_SEQ | ~(\"|'|\\"|'\\n'))) *
 (\"
 | // Unterminated string literal
 {
 Token t = new CommonToken(input, state.type, state.channel, state.tokenStartCharIndex, getCharIndex()-1);
 t.setLine(state.tokenStartLine);
 t.setText(state.text);
 t.setCharPositionInLine(state.tokenStartCharPositionInLine);
 grammarError(ErrorType.UNTERMINATED_STRING_LITERAL, t);
 }
)
;

// A valid hex digit specification
//
fragment
HEX_DIGIT : ('0'..'9'|'a'..'f'|'A'..'F') ;

// Any kind of escaped character that we can embed within ANTLR
// literal strings.
//
fragment
ESC_SEQ
: \"
 (
 // The standard escaped character set such as tab, newline,
 // etc.
 //
 'b'|'t'|'n'|'f'|'r'|'\"'|'\\'|'\\n'|'\\r'|'\\t'|'\\f'|'\\b'|'\\u'

 // A Java style Unicode escape sequence
 //
 UNICODE_ESC

 // An illegal escape sequence
 //
 {

```

```

 Token t = new CommonToken(input, state.type, state.channel, getCharIndex()-1, getCharIndex());
 t.setText(t.getText());
 t.setLine(input.getLine());
 t.setCharPositionInLine(input.getCharPositionInLine()-1);
 grammarError(ErrorType.INVALID_ESCAPE_SEQUENCE, t);
}
)
;

fragment
UNICODE_ESC

@init {

// Flag to tell us whether we have a valid number of
// hex digits in the escape sequence
//
int hCount = 0;
}
: 'u' // Leadin for unicode escape sequence

// We now require 4 hex digits. Note though
// that we accept any number of characters
// and issue an error if we do not get 4. We cannot
// use an infinite count such as + because this
// might consume too many, so we lay out the lexical
// options and issue an error at the invalid paths.
//
(
(
 HEX_DIGIT { hCount++; }
 (
 HEX_DIGIT { hCount++; }
 (
 HEX_DIGIT { hCount++; }
 (
 // Four valid hex digits, we are good
 //
 HEX_DIGIT { hCount++; }

 | // Three valid digits
)
)
 | // Two valid digits
)
 | // One valid digit
)
)
)

```

```

)
 |// No valid hex digits at all
)

// Now check the digit count and issue an error if we need to
//
{
 if (hCount != 4) {
 Token t = new CommonToken(input, state.type, state.channel, getCharIndex()-3-hCount, getCharIndex()-
1);
 t.setText(t.getText());
 t.setLine(input.getLine());
 t.setCharPositionInLine(input.getCharPositionInLine()-hCount-2);
 grammarError(ErrorType.INVALID_ESCAPE_SEQUENCE, t);
 }
}
;

// -----
// Whitespace
//
// Characters and character constructs that are of no import
// to the parser and are used to make the grammar easier to read
// for humans.
//
WS
: (
 ''
 | '\t'
 | '\r'
 | '\n'
 | '\f'
)+
{$channel=HIDDEN;}
;

// A fragment rule for use in recognizing end of line in
// rules like COMMENT.
//
fragment
NLCHARS
: '\n' | '\r'
;

// A fragment rule for recognizing traditional whitespace
// characters within lexer rules.
//
fragment

```

## WSCHARS

```
: ' | \t | \f
;
```

```
// A fragment rule for recognizing both traditional whitespace and
// end of line markers, when we don't care to distinguish but don't
// want any action code going on.
```

```
//
```

```
fragment
```

## WSNLCHARS

```
: ' | \t | \f | \n | \r
;
```

```
// This rule allows ANTLR 4 to parse grammars using the UTF-8 encoding with a
// byte order mark. Since this Unicode character doesn't appear as a token
// anywhere else in the grammar, we can simply skip all instances of it without
// problem. This rule will not break usage of \uFEFF inside a LEXER_CHAR_SET or
// STRING_LITERAL.
```

```
UnicodeBOM
```

```
: '\uFEFF' {skip();}
;
```

```
// -----
```

```
// Illegal Character
```

```
//
```

```
// This is an illegal character trap which is always the last rule in the
// lexer specification. It matches a single character of any value and being
// the last rule in the file will match when no other rule knows what to do
// about the character. It is reported as an error but is not passed on to the
// parser. This means that the parser to deal with the gramamr file anyway
// but we will not try to analyse or code generate from a file with lexical
// errors.
```

```
//
```

## ERRCHAR

```
: .
{
 Token t = new CommonToken(input, state.type, state.channel, state.tokenStartCharIndex, getCharIndex()-1);
 t.setLine(state.tokenStartLine);
 t.setText(state.text);
 t.setCharPositionInLine(state.tokenStartCharPositionInLine);
 String msg = getTokenErrorDisplay(t) + " came as a complete surprise to me";
 grammarError(ErrorType.SYNTAX_ERROR, t, msg);
 state.syntaxErrors++;
 skip();
}
;
```

Found in path(s):



\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/ANTLRLexer.g  
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 \*/

/\*\* Find left-recursive rules \*/

tree grammar LeftRecursiveRuleWalker;

options {

tokenVocab=ANTLRParser;

ASTLabelType=GrammarAST;

}

@header {

package org.antlr.v4.parse;

import org.antlr.v4.misc.\*;

import org.antlr.v4.tool.\*;

import org.antlr.v4.tool.ast.\*;

}

@members {

private String ruleName;

private int currentOuterAltNumber; // which outer alt of rule?

public int numAlts; // how many alts for this rule total?

public void setAltAssoc(AltAST altTree, int alt) {}

public void binaryAlt(AltAST altTree, int alt) {}

public void prefixAlt(AltAST altTree, int alt) {}

public void suffixAlt(AltAST altTree, int alt) {}

public void otherAlt(AltAST altTree, int alt) {}

public void setReturnValues(GrammarAST t) {}

}

@rulecatch { }

// TODO: can get parser errors for not matching pattern; make them go away

public

```

rec_rule returns [boolean isLeftRec]
@init
{
currentOuterAltNumber = 1;
}
: ^(r=RULE id=RULE_REF {ruleName=$id.getText();}
ruleModifier?
// (ARG_ACTION)? shouldn't allow args, right?
(^ (RETURNS a=ARG_ACTION {setReturnValues($a);}))?
// (^(THROWS .+)? don't allow
(^ (LOCALS ARG_ACTION))? // TODO: copy these to gen'd code
(^ (OPTIONS .*)
| ^(AT ID ACTION) // TODO: copy
)*
ruleBlock { $isLeftRec = $ruleBlock.isLeftRec;}
exceptionGroup
)
;

exceptionGroup
: exceptionHandler* finallyClause?
;

exceptionHandler
: ^(CATCH ARG_ACTION ACTION)
;

finallyClause
: ^(FINALLY ACTION)
;

ruleModifier
: PUBLIC
| PRIVATE
| PROTECTED
;

ruleBlock returns [boolean isLeftRec]
@init{boolean lr=false; this.numAlts = $start.getChildCount();}
: ^(BLOCK
(
o=outerAlternative
{if ($o.isLeftRec) $isLeftRec = true;}
{currentOuterAltNumber++;}
)+
)
;

```

```

/** An alt is either prefix, suffix, binary, or ternary operation or "other" */
outerAlternative returns [boolean isLeftRec]
: (binary)=> binary
 {binaryAlt((AltAST)$start, currentOuterAltNumber); $isLeftRec=true;}
| (prefix)=> prefix
 {prefixAlt((AltAST)$start, currentOuterAltNumber);}
| (suffix)=> suffix
 {suffixAlt((AltAST)$start, currentOuterAltNumber); $isLeftRec=true;}
| nonLeftRecur {otherAlt((AltAST)$start, currentOuterAltNumber);}
;

binary
: ^(ALT elementOptions? recurse element* recurse epsilonElement*)
 {setAltAssoc((AltAST)$ALT,currentOuterAltNumber);}
;

prefix
: ^(ALT elementOptions?
 element+
 recurse epsilonElement*
)
 {setAltAssoc((AltAST)$ALT,currentOuterAltNumber);}
;

suffix
: ^(ALT elementOptions? recurse element+)
 {setAltAssoc((AltAST)$ALT,currentOuterAltNumber);}
;

nonLeftRecur
: ^(ALT elementOptions? element+)
;

recurse
: ^(ASSIGN ID recurseNoLabel)
| ^(PLUS_ASSIGN ID recurseNoLabel)
| recurseNoLabel
;

recurseNoLabel : {((CommonTree)input.LT(1)).getText().equals(ruleName)}? RULE_REF;

token returns [GrammarAST t=null]
: ^(ASSIGN ID s=token {$t = $s.t;})
| ^(PLUS_ASSIGN ID s=token {$t = $s.t;})
| b=STRING_LITERAL {$t = $b;}
| ^(b=STRING_LITERAL elementOptions) {$t = $b;}
| ^(c=TOKEN_REF elementOptions) {$t = $c;}
| c=TOKEN_REF {$t = $c;}

```

;

elementOptions

: ^(ELEMENT\_OPTIONS elementOption\*)

;

elementOption

: ID

| ^(ASSIGN ID ID)

| ^(ASSIGN ID STRING\_LITERAL)

| ^(ASSIGN ID ACTION)

| ^(ASSIGN ID INT)

;

element

: atom

| ^(NOT element)

| ^(RANGE atom atom)

| ^(ASSIGN ID element)

| ^(PLUS\_ASSIGN ID element)

| ^(SET setElement+)

| RULE\_REF

| ebnf

| epsilonElement

;

epsilonElement

: ACTION

| SEMPRED

| EPSILON

| ^(ACTION elementOptions)

| ^(SEMPRED elementOptions)

;

setElement

: ^(STRING\_LITERAL elementOptions)

| ^(TOKEN\_REF elementOptions)

| STRING\_LITERAL

| TOKEN\_REF

;

ebnf: block

| ^( OPTIONAL block )

| ^( CLOSURE block )

| ^( POSITIVE\_CLOSURE block )

;

block

: ^(BLOCK ACTION? alternative+)

;

alternative

: ^(ALT elementOptions? element+)

;

atom

: ^(RULE\_REF ARG\_ACTION? elementOptions?)

| ^(STRING\_LITERAL elementOptions)

| STRING\_LITERAL

| ^(TOKEN\_REF elementOptions)

| TOKEN\_REF

| ^(WILDCARD elementOptions)

| WILDCARD

| ^(DOT ID element)

;

Found in path(s):

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/LeftRecursiveRuleWalker.g

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 \*/

```
atn(startState, states, edges, rankdir, decisionRanks, useBox) ::= <<
digraph ATN {
rankdir=LR;
<decisionRanks; separator="\n">
<states; separator="\n">
<edges; separator="\n">
}
>>
```

```
dfa(name, startState, states, edges, rankdir, decisionRanks, useBox) ::= <<
digraph <name> {
<if(rankdir)>rankdir=<rankdir>;<endif>
<decisionRanks; separator="\n">
<states; separator="\n">
<edges; separator="\n">
}
>>
```

```
decision-rank(states) ::= <<
{rank=same; rankdir=TB; <states:{s | s<s>}; separator=" "; ">}
>>
```

```
edge(src,target,label,arrowhead,transitionIndex) ::= <<
<src><if(transitionIndex)>:p<transitionIndex><endif> -> <target> [fontsize=11, fontname="Courier", arrowsize=.7,
label = "<label>"<if(arrowhead)>, arrowhead = <arrowhead><endif>];
>>
```

```
action-edge(src,target,label,arrowhead,transitionIndex) ::= <<
<src><if(transitionIndex)>:p<transitionIndex><endif> -> <target> [fontsize=11, fontname="Courier", arrowsize=.7,
label = "<label>"<if(arrowhead)>, arrowhead = <arrowhead><endif>];
>>
```

```
epsilon-edge(src,label,target,arrowhead,transitionIndex,loopback=false) ::= <<
<src><if(transitionIndex)>:p<transitionIndex><endif> -> <target> [fontname="Times-Italic",
label="ε"<if(loopback)>, style="dashed"<endif>];
>>
```

```
state(state, label, name, transitions) ::= <%
<name>[fontsize=11,
label="
<! rest(transition) tests for decision states: these nodes have a non-empty set of transitions after the first one. !>
<if(rest(transitions))>
{
```

```

 <! Label on the left side of the record node. !>
 <label>
 |
 <! Named ports in order on right side of record node, no display text. !>
 {<transitions:{t|\<p<i0>>}; separator="|">}
 <else>
 <label>
 <endif>
 "
 <if(rest(transitions))>
 , shape=record, fixedsize=false
 <else>
 , shape=circle, fixedsize=true, width=.55
 <endif>
 , peripheries=1];
%>

stopstate(name,label,actionIndex,useBox) ::= <<
<name>[fontsize=11, label="<label><if(actionIndex)>,\naction:<actionIndex><endif>",
<if(useBox)>shape=polygon,sides=4,peripheries=2,fixedsize=false<else>shape=doublecircle, fixedsize=true,
width=.6<endif>];
>>

```

Found in path(s):

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/tool/templates/dot/graphs.stg
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```
javaTypeInitMap ::= [
 "int": "0",
 "long": "0",
 "float": "0.0f",
 "double": "0.0",
 "boolean": "false",
 "byte": "0",
 "short": "0",
 "char": "0",
 default: "null" // anything other than a primitive type is an object
]
```

// args must be <object-model-object>, <fields-resulting-in-STs>

```
ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<namedActions.header>
import org.antlr.v4.runtime.atn.*;
import org.antlr.v4.runtime.dfa.DFA;
import org.antlr.v4.runtime.*;
import org.antlr.v4.runtime.misc.*;
import org.antlr.v4.runtime.tree.*;
import java.util.List;
import java.util.Iterator;
import java.util.ArrayList;

<parser>
>>
```

```
ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>
```

```

import org.antlr.v4.runtime.tree.ParseTreeListener;

/**
 * This interface defines a complete listener for a parse tree produced by
 * { @link <file.parserName> }.
 */
public interface <file.grammarName>Listener extends ParseTreeListener {
 <file.listenerNames: {lname |
/**
<if(file.listenerLabelRuleNames.(lname))>
 * Enter a parse tree produced by the { @code <lname>\}
 * labeled alternative in { @link <file.parserName>#<file.listenerLabelRuleNames.(lname)>\}.
<else>
 * Enter a parse tree produced by { @link <file.parserName>#<lname>\}.
<endif>
 * @param ctx the parse tree
 */
void enter<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx);
/**
<if(file.listenerLabelRuleNames.(lname))>
 * Exit a parse tree produced by the { @code <lname>\}
 * labeled alternative in { @link <file.parserName>#<file.listenerLabelRuleNames.(lname)>\}.
<else>
 * Exit a parse tree produced by { @link <file.parserName>#<lname>\}.
<endif>
 * @param ctx the parse tree
 */
void exit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx);}; separator="\n">
}
>>

BaseListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>

import org.antlr.v4.runtime.ParserRuleContext;
import org.antlr.v4.runtime.tree.ErrorNode;
import org.antlr.v4.runtime.tree.TerminalNode;

/**
 * This class provides an empty implementation of { @link <file.grammarName>Listener },
 * which can be extended to create a listener which only needs to handle a subset
 * of the available methods.
 */
public class <file.grammarName>BaseListener implements <file.grammarName>Listener {

```

```

<file.listenerNames: { lname |
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void enter<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx) { \}
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void exit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx) { \};
separator="\n">

/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void enterEveryRule(ParserRuleContext ctx) { }
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void exitEveryRule(ParserRuleContext ctx) { }
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void visitTerminal(TerminalNode node) { }
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void visitErrorNode(ErrorNode node) { }
}
>>

```

```

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>

```

```

import org.antlr.v4.runtime.tree.ParseTreeVisitor;

/**
 * This interface defines a complete generic visitor for a parse tree produced
 * by { @link <file.parserName> }.
 *
 * @param \<T> The return type of the visit operation. Use { @link Void } for
 * operations with no return type.
 */
public interface <file.grammarName>Visitor\<T> extends ParseTreeVisitor\<T> {
 <file.visitorNames:{ lname |
/**
<if(file.visitorLabelRuleNames.(lname))>
 * Visit a parse tree produced by the { @code <lname>\}
 * labeled alternative in { @link <file.parserName>#<file.visitorLabelRuleNames.(lname)>\}.
<else>
 * Visit a parse tree produced by { @link <file.parserName>#<lname>\}.
<endif>
 * @param ctx the parse tree
 * @return the visitor result
 */
T visit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx);}; separator="\n"
}
>>

BaseVisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>
import org.antlr.v4.runtime.tree.AbstractParseTreeVisitor;

/**
 * This class provides an empty implementation of { @link <file.grammarName>Visitor },
 * which can be extended to create a visitor which only needs to handle a subset
 * of the available methods.
 *
 * @param \<T> The return type of the visit operation. Use { @link Void } for
 * operations with no return type.
 */
public class <file.grammarName>BaseVisitor\<T> extends AbstractParseTreeVisitor\<T> implements
<file.grammarName>Visitor\<T> {
 <file.visitorNames:{ lname |
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation returns the result of calling

```

```

* { @link #visitChildren\} on { @code ctx\}.\</p>
*/
@Override public T visit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx) { return
visitChildren(ctx); \}}; separator="\n">
}
>>

fileHeader(grammarFileName, ANTLRVersion) ::= <<
// Generated from <grammarFileName; format="java-escape"> by ANTLR <ANTLRVersion>
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
@SuppressWarnings({"all", "warnings", "unchecked", "unused", "cast"})
public class <parser.name> extends <superClass; null="Parser"> {
static { RuntimeMetaData.checkVersion("<file.ANTLRVersion>", RuntimeMetaData.VERSION); }

protected static final DFA[] _decisionToDFA;
protected static final PredictionContextCache _sharedContextCache =
new PredictionContextCache();
<if(parser.tokens)>
public static final int
<parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator=", ", wrap, anchor>;
<endif>
public static final int
<parser.rules:{r | RULE_<r.name> = <r.index>}; separator=", ", wrap, anchor>;
public static final String[] ruleNames = {
<parser.ruleNames:{r | "<r">}; separator=", ", wrap, anchor>
};

<vocabulary(parser.literalNames, parser.symbolicNames)>

@Override
public String getGrammarFileName() { return "<parser.grammarFileName; format="java-escape">"; }

@Override
public String[] getRuleNames() { return ruleNames; }

@Override
public String getSerializedATN() { return _serializedATN; }

@Override
public ATN getATN() { return _ATN; }

<namedActions.members>

```

```

<parser:(ctor)()>
<funcs; separator="\n">

<if(sempredFuncs)>
public boolean sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
 switch (ruleIndex) {
 <parser.sempredFuncs.values:{ f}
 case <f.ruleIndex>:
 return <f.name>_sempred((<f.ctxType>)_localctx, predIndex);}; separator="\n">
 }
 return true;
 }
 <sempredFuncs.values; separator="\n">
<endif>

<atn>
}
>>

vocabulary(literalNames, symbolicNames) ::= <<
private static final String[] _LITERAL_NAMES = {
 <literalNames:{ t | <t>}; null="null", separator=", ", wrap, anchor>
};
private static final String[] _SYMBOLIC_NAMES = {
 <symbolicNames:{ t | <t>}; null="null", separator=", ", wrap, anchor>
};
public static final Vocabulary VOCABULARY = new VocabularyImpl(_LITERAL_NAMES,
 _SYMBOLIC_NAMES);

/**
 * @deprecated Use {@link #VOCABULARY} instead.
 */
@Deprecated
public static final String[] tokenNames;
static {
 tokenNames = new String[_SYMBOLIC_NAMES.length];
 for (int i = 0; i < tokenNames.length; i++) {
 tokenNames[i] = VOCABULARY.getLiteralName(i);
 if (tokenNames[i] == null) {
 tokenNames[i] = VOCABULARY.getSymbolicName(i);
 }

 if (tokenNames[i] == null) {
 tokenNames[i] = "<INVALID>";
 }
 }
}
}
}

```

```

@Override
@Deprecated
public String[] getTokenNames() {
 return tokenNames;
}

```

```

@Override

public Vocabulary getVocabulary() {
 return VOCABULARY;
}
>>

```

```

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
@Override
public void action(RuleContext _localctx, int ruleIndex, int actionIndex) {
 switch (ruleIndex) {
 <recog.actionFuncs.values:{f}
 case <f.ruleIndex>:
 <f.name>_action((<f.ctxType>)_localctx, actionIndex);
 break;}; separator="\n">
 }
}
<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
@Override
public boolean sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
 switch (ruleIndex) {
 <recog.sempredFuncs.values:{f}
 case <f.ruleIndex>:
 return <f.name>_sempred((<f.ctxType>)_localctx, predIndex);}; separator="\n">
 }
 return true;
}
<sempredFuncs.values; separator="\n">
<endif>
>>

```

```

parser_ctor(p) ::= <<
public <p.name>(TokenStream input) {
 super(input);
 _interp = new ParserATNSimulator(this, _ATN, _decisionToDFA, _sharedContextCache);
}
>>

```

/\* This generates a private method since the actionIndex is generated, making an

```

* overriding implementation impossible to maintain.
*/
RuleActionFunction(r, actions) ::= <<
private void <r.name>_action(<r.ctxType> _localctx, int actionIndex) {
 switch (actionIndex) {
 <actions:{index|
case <index>:
 <actions.(index)>
 break;}; separator="\n">
 }
}
>>

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
private boolean <r.name>_sempred(<r.ctxType> _localctx, int predIndex) {
 switch (predIndex) {
 <actions:{index|
case <index>:
 return <actions.(index)>;}; separator="\n">
 }
 return true;
}
>>

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public final <endif><currentRule.ctxType>
<currentRule.name><(<args; separator=",">) throws RecognitionException {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(<_ctx, getState()<currentRule.args:{a | ,
<a.name>}>>);
 enterRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>);
 <namedActions.init>
 <locals; separator="\n">
 try {
 <if(currentRule.hasLookaheadBlock)>
 int _alt;
 <endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
}

```



```

<if(exceptions)>
<exceptions; separator="\n">
<else>
catch (RecognitionException re) {
 _localctx.exception = re;
 _errHandler.reportError(this, re);
 _errHandler.recover(this, re);
}
<endif>
finally {
 <finallyAction>
 exitRule();
}
return _localctx;
}
>>

```

```

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
namedActions,finallyAction,postamble) ::=

```

```
<<
```

```
<ruleCtx>
```

```
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
```

```

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public final <endif><currentRule.ctxType>
<currentRule.name><(args; separator=", "> throws RecognitionException {
return <currentRule.name>(0<currentRule.args:{a | , <a.name>>>);
}

```

```

private <currentRule.ctxType> <currentRule.name>(int _p<args:{a | , <a>>>) throws RecognitionException {
 ParserRuleContext _parentctx = _ctx;
 int _parentState = getState();
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(_ctx, _parentState<currentRule.args:{a | ,
<a.name>>>);
 <currentRule.ctxType> _prevctx = _localctx;
 int _startState = <currentRule.startState>;
 enterRecursionRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>, _p);
 <namedActions.init>
 <locals; separator="\n">
 try {
 <if(currentRule.hasLookaheadBlock)>
 int _alt;
 <endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
 catch (RecognitionException re) {

```

```

 _localctx.exception = re;
 _errHandler.reportError(this, re);
 _errHandler.recover(this, re);
}
finally {
 <finallyAction>
 unrollRecursionContexts(_parentctx);
}
return _localctx;
}
>>

```

```

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>_localctx = new <currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(_localctx);<endif>
enterOuterAlt(_localctx, <currentOuterMostAltCodeBlock.alt.altNum>);
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

```

```

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
{
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
}
>>

```

```

LL1AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = _input.LT(1);<endif>
<preamble; separator="\n">
switch (_input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
<alt>
break;}; separator="\n">
default:
<error>
}
>>

```

```

LL1OptionalBlock(choice, alts, error) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
switch (_input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
<alt>
break;}; separator="\n">
}
>>

```

default:

```
<error>
}
>>
```

```
LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
<preamble; separator="\n">
if (<expr>) {
 <alts; separator="\n">
}
<!else if (!(<followExpr>)) <error!>
>>
```

```
LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
<preamble; separator="\n">
while (<loopExpr>) {
 <alts; separator="\n">
 setState(<choice.loopBackStateNumber>);
 _errHandler.sync(this);
 <iteration>
}
>>
```

```
LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.blockStartStateNumber>); <! alt block decision !>
_errHandler.sync(this);
<preamble; separator="\n">
do {
 <alts; separator="\n">
 setState(<choice.stateNumber>); <! loopback/exit decision !>
 _errHandler.sync(this);
 <iteration>
} while (<loopExpr>);
>>
```

// LL(\*) stuff

```
AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = _input.LT(1);<endif>
<preamble; separator="\n">
switch (getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)) {
 <alts:{alt |
```

```

case <i>:
 <alt>
 break;}; separator="\n">
}
>>

```

```

OptionalBlock(choice, alts, error) ::= <<
 setState(<choice.stateNumber>);
 _errHandler.sync(this);
 switch (getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)) {
 <alts:{ alt |
 case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
 }
 >>

```

```

StarBlock(choice, alts, sync, iteration) ::= <<
 setState(<choice.stateNumber>);
 _errHandler.sync(this);
 _alt = getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx);
 while (_alt!=<choice.exitAlt> && _alt!=org.antlr.v4.runtime.atn.ATN.INVALID_ALT_NUMBER) {
 if (_alt==1<if(!choice.ast.greedy)>+1<endif>) {
 <iteration>
 <alts> <! should only be one !>
 }
 setState(<choice.loopBackStateNumber>);
 _errHandler.sync(this);
 _alt = getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx);
 }
 >>

```

```

PlusBlock(choice, alts, error) ::= <<
 setState(<choice.blockStartStateNumber>); <! alt block decision !>
 _errHandler.sync(this);
 _alt = 1<if(!choice.ast.greedy)>+1<endif>;
 do {
 switch (_alt) {
 <alts:{ alt|
 case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
 default:
 <error>
 }
 setState(<choice.loopBackStateNumber>); <! loopback/exit decision !>
 _errHandler.sync(this);
 _alt = getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx);

```

```

} while (_alt!=<choice.exitAlt> && _alt!=org.antlr.v4.runtime.atn.ATN.INVALID_ALT_NUMBER);
>>

Sync(s) ::= "sync(<s.expecting.name>);"

ThrowNoViableAlt(t) ::= "throw new NoViableAltException(this);"

TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShift(s.varName, bits.shift)>})> && ((1L \<< <offsetShift(s.varName, bits.shift)>) &
(<bits.ttypes:{ttype | (1L \<< <offsetShift(ttype, bits.shift)>)}; separator=" | ">)) != 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShift(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><shiftAmount> - <offset><else><shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<ttype>}; separator=" || ">
%>

cases(ttypes) ::= <<
<ttypes:{t | case <t>}; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
setState(<r.stateNumber>);
<if(r.labels)><r.labels:[1 | <labelref(l)> =
]><endif><r.name><(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)><endif><endif><argExprsChunks>
);
>>

```

```

MatchToken(m) ::= <<
setState(<m.stateNumber>);
<if(m.labels)><m.labels:{1 | <labelref(l)> = }><endif>match(<m.name>);
>>

```

```

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

```

```

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

```

```

CommonSetStuff(m, expr, capture, invert) ::= <<
setState(<m.stateNumber>);
<if(m.labels)><m.labels:{1 | <labelref(l)> = }>_input.LT(1);<endif>
<capture>
if (<if(invert)><m.varName> \<= 0 || <else>!<endif>(<expr>)) {
 <if(m.labels)><m.labels:{1 | <labelref(l)> = (Token)}><endif>_errHandler.recoverInline(this);
}
else {
 if (_input.LA(1)==Token.EOF) matchedEOF = true;
 _errHandler.reportMatch(this);
 consume();
}
>>

```

```

Wildcard(w) ::= <<
setState(<w.stateNumber>);
<if(w.labels)><w.labels:{1 | <labelref(l)> = }><endif>matchWildcard();
>>

```

```

// ACTION STUFF

```

```

Action(a, foo, chunks) ::= "<chunks>"

```

```

ArgAction(a, chunks) ::= "<chunks>"

```

```

SemPred(p, chunks, failChunks) ::= <<
setState(<p.stateNumber>);
if (!(<chunks>)) throw new FailedPredicateException(this, <p.predicate><if(failChunks)>,
<failChunks><elseif(p.msg)>, <p.msg><endif>);
>>

```

```

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
}
>>

```

```

// lexer actions are not associated with model objects

```

```

LexerSkipCommand() ::= "skip();"
LexerMoreCommand() ::= "more();"
LexerPopModeCommand() ::= "popMode();"

LexerTypeCommand(arg, grammar) ::= "_type = <arg>";"
LexerChannelCommand(arg, grammar) ::= "_channel = <arg>";"
LexerModeCommand(arg, grammar) ::= "_mode = <arg>";"
LexerPushModeCommand(arg, grammar) ::= "pushMode(<arg>);"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "_localctx.<a.name>"
LocalRef(a) ::= "_localctx.<a.name>"
RetValRef(a) ::= "_localctx.<a.name>"
QRetValRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>";"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getText():null)"
TokenPropertyRef_type(t) ::= "<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getType():0)"
TokenPropertyRef_line(t) ::= "<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getLine():0)"
TokenPropertyRef_pos(t) ::= "<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getCharPositionInLine():0)"
TokenPropertyRef_channel(t) ::= "<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getChannel():0)"
TokenPropertyRef_index(t) ::= "<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getTokenIndex():0)"
TokenPropertyRef_int(t) ::= "<ctx(t)>.<t.label>!=null?Integer.valueOf(<ctx(t)>.<t.label>.getText():0)"

RulePropertyRef_start(r) ::= "<ctx(r)>.<r.label>!=null?<ctx(r)>.<r.label>.start():null)"
RulePropertyRef_stop(r) ::= "<ctx(r)>.<r.label>!=null?<ctx(r)>.<r.label>.stop():null)"
RulePropertyRef_text(r) ::=
"<ctx(r)>.<r.label>!=null?_input.getText(<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop):null)"
RulePropertyRef_ctx(r) ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r) ::= "this"

ThisRulePropertyRef_start(r) ::= "_localctx.start"
ThisRulePropertyRef_stop(r) ::= "_localctx.stop"
ThisRulePropertyRef_text(r) ::= "_input.getText(_localctx.start, _input.LT(-1))"
ThisRulePropertyRef_ctx(r) ::= "_localctx"
ThisRulePropertyRef_parser(r) ::= "this"

NonLocalAttrRef(s) ::= "((<s.ruleName; format='\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name>"
SetNonLocalAttr(s, rhsChunks) ::=
"((<s.ruleName; format='\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name> = <rhsChunks>";"

```

```

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.add(<labelref(a.label)>);"

TokenDecl(t) ::= "<TokenLabelType()> <t.name>"
TokenTypeDecl(t) ::= "int <t.name>);"
TokenListDecl(t) ::= "List<<Token> <t.name> = new ArrayList<<Token>()"
RuleContextDecl(r) ::= "<r.ctxName> <r.name>"
RuleContextListDecl(rdecl) ::= "List<<rdecl.ctxName>> <rdecl.name> = new ArrayList<<rdecl.ctxName>>()"

ContextTokenGetterDecl(t) ::=
 "public TerminalNode <t.name>() { return getToken(<parser.name>.<t.name>, 0); }"
ContextTokenListGetterDecl(t) ::=
 "public List<TerminalNode> <t.name>() { return getTokens(<parser.name>.<t.name>); }"
ContextTokenListIndexedGetterDecl(t) ::= <<
public TerminalNode <t.name>(int i) {
 return getToken(<parser.name>.<t.name>, i);
}
>>
ContextRuleGetterDecl(r) ::= <<
public <r.ctxName> <r.name>() {
 return getRuleContext(<r.ctxName>.class,0);
}
>>
ContextRuleListGetterDecl(r) ::= <<
public List<<r.ctxName>> <r.name>() {
 return getRuleContexts(<r.ctxName>.class);
}
>>
ContextRuleListIndexedGetterDecl(r) ::= <<
public <r.ctxName> <r.name>(int i) {
 return getRuleContext(<r.ctxName>.class,i);
}
>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
 * r becomes rContext.
 */
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "<tokenName>"
ImplicitRuleLabel(ruleName) ::= "<ruleName>"
ImplicitSetLabel(id) ::= "_tset<id>"
ListLabelName(label) ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = _input.LT(1);"
CaptureNextTokenType(d) ::= "<d.varName> = _input.LA(1);"

```



```

StructDecl(struct,ctorAttrs,attrs, getters,dispatchMethods,interfaces,extensionMembers)
 ::= <<
public static class <struct.name> extends
<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif><if(interfaces)> implements
<interfaces; separator=", "><endif> {
 <attrs:{ a | public <a>;}; separator="\n">
 <getters:{ g | <g>;}; separator="\n">
 <if(ctorAttrs)>public <struct.name>(ParserRuleContext parent, int invokingState) { super(parent, invokingState);
 }<endif>
 public <struct.name>(ParserRuleContext parent, int invokingState<ctorAttrs:{ a | , <a>>}) {
 super(parent, invokingState);
 <struct.ctorAttrs:{ a | this.<a.name> = <a.name>;}; separator="\n">
 }
 @Override public int getRuleIndex() { return RULE_<struct.derivedFromName>; }
<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
 public <struct.name>() { }
 public void copyFrom(<struct.name> ctx) {
 super.copyFrom(ctx);
 <struct.attrs:{ a | this.<a.name> = ctx.<a.name>;}; separator="\n">
 }
<endif>
<dispatchMethods; separator="\n">
<extensionMembers; separator="\n">
}
>>

```

```

AltLabelStructDecl(struct,attrs, getters,dispatchMethods) ::= <<
public static class <struct.name> extends <currentRule.name; format="cap">Context {
 <attrs:{ a | public <a>;}; separator="\n">
 <getters:{ g | <g>;}; separator="\n">
 public <struct.name>(<currentRule.name; format="cap">Context ctx) { copyFrom(ctx); }
 <dispatchMethods; separator="\n">
}
>>

```

```

ListenerDispatchMethod(method) ::= <<
@Override
public void <if(method.isEnter)>enter<else>exit<endif>Rule(ParseTreeListener listener) {
 if (listener instanceof <parser.grammarName>Listener)
 ((<parser.grammarName>Listener)listener).<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName;
 format="cap">(this);
}
>>

```

```

VisitorDispatchMethod(method) ::= <<
@Override
public <T> T accept(ParseTreeVisitor<? extends T> visitor) {

```

```

if (visitor instanceof <parser.grammarName>Visitor) return ((<parser.grammarName>Visitor\<? extends
T>)visitor).visit<struct.derivedFromName; format="cap">(this);
else return visitor.visitChildren(this);
}
>>

```

```

AttributeDecl(d) ::= "<d.type> <d.name><if(d.initValue)> = <d.initValue><endif>"

```

```

/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)>((<x.ctx.name>)_localctx).<endif><x.name>"

```

```

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "((<actionChunk.ctx.name>)_localctx)"

```

```

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec) ::= "precpred(_ctx, <opPrec>)"
recRuleSetReturnAction(src,name) ::= "$<name>=$<src>.<name>";
recRuleSetStopToken() ::= "_ctx.stop = _input.LT(-1);"

```

```

recRuleAltStartAction(ruleName, ctxName, label, isListLabel) ::= <<
_localctx = new <ctxName>Context(_parentctx, _parentState);
<if(label)>
<if(isListLabel)>
_localctx.<label>.add(_prevctx);
<else>
_localctx.<label> = _prevctx;
<endif>
<endif>
<if(label)>_localctx.<label> = _prevctx;<endif>
pushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
>>

```

```

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
_localctx = new <currentAltLabel; format="cap">Context(new <ruleName; format="cap">Context(_parentctx,
_parentState));
<if(label)>
<if(isListLabel)>
((<currentAltLabel; format="cap">Context)_localctx).<label>.add(_prevctx);
<else>
((<currentAltLabel; format="cap">Context)_localctx).<label> = _prevctx;
<endif>
<endif>
pushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
>>

```

```

recRuleReplaceContext(ctxName) ::= <<
_localctx = new <ctxName>Context(_localctx);
_ctx = _localctx;

```

```
_prevctx = _localctx;
```

```
>>
```

```
recRuleSetPrevCtx() ::= <<
```

```
if (_parseListeners!=null) triggerExitRuleEvent();
```

```
_prevctx = _localctx;
```

```
>>
```

```
LexerFile(lexerFile, lexer, namedActions) ::= <<
```

```
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
```

```
<if(lexerFile.genPackage)>
```

```
package <lexerFile.genPackage>;
```

```
<endif>
```

```
<namedActions.header>
```

```
import org.antlr.v4.runtime.Lexer;
```

```
import org.antlr.v4.runtime.CharStream;
```

```
import org.antlr.v4.runtime.Token;
```

```
import org.antlr.v4.runtime.TokenStream;
```

```
import org.antlr.v4.runtime.*;
```

```
import org.antlr.v4.runtime.atn.*;
```

```
import org.antlr.v4.runtime.dfa.DFA;
```

```
import org.antlr.v4.runtime.misc.*;
```

```
<lexer>
```

```
>>
```

```
Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
```

```
@SuppressWarnings({"all", "warnings", "unchecked", "unused", "cast"})
```

```
public class <lexer.name> extends <superClass; null="Lexer"> {
```

```
 static { RuntimeMetaData.checkVersion("<lexerFile.ANTLRVersion>", RuntimeMetaData.VERSION); }
```

```
 protected static final DFA[] _decisionToDFA;
```

```
 protected static final PredictionContextCache _sharedContextCache =
```

```
 new PredictionContextCache();
```

```
 public static final int
```

```
 <lexer.tokens:{k | <k>=<lexer.tokens.(k)>}; separator=", ", wrap, anchor>;
```

```
 <if(lexer.channels)>
```

```
 public static final int
```

```
 <lexer.channels:{k | <k>=<lexer.channels.(k)>}; separator=", ", wrap, anchor>;
```

```
 <endif>
```

```
 <rest(lexer.modes):{m| public static final int <m> = <i>;}; separator="\n">
```

```
 public static String[] modeNames = {
```

```
 <lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor>
```

```
 };
```

```
 public static final String[] ruleNames = {
```

```
 <lexer.ruleNames:{r| "<r>"}; separator=", ", wrap, anchor>
```

```

};

<vocabulary(lexer.literalNames, lexer.symbolicNames)>

<namedActions.members>

public <lexer.name>(CharStream input) {
 super(input);
 _interp = new LexerATNSimulator(this, _ATN, _decisionToDFA, _sharedContextCache);
}

@Override
public String getGrammarFileName() { return "<lexer.grammarFileName>"; }

@Override
public String[] getRuleNames() { return ruleNames; }

@Override
public String getSerializedATN() { return _serializedATN; }

@Override
public String[] getModeNames() { return modeNames; }

@Override
public ATN getATN() { return _ATN; }

<dumpActions(lexer, "", actionFuncs, sempredFuncs)>
<atn>
}
>>

SerializedATN(model) ::= <<
<if(rest(model.segments))>
<! requires segmented representation !>
private static final int _serializedATNSegments = <length(model.segments)>;
<model.segments:{segment|private static final String _serializedATNSegment<i0> =
"<segment; wrap={"+<\n><\t>"}>"; separator="\n">
public static final String _serializedATN = Utils.join(
new String[] {
 <model.segments:{segment | _serializedATNSegment<i0>}; separator=",\n">
 },
 ""
);
<else>
<! only one segment, can be inlined !>
public static final String _serializedATN =
"<model.serialized; wrap={"+<\n><\t>"}>";
<endif>

```

```

public static final ATN _ATN =
 new ATNDeserializer().deserialize(_serializedATN.toCharArray());
static {
 _decisionToDFA = new DFA[_ATN.getNumberOfDecisions()];
 for (int i = 0; i < _ATN.getNumberOfDecisions(); i++) {
 _decisionToDFA[i] = new DFA(_ATN.getDecisionState(i), i);
 }
}
<! org.antlr.v4.tool.DOTGenerator dot = new org.antlr.v4.tool.DOTGenerator(null);!>
<! System.out.println(dot.getDOT(_ATN.decisionToState.get(0), ruleNames, false));!>
<! System.out.println(dot.getDOT(_ATN.ruleToStartState[2], ruleNames, false));!>
}
>>

```

```

/** Using a type to init value map, try to init a type; if not in table
 * must be an object, default value is "null".
 */
initValue(typeName) ::= <<
<javaTypeInitMap.(typeName)>
>>

```

```
codeFileExtension() ::= ".java"
```

Found in path(s):

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/tool/templates/codegen/Java/Java.stg
```

No license file was found, but licenses were detected in source scan.

```

/*
 * [The "BSD license"]
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 * Copyright (c) 2014 Eric Vergnaud
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 *
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```

```

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* THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/

```

```

/** ANTLR tool checks output templates are compatible with tool code generation.

```

```

* For now, a simple string match used on x.y of x.y.z scheme.

```

```

* Must match Tool.VERSION during load to templates.

```

```

*

```

```

* REQUIRED.

```

```

*/

```

```

pythonTypeInitMap ::= [
 "bool":"False",
 "int":"0",
 "float":"0.0",
 "str": "",
 default:"None" // anything other than a primitive type is an object
]

```

```

// args must be <object-model-object>, <fields-resulting-in-STs>

```

```

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<

```

```

<fileHeader(file.grammarFileName, file.ANTLRVersion)>

```

```

encoding: utf-8

```

```

from antlr4 import *

```

```

from io import StringIO

```

```

<namedActions.header>

```

```

<parser>

```

```

>>

```

```

ListenerFile(file, header, namedActions) ::= <<

```

```

<fileHeader(file.grammarFileName, file.ANTLRVersion)>

```

```

from antlr4 import *

```

```

if __name__ is not None and "." in __name__:

```

```

 from <file.parserName> import <file.parserName>

```

```

else:

```

```

 from <file.parserName> import <file.parserName>

```

```

<header>

```

```

This class defines a complete listener for a parse tree produced by <file.parserName>.

```

```

class <file.grammarName>Listener(ParseTreeListener):

 <file.listenerNames:{ lname |
Enter a parse tree produced by <file.parserName>#<lname>.
def enter<lname; format="cap">(self, ctx:<file.parserName>.<lname; format="cap">Context):
 pass

Exit a parse tree produced by <file.parserName>#<lname>.
def exit<lname; format="cap">(self, ctx:<file.parserName>.<lname; format="cap">Context):
 pass

}; separator="\n">

>>

```

```

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
from antlr4 import *
if __name__ is not None and "." in __name__:
 from .<file.parserName> import <file.parserName>
else:
 from <file.parserName> import <file.parserName>
<header>

This class defines a complete generic visitor for a parse tree produced by <file.parserName>.

class <file.grammarName>Visitor(ParseTreeVisitor):

 <file.visitorNames:{ lname |
Visit a parse tree produced by <file.parserName>#<lname>.
def visit<lname; format="cap">(self, ctx:<file.parserName>.<lname; format="cap">Context):
 return self.visitChildren(ctx)

}; separator="\n">

del <file.parserName>

>>

```

```

fileHeader(grammarFileName, ANTLRVersion) ::= <<
Generated from <grammarFileName> by ANTLR <ANTLRVersion>
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

```

```

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
<if(superClass)>
from .<superClass> import <superClass>

<endif>
<atn>

class <parser.name> (<if(superClass)><superClass><else>Parser<endif>):

 grammarFileName = "<parser.grammarFileName>"

 atn = ATNDeserializer().deserialize(serializedATN())

 decisionsToDFA = [DFA(ds, i) for i, ds in enumerate(atn.decisionToState)]

 sharedContextCache = PredictionContextCache()

 literalNames = [<parser.literalNames:{t | <t>}; null="\\"<INVALID>\\"", separator=", ", wrap, anchor>]

 symbolicNames = [<parser.symbolicNames:{t | <t>}; null="\\"<INVALID>\\"", separator=", ", wrap, anchor>]

 <parser.rules:{r | RULE_<r.name> = <r.index>}; separator="\n", wrap, anchor>

 ruleNames = [<parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>]

 EOF = <TokenLabelType(>).EOF
 <if(parser.tokens)>
 <parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator="\n", wrap, anchor>
 <endif>

 <parser:(ctor)(>

 <namedActions.members>

 <funcs; separator="\n">

 <if(sempredFuncs)>
 def sempred(self, localctx:RuleContext, ruleIndex:int, predIndex:int):
 if self._predicates == None:
 self._predicates = dict()
 <parser.sempredFuncs.values:{f |
 self._predicates[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n ">
 pred = self._predicates.get(ruleIndex, None)
 if pred is None:
 raise Exception("No predicate with index:" + str(ruleIndex))
 else:
 return pred(localctx, predIndex)

```



```

 <sempredFuncs.values; separator="\n">
<endif>

>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
def action(self, localctx:RuleContext, ruleIndex:int, actionIndex:int):
if self._actions is None:
 actions = dict()
<recog.actionFuncs.values: {f|
 actions[<f.ruleIndex>] = self.<f.name>_action }; separator="\n">
self._actions = actions
action = self._actions.get(ruleIndex, None)
if action is not None:
 action(localctx, actionIndex)
else:
 raise Exception("No registered action for:" + str(ruleIndex))

<actionFuncs.values; separator="\n">

<endif>
<if(sempredFuncs)>
def sempred(self, localctx:RuleContext, ruleIndex:int, predIndex:int):
if self._predicates is None:
 preds = dict()
<recog.sempredFuncs.values: {f|
 preds[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n">
self._predicates = preds
pred = self._predicates.get(ruleIndex, None)
if pred is not None:
 return pred(localctx, predIndex)
else:
 raise Exception("No registered predicate for:" + str(ruleIndex))

<sempredFuncs.values; separator="\n">
<endif>

>>

parser_ctor(p) ::= <<
def __init__(self, input:TokenStream):
 super().__init__(input)
 self.checkVersion("<file.ANTLRVersion>")
 self._interp = ParserATNSimulator(self, self.atn, self.decisionsToDFA, self.sharedContextCache)
 self._predicates = None

```

```
>>
```

```
/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/
```

```
RuleActionFunction(r, actions) ::= <<
```

```
def <r.name>_action(self, localctx:<r.ctxType> , actionIndex:int):
```

```
<actions:{index|
```

```
<if(first(actions))>
```

```
 if actionIndex == <index>:
```

```
 <actions.(index)>
```

```
<elseif(rest(actions))>
```

```
 elif actionIndex == <index>:
```

```
 <actions.(index)>
```

```
<endif> }; separator="\n">
```

```
>>
```

```
/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
```

```
RuleSempredFunction(r, actions) ::= <<
```

```
def <r.name>_sempred(self, localctx:<r.ctxType>, predIndex:int):
```

```
<actions:{index|
```

```
<if(first(actions))>
```

```
 if predIndex == <index>:
```

```
 return <actions.(index)>
```

```
<elseif(rest(actions))>
```

```
 elif predIndex == <index>:
```

```
 return <actions.(index)>
```

```
<endif> }; separator="\n">
```

```
>>
```

```
RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
```

```
::= <<
```

```
<ruleCtx>
```

```
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
```

```
def <currentRule.name>(self<currentRule.args:{a | , <a.name><if(a.type)><a.type><endif>}>):
```

```
 localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, self.state<currentRule.args:{a | , <a.name>}>)
```

```
 self.enterRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>)
```

```
 <namedActions.init>
```

```
 <locals; separator="\n">
```

```

try:
 <code>
 <postamble; separator="\n">
 <namedActions.after>
<if(exceptions)>
 <exceptions; separator="\n">
<else>
except RecognitionException as re:
 localctx.exception = re
 self._errHandler.reportError(self, re)
 self._errHandler.recover(self, re)
<endif>
finally:
 <finallyAction>
 self.exitRule()
return localctx

>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

def <currentRule.name>(self, _p:int=0<if(currentRule.args)>, <args:{a | , <a>}><endif>):
 _parentctx = self._ctx
 _parentState = self.state
 localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, _parentState<args:{a | , <a.name>}>)
 _prevctx = localctx
 _startState = <currentRule.startState>
 self.enterRecursionRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>, _p)
 <namedActions.init>
 <locals; separator="\n">
 try:
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 except RecognitionException as re:
 localctx.exception = re
 self._errHandler.reportError(self, re)
 self._errHandler.recover(self, re)
 finally:
 <finallyAction>
 self.unrollRecursionContexts(_parentctx)
 return localctx

```

>>

```
CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>localctx = <parser.name>.<currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(self, localctx)<endif>
self.enterOuterAlt(localctx, <currentOuterMostAltCodeBlock.alt.altNum>)
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>
```

```
CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
>>
```

```
LL1AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
token = self._input.LA(1)
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 pass}; separator="\nel">
else:
 <error>

>>
```

```
LL1OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
token = self._input.LA(1)
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 pass}; separator="\nel">
else:
 <error>

>>
```

```
LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<preamble; separator="\n">
if <expr>:
 <alts; separator="\n">

<!else if (!(<followExpr>)) <error>!>
```

>>

```
LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<preamble; separator="\n">
while <loopExpr>:
 <alts; separator="\n">
 self.state = <choice.loopBackStateNumber>
 self._errHandler.sync(self)
 <iteration>
```

>>

```
LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
<preamble; separator="\n">
while True:
 <alts; separator="\n">
 self.state = <choice.stateNumber> <! loopback/exit decision !>
 self._errHandler.sync(self)
 <iteration>
 if not (<loopExpr>):
 break
```

>>

```
// LL(*) stuff
```

```
AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{ alt |
if la_ == <i>:
 <alt>
 pass
}; separator="\nel">
```

>>

```
OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
```

```

la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{alt |
if la_ == <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
}; separator="\nel">

```

```
>>
```

```

StarBlock(choice, alts, sync, iteration) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
_alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
 if _alt==1<if(!choice.ast.greedy)>+1<endif>:
 <iteration>
 <alts> <! should only be one !>
 self.state = <choice.loopBackStateNumber>
 self._errHandler.sync(self)
 _alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

```

```
>>
```

```

PlusBlock(choice, alts, error) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
_alt = 1<if(!choice.ast.greedy)>+1<endif>
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
 <alts:{alt |
if _alt == <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
}; separator="\nel">
 else:
 <error>
 self.state = <choice.loopBackStateNumber> <! loopback/exit decision !>
 self._errHandler.sync(self)
 _alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

```

```
>>
```

```
Sync(s) ::= "sync(<s.expecting.name>)"
```

```
ThrowNoViableAlt(t) ::= "raise NoViableAltException(self)"
```

```

TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" or ">
>>

```

```

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShiftVar(s.varName, bits.shift)>})> and ((1 \<< <offsetShiftVar(s.varName,
bits.shift)>) & (<bits.ttypes:{ttype | (1 \<< <offsetShiftType(ttype, bits.shift)>)}; separator=" | ">)) != 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShiftVar(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><shiftAmount> - <offset><else><shiftAmount><endif>
%>

offsetShiftType(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><parser.name>.<shiftAmount> - <offset><else><parser.name>.<shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<parser.name>.<ttype>}; separator=" or ">
%>

cases(ttypes) ::= <<
if token in [<ttypes:{t | <parser.name>.<t>}; separator=", ">]:
>>

InvokeRule(r, argExprsChunks) ::= <<
self.state = <r.stateNumber>
<if(r.labels)><r.labels:{1 | <labelref(l)> =
}><endif>self.<r.name><(if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChu
nks>)
>>

MatchToken(m) ::= <<
self.state = <m.stateNumber>
<if(m.labels)><m.labels:{1 | <labelref(l)> = }><endif>self.match(<parser.name>.<m.name>)
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

```

```

CommonSetStuff(m, expr, capture, invert) ::= <<
self.state = <m.stateNumber>
<if(m.labels)><m.labels:{1 | <labelref(l)> = }>self._input.LT(1)<endif>
<capture>
<if(invert)>if <m.varName> \<= 0 or <expr><else>if not(<expr><endif>:
<if(m.labels)><m.labels:{1 | <labelref(l)> = }><else> <endif>self._errHandler.recoverInline(self)
else:
 self._errHandler.reportMatch(self)
 self.consume()
>>

```

```

Wildcard(w) ::= <<
self.state = <w.stateNumber>
<if(w.labels)><w.labels:{1 | <labelref(l)> = }><endif>self.matchWildcard()
>>

```

```
// ACTION STUFF
```

```
Action(a, foo, chunks) ::= "<chunks>"
```

```
ArgAction(a, chunks) ::= "<chunks>"
```

```

SemPred(p, chunks, failChunks) ::= <<
self.state = <p.stateNumber>
if not <chunks>:
 from antlr4.error.Errors import FailedPredicateException
 raise FailedPredicateException(self, <p.predicate><if(failChunks)>, <failChunks><elseif(p.msg)>,
<p.msg><endif>)
>>

```

```

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
}
>>

```

```
// lexer actions are not associated with model objects
```

```
LexerSkipCommand() ::= "skip()"
```

```
LexerMoreCommand() ::= "more()"
```

```
LexerPopModeCommand() ::= "popMode()"
```

```
LexerTypeCommand(arg, grammar) ::= "_type = <arg>"
```

```
LexerChannelCommand(arg, grammar) ::= "_channel = <arg>"
```

```
LexerModeCommand(arg, grammar) ::= "_mode = <arg>"
```

```
LexerPushModeCommand(arg, grammar) ::= "pushMode(<arg>)"
```



```

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "localctx.<a.name>"
LocalRef(a) ::= "localctx.<a.name>"
RetValRef(a) ::= "localctx.<a.name>"
QRetValRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(None if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.text)"
TokenPropertyRef_type(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.type)"
TokenPropertyRef_line(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.line)"
TokenPropertyRef_pos(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.column)"
TokenPropertyRef_channel(t) ::= "(0 if (<ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.channel)"
TokenPropertyRef_index(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.tokenIndex)"
TokenPropertyRef_int(t) ::= "(0 if <ctx(t)>.<t.label> is None else int(<ctx(t)>.<t.label>.text))"

RulePropertyRef_start(r) ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.start)"
RulePropertyRef_stop(r) ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.stop)"
RulePropertyRef_text(r) ::= "(None if <ctx(r)>.<r.label> is None else
self._input.getText((<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop)))"
RulePropertyRef_ctx(r) ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r) ::= "self"

ThisRulePropertyRef_start(r) ::= "localctx.start"
ThisRulePropertyRef_stop(r) ::= "localctx.stop"
ThisRulePropertyRef_text(r) ::= "self._input.getText((localctx.start, self._input.LT(-1)))"
ThisRulePropertyRef_ctx(r) ::= "localctx"
ThisRulePropertyRef_parser(r) ::= "self"

NonLocalAttrRef(s) ::= "getInvokingContext(<s.ruleIndex>).<s.name>"
SetNonLocalAttr(s, rhsChunks) ::= "getInvokingContext(<s.ruleIndex>).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.append(<labelref(a.label)>)"

TokenDecl(t) ::= "self.<t.name> = None # <TokenLabelType()>"
TokenTypeDecl(t) ::= "self.<t.name> = 0 # <TokenLabelType()> type"
TokenListDecl(t) ::= "self.<t.name> = list() # of <TokenLabelType()>s"
RuleContextDecl(r) ::= "self.<r.name> = None # <r.ctxName>"
RuleContextListDecl(rdecl) ::= "self.<rdecl.name> = list() # of <rdecl.ctxName>s"

ContextTokenGetterDecl(t) ::= <<

```

```

def <t.name>(self):
 return self.getToken(<parser.name>.<t.name>, 0)
>>

// should never be called
ContextTokenListGetterDecl(t) ::= <<
def <t.name>_list(self):
 return self.getTokens(<parser.name>.<t.name>)
>>

ContextTokenListIndexedGetterDecl(t) ::= <<
def <t.name>(self, i:int=None):
 if i is None:
 return self.getTokens(<parser.name>.<t.name>)
 else:
 return self.getToken(<parser.name>.<t.name>, i)
>>

ContextRuleGetterDecl(r) ::= <<
def <r.name>(self):
 return self.getTypedRuleContext(<parser.name>.<r.ctxName>,0)

>>

// should never be called
ContextRuleListGetterDecl(r) ::= <<
def <r.name>_list(self):
 return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)

>>

ContextRuleListIndexedGetterDecl(r) ::= <<
def <r.name>(self, i:int=None):
 if i is None:
 return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)
 else:
 return self.getTypedRuleContext(<parser.name>.<r.ctxName>,i)

>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
 * r becomes rContext.
 */
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenName>"

```

```

ImplicitRuleLabel(ruleName) ::= "_<ruleName>"
ImplicitSetLabel(id) ::= "_tset<id>"
ListLabelName(label) ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = self._input.LT(1)"
CaptureNextTokenType(d) ::= "<d.varName> = self._input.LA(1)"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers) ::= <<
class <struct.name>(<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif>):

 def __init__(self, parser, parent:ParserRuleContext=None, invokingState:int=-1<struct.ctorAttrs:{ a | ,
<a.name><if(a.type)>:<a.type><endif>=None }>):
 super().__init__(parent, invokingState)
 self.parser = parser
 <attrs:{ a | <a> }; separator="\n">
 <struct.ctorAttrs:{ a | self.<a.name> = <a.name> }; separator="\n">

 <getters:{ g | <g> }; separator="\n\n">

 def getRuleIndex(self):
 return <parser.name>.RULE_<struct.derivedFromName>

<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
 def copyFrom(self, ctx:ParserRuleContext):
 super().copyFrom(ctx)
 <struct.attrs:{ a | self.<a.name> = ctx.<a.name> }; separator="\n">

<endif>
 <dispatchMethods; separator="\n">
 <extensionMembers; separator="\n">

>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
class <struct.name>(<currentRule.name; format="cap">Context):

 def __init__(self, parser, ctx:ParserRuleContext): # actually a <parser.name>.<currentRule.name;
format="cap">Context
 super().__init__(parser)
 <attrs:{ a | <a> }; separator="\n">
 self.copyFrom(ctx)

 <getters:{ g | <g> }; separator="\n">

 <dispatchMethods; separator="\n">

>>

```

```

ListenerDispatchMethod(method) ::= <<
def <if(method.isEnter)>enter<else>exit<endif>Rule(self, listener:ParseTreeListener):
 if hasattr(listener, "<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">"):
 listener.<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">(self)

>>

VisitorDispatchMethod(method) ::= <<
def accept(self, visitor:ParseTreeVisitor):
 if hasattr(visitor, "visit<struct.derivedFromName; format="cap">"):
 return visitor.visit<struct.derivedFromName; format="cap">(self)
 else:
 return visitor.visitChildren(self)

>>

AttributeDecl(d) ::= "self.<d.name> = <if(d.initValue)><d.initValue><else>None<endif>"

/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)>localctx.<endif><x.name>"

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "localctx"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec) ::= "self.precpred(self._ctx, <opPrec>)"
recRuleSetReturnAction(src,name) ::= "$<name>=<src>.<name>"
recRuleSetStopToken() ::= "self._ctx.stop = self._input.LT(-1)"

recRuleAltStartAction(ruleName, ctxName, label) ::= <<
localctx = <parser.name>.<ctxName>Context(self, _parentctx, _parentState)
<if(label)>localctx.<label> = _prevctx<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
localctx = <parser.name>.<currentAltLabel; format="cap">Context(self, <parser.name>.<ruleName;
format="cap">Context(self, _parentctx, _parentState))
<if(label)>
<if(isListLabel)>
localctx.<label>.append(_prevctx)
<else>
localctx.<label> = _prevctx
<endif>
<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)
>>

```

```

recRuleReplaceContext(ctxName) ::= <<
localctx = <parser.name>.<ctxName>Context(self, localctx)
self._ctx = localctx
_prevctx = localctx
>>

```

```

recRuleSetPrevCtx() ::= <<
if self._parseListeners is not None:
 self.triggerExitRuleEvent()
_prevctx = localctx
>>

```

```

LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
from antlr4 import *
from io import StringIO

```

```

<namedActions.header>

```

```

<lexer>
>>

```

```

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<

```

```

<atn>

```

```

class <lexer.name>(<if(superClass)><superClass><else>Lexer<endif>):

```

```

 atn = ATNDeserializer().deserialize(serializedATN())

```

```

 decisionsToDFA = [DFA(ds, i) for i, ds in enumerate(atn.decisionToState)]

```

```

 <rest(lexer.modes):{m| <m> = <i>}; separator="\n">

```

```

 <lexer.tokens:{k | <k> = <lexer.tokens.(k)>}; separator="\n", wrap, anchor>

```

```

 modeNames = [<lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor>]

```

```

 literalNames = ["\<INVALID>",
 <lexer.literalNames:{t | <t>}; separator=", ", wrap, anchor>]

```

```

 symbolicNames = ["\<INVALID>",
 <lexer.symbolicNames:{t | <t>}; separator=", ", wrap, anchor>]

```

```

 ruleNames = [<lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>]

```

```

 grammarFileName = "<lexer.grammarFileName>"

```

```

def __init__(self, input=None):
 super().__init__(input)
 self.checkVersion("<lexerFile.ANTLRVersion>")
 self._interp = LexerATNSimulator(self, self.atn, self.decisionsToDFA, PredictionContextCache())
 self._actions = None
 self._predicates = None

<namedActions.members>

<dumpActions(lexer, "", actionFuncs, sempredFuncs)>

>>

```

```

SerializedATN(model) ::= <<
<! only one segment, can be inlined !>

```

```

def serializedATN():
 with StringIO() as buf:
 buf.write("<model.serialized; wrap={ }<\n> buf.write("}>")
 return buf.getvalue()

>>

```

```

/** Using a type to init value map, try to init a type; if not in table
 * must be an object, default value is "null".
 */
initValue(typeName) ::= <<
<javaTypeInitMap.(typeName)>

>>

```

```

codeFileExtension() ::= ".py"

```

Found in path(s):

```

* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/tool/templates/codegen/Python3/Python3.stg

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```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/tool/templates/codegen/Cpp/Files.stg
```

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```

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```

```
*/
```

```
tree grammar SourceGenTriggers;
```

```
options {
```

```
language = Java;
```

```
tokenVocab = ANTLRParser;
```

```
ASTLabelType = GrammarAST;
```

```
}
```

```
@header {
```

```
package org.antlr.v4.codegen;
```

```
import org.antlr.v4.misc.Utils;
```

```
import org.antlr.v4.codegen.model.*;
```

```
import org.antlr.v4.codegen.model.decl.*;
```

```
import org.antlr.v4.tool.*;
```



```

import org.antlr.v4.tool.ast.*;
import java.util.Collections;
import java.util.Map;
import java.util.HashMap;
}

```

```

@members {
public OutputModelController controller;
public boolean hasLookaheadBlock;
public SourceGenTriggers(TreeNodeStream input, OutputModelController controller) {
this(input);
this.controller = controller;
}
}

```

```

dummy : block[null, null] ;

```

```

block[GrammarAST label, GrammarAST ebnfRoot] returns [List<? extends SrcOp> omos]
: ^(blk=BLOCK (^ (OPTIONS .+))?
{List<CodeBlockForAlt> alts = new ArrayList<CodeBlockForAlt>();}
(alternative {alts.add($alternative.altCodeBlock);})+
)
{
if (alts.size()==1 && ebnfRoot==null) return alts;
if (ebnfRoot==null) {
Somos = DefaultOutputModelFactory.list(controller.getChoiceBlock((BlockAST)$blk, alts, $label));
}
else {
Choice choice = controller.getEBNFBlock($ebnfRoot, alts);
hasLookaheadBlock |= choice instanceof PlusBlock || choice instanceof StarBlock;
Somos = DefaultOutputModelFactory.list(choice);
}
}
;

```

```

alternative returns [CodeBlockForAlt altCodeBlock, List<SrcOp> ops]

```

```

@init {
boolean outerMost = inContext("RULE BLOCK");
}
@after {
controller.finishAlternative($altCodeBlock, $ops, outerMost);
}
: a=alt[outerMost] { $altCodeBlock=$a.altCodeBlock; $ops=$a.ops; }
;

```

```

alt[boolean outerMost] returns [CodeBlockForAlt altCodeBlock, List<SrcOp> ops]

```

```

@init {
// set alt if outer ALT only (the only ones with alt field set to Alternative object)

```

```

AltAST altAST = (AltAST)retval.start;
if (outerMost) controller.setCurrentOuterMostAlt(altAST.alt);
}
: {
List<SrcOp> elems = new ArrayList<SrcOp>();
// TODO: shouldn't we pass $start to controller.alternative()?
$altCodeBlock = controller.alternative(controller.getCurrentOuterMostAlt(), outerMost);
$altCodeBlock.ops = $ops = elems;
controller.setCurrentBlock($altCodeBlock);
}
^(ALT elementOptions? (element {if ($element.omos!=null) elems.addAll($element.omos);})+)

| ^(ALT elementOptions? EPSILON)
 {$altCodeBlock = controller.epsilon(controller.getCurrentOuterMostAlt(), outerMost);}
;

element returns [List<? extends SrcOp> omos]
: labeledElement { $omos = $labeledElement.omos;}
| atom[null,false] { $omos = $atom.omos;}
| subrule { $omos = $subrule.omos;}
| ACTION { $omos = controller.action((ActionAST)$ACTION);}
| SEMPRED { $omos = controller.sempred((ActionAST)$SEMPRED);}
| ^(ACTION elementOptions) { $omos = controller.action((ActionAST)$ACTION);}
| ^(SEMPRED elementOptions) { $omos = controller.sempred((ActionAST)$SEMPRED);}
;

labeledElement returns [List<? extends SrcOp> omos]
: ^(ASSIGN ID atom[$ID,false]) { $omos = $atom.omos;}
| ^(PLUS_ASSIGN ID atom[$ID,false]) { $omos = $atom.omos;}
| ^(ASSIGN ID block[$ID,null]) { $omos = $block.omos;}
| ^(PLUS_ASSIGN ID block[$ID,null]) { $omos = $block.omos;}
;

subrule returns [List<? extends SrcOp> omos]
: ^(OPTIONAL b=block[null,$OPTIONAL])
{
$omos = $block.omos;
}
| (^(op=CLOSURE b=block[null,null])
| ^(op=POSITIVE_CLOSURE b=block[null,null])
)
{
List<CodeBlockForAlt> alts = new ArrayList<CodeBlockForAlt>();
SrcOp blk = $b.omos.get(0);
CodeBlockForAlt alt = new CodeBlockForAlt(controller.delegate);
alt.addOp(blk);
alts.add(alt);
SrcOp loop = controller.getEBNFBblock($op, alts); // "star it"

```

```

 hasLookaheadBlock |= loop instanceof PlusBlock || loop instanceof StarBlock;
 $omos = DefaultOutputModelFactory.list(loop);
}
| block[null, null] {$omos = $block.omos;}
;

blockSet[GrammarAST label, boolean invert] returns [List<SrcOp> omos]
: ^(SET atom[label,invert]+) {$omos = controller.set($SET, $label, invert);}
;

/*
addElement
: STRING_LITERAL
| TOKEN_REF
| ^(RANGE STRING_LITERAL STRING_LITERAL)
;
*/

// TODO: combine ROOT/BANG into one then just make new op ref'ing return value of atom/terminal...
// TODO: same for NOT
atom[GrammarAST label, boolean invert] returns [List<SrcOp> omos]
: ^(NOT a=atom[$label, true]) {$omos = $a.omos;}
| range[label] {$omos = $range.omos;}
| ^(DOT ID terminal[$label])
| ^(DOT ID ruleref[$label])
| ^(WILDCARD .) {$omos = controller.wildcard($WILDCARD, $label);}
| WILDCARD {$omos = controller.wildcard($WILDCARD, $label);}
| terminal[label] {$omos = $terminal.omos;}
| ruleref[label] {$omos = $ruleref.omos;}
| blockSet[$label, invert] {$omos = $blockSet.omos;}
;

ruleref[GrammarAST label] returns [List<SrcOp> omos]
: ^(RULE_REF ARG_ACTION? elementOptions?) {$omos = controller.ruleRef($RULE_REF, $label,
$ARG_ACTION);}
;

range[GrammarAST label] returns [List<SrcOp> omos]
: ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
;

terminal[GrammarAST label] returns [List<SrcOp> omos]
: ^(STRING_LITERAL .) {$omos = controller.stringRef($STRING_LITERAL, $label);}
| STRING_LITERAL {$omos = controller.stringRef($STRING_LITERAL, $label);}
| ^(TOKEN_REF ARG_ACTION .) {$omos = controller.tokenRef($TOKEN_REF, $label, $ARG_ACTION);}
| ^(TOKEN_REF .) {$omos = controller.tokenRef($TOKEN_REF, $label, null);}
| TOKEN_REF {$omos = controller.tokenRef($TOKEN_REF, $label, null);}
;

```

elementOptions

```
: ^(ELEMENT_OPTIONS elementOption+)
;
```

elementOption

```
: ID
| ^(ASSIGN ID ID)
| ^(ASSIGN ID STRING_LITERAL)
| ^(ASSIGN ID ACTION)
| ^(ASSIGN ID INT)
;
```

Found in path(s):

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/codegen/SourceGenTriggers.g
```

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```
/*
```

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```

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```

```
*/
```

```

lexer grammar ActionSplitter;

options { filter=true; }

@header {
package org.antlr.v4.parse;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
}

@members {
ActionSplitterListener delegate;

public ActionSplitter(CharStream input, ActionSplitterListener delegate) {
 this(input, new RecognizerSharedState());
 this.delegate = delegate;
}

/** force filtering (and return tokens). triggers all above actions. */
public List<Token> getActionTokens() {
 List<Token> chunks = new ArrayList<Token>();
 Token t = nextToken();
 while (t.getType()!=Token.EOF) {
 chunks.add(t);
 t = nextToken();
 }
 return chunks;
}

private boolean isIDStartChar(int c) {
 return c == '_' || Character.isLetter(c);
}
}

// ignore comments right away

COMMENT
: '/' (options { greedy=false; } : .)* '*' { delegate.text($text); }
;

LINE_COMMENT
: '/' ~('\n'|\r)* '\r'? '\n' { delegate.text($text); }
;

SET_NONLOCAL_ATTR
: '$' x=ID ':' y=ID WS? '=' expr=ATTR_VALUE_EXPR ';'
{
 delegate.setNonLocalAttr($text, $x, $y, $expr);
}

```

```

}
;

NONLOCAL_ATTR
: '$ x=ID ':' y=ID {delegate.nonLocalAttr($text, $x, $y);}
;

QUALIFIED_ATTR
: '$ x=ID '!' y=ID {input.LA(1)!='('}? {delegate.qualifiedAttr($text, $x, $y);}
;

SET_ATTR
: '$ x=ID WS? '=' expr=ATTR_VALUE_EXPR ';'
{
 delegate.setAttr($text, $x, $expr);
}
;

ATTR
: '$ x=ID {delegate.attr($text, $x);}
;

// Anything else is just random text
TEXT
@init {StringBuilder buf = new StringBuilder();}
@after {delegate.text(buf.toString());}
: (c=~('\| '$) {buf.append((char)$c);}
| '\|$' {buf.append('$);}
| '\|' c=~('$) {buf.append('\|').append((char)$c);}
| {!isIDStartChar(input.LA(2))}? => '$' {buf.append('$);}
)+
;

fragment
ID : ('a'..'z'|'A'..'Z'|'_') ('a'..'z'|'A'..'Z'|'0'..'9'|'_')*
;

/** Don't allow an = as first char to prevent $x == 3; kind of stuff. */
fragment
ATTR_VALUE_EXPR
: ~'=' (~';)*
;

fragment
WS : (' |\t|\n|\r')+
;

Found in path(s):

```

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/ActionSplitter.g

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\*/

/\*\* ANTLR tool checks output templates are compatible with tool code generation.

\* For now, a simple string match used on x.y of x.y.z scheme.

\* Must match Tool.VERSION during load to templates.

\*

\* REQUIRED.

\*/

pythonTypeInitMap ::= [

"bool": "False",

"int": "0",

"float": "0.0",

"str": "",

default: "None" // anything other than a primitive type is an object

]

```

// args must be <object-model-object>, <fields-resulting-in-STs>

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
var antlr4 = require('antlr4/index');
<if(file.genListener)>
var <file.grammarName>Listener = require('./<file.grammarName>Listener').<file.grammarName>Listener;
<endif>
<if(file.genVisitor)>
var <file.grammarName>Visitor = require('./<file.grammarName>Visitor').<file.grammarName>Visitor;
<endif>

<namedActions.header>
<parser>
>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
var antlr4 = require('antlr4/index');

// This class defines a complete listener for a parse tree produced by <file.parserName>.
function <file.grammarName>Listener() {
 antlr4.tree.ParseTreeListener.call(this);
 return this;
}

<file.grammarName>Listener.prototype = Object.create(antlr4.tree.ParseTreeListener.prototype);
<file.grammarName>Listener.prototype.constructor = <file.grammarName>Listener;

<file.listenerNames>:{ lname |
// Enter a parse tree produced by <file.parserName>#<lname>.
<file.grammarName>Listener.prototype.enter<lname; format="cap"> = function(ctx) {
\};

// Exit a parse tree produced by <file.parserName>#<lname>.
<file.grammarName>Listener.prototype.exit<lname; format="cap"> = function(ctx) {
\};

}; separator="\n">

exports.<file.grammarName>Listener = <file.grammarName>Listener;
>>

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
var antlr4 = require('antlr4/index');

```



```

// This class defines a complete generic visitor for a parse tree produced by <file.parserName>.

function <file.grammarName>Visitor() {
 antlr4.tree.ParseTreeVisitor.call(this);
 return this;
}

<file.grammarName>Visitor.prototype = Object.create(antlr4.tree.ParseTreeVisitor.prototype);
<file.grammarName>Visitor.prototype.constructor = <file.grammarName>Visitor;

<file.visitorNames: {lname |
// Visit a parse tree produced by <file.parserName>#<lname>.
<file.grammarName>Visitor.prototype.visit<lname; format="cap"> = function(ctx) {
 return this.visitChildren(ctx);
}
\};

}; separator="\n">

exports.<file.grammarName>Visitor = <file.grammarName>Visitor;
>>

fileHeader(grammarFileName, ANTLRVersion) ::= <<
// Generated from <grammarFileName; format="java-escape"> by ANTLR <ANTLRVersion>
// jshint ignore: start
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<if(superClass)>
var <superClass> = require('./<superClass>').<superClass>;
<endif>

var grammarFileName = "<parser.grammarFileName; format="java-escape">";

<atn>

var atn = new antlr4.atn.ATNDeserializer().deserialize(serializedATN);

var decisionsToDFA = atn.decisionToState.map(function(ds, index) { return new antlr4.dfa.DFA(ds, index); });

var sharedContextCache = new antlr4.PredictionContextCache();

var literalNames = [<parser.literalNames: {t | <t>}; null="null", separator=", ", wrap, anchor >];

var symbolicNames = [<parser.symbolicNames: {t | <t>}; null="null", separator=", ", wrap, anchor >];

var ruleNames = [<parser.ruleNames: {r | "<r>"}; separator=", ", wrap, anchor >];

```

```

function <parser.name> (input) {
 <superClass; null="antlr4.Parser">.call(this, input);
 this._interp = new antlr4.atn.ParserATNSimulator(this, atn, decisionsToDFA, sharedContextCache);
 this.ruleNames = ruleNames;
 this.literalNames = literalNames;
 this.symbolicNames = symbolicNames;
 <namedActions.members>
 return this;
}

```

```

<parser.name>.prototype = Object.create(<superClass; null="antlr4.Parser">.prototype);
<parser.name>.prototype.constructor = <parser.name>;

```

```

Object.defineProperty(<parser.name>.prototype, "atn", {
 get : function() {
 return atn;
 }
});

```

```

<parser.name>.EOF = antlr4.Token.EOF;
<if(parser.tokens)>
<parser.tokens:{k | <parser.name>.<k> = <parser.tokens.(k)>;}; separator="\n", wrap, anchor>
<endif>

```

```

<parser.rules:{r | <parser.name>.RULE_<r.name> = <r.index>;}; separator="\n", wrap, anchor>

```

```

<funcs; separator="\n">

```

```

<if(semprPredFuncs)>
<parser.name>.prototype.semprPred = function(localctx, ruleIndex, predIndex) {
 switch(ruleIndex) {
 <parser.semprPredFuncs.values:{f | case <f.ruleIndex>:
 return this.<f.name>_semprPred(localctx, predIndex);}; separator="\n">
 default:
 throw "No predicate with index:" + ruleIndex;
 }
};

```

```

<semprPredFuncs.values; separator="\n">
<endif>

```

```

exports.<parser.name> = <parser.name>;

```

```

>>

```

```

dumpActions(recog, argFuncs, actionFuncs, semprPredFuncs) ::= <<
<if(actionFuncs)>

```

```

<lexer.name>.prototype.action = function(localctx, ruleIndex, actionIndex) {
 switch (ruleIndex) {
 <recog.actionFuncs.values:{f|
 case <f.ruleIndex>:
 this.<f.name>_action(localctx, actionIndex);
 break;}; separator="\n">
 default:
 throw "No registered action for:" + ruleIndex;
 }
};

```

```

<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
<lexer.name>.prototype.sempred = function(localctx, ruleIndex, predIndex) {
 switch (ruleIndex) {
 <recog.sempredFuncs.values:{f| case <f.ruleIndex>:
 return this.<f.name>_sempred(localctx, predIndex);}; separator="\n">
 default:
 throw "No registered predicate for:" + ruleIndex;
 }
};

```

```

<sempredFuncs.values; separator="\n">
<endif>
>>

```

```

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/

```

```

RuleActionFunction(r, actions) ::= <<

```

```

<lexer.name>.prototype.<r.name>_action = function(localctx , actionIndex) {
 switch (actionIndex) {
 <actions:{index|
 case <index>:
 <actions.(index)>
 break;}; separator="\n">
 default:
 throw "No registered action for:" + actionIndex;
 }
};
>>

```

```

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/

```

```

RuleSempredFunction(r, actions) ::= <<
<if (r.factory.g.lexer)><lexer.name><else><parser.name><endif>.prototype.<r.name>_sempred = function(localctx,
predIndex) {
switch(predIndex) {
<actions:{index| case <index>:
return <actions.(index)>;}; separator="\n">
default:
throw "No predicate with index:" + predIndex;
}
};

>>

```

```

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

```

```

<ruleCtx>

```

```

<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

```

```

<! Define fields of this parser to export the context classes !>

```

```

<parser.name>.<currentRule.ctxType> = <currentRule.ctxType>;

```

```

<parser.name>.prototype.<currentRule.name> = function(<currentRule.args:{a | <a.name>}; separator=", ">) {

```

```

var localctx = new <currentRule.ctxType>(this, this._ctx, this.state<currentRule.args:{a | , <a.name>}>);

```

```

this.enterRule(localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>);

```

```

<namedActions.init>

```

```

<locals; separator="\n">

```

```

try {

```

```

 <code>

```

```

 <postamble; separator="\n">

```

```

 <namedActions.after>

```

```

<if(exceptions)>

```

```

<exceptions; separator="\n">

```

```

<else>

```

```

} catch (re) {

```

```

 if(re instanceof antlr4.error.RecognitionException) {

```

```

 localctx.exception = re;

```

```

 this._errHandler.reportError(this, re);

```

```

 this._errHandler.recover(this, re);

```

```

 } else {

```

```

 throw re;

```

```

 }

```

```

}<endif> finally {

```

```

 <finallyAction>

```

```

 this.exitRule();

```

```

}

```

```

 return localctx;
};

>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>} separator="\n">

<parser.name>.prototype.<currentRule.name> = function(_p<if(currentRule.args)>, <args:{a | , <a}>><endif>) {
 if(_p===undefined) {
 _p = 0;
 }
 var _parentctx = this._ctx;
 var _parentState = this.state;
 var localctx = new <currentRule.ctxType>(this, this._ctx, _parentState<args:{a | , <a.name}>>);
 var _prevctx = localctx;
 var _startState = <currentRule.startState>;
 this.enterRecursionRule(localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>, _p);
 <namedActions.init>
 <locals; separator="\n">
 try {
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 } catch(error) {
 if(error instanceof antlr4.error.RecognitionException) {
 localctx.exception = error;
 this._errHandler.reportError(this, error);
 this._errHandler.recover(this, error);
 } else {
 throw error;
 }
 } finally {
 <finallyAction>
 this.unrollRecursionContexts(_parentctx)
 }
 return localctx;
};

>>

```

```

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>localctx = new <currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(this, localctx);<endif>

```

```

this.enterOuterAlt(localctx, <currentOuterMostAltCodeBlock.alt.altNum>);
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

```

```

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
>>

```

```

LL1AltBlock(choice, preamble, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = this._input.LT(1);<endif>
<preamble; separator="\n">
switch(this._input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break;}; separator="\n">
default:
 <error>
}
>>

```

```

LL1OptionalBlock(choice, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
switch (this._input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break;}; separator="\n">
default:
 <error>
}
>>

```

```

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
<preamble; separator="\n">
if(<expr>) {
 <alts; separator="\n">
}
<!else if (!(<followExpr>)) <error!>
>>

```

```

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
this.state = <choice.stateNumber>;

```

```

this._errHandler.sync(this);
<preamble; separator="\n">
while(<loopExpr>) {
 <alts; separator="\n">
 this.state = <choice.loopBackStateNumber>;
 this._errHandler.sync(this);
 <iteration>
}
>>

```

```

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
this.state = <choice.blockStartStateNumber>; <! alt block decision !>
this._errHandler.sync(this);
<preamble; separator="\n">
do {
 <alts; separator="\n">
 this.state = <choice.stateNumber>; <! loopback/exit decision !>
 this._errHandler.sync(this);
 <iteration>
} while(<loopExpr>);
>>

```

```
// LL(*) stuff
```

```

AltBlock(choice, preamble, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
var la_ = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx);
switch(la_) {
<alts:{alt |
case <i>:
 <alt>
 break;
}; separator="\n">
}
>>

```

```

OptionalBlock(choice, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
var la_ = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx);
<alts:{alt |
if(la_===<i><if(!choice.ast.greedy)>+1<endif>) {
 <alt>
}; separator="\n} else ">
}

```

>>

```
StarBlock(choice, alts, sync, iteration) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
var _alt = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx)
while(_alt!=<choice.exitAlt> && _alt!=antlr4.atn.ATN.INVALID_ALT_NUMBER) {
 if(_alt===1<if(!choice.ast.greedy)>+1<endif>) {
 <iteration>
 <alts> <! should only be one !>
 }
 this.state = <choice.loopBackStateNumber>;
 this._errHandler.sync(this);
 _alt = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx);
}
```

>>

```
PlusBlock(choice, alts, error) ::= <<
this.state = <choice.blockStartStateNumber>; <! alt block decision !>
this._errHandler.sync(this);
var _alt = 1<if(!choice.ast.greedy)>+1<endif>;
do {
 switch (_alt) {
 <alts:{alt|
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
 default:
 <error>
 }
 this.state = <choice.loopBackStateNumber>; <! loopback/exit decision !>
 this._errHandler.sync(this);
 _alt = this._interp.adaptivePredict(this._input,<choice.decision>, this._ctx);
} while (_alt!=<choice.exitAlt> && _alt!=antlr4.atn.ATN.INVALID_ALT_NUMBER);
>>
```

```
Sync(s) ::= "sync(<s.expecting.name>)"
```

```
ThrowNoViableAlt(t) ::= "throw new antlr4.error.NoViableAltException(this);"
```

```
TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">
>>
```

```
// Javascript language spec - shift operators are 32 bits long max
```

```
testShiftInRange(shiftAmount) ::= <<
```



```

((<shiftAmount>) & ~0x1f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShiftVar(s.varName, bits.shift)>})> && ((1 \<\< <offsetShiftVar(s.varName,
bits.shift)>) & (<bits.ttypes:{ttype | (1 \<\< <offsetShiftType(ttype, bits.shift)>)}; separator=" | ">)) != 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShiftVar(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><shiftAmount> - <offset><else><shiftAmount><endif>
%>

offsetShiftType(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><parser.name>.<shiftAmount> - <offset><else><parser.name>.<shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>===<parser.name>.<ttype>}; separator=" || ">
%>

cases(ttypes) ::= <<
<ttypes:{t | case <parser.name>.<t>:}; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
this.state = <r.stateNumber>;
<if(r.labels)><r.labels:{l | <labelref(l)> =
}><endif>this.<r.name><(if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChu
nks>);
>>

MatchToken(m) ::= <<
this.state = <m.stateNumber>;
<if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>this.match(<parser.name>.<m.name>);
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

CommonSetStuff(m, expr, capture, invert) ::= <<

```

```

this.state = <m.stateNumber>;
<if(m.labels)><m.labels:{1 | <labelref(1)> = }>this._input.LT(1);<endif>
<capture>
<if(invert)>if(<m.varName>\<=0 || <expr><else>if(!(<expr>))<endif> {
 <if(m.labels)><m.labels:{1 | <labelref(1)> = }><endif>this._errHandler.recoverInline(this);
}
else {
 this._errHandler.reportMatch(this);
 this.consume();
}
>>

```

```

Wildcard(w) ::= <<
this.state = <w.stateNumber>;
<if(w.labels)><w.labels:{1 | <labelref(1)> = }><endif>matchWildcard();
>>

```

```
// ACTION STUFF
```

```
Action(a, foo, chunks) ::= "<chunks>"
```

```
ArgAction(a, chunks) ::= "<chunks>"
```

```

SemPred(p, chunks, failChunks) ::= <<
this.state = <p.stateNumber>;
if (!(<chunks>)) {
 throw new antlr4.error.FailedPredicateException(this, <p.predicate><if(failChunks)>,
<failChunks><elseif(p.msg)>, <p.msg><endif>);
}
>>

```

```

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
}
>>

```

```
// lexer actions are not associated with model objects
```

```

LexerSkipCommand() ::= "this.skip()"
LexerMoreCommand() ::= "this.more()"
LexerPopModeCommand() ::= "this.popMode()"
LexerTypeCommand(arg, grammar) ::= "this._type = <arg>"
LexerChannelCommand(arg, grammar) ::= "this._channel = <arg>"
LexerModeCommand(arg, grammar) ::= "this._mode = <arg>"
LexerPushModeCommand(arg, grammar) ::= "this.pushMode(<arg>)"

```

```
ActionText(t) ::= "<t.text>"
```

```

ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "localctx.<a.name>"
LocalRef(a) ::= "localctx.<a.name>"
RetValRef(a) ::= "localctx.<a.name>"
QRetValRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(<ctx(t)>.<t.label>===null ? null : <ctx(t)>.<t.label>.text)"
TokenPropertyRef_type(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.type)"
TokenPropertyRef_line(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.line)"
TokenPropertyRef_pos(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.column)"
TokenPropertyRef_channel(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.channel)"
TokenPropertyRef_index(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.tokenIndex)"
TokenPropertyRef_int(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : parseInt(<ctx(t)>.<t.label>.text))"

RulePropertyRef_start(r) ::= "(<ctx(r)>.<r.label>===null ? null : <ctx(r)>.<r.label>.start)"
RulePropertyRef_stop(r) ::= "(<ctx(r)>.<r.label>===null ? null : <ctx(r)>.<r.label>.stop)"
RulePropertyRef_text(r) ::= "(<ctx(r)>.<r.label>===null ? null : this._input.getText(new antlr4.Interval(<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop)))"
RulePropertyRef_ctx(r) ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r) ::= "this"

ThisRulePropertyRef_start(r) ::= "localctx.start"
ThisRulePropertyRef_stop(r) ::= "localctx.stop"
ThisRulePropertyRef_text(r) ::= "this._input.getText(new antlr4.Interval(localctx.start, this._input.LT(-1)))"
ThisRulePropertyRef_ctx(r) ::= "localctx"
ThisRulePropertyRef_parser(r) ::= "this"

NonLocalAttrRef(s) ::= "getInvokingContext(<s.ruleIndex>).<s.name>"
SetNonLocalAttr(s, rhsChunks) ::= "getInvokingContext(<s.ruleIndex>).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.push(<labelref(a.label)>);"

TokenDecl(t) ::= "this.<t.name> = null; // <TokenLabelType>"
TokenTypeDecl(t) ::= "var <t.name> = 0; // <TokenLabelType> type"
TokenListDecl(t) ::= "this.<t.name> = []; // of <TokenLabelType>s"
RuleContextDecl(r) ::= "this.<r.name> = null; // <r.ctxName>"
RuleContextListDecl(rdecl) ::= "this.<rdecl.name> = []; // of <rdecl.ctxName>s"

ContextTokenGetterDecl(t) ::= <<
<t.name> = function() {

```

```

 return this.getToken(<parser.name>.<t.name>, 0);
};
>>

// should never be called
ContextTokenListGetterDecl(t) ::= <<
def <t.name>_list(self):
 return self.getTokens(<parser.name>.<t.name>)
>>

ContextTokenListIndexedGetterDecl(t) ::= <<
<t.name> = function(i) {
 if(i===undefined) {
 i = null;
 }
 if(i===null) {
 return this.getTokens(<parser.name>.<t.name>);
 } else {
 return this.getToken(<parser.name>.<t.name>, i);
 }
};
>>

ContextRuleGetterDecl(r) ::= <<
<r.name> = function() {
 return this.getTypedRuleContext(<r.ctxName>,0);
};
>>

// should never be called
ContextRuleListGetterDecl(r) ::= <<
def <r.name>_list(self):
 return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)
>>

ContextRuleListIndexedGetterDecl(r) ::= <<
<r.name> = function(i) {
 if(i===undefined) {
 i = null;
 }
 if(i===null) {
 return this.getTypedRuleContexts(<r.ctxName>);
 } else {
 return this.getTypedRuleContext(<r.ctxName>,i);
 }
};

```

>>

```
LexerRuleContext() ::= "RuleContext"
```

```
/** The rule context name is the rule followed by a suffix; e.g.,
 * r becomes rContext.
 */
```

```
RuleContextNameSuffix() ::= "Context"
```

```
ImplicitTokenLabel(tokenName) ::= "_<tokenName>"
```

```
ImplicitRuleLabel(ruleName) ::= "_<ruleName>"
```

```
ImplicitSetLabel(id) ::= "_tset<id>"
```

```
ListLabelName(label) ::= "<label>"
```

```
CaptureNextToken(d) ::= "<d.varName> = self._input.LT(1)"
```

```
CaptureNextTokenType(d) ::= "<d.varName> = this._input.LA(1);"
```

```
StructDecl(struct,ctorAttrs,attrs, getters,dispatchMethods,interfaces,extensionMembers) ::= <<
```

```
function <struct.name>(parser, parent, invokingState<struct.ctorAttrs:{a | , <a.name>}>) {
```

```
 if(parent===undefined) {
```

```
 parent = null;
```

```
 }
```

```
 if(invokingState===undefined || invokingState===null) {
```

```
 invokingState = -1;
```

```
 }
```

```
 <if(contextSuperClass)><contextSuperClass><else>antlr4.ParserRuleContext<endif>.call(this, parent,
 invokingState);
```

```
 this.parser = parser;
```

```
 this.ruleIndex = <parser.name>.RULE_<struct.derivedFromName>;
```

```
 <attrs:{a | <a>}; separator="\n">
```

```
 <struct.ctorAttrs:{a | this.<a.name> = <a.name> || null;}; separator="\n">
```

```
 return this;
```

```
 }
```

```
<struct.name>.prototype =
```

```
Object.create(<if(contextSuperClass)><contextSuperClass><else>antlr4.ParserRuleContext<endif>.prototype);
```

```
<struct.name>.prototype.constructor = <struct.name>;
```

```
<getters:{g | <struct.name>.prototype.<g>}; separator="\n\n">
```

```
<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
```

```
<struct.name>.prototype.copyFrom = function(ctx) {
```

```
<if(contextSuperClass)><contextSuperClass><else>antlr4.ParserRuleContext<endif>.prototype.copyFrom.call(this,
ctx);
```

```
 <struct.attrs:{a | this.<a.name> = ctx.<a.name>}; separator="\n">
```

```
};
```

```
<endif>
```

```
<dispatchMethods; separator="\n">
```

```
<extensionMembers; separator="\n">
```

```
>>
```

```
AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
```

```
function <struct.name>(parser, ctx) {
```

```
 <currentRule.name; format="cap">Context.call(this, parser);
```

```
 <attrs:{a | <a>;}; separator="\n">
```

```
 <currentRule.name; format="cap">Context.prototype.copyFrom.call(this, ctx);
```

```
 return this;
```

```
}
```

```
<struct.name>.prototype = Object.create(<currentRule.name; format="cap">Context.prototype);
```

```
<struct.name>.prototype.constructor = <struct.name>;
```

```
<! Define fields of this parser to export this struct/context class !>
```

```
<parser.name>.<struct.name> = <struct.name>;
```

```
<getters:{g | <struct.name>.prototype.<g>;}; separator="\n\n">
```

```
<dispatchMethods; separator="\n">
```

```
>>
```

```
ListenerDispatchMethod(method) ::= <<
```

```
<struct.name>.prototype.<if(method.isEnter)>enter<else>exit<endif>Rule = function(listener) {
```

```
 if(listener instanceof <parser.grammarName>Listener) {
```

```
 listener.<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">(this);
```

```
 }
```

```
};
```

```
>>
```

```
VisitorDispatchMethod(method) ::= <<
```

```
<struct.name>.prototype.accept = function(visitor) {
```

```
 if (visitor instanceof <parser.grammarName>Visitor) {
```

```
 return visitor.visit<struct.derivedFromName; format="cap">(this);
```

```
 } else {
```

```
 return visitor.visitChildren(this);
```

```
 }
```

```
};
```

```
>>
```

```
AttributeDecl(d) ::= "this.<d.name> = <if(d.initValue)><d.initValue><else>null<endif>"
```

```
/** If we don't know location of label def x, use this template */
```

```
labelref(x) ::= "<if(!x.isLocal)>localctx.<endif><x.name>"
```

```

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "localctx"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec) ::= "this.precpred(this._ctx, <opPrec>)"
recRuleSetReturnAction(src,name) ::= "$<name>=<src>.<name>"
recRuleSetStopToken() ::= "this._ctx.stop = this._input.LT(-1);"

recRuleAltStartAction(ruleName, ctxName, label) ::= <<
localctx = new <ctxName>Context(this, _parentctx, _parentState);
<if(label)>localctx.<label> = _prevctx;<endif>
this.pushNewRecursionContext(localctx, _startState, <parser.name>.RULE_<ruleName>);
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
localctx = new <currentAltLabel; format="cap">Context(this, new <ruleName; format="cap">Context(this,
_parentctx, _parentState));
<if(label)>
<if(isListLabel)>
localctx.<label>.push(_prevctx);
<else>
localctx.<label> = _prevctx;
<endif>
<endif>
this.pushNewRecursionContext(localctx, _startState, <parser.name>.RULE_<ruleName>);
>>

recRuleReplaceContext(ctxName) ::= <<
localctx = new <ctxName>Context(this, localctx);
this._ctx = localctx;
_prevctx = localctx;
>>

recRuleSetPrevCtx() ::= <<
if(this._parseListeners!=null) {
 this.triggerExitRuleEvent();
}
_prevctx = localctx;
>>

LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
var antlr4 = require('antlr4/index');

<namedActions.header>

<lexer>

```

>>

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<

<atn>

var atn = new antlr4.atn.ATNDeserializer().deserialize(serializedATN);

var decisionsToDFA = atn.decisionToState.map( function(ds, index) { return new antlr4.dfa.DFA(ds, index); });

function <lexer.name>(input) {

<if(superClass)><superClass><else>antlr4.Lexer<endif>.call(this, input);

    this.\_interp = new antlr4.atn.LexerATNSimulator(this, atn, decisionsToDFA, new  
antlr4.PredictionContextCache());

    return this;

}

<lexer.name>.prototype = Object.create(<if(superClass)><superClass><else>antlr4.Lexer<endif>.prototype);

<lexer.name>.prototype.constructor = <lexer.name>;

<lexer.name>.EOF = antlr4.Token.EOF;

<lexer.tokens:{k | <lexer.name>.<k> = <lexer.tokens.(k)>;}; separator="\n", wrap, anchor>

<rest(lexer.modes):{m | <lexer.name>.<m> = <i>;}; separator="\n">

<lexer.name>.prototype.modeNames = [ <lexer.modes:{m | "<m>"}; separator=", ", wrap, anchor > ];

<lexer.name>.prototype.literalNames = [ <lexer.literalNames:{t | <t>}; null="null", separator=", ", wrap, anchor > ];

<lexer.name>.prototype.symbolicNames = [ <lexer.symbolicNames:{t | <t>}; null="null", separator=", ", wrap,  
anchor > ];

<lexer.name>.prototype.ruleNames = [ <lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor > ];

<lexer.name>.prototype.grammarFileName = "<lexer.grammarFileName>";

<namedActions.members>

<dumpActions(lexer, "", actionFuncs, sempredFuncs)>

exports.<lexer.name> = <lexer.name>;

>>

SerializedATN(model) ::= <<

<! only one segment, can be inlined !>



```
var serializedATN = ["<model.serialized; wrap={",<n> ">"].join("");
```

```
>>
```

```
/** Using a type to init value map, try to init a type; if not in table
```

```
* must be an object, default value is "null".
```

```
*/
```

```
initValue(typeName) ::= <<
```

```
<javaTypeInitMap.(typeName)>
```

```
>>
```

```
codeFileExtension() ::= ".js"
```

```
Found in path(s):
```

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
```

```
jar/org/antlr/v4/tool/templates/codegen/JavaScript/JavaScript.stg
```

```
No license file was found, but licenses were detected in source scan.
```

```
/*
```

```
[The "BSD licence"]
```

```
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```

```
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```

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```
*/
```

```
/*
```

```
This file contains the actual layout of the messages emitted by ANTLR.
```

```
The text itself is coming out of the languages/*stg files, according to the chosen locale.
```

This file contains the format that mimicks GCC output.

\*/

location(file, line, column) ::= "<file>:<line>:"

message(id, text) ::= "<text> (<id>)"

report(location, message, type) ::= "<location> <type>: <message>"

wantsSingleLineMessage() ::= "true"

Found in path(s):

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/templates/messages/formats/gnu.stg

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\*/

/\*\*

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\*/

Found in path(s):

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/gui/GraphicsSupport.java  
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/\*

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\*/

/\*

This file contains the actual layout of the messages emitted by ANTLR.

This file contains the default format ANTLR uses.

\*/

location(file, line, column) ::= "<file>:<line>:<column>:"

message(id, text) ::= "<id> <text>"

report(location, message, type) ::= "<type>(<message.id>): <location> <message.text>"

wantsSingleLineMessage() ::= "false"

Found in path(s):

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-

jar/org/antlr/v4/tool/templates/messages/formats/antlr.stg

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 * (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
 * THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
 */
```

```
/** templates used to generate make-compatible dependencies */
```

```
/** Generate "f : x, y, z" dependencies for input
 * dependencies and generated files. in and out
 * are File objects. For example, you can say
 * <f.canonicalPath>
 */
dependencies(grammarFileName,in,out) ::= <<
<if(in)><grammarFileName>: <in; separator=", "><endif>
<out:{ f | <f> : <grammarFileName>}; separator="\n">
>>
```

Found in path(s):

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/templates/depend.stg
```

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 */

/** ANTLR tool checks output templates are compatible with tool code generation.
 * For now, a simple string match used on x.y of x.y.z scheme.
 * Must match Tool.VERSION during load to templates.
 *
 * REQUIRED.
 */

pythonTypeInitMap ::= [
 "bool":"False",
 "int":"0",
 "float":"0.0",
 "str": "",
 default:"None" // anything other than a primitive type is an object
]
```

```

// args must be <object-model-object>, <fields-resulting-in-STs>

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
encoding: utf-8
from __future__ import print_function
from antlr4 import *
from io import StringIO

<namedActions.header>
<parser>

>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
from antlr4 import *
<header>

This class defines a complete listener for a parse tree produced by <file.parserName>.
class <file.grammarName>Listener(ParseTreeListener):

 <file.listenerNames:{lname |
Enter a parse tree produced by <file.parserName>#<lname>.
def enter<lname; format="cap">(self, ctx):
 pass

Exit a parse tree produced by <file.parserName>#<lname>.
def exit<lname; format="cap">(self, ctx):
 pass

}; separator="\n">

>>

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
from antlr4 import *
<header>

This class defines a complete generic visitor for a parse tree produced by <file.parserName>.

class <file.grammarName>Visitor(ParseTreeVisitor):

 <file.visitorNames:{lname |
Visit a parse tree produced by <file.parserName>#<lname>.
def visit<lname; format="cap">(self, ctx):

```

```

 return self.visitChildren(ctx)

}; separator="\n">

>>

fileHeader(grammarFileName, ANTLRVersion) ::= <<
Generated from <grammarFileName> by ANTLR <ANTLRVersion>
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
<if(superClass)>
from .<superClass> import <superClass>

<endif>
<atn>

class <parser.name> (<if(superClass)><superClass><else>Parser<endif>):

 grammarFileName = "<parser.grammarFileName>"

 atn = ATNDeserializer().deserialize(serializedATN())

 decisionsToDFA = [DFA(ds, i) for i, ds in enumerate(atn.decisionToState)]

 sharedContextCache = PredictionContextCache()

 literalNames = [<parser.literalNames:{t | u<t>}; null="u\"<INVALID>\"", separator=", ", wrap, anchor>]

 symbolicNames = [<parser.symbolicNames:{t | u<t>}; null="u\"<INVALID>\"", separator=", ", wrap, anchor>]

 <parser.rules:{r | RULE_<r.name> = <r.index>}; separator="\n", wrap, anchor>

 ruleNames = [<parser.ruleNames:{r | u"<r>"}; separator=", ", wrap, anchor>]

 EOF = <TokenLabelType>.EOF
 <if(parser.tokens)>
 <parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator="\n", wrap, anchor>
 <endif>

 <parser:(ctor)()>

 <namedActions.members>

```

```

<funcs; separator="\n">

<if(sempredFuncs)>
 def sempred(self, localctx, ruleIndex, predIndex):
 if self._predicates == None:
 self._predicates = dict()
<parser.sempredFuncs.values: { f |
 self._predicates[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n ">
 pred = self._predicates.get(ruleIndex, None)
 if pred is None:
 raise Exception("No predicate with index:" + str(ruleIndex))
 else:
 return pred(localctx, predIndex)

 <sempredFuncs.values; separator="\n">
<endif>

>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
def action(self, localctx, ruleIndex, actionIndex):
 if self._actions is None:
 actions = dict()
<recog.actionFuncs.values: { f |
 actions[<f.ruleIndex>] = self.<f.name>_action }; separator="\n">
 self._actions = actions
 action = self._actions.get(ruleIndex, None)
 if action is not None:
 action(localctx, actionIndex)
 else:
 raise Exception("No registered action for:" + str(ruleIndex))

<actionFuncs.values; separator="\n">

<endif>
<if(sempredFuncs)>
def sempred(self, localctx, ruleIndex, predIndex):
 if self._predicates is None:
 preds = dict()
<recog.sempredFuncs.values: { f |
 preds[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n">
 self._predicates = preds
 pred = self._predicates.get(ruleIndex, None)

```



```

if pred is not None:
 return pred(localctx, predIndex)
else:
 raise Exception("No registered predicate for:" + str(ruleIndex))

<sempredFuncs.values; separator="\n">
<endif>
>>

parser_ctor(p) ::= <<
def __init__(self, input):
 super(<parser.name>, self).__init__(input)
 self.checkVersion("<file.ANTLRVersion>")
 self._interp = ParserATNSimulator(self, self.atn, self.decisionsToDFA, self.sharedContextCache)
 self._predicates = None

>>

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleActionFunction(r, actions) ::= <<

def <r.name>_action(self, localctx , actionIndex):
<actions: {index|
<if(first(actions))>
 if actionIndex == <index>:
 <actions.(index)>
<elseif(rest(actions))>
 elif actionIndex == <index>:
 <actions.(index)>
<endif> }; separator="\n">
>>

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
def <r.name>_sempred(self, localctx, predIndex):
 <actions: {index|
<if(first(actions))>
 if predIndex == <index>:
 return <actions.(index)>
<elseif(rest(actions))>
 elif predIndex == <index>:
 return <actions.(index)>
<endif> }; separator="\n">

```

>>

```
RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions) ::= <<
```

```
<ruleCtx>
```

```
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
```

```
def <currentRule.name>(self<currentRule.args:{a | , <a.name>}>):
```

```
 localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, self.state<currentRule.args:{a | , <a.name>}>)
```

```
 self.enterRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>)
```

```
 <namedActions.init>
```

```
 <locals; separator="\n">
```

```
 try:
```

```
 <code>
```

```
 <postamble; separator="\n">
```

```
 <namedActions.after>
```

```
 <if(exceptions)>
```

```
 <exceptions; separator="\n">
```

```
 <else>
```

```
 except RecognitionException as re:
```

```
 localctx.exception = re
```

```
 self._errHandler.reportError(self, re)
```

```
 self._errHandler.recover(self, re)
```

```
 <endif>
```

```
 finally:
```

```
 <finallyAction>
```

```
 self.exitRule()
```

```
 return localctx
```

>>

```
LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs, namedActions,finallyAction,postamble) ::=
```

```
<<
```

```
<ruleCtx>
```

```
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
```

```
def <currentRule.name>(self, _p=0<if(currentRule.args)>, <args:{a | , <a>}><endif>):
```

```
 _parentctx = self._ctx
```

```
 _parentState = self.state
```

```
 localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, _parentState<args:{a | , <a.name>}>)
```

```
 _prevctx = localctx
```

```
 _startState = <currentRule.startState>
```

```
 self.enterRecursionRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>, _p)
```

```

<namedActions.init>
<locals; separator="\n">
try:
 <code>
 <postamble; separator="\n">
 <namedActions.after>
except RecognitionException as re:
 localctx.exception = re
 self._errHandler.reportError(self, re)
 self._errHandler.recover(self, re)
finally:
 <finallyAction>
 self.unrollRecursionContexts(_parentctx)
return localctx

>>

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>localctx = <parser.name>.<currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(self, localctx)<endif>
self.enterOuterAlt(localctx, <currentOuterMostAltCodeBlock.alt.altNum>)
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
>>

LL1AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
token = self._input.LA(1)
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 pass}; separator="\n1">
else:
 <error>

>>

LL1OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
token = self._input.LA(1)

```

```

<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 pass }; separator="\n">
else:
 <error>
>>

```

```

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<preamble; separator="\n">
if <expr>:
 <alts; separator="\n">

<!else if (!(<followExpr>)) <error!>
>>

```

```

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<preamble; separator="\n">
while <loopExpr>:
 <alts; separator="\n">
 self.state = <choice.loopBackStateNumber>
 self._errHandler.sync(self)
 <iteration>

>>

```

```

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
<preamble; separator="\n">
while True:
 <alts; separator="\n">
 self.state = <choice.stateNumber> <! loopback/exit decision !>
 self._errHandler.sync(self)
 <iteration>
 if not (<loopExpr>):
 break

>>

```

```

// LL(*) stuff

```

```

AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>

```

```

self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{ alt |
if la_ == <i>:
 <alt>
 pass
}; separator="\nel">

>>

```

```

OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{ alt |
if la_ == <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
}; separator="\nel">

>>

```

```

StarBlock(choice, alts, sync, iteration) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
_alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
 if _alt==1<if(!choice.ast.greedy)>+1<endif>:
 <iteration>
 <alts> <! should only be one !>
 self.state = <choice.loopBackStateNumber>
 self._errHandler.sync(self)
 _alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

>>

```

```

PlusBlock(choice, alts, error) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
_alt = 1<if(!choice.ast.greedy)>+1<endif>
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
 <alts:{ alt|
if _alt == <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
}; separator="\nel">
 else:
 <error>

```

```

self.state = <choice.loopBackStateNumber> <! loopback/exit decision !>
self._errHandler.sync(self)
_alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

>>

Sync(s) ::= "sync(<s.expecting.name>)"

ThrowNoViableAlt(t) ::= "raise NoViableAltException(self)"

TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>} ; separator=" or ">
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShiftVar(s.varName, bits.shift)>})> and ((1 <|< <offsetShiftVar(s.varName,
bits.shift)>) & (<bits.ttypes:{ttype | (1 <|< <offsetShiftType(ttype, bits.shift)>)} ; separator=" | ">)) != 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShiftVar(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><shiftAmount> - <offset><else><shiftAmount><endif>
%>

offsetShiftType(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><parser.name>.<shiftAmount> - <offset><else><parser.name>.<shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<parser.name>.<ttype>} ; separator=" or ">
%>

cases(ttypes) ::= <<
if token in [<ttypes:{t | <parser.name>.<t>} ; separator=", ">]:
>>

```

```

InvokeRule(r, argExprsChunks) ::= <<
self.state = <r.stateNumber>
<if(r.labels)><r.labels:{1 | <labelref(l)> =
}><endif>self.<r.name>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChu
nks>)
>>

```

```

MatchToken(m) ::= <<
self.state = <m.stateNumber>
<if(m.labels)><m.labels:{1 | <labelref(l)> = }><endif>self.match(<parser.name>.<m.name>)
>>

```

```

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

```

```

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

```

```

CommonSetStuff(m, expr, capture, invert) ::= <<
self.state = <m.stateNumber>
<if(m.labels)><m.labels:{1 | <labelref(l)> = }>self._input.LT(1)<endif>
<capture>
<if(invert)>if <m.varName> \<= 0 or <expr><else>if not(<expr>)<endif>:
<if(m.labels)><m.labels:{1 | <labelref(l)> = }><else> <endif>self._errHandler.recoverInline(self)
else:
 self._errHandler.reportMatch(self)
 self.consume()
>>

```

```

Wildcard(w) ::= <<
self.state = <w.stateNumber>
<if(w.labels)><w.labels:{1 | <labelref(l)> = }><endif>self.matchWildcard()
>>

```

```

// ACTION STUFF

```

```

Action(a, foo, chunks) ::= "<chunks>"

```

```

ArgAction(a, chunks) ::= "<chunks>"

```

```

SemPred(p, chunks, failChunks) ::= <<
self.state = <p.stateNumber>
if not <chunks>:
 from antlr4.error.Errors import FailedPredicateException
 raise FailedPredicateException(self, <p.predicate><if(failChunks)>,<failChunks><elseif(p.msg)>,<p.msg><endif>)
>>

```

```

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {

```

```

<catchAction>
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand() ::= "skip()"
LexerMoreCommand() ::= "more()"
LexerPopModeCommand() ::= "popMode()"

LexerTypeCommand(arg, grammar) ::= "_type = <arg>"
LexerChannelCommand(arg, grammar) ::= "_channel = <arg>"
LexerModeCommand(arg, grammar) ::= "_mode = <arg>"
LexerPushModeCommand(arg, grammar) ::= "pushMode(<arg>)"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "localctx.<a.name>"
LocalRef(a) ::= "localctx.<a.name>"
RetValRef(a) ::= "localctx.<a.name>"
QRetValRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(None if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.text)"
TokenPropertyRef_type(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.type)"
TokenPropertyRef_line(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.line)"
TokenPropertyRef_pos(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.column)"
TokenPropertyRef_channel(t) ::= "(0 if (<ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.channel)"
TokenPropertyRef_index(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.tokenIndex)"
TokenPropertyRef_int(t) ::= "(0 if <ctx(t)>.<t.label> is None else int(<ctx(t)>.<t.label>.text))"

RulePropertyRef_start(r) ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.start)"
RulePropertyRef_stop(r) ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.stop)"
RulePropertyRef_text(r) ::= "(None if <ctx(r)>.<r.label> is None else
self._input.getText((<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop)))"
RulePropertyRef_ctx(r) ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r) ::= "self"

ThisRulePropertyRef_start(r) ::= "localctx.start"
ThisRulePropertyRef_stop(r) ::= "localctx.stop"
ThisRulePropertyRef_text(r) ::= "self._input.getText((localctx.start, self._input.LT(-1)))"

```



```

ThisRulePropertyRef_ctx(r) ::= "localctx"
ThisRulePropertyRef_parser(r) ::= "self"

NonLocalAttrRef(s) ::= "getInvokingContext(<s.ruleIndex>).<s.name>"
SetNonLocalAttr(s, rhsChunks) ::= "getInvokingContext(<s.ruleIndex>).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.append(<labelref(a.label)>)"

TokenDecl(t) ::= "self.<t.name> = None # <TokenLabelType()>"
TokenTypeDecl(t) ::= "self.<t.name> = 0 # <TokenLabelType()> type"
TokenListDecl(t) ::= "self.<t.name> = list() # of <TokenLabelType()>s"
RuleContextDecl(r) ::= "self.<r.name> = None # <r.ctxName>"
RuleContextListDecl(rdecl) ::= "self.<rdecl.name> = list() # of <rdecl.ctxName>s"

ContextTokenGetterDecl(t) ::= <<
def <t.name>(self):
 return self.getToken(<parser.name>.<t.name>, 0)
>>

// should never be called
ContextTokenListGetterDecl(t) ::= <<
def <t.name>_list(self):
 return self.getTokens(<parser.name>.<t.name>)
>>

ContextTokenListIndexedGetterDecl(t) ::= <<
def <t.name>(self, i=None):
 if i is None:
 return self.getTokens(<parser.name>.<t.name>)
 else:
 return self.getToken(<parser.name>.<t.name>, i)
>>

ContextRuleGetterDecl(r) ::= <<
def <r.name>(self):
 return self.getTypedRuleContext(<parser.name>.<r.ctxName>,0)
>>

// should never be called
ContextRuleListGetterDecl(r) ::= <<
def <r.name>_list(self):
 return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)
>>

ContextRuleListIndexedGetterDecl(r) ::= <<
def <r.name>(self, i=None):

```

```

 if i is None:
 return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)
 else:
 return self.getTypedRuleContext(<parser.name>.<r.ctxName>,i)

>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
 * r becomes rContext.
 */
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenName>"
ImplicitRuleLabel(ruleName) ::= "_<ruleName>"
ImplicitSetLabel(id) ::= "_tset<id>"
ListLabelName(label) ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = self._input.LT(1)"
CaptureNextTokenType(d) ::= "<d.varName> = self._input.LA(1)"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers) ::= <<
class <struct.name>(<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif>):

 def __init__(self, parser, parent=None, invokingState=-1<struct.ctorAttrs:{a | , <a.name>=None}>):
 super(<parser.name>.<struct.name>, self).__init__(parent, invokingState)
 self.parser = parser
 <attrs:{a | <a>}; separator="\n">
 <struct.ctorAttrs:{a | self.<a.name> = <a.name>}; separator="\n">

 <getters:{g | <g>}; separator="\n\n">

 def getRuleIndex(self):
 return <parser.name>.RULE_<struct.derivedFromName>

<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
 def copyFrom(self, ctx):
 super(<parser.name>.<struct.name>, self).copyFrom(ctx)
 <struct.attrs:{a | self.<a.name> = ctx.<a.name>}; separator="\n">

<endif>
 <dispatchMethods; separator="\n">
 <extensionMembers; separator="\n">

>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<

```

```

class <struct.name>(<currentRule.name; format="cap">Context):

 def __init__(self, parser, ctx): # actually a <parser.name>.<currentRule.name; format="cap">Context)
 super(<parser.name>.<struct.name>, self).__init__(parser)
 <attrs:{a | <a>}; separator="\n">
 self.copyFrom(ctx)

 <getters:{g | <g>}; separator="\n">

 <dispatchMethods; separator="\n">

>>

ListenerDispatchMethod(method) ::= <<
def <if(method.isEnter)>enter<else>exit<endif>Rule(self, listener):
 if hasattr(listener, "<if(method.isEnter)>enter<else>exit<endif><<struct.derivedFromName; format="cap">"):
 listener.<if(method.isEnter)>enter<else>exit<endif><<struct.derivedFromName; format="cap">(self)

>>

VisitorDispatchMethod(method) ::= <<
def accept(self, visitor):
 if hasattr(visitor, "visit<struct.derivedFromName; format="cap">"):
 return visitor.visit<struct.derivedFromName; format="cap">(self)
 else:
 return visitor.visitChildren(self)

>>

AttributeDecl(d) ::= "self.<d.name> = <if(d.initValue)><d.initValue><else>None<endif>"

/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)>localctx.<endif><x.name>"

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "localctx"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec) ::= "self.precpred(self._ctx, <opPrec>)"
recRuleSetReturnAction(src,name) ::= "$<name>=<src>.<name>"
recRuleSetStopToken() ::= "self._ctx.stop = self._input.LT(-1)"

recRuleAltStartAction(ruleName, ctxName, label) ::= <<
localctx = <parser.name>.<ctxName>Context(self, _parentctx, _parentState)
<if(label)>localctx.<label> = _prevctx<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)

>>

```

```

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
localctx = <parser.name>.<currentAltLabel; format="cap">Context(self, <parser.name>.<ruleName;
format="cap">Context(self, _parentctx, _parentState))
<if(label)>
<if(isListLabel)>
localctx.<label>.append(_prevctx)
<else>
localctx.<label> = _prevctx
<endif>
<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)
>>

```

```

recRuleReplaceContext(ctxName) ::= <<
localctx = <parser.name>.<ctxName>Context(self, localctx)
self._ctx = localctx
_prevctx = localctx
>>

```

```

recRuleSetPrevCtx() ::= <<
if self._parseListeners is not None:
 self.triggerExitRuleEvent()
_prevctx = localctx
>>

```

```

LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
encoding: utf-8
from __future__ import print_function
from antlr4 import *
from io import StringIO

<namedActions.header>

<lexer>
>>

```

```

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<

<atn>

class <lexer.name>(<if(superClass)><superClass><else>Lexer<endif>):

 atn = ATNDeserializer().deserialize(serializedATN())

 decisionsToDFA = [DFA(ds, i) for i, ds in enumerate(atn.decisionToState)]

```

```

<rest(lexer.modes):{m| <m> = <i>}; separator="\n">

<lexer.tokens:{k | <k> = <lexer.tokens.(k)>}; separator="\n", wrap, anchor>

modeNames = [<lexer.modes:{m| u"<m>"}; separator=", ", wrap, anchor]

literalNames = [u"\<INVALID>",
 <lexer.literalNames:{t | u<t>}; separator=", ", wrap, anchor]

symbolicNames = [u"\<INVALID>",
 <lexer.symbolicNames:{t | u<t>}; separator=", ", wrap, anchor]

ruleNames = [<lexer.ruleNames:{r | u"<r>"}; separator=", ", wrap, anchor]

grammarFileName = u"<lexer.grammarFileName>"

def __init__(self, input=None):
 super(<lexer.name>, self).__init__(input)
 self.checkVersion("<lexerFile.ANTLRVersion>")
 self._interp = LexerATNSimulator(self, self.atn, self.decisionsToDFA, PredictionContextCache())
 self._actions = None
 self._predicates = None

<namedActions.members>

<dumpActions(lexer, "", actionFuncs, sempredFuncs)>

>>

SerializedATN(model) ::= <<
<! only one segment, can be inlined !>

def serializedATN():
 with StringIO() as buf:
 buf.write(u"<model.serialized; wrap={"}<\n> buf.write(u"}>")
 return buf.getvalue()

>>

/** Using a type to init value map, try to init a type; if not in table
 * must be an object, default value is "null".
 */
initValue(typeName) ::= <<
<javaTypeInitMap.(typeName)>
>>

codeFileExtension() ::= ".py"

```

Found in path(s):

```
* /opt/cola/permits/1166873170_1621514800.65/0/antlr4-4-6-sources-1-
jar/org/antlr/v4/tool/templates/codegen/Python2/Python2.stg
```

No license file was found, but licenses were detected in source scan.

```
/*
```

```
* [The "BSD license"]
```

```
* Copyright (c) 2012-2016 Terence Parr
```

```
* Copyright (c) 2012-2016 Sam Harwell
```

```
* All rights reserved.
```

```
*
```

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* modification, are permitted provided that the following conditions
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* are met:
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```

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```

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* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
```

```
*/
```

```
/** The definitive ANTLR v3 tree grammar to walk/visit ANTLR v4 grammars.
```

```
* Parses trees created by ANTLRParser.g.
```

```
*
```

```
* Rather than have multiple tree grammars, one for each visit, I'm
```

```
* creating this generic visitor that knows about context. All of the
```

```
* boilerplate pattern recognition is done here. Then, subclasses can
```

```
* override the methods they care about. This prevents a lot of the same
```

```
* context tracking stuff like "set current alternative for current
```

```
* rule node" that is repeated in lots of tree filters.
```

```
*/
```

```
tree grammar GrammarTreeVisitor;
```

```
options {
```

```
language = Java;
tokenVocab = ANTLRParser;
ASTLabelType = GrammarAST;
}
```

```
// Include the copyright in this source and also the generated source
```

```
@header {
```

```
/*
```

```
[The "BSD license"]
```

```
Copyright (c) 2011 Terence Parr
```

```
All rights reserved.
```

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```
*/
```

```
package org.antlr.v4.parse;
```

```
import org.antlr.v4.Tool;
```

```
import org.antlr.v4.tool.*;
```

```
import org.antlr.v4.tool.ast.*;
```

```
import java.lang.reflect.InvocationTargetException;
```

```
import java.lang.reflect.Method;
```

```
}
```

```
@members {
```

```
public String grammarName;
```

```
public GrammarAST currentRuleAST;
```

```
public String currentModeName = LexerGrammar.DEFAULT_MODE_NAME;
```

```
public String currentRuleName;
```

```

public GrammarAST currentOuterAltRoot;
public int currentOuterAltNumber = 1; // 1..n
public int rewriteEBNFLevel = 0;

public GrammarTreeVisitor() { this(null); }

// Should be abstract but can't make gen'd parser abstract;
// subclasses should implement else everything goes to stderr!
public ErrorManager getErrorManager() { return null; }

public void visitGrammar(GrammarAST t) { visit(t, "grammarSpec"); }
public void visit(GrammarAST t, String ruleName) {
 CommonTreeNodeStream nodes = new CommonTreeNodeStream(new GrammarASTAdaptor(), t);
 setTreeNodeStream(nodes);
 try {
 Method m = getClass().getMethod(ruleName);
 m.invoke(this);
 }
 catch (Throwable e) {
 ErrorManager errMgr = getErrorManager();
 if (e instanceof InvocationTargetException) {
 e = e.getCause();
 }
 //e.printStackTrace(System.err);
 if (errMgr==null) {
 System.err.println("can't find rule "+ruleName+
 " or tree structure error: "+t.toStringTree()
);
 e.printStackTrace(System.err);
 }
 else errMgr.toolError(ErrorType.INTERNAL_ERROR, e);
 }
}

public void discoverGrammar(GrammarRootAST root, GrammarAST ID) { }
public void finishPrequels(GrammarAST firstPrequel) { }
public void finishGrammar(GrammarRootAST root, GrammarAST ID) { }

public void grammarOption(GrammarAST ID, GrammarAST valueAST) { }
public void ruleOption(GrammarAST ID, GrammarAST valueAST) { }
public void blockOption(GrammarAST ID, GrammarAST valueAST) { }
public void defineToken(GrammarAST ID) { }
public void defineChannel(GrammarAST ID) { }
public void globalNamedAction(GrammarAST scope, GrammarAST ID, ActionAST action) { }
public void importGrammar(GrammarAST label, GrammarAST ID) { }

public void modeDef(GrammarAST m, GrammarAST ID) { }

```



```

public void discoverRules(GrammarAST rules) { }
public void finishRules(GrammarAST rule) { }
public void discoverRule(RuleAST rule, GrammarAST ID, List<GrammarAST> modifiers,
 ActionAST arg, ActionAST returns, GrammarAST thrws,
 GrammarAST options, ActionAST locals,
 List<GrammarAST> actions,
 GrammarAST block) { }
public void finishRule(RuleAST rule, GrammarAST ID, GrammarAST block) { }
public void discoverLexerRule(RuleAST rule, GrammarAST ID, List<GrammarAST> modifiers,
 GrammarAST block) { }
public void finishLexerRule(RuleAST rule, GrammarAST ID, GrammarAST block) { }
public void ruleCatch(GrammarAST arg, ActionAST action) { }
public void finallyAction(ActionAST action) { }
public void discoverOuterAlt(AltAST alt) { }
public void finishOuterAlt(AltAST alt) { }
public void discoverAlt(AltAST alt) { }
public void finishAlt(AltAST alt) { }

public void ruleRef(GrammarAST ref, ActionAST arg) { }
public void tokenRef(TerminalAST ref) { }
public void elementOption(GrammarASTWithOptions t, GrammarAST ID, GrammarAST valueAST) { }
public void stringRef(TerminalAST ref) { }
public void wildcardRef(GrammarAST ref) { }
public void actionInAlt(ActionAST action) { }
public void sempredInAlt(PredAST pred) { }
public void label(GrammarAST op, GrammarAST ID, GrammarAST element) { }
public void lexerCallCommand(int outerAltNumber, GrammarAST ID, GrammarAST arg) { }
public void lexerCommand(int outerAltNumber, GrammarAST ID) { }

protected void enterGrammarSpec(GrammarAST tree) { }
protected void exitGrammarSpec(GrammarAST tree) { }

protected void enterPrequelConstructs(GrammarAST tree) { }
protected void exitPrequelConstructs(GrammarAST tree) { }

protected void enterPrequelConstruct(GrammarAST tree) { }
protected void exitPrequelConstruct(GrammarAST tree) { }

protected void enterOptionsSpec(GrammarAST tree) { }
protected void exitOptionsSpec(GrammarAST tree) { }

protected void enterOption(GrammarAST tree) { }
protected void exitOption(GrammarAST tree) { }

protected void enterOptionValue(GrammarAST tree) { }
protected void exitOptionValue(GrammarAST tree) { }

protected void enterDelegateGrammars(GrammarAST tree) { }

```

protected void exitDelegateGrammars(GrammarAST tree) { }

protected void enterDelegateGrammar(GrammarAST tree) { }

protected void exitDelegateGrammar(GrammarAST tree) { }

protected void enterTokensSpec(GrammarAST tree) { }

protected void exitTokensSpec(GrammarAST tree) { }

protected void enterTokenSpec(GrammarAST tree) { }

protected void exitTokenSpec(GrammarAST tree) { }

protected void enterChannelsSpec(GrammarAST tree) { }

protected void exitChannelsSpec(GrammarAST tree) { }

protected void enterChannelSpec(GrammarAST tree) { }

protected void exitChannelSpec(GrammarAST tree) { }

protected void enterAction(GrammarAST tree) { }

protected void exitAction(GrammarAST tree) { }

protected void enterRules(GrammarAST tree) { }

protected void exitRules(GrammarAST tree) { }

protected void enterMode(GrammarAST tree) { }

protected void exitMode(GrammarAST tree) { }

protected void enterLexerRule(GrammarAST tree) { }

protected void exitLexerRule(GrammarAST tree) { }

protected void enterRule(GrammarAST tree) { }

protected void exitRule(GrammarAST tree) { }

protected void enterExceptionGroup(GrammarAST tree) { }

protected void exitExceptionGroup(GrammarAST tree) { }

protected void enterExceptionHandler(GrammarAST tree) { }

protected void exitExceptionHandler(GrammarAST tree) { }

protected void enterFinallyClause(GrammarAST tree) { }

protected void exitFinallyClause(GrammarAST tree) { }

protected void enterLocals(GrammarAST tree) { }

protected void exitLocals(GrammarAST tree) { }

protected void enterRuleReturns(GrammarAST tree) { }

protected void exitRuleReturns(GrammarAST tree) { }

protected void enterThrowsSpec(GrammarAST tree) { }

protected void exitThrowsSpec(GrammarAST tree) { }

protected void enterRuleAction(GrammarAST tree) { }

protected void exitRuleAction(GrammarAST tree) { }

protected void enterRuleModifier(GrammarAST tree) { }

protected void exitRuleModifier(GrammarAST tree) { }

protected void enterLexerRuleBlock(GrammarAST tree) { }

protected void exitLexerRuleBlock(GrammarAST tree) { }

protected void enterRuleBlock(GrammarAST tree) { }

protected void exitRuleBlock(GrammarAST tree) { }

protected void enterLexerOuterAlternative(AltAST tree) { }

protected void exitLexerOuterAlternative(AltAST tree) { }

protected void enterOuterAlternative(AltAST tree) { }

protected void exitOuterAlternative(AltAST tree) { }

protected void enterLexerAlternative(GrammarAST tree) { }

protected void exitLexerAlternative(GrammarAST tree) { }

protected void enterLexerElements(GrammarAST tree) { }

protected void exitLexerElements(GrammarAST tree) { }

protected void enterLexerElement(GrammarAST tree) { }

protected void exitLexerElement(GrammarAST tree) { }

protected void enterLabeledLexerElement(GrammarAST tree) { }

protected void exitLabeledLexerElement(GrammarAST tree) { }

protected void enterLexerBlock(GrammarAST tree) { }

protected void exitLexerBlock(GrammarAST tree) { }

protected void enterLexerAtom(GrammarAST tree) { }

protected void exitLexerAtom(GrammarAST tree) { }

protected void enterActionElement(GrammarAST tree) { }

protected void exitActionElement(GrammarAST tree) { }

protected void enterAlternative(AltAST tree) { }

protected void exitAlternative(AltAST tree) { }

protected void enterLexerCommand(GrammarAST tree) { }

protected void exitLexerCommand(GrammarAST tree) { }

protected void enterLexerCommandExpr(GrammarAST tree) { }

protected void exitLexerCommandExpr(GrammarAST tree) { }

protected void enterElement(GrammarAST tree) { }

protected void exitElement(GrammarAST tree) { }

protected void enterAstOperand(GrammarAST tree) { }

protected void exitAstOperand(GrammarAST tree) { }

protected void enterLabeledElement(GrammarAST tree) { }

protected void exitLabeledElement(GrammarAST tree) { }

protected void enterSubrule(GrammarAST tree) { }

protected void exitSubrule(GrammarAST tree) { }

protected void enterLexerSubrule(GrammarAST tree) { }

protected void exitLexerSubrule(GrammarAST tree) { }

protected void enterBlockSuffix(GrammarAST tree) { }

protected void exitBlockSuffix(GrammarAST tree) { }

protected void enterEbnfSuffix(GrammarAST tree) { }

protected void exitEbnfSuffix(GrammarAST tree) { }

protected void enterAtom(GrammarAST tree) { }

protected void exitAtom(GrammarAST tree) { }

protected void enterBlockSet(GrammarAST tree) { }

protected void exitBlockSet(GrammarAST tree) { }

protected void enterSetElement(GrammarAST tree) { }

protected void exitSetElement(GrammarAST tree) { }

protected void enterBlock(GrammarAST tree) { }

protected void exitBlock(GrammarAST tree) { }

protected void enterRuleref(GrammarAST tree) { }

protected void exitRuleref(GrammarAST tree) { }

protected void enterRange(GrammarAST tree) { }

protected void exitRange(GrammarAST tree) { }

protected void enterTerminal(GrammarAST tree) { }

protected void exitTerminal(GrammarAST tree) { }

protected void enterElementOptions(GrammarAST tree) { }

protected void exitElementOptions(GrammarAST tree) { }

protected void enterElementOption(GrammarAST tree) { }

```
protected void exitElementOption(GrammarAST tree) { }
```

```
@Override
```

```
public void traceIn(String ruleName, int ruleIndex) {
 System.err.println("enter "+ruleName+": "+input.LT(1));
}
```

```
@Override
```

```
public void traceOut(String ruleName, int ruleIndex) {
 System.err.println("exit "+ruleName+": "+input.LT(1));
}
}
```

```
grammarSpec
```

```
@init {
```

```
 enterGrammarSpec($start);
```

```
}
```

```
@after {
```

```
 exitGrammarSpec($start);
```

```
}
```

```
 : ^(GRAMMAR ID {grammarName=$ID.text;}
 {discoverGrammar((GrammarRootAST)$GRAMMAR, $ID);}
 prequelConstructs
 {finishPrequels($prequelConstructs.firstOne);}
 rules mode*
 {finishGrammar((GrammarRootAST)$GRAMMAR, $ID);}
)
 ;
```

```
prequelConstructs returns [GrammarAST firstOne=null]
```

```
@init {
```

```
 enterPrequelConstructs($start);
```

```
}
```

```
@after {
```

```
 exitPrequelConstructs($start);
```

```
}
```

```
 : {$firstOne=$start;} prequelConstruct+
 |
 ;
```

```
prequelConstruct
```

```
@init {
```

```
 enterPrequelConstructs($start);
```

```
}
```

```
@after {
```

```
 exitPrequelConstructs($start);
```

```
}
```

```
 : optionsSpec
```

```

| delegateGrammars
| tokensSpec
| channelsSpec
| action
;

optionsSpec
@init {
enterOptionsSpec($start);
}
@after {
exitOptionsSpec($start);
}
: ^(OPTIONS option*)
;

option
@init {
enterOption($start);
boolean rule = inContext("RULE ...");
boolean block = inContext("BLOCK ...");
}
@after {
exitOption($start);
}
: ^(a=ASSIGN ID v=optionValue)
{
if (block) blockOption($ID, $v.start); // most specific first
else if (rule) ruleOption($ID, $v.start);
else grammarOption($ID, $v.start);
}
;

optionValue returns [String v]
@init {
enterOptionValue($start);
$v = $start.token.getText();
}
@after {
exitOptionValue($start);
}
: ID
| STRING_LITERAL
| INT
;

delegateGrammars
@init {

```

```
enterDelegateGrammars($start);
}
@after {
exitDelegateGrammars($start);
}
: ^(IMPORT delegateGrammar+)
;
```

```
delegateGrammar
@init {
enterDelegateGrammar($start);
}
@after {
exitDelegateGrammar($start);
}
: ^(ASSIGN label=ID id=ID {importGrammar($label, $id);}
| id=ID {importGrammar(null, $id);}
;
```

```
tokensSpec
@init {
enterTokensSpec($start);
}
@after {
exitTokensSpec($start);
}
: ^(TOKENS_SPEC tokenSpec+)
;
```

```
tokenSpec
@init {
enterTokenSpec($start);
}
@after {
exitTokenSpec($start);
}
: ID {defineToken($ID);}
;
```

```
channelsSpec
@init {
enterChannelsSpec($start);
}
@after {
exitChannelsSpec($start);
}
: ^(CHANNELS channelSpec+)
;
```

```

channelSpec
@init {
 enterChannelSpec($start);
}
@after {
 exitChannelSpec($start);
}
: ID {defineChannel($ID);}
;

action
@init {
 enterAction($start);
}
@after {
 exitAction($start);
}
: ^(AT sc=ID? name=ID ACTION) {globalNamedAction($sc, $name, (ActionAST)$ACTION);}
;

rules
@init {
 enterRules($start);
}
@after {
 exitRules($start);
}
: ^(RULES {discoverRules($RULES);} (rule|lexerRule)* {finishRules($RULES);})
;

mode
@init {
 enterMode($start);
}
@after {
 exitMode($start);
}
: ^(MODE ID {currentModeName=$ID.text; modeDef($MODE, $ID);} lexerRule*)
;

lexerRule
@init {
 enterLexerRule($start);
 List<GrammarAST> mods = new ArrayList<GrammarAST>();
 currentOuterAltNumber=0;
}
@after {

```



```

exitLexerRule($start);
}
: ^(RULE TOKEN_REF
 {currentRuleName=$TOKEN_REF.text; currentRuleAST=$RULE;}
 (^ (RULEMODIFIERS m=FRAGMENT {mods.add($m);}))?
 {discoverLexerRule((RuleAST)$RULE, $TOKEN_REF, mods, (GrammarAST)input.LT(1));}
 lexerRuleBlock
 {
 finishLexerRule((RuleAST)$RULE, $TOKEN_REF, $lexerRuleBlock.start);
 currentRuleName=null; currentRuleAST=null;
 }
)
;

rule
@init {
enterRule($start);
List<GrammarAST> mods = new ArrayList<GrammarAST>();
List<GrammarAST> actions = new ArrayList<GrammarAST>(); // track roots
currentOuterAltNumber=0;
}
@after {
exitRule($start);
}
: ^(RULE RULE_REF {currentRuleName=$RULE_REF.text; currentRuleAST=$RULE;}
 (^ (RULEMODIFIERS (m=ruleModifier {mods.add($m.start);}+)))?
 ARG_ACTION?
 ret=ruleReturns?
 thr=throwsSpec?
 loc=locals?
 (opts=optionsSpec
 | a=ruleAction {actions.add($a.start);}
)*
 {discoverRule((RuleAST)$RULE, $RULE_REF, mods, (ActionAST)$ARG_ACTION,
 $ret.start!=null?(ActionAST)$ret.start.getChild(0):null,
 $thr.start, $opts.start,
 $loc.start!=null?(ActionAST)$loc.start.getChild(0):null,
 actions, (GrammarAST)input.LT(1);}
 ruleBlock exceptionGroup
 {finishRule((RuleAST)$RULE, $RULE_REF, $ruleBlock.start); currentRuleName=null; currentRuleAST=null;}
)
;

exceptionGroup
@init {
enterExceptionGroup($start);
}
@after {

```

```

exitExceptionGroup($start);
}
: exceptionHandler* finallyClause?
;

exceptionHandler
@init {
enterExceptionHandler($start);
}
@after {
exitExceptionHandler($start);
}
: ^(CATCH ARG_ACTION ACTION) {ruleCatch($ARG_ACTION, (ActionAST)$ACTION);}
;

finallyClause
@init {
enterFinallyClause($start);
}
@after {
exitFinallyClause($start);
}
: ^(FINALLY ACTION) {finallyAction((ActionAST)$ACTION);}
;

locals
@init {
enterLocals($start);
}
@after {
exitLocals($start);
}
: ^(LOCALS ARG_ACTION)
;

ruleReturns
@init {
enterRuleReturns($start);
}
@after {
exitRuleReturns($start);
}
: ^(RETURNS ARG_ACTION)
;

throwsSpec
@init {
enterThrowsSpec($start);

```

```

}
@after {
 exitThrowsSpec($start);
}
: ^(THROWS ID+)
;

```

ruleAction

```

@init {
 enterRuleAction($start);
}
@after {
 exitRuleAction($start);
}
: ^(AT ID ACTION)
;

```

ruleModifier

```

@init {
 enterRuleModifier($start);
}
@after {
 exitRuleModifier($start);
}
: PUBLIC
| PRIVATE
| PROTECTED
| FRAGMENT
;

```

lexerRuleBlock

```

@init {
 enterLexerRuleBlock($start);
}
@after {
 exitLexerRuleBlock($start);
}
: ^(BLOCK
 ({
 currentOuterAltRoot = (GrammarAST)input.LT(1);
 currentOuterAltNumber++;
 }
 lexerOuterAlternative
)+
)
;

```

ruleBlock

```

@init {
 enterRuleBlock($start);
}
@after {
 exitRuleBlock($start);
}
: ^(BLOCK
 ({
 currentOuterAltRoot = (GrammarAST)input.LT(1);
 currentOuterAltNumber++;
 }
 outerAlternative
)+
)
;

```

lexerOuterAlternative

```

@init {
 enterLexerOuterAlternative((AltAST)$start);
 discoverOuterAlt((AltAST)$start);
}
@after {
 finishOuterAlt((AltAST)$start);
 exitLexerOuterAlternative((AltAST)$start);
}
: lexerAlternative
;

```

outerAlternative

```

@init {
 enterOuterAlternative((AltAST)$start);
 discoverOuterAlt((AltAST)$start);
}
@after {
 finishOuterAlt((AltAST)$start);
 exitOuterAlternative((AltAST)$start);
}
: alternative
;

```

lexerAlternative

```

@init {
 enterLexerAlternative($start);
}
@after {
 exitLexerAlternative($start);
}

```

```
: ^(LEXER_ALT_ACTION lexerElements lexerCommand+)
| lexerElements
;
```

lexerElements

```
@init {
enterLexerElements($start);
}
@after {
exitLexerElements($start);
}
: ^(ALT lexerElement+)
;
```

lexerElement

```
@init {
enterLexerElement($start);
}
@after {
exitLexerElement($start);
}
: labeledLexerElement
| lexerAtom
| lexerSubrule
| ACTION {actionInAlt((ActionAST)$ACTION);}
| SEMPRED {sempredInAlt((PredAST)$SEMPRED);}
| ^(ACTION elementOptions) {actionInAlt((ActionAST)$ACTION);}
| ^(SEMPRED elementOptions) {sempredInAlt((PredAST)$SEMPRED);}
| EPSILON
;
```

labeledLexerElement

```
@init {
enterLabeledLexerElement($start);
}
@after {
exitLabeledLexerElement($start);
}
: ^((ASSIGN|PLUS_ASSIGN) ID (lexerAtom|block))
;
```

lexerBlock

```
@init {
enterLexerBlock($start);
}
@after {
exitLexerBlock($start);
}
```

```
: ^(BLOCK optionsSpec? lexerAlternative+)
```

```
;
```

```
lexerAtom
```

```
@init {
```

```
 enterLexerAtom($start);
```

```
}
```

```
@after {
```

```
 exitLexerAtom($start);
```

```
}
```

```
 : terminal
```

```
 | ^(NOT blockSet)
```

```
 | blockSet
```

```
 | ^(WILDCARD elementOptions)
```

```
 | WILDCARD
```

```
 | LEXER_CHAR_SET
```

```
 | range
```

```
 | ruleref
```

```
;
```

```
actionElement
```

```
@init {
```

```
 enterActionElement($start);
```

```
}
```

```
@after {
```

```
 exitActionElement($start);
```

```
}
```

```
 : ACTION
```

```
 | ^(ACTION elementOptions)
```

```
 | SEMPRED
```

```
 | ^(SEMPRED elementOptions)
```

```
;
```

```
alternative
```

```
@init {
```

```
 enterAlternative((AltAST)$start);
```

```
 discoverAlt((AltAST)$start);
```

```
}
```

```
@after {
```

```
 finishAlt((AltAST)$start);
```

```
 exitAlternative((AltAST)$start);
```

```
}
```

```
 : ^(ALT elementOptions? element+)
```

```
 | ^(ALT elementOptions? EPSILON)
```

```
;
```

```
lexerCommand
```

```
@init {
```

```

enterLexerCommand($start);
}
@after {
exitLexerCommand($start);
}
: ^(LEXER_ACTION_CALL ID lexerCommandExpr)
 {lexerCallCommand(currentOuterAltNumber, $ID, $lexerCommandExpr.start);}
| ID
 {lexerCommand(currentOuterAltNumber, $ID);}
;

```

```

lexerCommandExpr
@init {
enterLexerCommandExpr($start);
}
@after {
exitLexerCommandExpr($start);
}
: ID
| INT
;

```

```

element
@init {
enterElement($start);
}
@after {
exitElement($start);
}
: labeledElement
| atom
| subrule
| ACTION {actionInAlt((ActionAST)$ACTION);}
| SEMPRED {sempredInAlt((PredAST)$SEMPRED);}
| ^(ACTION elementOptions) {actionInAlt((ActionAST)$ACTION);}
| ^(SEMPRED elementOptions) {sempredInAlt((PredAST)$SEMPRED);}

| ^(NOT blockSet)
| ^(NOT block)
;

```

```

astOperand
@init {
enterAstOperand($start);
}
@after {
exitAstOperand($start);
}

```

```

: atom
| ^(NOT blockSet)
| ^(NOT block)
;

labeledElement
@init {
 enterLabeledElement($start);
}
@after {
 exitLabeledElement($start);
}
: ^((ASSIGN|PLUS_ASSIGN) ID element) {label($start, $ID, $element.start);}
;

subrule
@init {
 enterSubrule($start);
}
@after {
 exitSubrule($start);
}
: ^(blockSuffix block)
| block
;

lexerSubrule
@init {
 enterLexerSubrule($start);
}
@after {
 exitLexerSubrule($start);
}
: ^(blockSuffix lexerBlock)
| lexerBlock
;

blockSuffix
@init {
 enterBlockSuffix($start);
}
@after {
 exitBlockSuffix($start);
}
: ebnfSuffix
;

ebnfSuffix

```



```

@init {
 enterEbnfSuffix($start);
}
@after {
 exitEbnfSuffix($start);
}
: OPTIONAL
| CLOSURE
| POSITIVE_CLOSURE
;

```

atom

```

@init {
 enterAtom($start);
}
@after {
 exitAtom($start);
}
: ^(DOT ID terminal)
| ^(DOT ID ruleref)
| ^(WILDCARD elementOptions) {wildcardRef($WILDCARD);}
| WILDCARD {wildcardRef($WILDCARD);}
| terminal
| blockSet
| ruleref
;

```

blockSet

```

@init {
 enterBlockSet($start);
}
@after {
 exitBlockSet($start);
}
: ^(SET setElement+)
;

```

setElement

```

@init {
 enterSetElement($start);
}
@after {
 exitSetElement($start);
}
: ^(STRING_LITERAL elementOptions) {stringRef((TerminalAST)$STRING_LITERAL);}
| ^(TOKEN_REF elementOptions) {tokenRef((TerminalAST)$TOKEN_REF);}
| STRING_LITERAL {stringRef((TerminalAST)$STRING_LITERAL);}
| TOKEN_REF {tokenRef((TerminalAST)$TOKEN_REF);}

```

```

| ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
{
stringRef((TerminalAST)$a);
stringRef((TerminalAST)$b);
}
| LEXER_CHAR_SET
;

block
@init {
enterBlock($start);
}
@after {
exitBlock($start);
}
: ^(BLOCK optionsSpec? ruleAction* ACTION? alternative+)
;

ruleref
@init {
enterRuleref($start);
}
@after {
exitRuleref($start);
}
: ^(RULE_REF arg=ARG_ACTION? elementOptions?)
{
ruleRef($RULE_REF, (ActionAST)$ARG_ACTION);
if ($arg!=null) actionInAlt((ActionAST)$arg);
}
;

range
@init {
enterRange($start);
}
@after {
exitRange($start);
}
: ^(RANGE STRING_LITERAL STRING_LITERAL)
;

terminal
@init {
enterTerminal($start);
}
@after {
exitTerminal($start);
}

```

```

}
: ^(STRING_LITERAL elementOptions)
 {stringRef((TerminalAST)$STRING_LITERAL);}
| STRING_LITERAL {stringRef((TerminalAST)$STRING_LITERAL);}
| ^(TOKEN_REF elementOptions) {tokenRef((TerminalAST)$TOKEN_REF);}
| TOKEN_REF {tokenRef((TerminalAST)$TOKEN_REF);}
;

elementOptions
@init {
 enterElementOptions($start);
}
@after {
 exitElementOptions($start);
}
: ^(ELEMENT_OPTIONS elementOption[(GrammarASTWithOptions)$start.getParent()]*);

elementOption[GrammarASTWithOptions t]
@init {
 enterElementOption($start);
}
@after {
 exitElementOption($start);
}
: ID {elementOption(t, $ID, null);}
| ^(ASSIGN id=ID v=ID) {elementOption(t, $id, $v);}
| ^(ASSIGN ID v=STRING_LITERAL) {elementOption(t, $ID, $v);}
| ^(ASSIGN ID v=ACTION) {elementOption(t, $ID, $v);}
| ^(ASSIGN ID v=INT) {elementOption(t, $ID, $v);}
;

```

Found in path(s):

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/GrammarTreeVisitor.g

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\*/

tree grammar ATNBuilder;

```
options {
 language = Java;
 tokenVocab = ANTLRParser;
 ASTLabelType = GrammarAST;
 // filter = true;
}
```

// Include the copyright in this source and also the generated source

@header {

/\*

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\*/

```
package org.antlr.v4.parse;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
import org.antlr.v4.automata.ATNFactory;
}
```

```
@members {
 ATNFactory factory;
 public ATNBuilder(TreeNodeStream input, ATNFactory factory) {
 this(input);
 this.factory = factory;
 }
}
```

dummy : block[null] ; // avoid error about no start rule

ruleBlock[GrammarAST ebnfRoot] returns [ATNFactory.Handle p]

```
@init {
 List<ATNFactory.Handle> alts = new ArrayList<ATNFactory.Handle>();
 int alt = 1;
 factory.setCurrentOuterAlt(alt);
}
: ^(BLOCK
 (^ (OPTIONS .*))?)?
 (a=alternative
 {alts.add($a.p); factory.setCurrentOuterAlt(++alt);}
)+
)
{ $p = factory.block((BlockAST)$BLOCK, ebnfRoot, alts); }
;
```

block[GrammarAST ebnfRoot] returns [ATNFactory.Handle p]

```
@init {List<ATNFactory.Handle> alts = new ArrayList<ATNFactory.Handle>();}
: ^(BLOCK (^ (OPTIONS .*))?)? (a=alternative {alts.add($a.p);})+
{ $p = factory.block((BlockAST)$BLOCK, ebnfRoot, alts); }
;
```

alternative returns [ATNFactory.Handle p]

```
@init {List<ATNFactory.Handle> els = new ArrayList<ATNFactory.Handle>();}
: ^(LEXER_ALT_ACTION a=alternative lexerCommands)
 { $p = factory.lexerAltCommands($a.p,$lexerCommands.p); }
| ^(ALT elementOptions? EPSILON) { $p = factory.epsilon($EPSILON); }
```

```
| ^(ALT elementOptions? (e=element {els.add($e.p);})+) {$p = factory.alt(els);}
;
```

lexerCommands returns [ATNFactory.Handle p]

```
@init {List<ATNFactory.Handle> cmds = new ArrayList<ATNFactory.Handle>();}
: (c=lexerCommand {if ($c.cmd != null) cmds.add($c.cmd);})+
{
 $p = factory.alt(cmds);
}
;
```

lexerCommand returns [ATNFactory.Handle cmd]

```
: ^(LEXER_ACTION_CALL ID lexerCommandExpr)
 {$cmd = factory.lexerCallCommand($ID, $lexerCommandExpr.start);}
| ID
 {$cmd = factory.lexerCommand($ID);}
;
```

lexerCommandExpr

```
: ID
| INT
;
```

element returns [ATNFactory.Handle p]

```
: labeledElement {$p = $labeledElement.p;}
| atom {$p = $atom.p;}
| subrule {$p = $subrule.p;}
| ACTION {$p = factory.action((ActionAST)$ACTION);}
| SEMPRED {$p = factory.sempred((PredAST)$SEMPRED);}
| ^(ACTION .) {$p = factory.action((ActionAST)$ACTION);}
| ^(SEMPRED .) {$p = factory.sempred((PredAST)$SEMPRED);}
| ^(NOT b=blockSet[true]) {$p = $b.p;}
| LEXER_CHAR_SET {$p = factory.charSetLiteral($start);}
;
```

astOperand returns [ATNFactory.Handle p]

```
: atom {$p = $atom.p;}
| ^(NOT blockSet[true]) {$p = $blockSet.p;}
;
```

labeledElement returns [ATNFactory.Handle p]

```
: ^(ASSIGN ID element) {$p = factory.label($element.p);}
| ^(PLUS_ASSIGN ID element) {$p = factory.listLabel($element.p);}
;
```

subrule returns [ATNFactory.Handle p]

```
: ^(OPTIONAL block[$start]) {$p = $block.p;}
| ^(CLOSURE block[$start]) {$p = $block.p;}
;
```

```

| ^(POSITIVE_CLOSURE block[$start]) {$p = $block.p;}
| block[null] {$p = $block.p;}
;

blockSet[boolean invert] returns [ATNFactory.Handle p]
@init {List<GrammarAST> alts = new ArrayList<GrammarAST>();}
: ^(SET (setElement {alts.add($setElement.start);})+) {$p = factory.set($start, alts, $invert);}
;

/** Don't combine with atom otherwise it will build spurious ATN nodes */
setElement
: ^(STRING_LITERAL .)
| ^(TOKEN_REF .)
| STRING_LITERAL
| TOKEN_REF
| ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
| LEXER_CHAR_SET
;

atom returns [ATNFactory.Handle p]
: range {$p = $range.p;}
| ^(DOT ID terminal) {$p = $terminal.p;}
| ^(DOT ID ruleref) {$p = $ruleref.p;}
| ^(WILDCARD .) {$p = factory.wildcard($start);}
| WILDCARD {$p = factory.wildcard($start);}
| blockSet[false] {$p = $blockSet.p;}
| terminal {$p = $terminal.p;}
| ruleref {$p = $ruleref.p;}
;

ruleref returns [ATNFactory.Handle p]
: ^(RULE_REF ARG_ACTION? ^(ELEMENT_OPTIONS .*)) {$p = factory.ruleRef($RULE_REF);}
| ^(RULE_REF ARG_ACTION?) {$p = factory.ruleRef($RULE_REF);}
| RULE_REF {$p = factory.ruleRef($RULE_REF);}
;

range returns [ATNFactory.Handle p]
: ^(RANGE a=STRING_LITERAL b=STRING_LITERAL) {$p = factory.range($a,$b);}
;

terminal returns [ATNFactory.Handle p]
: ^(STRING_LITERAL .) {$p = factory.stringLiteral((TerminalAST)$start);}
| STRING_LITERAL {$p = factory.stringLiteral((TerminalAST)$start);}
| ^(TOKEN_REF ARG_ACTION .) {$p = factory.tokenRef((TerminalAST)$start);}
| ^(TOKEN_REF .) {$p = factory.tokenRef((TerminalAST)$start);}
| TOKEN_REF {$p = factory.tokenRef((TerminalAST)$start);}
;

```

```
elementOptions
: ^(ELEMENT_OPTIONS elementOption*)
;
```

```
elementOption
: ID
| ^(ASSIGN ID ID)
| ^(ASSIGN ID STRING_LITERAL)
| ^(ASSIGN ID ACTION)
| ^(ASSIGN ID INT)
;
```

Found in path(s):

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/parse/ATNBuilder.g

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*/
```

```
SwiftTypeInitMap ::= [
```



```

"Int":"0",
"Int64":"0",
"Float":"0.0",
"Double":"0.0",
"Bool":"false",
default:"nil" // anything other than a primitive type is an object
]
SwiftTypeMap ::= [
 "int":"Int",
 "float":"Float",
 "long":"Int64",
 "double":"Double",
 "bool":"Bool",
 "boolean":"Bool",
 default : key
]
// args must be <object-model-object>, <fields-resulting-in-STs>

```

```

ParserFile(file, parser, namedActions,contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<namedActions.header>
import Antlr4

<parser>
>>

```

```

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<header>
import Antlr4

/**
 * This interface defines a complete listener for a parse tree produced by
 * { @link <file.parserName> }.
 */
public protocol <file.grammarName>Listener: ParseTreeListener {
 <file.listenerNames>:(Iname |
/**
<if(file.listenerLabelRuleNames.(Iname))>
 * Enter a parse tree produced by the { @code <Iname>}
 * labeled alternative in { @link <file.parserName>#<file.listenerLabelRuleNames.(Iname)>}.
<else>

```

```

* Enter a parse tree produced by { @link <file.parserName>#<lname>\}.
<endif>
- Parameters:
 - ctx: the parse tree
*/
func enter<lname; format="cap">(_ ctx: <file.parserName>.<lname; format="cap">Context)
/**
<if(file.listenerLabelRuleNames.(lname))>
* Exit a parse tree produced by the { @code <lname>\}
* labeled alternative in { @link <file.parserName>#<file.listenerLabelRuleNames.(lname)>\}.
<else>
* Exit a parse tree produced by { @link <file.parserName>#<lname>\}.
<endif>
- Parameters:
 - ctx: the parse tree
*/
func exit<lname; format="cap">(_ ctx: <file.parserName>.<lname; format="cap">Context)); separator="\n">
}
>>

```

```

BaseListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<header>

```

```
import Antlr4
```

```

/**
* This class provides an empty implementation of { @link <file.grammarName>Listener},
* which can be extended to create a listener which only needs to handle a subset
* of the available methods.
*/
open class <file.grammarName>BaseListener: <file.grammarName>Listener {
 public init() { \}
 <file.listenerNames:{lname |

/**
* { @inheritDoc\}
*
* \<p>The default implementation does nothing.\</p>
*/
open func enter<lname; format="cap">(_ ctx: <file.parserName>.<lname; format="cap">Context) { \}
/**
* { @inheritDoc\}
*

```

```

* \<p>The default implementation does nothing.\</p>
*/
open func exit<Iname; format="cap">(_ ctx: <file.parserName>.<Iname; format="cap">Context) { \};
separator="\n">

/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
open func enterEveryRule(_ ctx: ParserRuleContext) { }
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
open func exitEveryRule(_ ctx: ParserRuleContext) { }
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
open func visitTerminal(_ node: TerminalNode) { }
/**
 * { @inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
open func visitErrorNode(_ node: ErrorNode) { }
}
>>

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<header>
import Antlr4

/**
 * This interface defines a complete generic visitor for a parse tree produced
 * by { @link <file.parserName>}.
 *
 * @param \<T> The return type of the visit operation. Use { @link Void} for
 * operations with no return type.
 */
open class <file.grammarName>Visitor\<T>: ParseTreeVisitor\<T> {

```

```

<file.visitorNames:{ lname |
/**
<if(file.visitorLabelRuleNames.(lname))>
* Visit a parse tree produced by the { @code <lname>\}
* labeled alternative in { @link <file.parserName>#<file.visitorLabelRuleNames.(lname)>\}.
<else>
* Visit a parse tree produced by { @link <file.parserName>#<lname>\}.
<endif>
- Parameters:
- ctx: the parse tree
- returns: the visitor result
*/
open func visit<lname; format="cap">(_ ctx: <file.parserName>.<lname; format="cap">Context) -> T{
fatalError(#function + " must be overridden")
\}
}; separator="\n">
}
>>

```

```

BaseVisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<header>
import Antlr4

/**
* This class provides an empty implementation of { @link <file.grammarName>Visitor},
* which can be extended to create a visitor which only needs to handle a subset
* of the available methods.
*
* @param \<T> The return type of the visit operation. Use { @link Void} for
* operations with no return type.
*/
open class <file.grammarName>BaseVisitor\<T>: AbstractParseTreeVisitor\<T> {
<file.visitorNames:{ lname |
/**
* { @inheritDoc\}
*
* \<p>The default implementation returns the result of calling
* { @link #visitChildren\} on { @code ctx\}.\</p>
*/
open func visit<lname; format="cap">(_ ctx: <file.parserName>.<lname; format="cap">Context) -> T? { return
visitChildren(ctx) \}; separator="\n">
}
>>

```

```

fileHeader(grammarFileName, ANTLRVersion) ::= <<
// Generated from <grammarFileName; format="java-escape"> by ANTLR <ANTLRVersion>
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
<!--@SuppressWarnings({"all", "warnings", "unchecked", "unused", "cast"})!>
open class <parser.name>: <superClass; null="Parser"> {

 internal static var _decisionToDFA: [DFA] = {
 var decisionToDFA = [DFA]()
 let length = <parser.name>._ATN.getNumberOfDecisions()
 for i in 0..\<length {
 <!-- decisionToDFA[i] = DFA(<parser.name>._ATN.getDecisionState(i)!, i)!>
 decisionToDFA.append(DFA(<parser.name>._ATN.getDecisionState(i)!, i))
 }
 return decisionToDFA
 }()
 internal static let _sharedContextCache: PredictionContextCache = PredictionContextCache()
 <if(parser.tokens)>
 public enum Tokens: Int {
 case EOF = -1, <parser.tokens:{k | <k> = <parser.tokens.(k)>}; separator=", ", wrap, anchor>
 }
 <endif>
 public static let <parser.rules:{r | RULE_<r.name> = <r.index>}; separator=", ", wrap, anchor>
 public static let ruleNames: [String] = [
 <parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
]

 <vocabulary(parser.literalNames, parser.symbolicNames)>

 override
 open func getGrammarFileName() -> String { return "<parser.grammarFileName; format="java-escape">" }

 override
 open func getRuleNames() -> [String] { return <parser.name>.ruleNames }

 override
 open func getSerializedATN() -> String { return <parser.name>._serializedATN }

 override
 open func getATN() -> ATN { return <parser.name>._ATN }

 <namedActions.members>
 <parser:(ctor)()>

```

```

<funcs; separator="\n">

<if(sempredFuncs)>
 override
 open func sempred(_ localctx:RuleContext?, _ ruleIndex: Int, _ predIndex: Int) throws -> Bool {
 switch (ruleIndex) {
 <parser.sempredFuncs.values: { f }
 case <f.ruleIndex>:
 return try <f.name>_sempred(_ localctx?.castdown(<f.ctxType>.self), predIndex); separator="\n">
 default: return true
 }
 <!return true;!>
 }
 <sempredFuncs.values; separator="\n">
<endif>

<atn>
 public static let _serializedATN : String = <parser.name>ATN().jsonString
 public static let _ATN: ATN = ATNDeserializer().deserializeFromJson(_serializedATN)
}
>>

vocabulary(literalNames, symbolicNames) ::= <<
private static let _LITERAL_NAMES: [String?] = [
 <literalNames: { t | <t> }; null="nil", separator=", ", wrap, anchor>
]
private static let _SYMBOLIC_NAMES: [String?] = [
 <symbolicNames: { t | <t> }; null="nil", separator=", ", wrap, anchor>
]
public static let VOCABULARY: Vocabulary = Vocabulary(_LITERAL_NAMES, _SYMBOLIC_NAMES)

/**
 * @deprecated Use {@link #VOCABULARY} instead.
 */
//@Deprecated
public let tokenNames: [String?]? = {
 let length = _SYMBOLIC_NAMES.count
 var tokenNames = [String?](repeating: nil, count: length)
 for i in 0..

```

```

return tokenNames
}()

override
<!--@Deprecated!>
open func getTokenNames() -> [String?]? {
return tokenNames
}
>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
override
open func action(_ _localctx: RuleContext?, _ ruleIndex: Int, _ actionIndex: Int) throws {
switch (ruleIndex) {
<recog.actionFuncs.values:{f|
case <f.ruleIndex>:
<f.name>_action((_localctx as <f.ctxType>?), actionIndex)
}; separator="\n">
default: break
}
}
<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
override
open func sempred(_ _localctx: RuleContext?, _ ruleIndex: Int, _ predIndex: Int) throws -> Bool{
switch (ruleIndex) {
<recog.sempredFuncs.values:{f|
case <f.ruleIndex>:
return try <f.name>_sempred(_localctx?.castdown(<f.ctxType>.self), predIndex)); separator="\n">
default: return true
}
}
<!return true;!>
}
<sempredFuncs.values; separator="\n">
<endif>
>>

parser_ctor(p) ::= <<

open override func getVocabulary() -> Vocabulary {
return <p.name>.VOCABULARY
}

public override init(_ input:TokenStream)throws {
RuntimeMetaData.checkVersion("4.6", RuntimeMetaData.VERSION)
try super.init(input)

```

```

_interp = ParserATNSimulator(self,<p.name>._ATN,<p.name>._decisionToDFA,
<parser.name>._sharedContextCache)
}
>>

```

```

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/

```

```

RuleActionFunction(r, actions) ::= <<
private func <r.name>_action(_ localctx: <r.ctxType>?, _ actionIndex: Int) {
switch (actionIndex) {
<actions:{index|
case <index>:
<actions.(index)>
}; separator="\n">
default: break
}
}
>>

```

```

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/

```

```

RuleSempredFunction(r, actions) ::= <<
private func <r.name>_sempred(_ localctx: <r.ctxType>!, _ predIndex: Int) throws -> Bool {
switch (predIndex) {
<actions:{index|
case <index>:return <actions.(index)>}; separator="\n">
default: return true
}
<!return true;!>
}
>>

```

```

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<
<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
@discardableResult
<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>open func
<endif><currentRule.name><(if(first(args))>_ <endif><args; separator=", _">) throws -> <currentRule.ctxType> {
var _localctx: <currentRule.ctxType> = <currentRule.ctxType>(_ctx, getState())<currentRule.args:{a | ,
<a.name>}>>)
try enterRule(_localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>)
<namedActions.init>
<locals; separator="\n">
defer {
<finallyAction>

```



```

 try! exitRule()
 }
do {
<if(currentRule.hasLookaheadBlock)>
 var _alt:Int
<endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
<if(exceptions)>
<exceptions; separator="\n">
<else>
catch ANTLRException.recognition(let re) {
 _localctx.exception = re
 _errHandler.reportError(self, re)
 try _errHandler.recover(self, re)
 }
<endif>

return _localctx
}
>>

```

```

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

```

```

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public final <endif> func <currentRule.name>(
<if(first(args))>_ <endif><args; separator=", _">) throws -> <currentRule.ctxType> {
 return try <currentRule.name>(0<currentRule.args:{a | , <a.name>}>)
 }
}
@discardableResult
private func <currentRule.name>(_ p<args:{a | , <a>}>: Int) throws -> <currentRule.ctxType> {
 let _parentctx: ParserRuleContext? = _ctx
 var _parentState: Int = getState()
 var _localctx: <currentRule.ctxType> = <currentRule.ctxType>(_ctx, _parentState<currentRule.args:{a | ,
<a.name>}>)
 var _prevctx: <currentRule.ctxType> = _localctx
 var _startState: Int = <currentRule.startState>
 try enterRecursionRule(_localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>, _p)
 <namedActions.init>
 <locals; separator="\n">
 defer {
 <finallyAction>
 }
}

```

```

 try! unrollRecursionContexts(_parentctx)
 }
do {
<if(currentRule.hasLookaheadBlock)>
 var _alt: Int
<endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
 catch ANTLRException.recognition(let re) {
 _localctx.exception = re
 _errHandler.reportError(self, re)
 try _errHandler.recover(self, re)
 }

 return _localctx;
}
>>

```

```

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>_localctx = <currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(_localctx);<endif>
try enterOuterAlt(_localctx, <currentOuterMostAltCodeBlock.alt.altNum>)
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

```

```

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<!/{!>
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
<!/{!>
>>

```

```

LL1AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = try _input.LT(1)<endif>
<preamble; separator="\n">
switch (<parser.name>.Tokens(rawValue: try _input.LA(1))! {
<choice.altLook,alts:{look,alt | <cases(ttypes=look)>
 <alt>
 break }; separator="\n">
default:
 <error>
}
>>

```

```

LL1OptionalBlock(choice, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
switch (<parser.name>.Tokens(rawValue: try _input.LA(1))!) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
<alt>
break}; separator="\n">
default:
<error>
}
>>

```

```

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<preamble; separator="\n">
if (<expr>) {
<alts; separator="\n">
}
<!else if (!(<followExpr>) <error>!>
>>

```

```

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<preamble; separator="\n">
while (<loopExpr>) {
<alts; separator="\n">
setState(<choice.loopBackStateNumber>)
try _errHandler.sync(self)
<iteration>
}
>>

```

```

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.blockStartStateNumber>) <! alt block decision !>
try _errHandler.sync(self)
<preamble; separator="\n">
repeat {
<alts; separator="\n">
setState(<choice.stateNumber>); <! loopback/exit decision !>
try _errHandler.sync(self)
<iteration>
} while (<loopExpr>)
>>

```

```

// LL(*) stuff

```

```

AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = try _input.LT(1)<endif>
<preamble; separator="\n">
switch(try getInterpreter().adaptivePredict(_input,<choice.decision>, _ctx)) {
<alts:{alt |
case <i>:
<alt>
break }; separator="\n">
default: break
}
>>

```

```

OptionalBlock(choice, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
switch (try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)) {
<alts:{alt |
case <i><if(!choice.ast.greedy)>+1<endif>:
<alt>
break }; separator="\n">
default: break
}
>>

```

```

StarBlock(choice, alts, sync, iteration) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
_alt = try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)
while (_alt != <choice.exitAlt> && _alt != ATN.INVALID_ALT_NUMBER) {
if (_alt==1<if(!choice.ast.greedy)>+1<endif>) {
<iteration>
<alts> <! should only be one !>
}
setState(<choice.loopBackStateNumber>)
try _errHandler.sync(self)
_alt = try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)
}
>>

```

```

PlusBlock(choice, alts, error) ::= <<
setState(<choice.blockStartStateNumber>); <! alt block decision !>
try _errHandler.sync(self)
_alt = 1<if(!choice.ast.greedy)>+1<endif>;
repeat {
switch (_alt) {

```

```

<alts:{alt|
case <i><if(!choice.ast.greedy)>+1<endif>:
<alt>
break}; separator="\n">
default:
<error>
}
setState(<choice.loopBackStateNumber>); <! loopback/exit decision !>
try _errHandler.sync(self)
_alt = try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)
} while (_alt != <choice.exitAlt> && _alt != ATN.INVALID_ALT_NUMBER)
>>

Sync(s) ::= "sync(<s.expecting.name>);"

ThrowNoViableAlt(t) ::= "throw try ANTLRException.recognition(e: NoViableAltException(self))"

TestSetInline(s) ::= <<
<!<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">!>
//closure
{ () -> Bool in
 <if(rest(s.bitsets)>var<else>let<endif> testSet: Bool = <first(s.bitsets):{bits |
<if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s, bits)><endif>}>
 <rest(s.bitsets):{bits | testSet = testSet || <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s,
bits)><else><bitsetInlineComparison(s, bits)><endif>}; separator="\n">
 return testSet
}()
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <<
<!(<testShiftInRange({<offsetShift(s.varName, bits.shift)>}) && ((1 \<< <offsetShift(s.varName, bits.shift)>) &
(<bits.ttypes:{ ttype | (1 \<< <offsetShift(ttype, bits.shift)>}); separator=" | ">)) != 0)!>
{ () -> Bool in
 <! let test: Bool = (<testShiftInRange({<offsetShift(s.varName, bits.shift)>})!>
 <!var temp: Int64 = Int64(<offsetShift(s.varName, bits.shift)>)!>
 <!temp = (temp \< 0) ? (64 + (temp % 64)) : (temp % 64)!>
 <!let test1: Int64 = (Int64(1) \<< temp)!>
 <!var test2: Int64 = (<first(bits.ttypes):{ttype | Utils.bitLeftShift(<offsetShift(parserName(ttype), bits.shift)>)}>)!>
 <!<rest(bits.ttypes):{ttype | test2 = test2 | Utils.bitLeftShift(<offsetShift(parserName(ttype), bits.shift)>)}>};
separator="\n">!>
 let testArray: [Int] = [<s.varName>, <bits.ttypes:{ ttype |<parserName(ttype)>}; separator=", ">]

```

```

<!var test2: Int64 = Utils.testBitLeftShiftArray(testArray)!>
return Utils.testBitLeftShiftArray(testArray, <bits.shift>)
}()
>>

isZero ::= [
"0": true,
default: false
]
parserName(ttype) ::= <%
<parser.name>.Tokens.<ttype>.rawValue
%>
offsetShift(shiftAmount, offset) ::= <%
<if(!isZero.(offset))><shiftAmount> - <offset><else><shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName> == <parser.name>.Tokens.<ttype>.rawValue}; separator=" || ">
%>

cases(ttypes) ::= <<
<trunc(ttypes): {t | case .<t>:fallthrough} ; separator="\n">
<last(ttypes): {t | case .<t>:} ; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
setState(<r.stateNumber>)
<if(r.labels)>
try {
let assignmentValue = try
<r.name><(if(r.ast.options.p))<r.ast.options.p><if(argExprsChunks)><endif><endif><argExprsChunks>
<r.labels:{l | <labelref(l)> = assignmentValue} ; separator="\n">
}()
<else>try
<r.name><(if(r.ast.options.p))<r.ast.options.p><if(argExprsChunks)><endif><endif><argExprsChunks><endif>
>>

MatchToken(m) ::= <<
setState(<m.stateNumber>)
<if(m.labels)>
try {
let assignmentValue = try match(<parser.name>.Tokens.<m.name>.rawValue)
<m.labels:{l | <labelref(l)> = assignmentValue} ; separator="\n">
}()
<else>try match(<parser.name>.Tokens.<m.name>.rawValue)<endif>
>>

```

```
MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"
```

```
MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"
```

```
CommonSetStuff(m, expr, capture, invert) ::= <<
 setState(<m.stateNumber>)
 <if(m.labels)><m.labels:{1 | <labelref(l)> = }>try _input.LT(1)<endif>
 <capture>
 if (<if(invert)><m.varName> \<= 0 || <else>!<endif>(<expr>)) {
 <if(m.labels)><m.labels:{1 | <labelref(l)> = }><endif>try _errHandler.recoverInline(self)<if(m.labels)> as
 Token<endif>
 }
 else {
 _errHandler.reportMatch(self)
 try consume()
 }
>>
```

```
Wildcard(w) ::= <<
 setState(<w.stateNumber>)
 <if(w.labels)><w.labels:{1 | <labelref(l)> = }><endif>try matchWildcard();
>>
```

```
// ACTION STUFF
```

```
Action(a, foo, chunks) ::= "<chunks>"
```

```
ArgAction(a, chunks) ::= "<chunks>"
```

```
SemPred(p, chunks, failChunks) ::= <<
 setState(<p.stateNumber>)
 if (!<chunks>)) {
 throw try ANTLRException.recognition(e:FailedPredicateException(self, <p.predicate><if(failChunks)>,
 <failChunks><elseif(p.msg)>, <p.msg><endif>))
 }
>>
```

```
ExceptionClause(e, catchArg, catchAction) ::= <<
 catch (<catchArg>) {
 <catchAction>
 }
>>
```

```
// lexer actions are not associated with model objects
```

```
LexerSkipCommand() ::= "skip()"
```

```
LexerMoreCommand() ::= "more()"
```

```
LexerPopModeCommand() ::= "popMode()"
```

```

LexerTypeCommand(arg) ::= "_type = <arg>"
LexerChannelCommand(arg) ::= "_channel = <arg>"
LexerModeCommand(arg) ::= "_mode = <arg>"
LexerPushModeCommand(arg) ::= "pushMode(<arg>)"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "_localctx.<a.name>"
LocalRef(a) ::= "_localctx.<a.name>"
RetValRef(a) ::= "_localctx.<a.name>"
QRetValRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getText()! : \"\""
TokenPropertyRef_type(t) ::= "<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getType() : 0)"
TokenPropertyRef_line(t) ::= "<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getLine() : 0)"
TokenPropertyRef_pos(t) ::= "<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getCharPositionInLine() : 0)"
TokenPropertyRef_channel(t) ::= "<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getChannel() : 0)"
TokenPropertyRef_index(t) ::= "<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getTokenIndex() : 0)"
TokenPropertyRef_int(t) ::= "<ctx(t)>.<t.label> != nil ? Int(<ctx(t)>.<t.label>!.getText()) : 0)"

RulePropertyRef_start(r) ::= "<ctx(r)>.<r.label> != nil ? (<ctx(r)>.<r.label>!.start?.description ?? \"\") : \"\""
RulePropertyRef_stop(r) ::= "<ctx(r)>.<r.label> != nil ? (<ctx(r)>.<r.label>!.stop?.description ?? \"\") : \"\""
RulePropertyRef_text(r) ::= "<ctx(r)>.<r.label> != nil ? try
_input.getText(<ctx(r)>.<r.label>!.start,<ctx(r)>.<r.label>!.stop) : \"\""
RulePropertyRef_ctx(r) ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r) ::= "self"

ThisRulePropertyRef_start(r) ::= "_localctx.start"
ThisRulePropertyRef_stop(r) ::= "_localctx.stop"
ThisRulePropertyRef_text(r) ::= "(try _input.getText(_localctx.start, try _input.LT(-1)))"
ThisRulePropertyRef_ctx(r) ::= "_localctx"
ThisRulePropertyRef_parser(r) ::= "self"

NonLocalAttrRef(s) ::= "((<s.ruleName; format=\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name>"
SetNonLocalAttr(s, rhsChunks) ::=
"((<s.ruleName; format=\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.append(<labelref(a.label)>)"

```



```

TokenDecl(t) ::= "<t.name>: <SwiftTypeMap.(TokenLabelType())>!"
TokenTypeDecl(t) ::= "var <t.name>: Int = 0"
TokenListDecl(t) ::= "<t.name>: Array\<Token> = Array\<Token>()"
RuleContextDecl(r) ::= "<r.name>: <r.ctxName>!"
RuleContextListDecl(rdecl) ::= "<rdecl.name>: Array\<<rdecl.ctxName>> = Array\<<rdecl.ctxName>>()"

ContextTokenGetterDecl(t) ::=
 "open func <t.name>() -> TerminalNode? { return getToken(<parser.name>.Tokens.<t.name>.rawValue, 0) }"
ContextTokenListGetterDecl(t) ::=
 "open func <t.name>() -> Array\<TerminalNode> { return getTokens(<parser.name>.Tokens.<t.name>.rawValue)
 }"
ContextTokenListIndexedGetterDecl(t) ::= <<
open func <t.name>(_ i: Int) -> TerminalNode? {
 return getToken(<parser.name>.Tokens.<t.name>.rawValue, i)
}
>>
ContextRuleGetterDecl(r) ::= <<
open func <r.name>() -> <r.ctxName>? {
 return getRuleContext(<r.ctxName>.self, 0)
}
>>
ContextRuleListGetterDecl(r) ::= <<
open func <r.name>() -> Array\<<r.ctxName>\> {
 return getRuleContexts(<r.ctxName>.self)
}
>>
ContextRuleListIndexedGetterDecl(r) ::= <<
open func <r.name>(_ i: Int) -> <r.ctxName>? {
 return getRuleContext(<r.ctxName>.self, i)
}
>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
 * r becomes rContext.
 */
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenName>"
ImplicitRuleLabel(ruleName) ::= "_<ruleName>"
ImplicitSetLabel(id) ::= "_tset<id>"
ListLabelName(label) ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = try _input.LT(1)"
CaptureNextTokenType(d) ::= "<d.varName> = try _input.LA(1)"

StructDecl(struct, ctorAttrs, attrs, getters, dispatchMethods, interfaces, extensionMembers,

```

```

 superClass={ParserRuleContext}) ::= <<
open class
<struct.name>:<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif><if(interfaces)>,
<interfaces; separator=", "><endif> {
 <attrs:{a | public var <a>}; separator="\n">
 <getters:{g | <g>}; separator="\n">
 <! <if(ctorAttrs)>public init(_ parent: ParserRuleContext, _ invokingState: Int) { super.init(parent, invokingState)
 <endif> !>
 <if(ctorAttrs)>
 public convenience init(_ parent: ParserRuleContext?, _ invokingState: Int<ctorAttrs:{a | , _ <a>>>) {
 self.init(parent, invokingState)
 <struct.ctorAttrs:{a | self.<a.name> = <a.name>;}; separator="\n">
 }
 <endif>
 open override func getRuleIndex() -> Int { return <parser.name>.RULE_<struct.derivedFromName> }
 <if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
 <!public init() { }!>
 public func copyFrom(_ ctx: <struct.name>) {
 super.copyFrom(ctx)
 <struct.attrs:{a | self.<a.name> = ctx.<a.name>;}; separator="\n">
 }
 <endif>
 <dispatchMethods; separator="\n">
 <extensionMembers; separator="\n">
 }
 >>

```

```

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
public final class <struct.name>: <currentRule.name; format="cap">Context {
 <attrs:{a | public var <a>}; separator="\n">
 <getters:{g | <g>}; separator="\n">
 public init(_ ctx: <currentRule.name; format="cap">Context) {
 super.init()
 copyFrom(ctx)
 }
 <dispatchMethods; separator="\n">
 }
 >>

```

```

ListenerDispatchMethod(method) ::= <<
override
open func <if(method.isEnter)>enter<else>exit<endif>Rule(_ listener: ParseTreeListener) {
 if listener is <parser.grammarName>Listener {
 (listener as!
 <parser.grammarName>Listener).<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName;
 format="cap">(self)
 }
 }
 >>

```

>>

```
VisitorDispatchMethod(method) ::= <<
override
open func accept<T>(_ visitor: ParseTreeVisitor<T>) -> T? {
if visitor is <parser.grammarName>Visitor {
 return (visitor as! <parser.grammarName>Visitor<T>).visit<struct.derivedFromName; format="cap">(self)
} else if visitor is <parser.grammarName>BaseVisitor {
 return (visitor as! <parser.grammarName>BaseVisitor<T>).visit<struct.derivedFromName; format="cap">(self)
}
} else {
 return visitor.visitChildren(self)
}
}
>>
```

```
AttributeDecl(d) ::= "<d.name>: <SwiftTypeMap.(d.type)><if(d.initValue)> = <d.initValue><else>!<endif>"
```

```
/** If we don't know location of label def x, use this template (_localctx as! <x.ctx.name> */
labelref(x) ::= "<if(!x.isLocal)>_localctx.castdown(<x.ctx.name>.self).<endif><x.name>"
```

```
/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "_localctx.castdown(<actionChunk.ctx.name>.self)"
```

```
// used for left-recursive rules
```

```
recRuleAltPredicate(ruleName,opPrec) ::= "precpred(_ctx, <opPrec>)"
recRuleSetReturnAction(src,name) ::= "$<name>=<src>.<name>"
recRuleSetStopToken() ::= "_ctx!.stop = try _input.LT(-1)"
```

```
recRuleAltStartAction(ruleName, ctxName, label, isListLabel) ::= <<
_localctx = <ctxName>Context(_parentctx, _parentState);
<if(label)>
<if(isListLabel)>
_localctx.<label>.append(_prevctx)
<else>
_localctx.<label> = _prevctx
<endif>
<endif>
<if(label)>_localctx.<label> = _prevctx;<endif>
try pushNewRecursionContext(_localctx, _startState, <parser.name>.RULE_<ruleName>)
>>
```

```
recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
_localctx = <currentAltLabel; format="cap">Context(<ruleName; format="cap">Context(_parentctx,
_parentState))
<if(label)>
<if(isListLabel)>
(_localctx as! <currentAltLabel; format="cap">Context).<label>.append(_prevctx)
```

```

<else>
(_localctx as! <currentAltLabel; format="cap">Context).<label> = _prevctx
<endif>
<endif>
try pushNewRecursionContext(_localctx, _startState, <parser.name>.RULE_<ruleName>)
>>

recRuleReplaceContext(ctxName) ::= <<
_localctx = <ctxName>Context(_localctx)
_ctx = _localctx
_prevctx = _localctx
>>

recRuleSetPrevCtx() ::= <<
if _parseListeners != nil {
 try triggerExitRuleEvent()
}
_prevctx = _localctx
>>

LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
<if(lexerFile.genPackage)>
<!package <lexerFile.genPackage>;!>
<endif>
<namedActions.header>
import Antlr4

<lexer>
>>
Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
open class <lexer.name>: <superClass; null="Lexer"> {
 internal static var _decisionToDFA: [DFA] = {
 var decisionToDFA = [DFA]()
 let length = <lexer.name>._ATN.getNumberOfDecisions()
 for i in 0..<length {
 <! decisionToDFA[i] = DFA(<lexer.name>._ATN.getDecisionState(i)!, i);!>
 decisionToDFA.append(DFA(<lexer.name>._ATN.getDecisionState(i)!, i))
 }
 return decisionToDFA
 }()

 internal static let _sharedContextCache:PredictionContextCache = PredictionContextCache()
 public static let <lexer.tokens:{k | <k>=<lexer.tokens.(k)>}>; separator=", ", wrap, anchor>
 <if(lexer.channels)>
 public let <lexer.channels:{k | <k>=<lexer.channels.(k)>}>; separator=", ", wrap, anchor>
 <endif>

```

```

<rest(lexer.modes):{m| public static let <m>: Int = <i>;}; separator="\n">
public static let modeNames: [String] = [
 <lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor>
]

public static let ruleNames: [String] = [
 <lexer.ruleNames:{r| "<r>"}; separator=", ", wrap, anchor>
]

<vocabulary(lexer.literalNames, lexer.symbolicNames)>

<namedActions.members>
 open override func getVocabulary() -> Vocabulary {
 return <lexer.name>.VOCABULARY
 }

public override init(_ input: CharStream) {
 RuntimeMetaData.checkVersion("<lexerFile.ANTLRVersion>", RuntimeMetaData.VERSION)
 super.init(input)
 _interp = LexerATNSimulator(self, <lexer.name>._ATN, <lexer.name>._decisionToDFA,
<lexer.name>._sharedContextCache)
}

override
open func getGrammarFileName() -> String { return "<lexer.grammarFileName>" }

 override
open func getRuleNames() -> [String] { return <lexer.name>.ruleNames }

override
open func getSerializedATN() -> String { return <lexer.name>._serializedATN }

override
open func getModeNames() -> [String] { return <lexer.name>.modeNames }

override
open func getATN() -> ATN { return <lexer.name>._ATN }

<dumpActions(lexer, "", actionFuncs, sempredFuncs)>
<atn>
 public static let _serializedATN: String = <lexer.name>ATN().jsonString
 public static let _ATN: ATN = ATNDeserializer().deserializeFromJson(_serializedATN)
}
>>

/** Don't need to define anything. The tool generates a XParserATN.swift file (and same for lexer)
* which is referenced from static field _serializedATN. This json string is passed to
* deserializeFromJson(). Note this is not the "serialization as array of ints" that other targets

```

\* do. It is more or less the output of ATNPrinter which gets read back in.

\*/

```
SerializedATN(model) ::= <<
```

```
>>
```

/\*\* Using a type to init value map, try to init a type; if not in table

\* must be an object, default value is "null".

\*/

```
initValue(typeName) ::= <<
```

```
<SwiftTypeInitMap.(typeName)>
```

```
>>
```

```
codeFileExtension() ::= ".swift"
```

Found in path(s):

\* /opt/cola/permits/1166873170\_1621514800.65/0/antlr4-4-6-sources-1-jar/org/antlr/v4/tool/templates/codegen/Swift/Swift.stg

## 1.177 jpowershell 2.0

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```

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\* /opt/cola/permits/1268278107\_1675380985.331295/0/jpowershell-2-0-sources-jar/com/profesorfalken/jpowershell/OSDetector.java

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\*/

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# 1.178 jetty-servlets 9.4.51.v20230217

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The following artifacts are EPL.  
\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.  
\* org.eclipse.jetty.orbit:javafx.security.auth.message

The following artifacts are EPL and CDDL 1.0.  
\* org.eclipse.jetty.orbit:javafx.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.  
<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api  
\* javax.annotation:javax.annotation-api  
\* javax.transaction:javax.transaction-api  
\* javax.websocket:javax.websocket-api

-----  
Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

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MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el

org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

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\* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttMessageIdAndPropertiesVariableHeader.java  
\* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttReasonCodeAndPropertiesVariableHeader.java  
\* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttSubscriptionOption.java  
\* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttPubReplyMessageVariableHeader.java  
\* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttProperties.java

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- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttUnsubscribeMessage.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttCodecUtil.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttTopicSubscription.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttMessage.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttPublishMessage.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttConnectPayload.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttDecoder.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttConnectVariableHeader.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttMessageType.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttPublishVariableHeader.java
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- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttConnectReturnCode.java
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- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttSubscribeMessage.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttUnacceptableProtocolVersionException.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttVersion.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttSubscribePayload.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttEncoder.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttSubAckPayload.java
- \* /opt/cola/permits/1698848123\_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-jar/io/netty/handler/codec/mqtt/MqttUnsubscribePayload.java

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* /opt/cola/permits/1698848123_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-
jar/io/netty/handler/codec/mqtt/MqttPubAckMessage.java
* /opt/cola/permits/1698848123_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-
jar/io/netty/handler/codec/mqtt/MqttConnAckMessage.java
* /opt/cola/permits/1698848123_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-
jar/io/netty/handler/codec/mqtt/MqttConnAckVariableHeader.java
* /opt/cola/permits/1698848123_1685285751.427286/0/netty-codec-mqtt-4-1-93-final-sources-
jar/io/netty/handler/codec/mqtt/MqttSubAckMessage.java
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# 1.182 jetty-continuation 9.4.51.v20230217

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Eclipse

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\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

\* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javax.mail.glassfish

-----  
Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

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#### Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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#### OW2

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org.ow2.asm:asm-commons

org.ow2.asm:asm

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#### Apache

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org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

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#### MortBay

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org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.183 jetty-xml 9.4.51.v20230217

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\* org.eclipse.jetty.orbit:javax.mail.glassfish



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## Oracle

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

- \* javax.servlet:javax.servlet-api
- \* javax.annotation:javax.annotation-api
- \* javax.transaction:javax.transaction-api
- \* javax.websocket:javax.websocket-api

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## Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

- \* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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## OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

- org.ow2.asm:asm-commons
- org.ow2.asm:asm

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The following artifacts are ASL2 licensed.

- org.apache.taglibs:taglibs-standard-spec
- org.apache.taglibs:taglibs-standard-impl

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org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## ## Source Code

The project maintains the following source code repositories:

- \* <https://github.com/eclipse-ee4j/metro-xmlstreambuffer>
- \* <https://github.com/eclipse-ee4j/metro-policy>
- \* <https://github.com/eclipse-ee4j/metro-wsit>
- \* <https://github.com/eclipse-ee4j/metro-mimepull>
- \* <https://github.com/eclipse-ee4j/metro-ws-test-harness>
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- \* <https://github.com/eclipse-ee4j/metro-saaj>
- \* <https://github.com/eclipse-ee4j/metro-jwsdp-samples>
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addressing.xml Version: 2004/10 (n/a)

- \* License: W3C
- \* Project: <https://www.w3.org/Submission/ws-addressing/>
- \* Source: <http://schemas.xmlsoap.org/ws/2004/08/addressing/>

ant-launcher (1.10.2)

- \* License: Apache-2.0 AND SAX-PD AND W3C
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Apache Ant (1.6)

- \* License: Apache-1.1
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JUnit (4.12)

- \* License: Eclipse Public License

maven-core (3.5.2)

- \* License: Apache-2.0

maven-plugin-annotations (3.5.1)

- \* License: Apache-2.0
- \* Project: <https://maven.apache.org/plugin-tools/maven-plugin-annotations/project-info.html>

\* Source:  
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mex.xsd Version: 2004/09 (n/a)

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\* Project: <https://www.w3.org/Submission/WS-MetadataExchange/#appendix-II>

\* Source: <http://schemas.xmlsoap.org/ws/2004/09/mex/MetadataExchange.xsd>

plexus-utils (3.1.0)

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relaxng-datatype (1.0)

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stax2-api (4.1)

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\* Project: <https://github.com/FasterXML/stax2-api>

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<http://central.maven.org/maven2/org/codehaus/woodstox/stax2-api/4.1/stax2-api-4.1-sources.jar>

testng (6.14.2)

\* License: Apache-2.0 AND MIT

\* Project: <https://testng.org/doc/index.html>

\* Source: <https://github.com/cbeust/testng>

woodstox-core-asl (4.4.1)

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woodstox-core-asl (5.1.0)

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\* Project: <https://github.com/FasterXML/woodstox>

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ws-addr.wsd (1.0)

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wsat.xsd Version: 2004/10 (n/a)

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xmlsec (1.5.8)

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\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/UnixResolverDnsServerAddressStreamProvider.java

\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/DnsCacheEntry.java

\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/NoopDnsQueryLifecycleObserver.java

\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/DnsQueryLifecycleObserverFactory.java

\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/SingletonDnsServerAddressStreamProvider.java

\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/DefaultDnsServerAddressStreamProvider.java

\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/DnsNameResolverTimeoutException.java

\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/DnsServerAddressStreamProvider.java

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\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/UniSequentialDnsServerAddressStreamProvider.java

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\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/NoopDnsQueryLifecycleObserverFactory.java

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* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
jar/io/netty/resolver/dns/BiDnsQueryLifecycleObserverFactory.java
* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
jar/io/netty/resolver/dns/SequentialDnsServerAddressStreamProvider.java
* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
jar/io/netty/resolver/dns/BiDnsQueryLifecycleObserver.java
* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
jar/io/netty/resolver/dns/MultiDnsServerAddressStreamProvider.java
* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
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* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
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* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
jar/io/netty/resolver/dns/DefaultDnsServerAddresses.java
* /opt/cola/permits/1698848150_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-
jar/io/netty/resolver/dns/DnsQueryContextManager.java
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\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/RotationalDnsServerAddresses.java  
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\* /opt/cola/permits/1698848150\_1685285760.840186/0/netty-resolver-dns-4-1-93-final-sources-jar/io/netty/resolver/dns/DnsNameResolverBuilder.java

# 1.188 commons-cli 1.3.1

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# 1.190 commons-lang3 3.12.0

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# 1.191 proto-google-common-protos 2.9.0

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Found in path(s):

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/launch_stage.proto
```

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```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/usage.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/endpoint.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/service.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/consumer.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/distribution.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/error_reason.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/context.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/type/date.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/quota.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/field_behavior.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/httpbody.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/routing.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/api/system_parameter.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/type/datetime.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
jar/google/type/color.proto
```

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
```

jar/google/api/billing.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/logging/type/log\_severity.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/decimal.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/config\_change.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/latlng.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/metric.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/control.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/money.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/month.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/logging.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/client.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/log.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/timeofday.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/geo/type/viewport.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/rpc/status.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/fraction.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/documentation.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/interval.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/postal\_address.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/logging/type/http\_request.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/dayofweek.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/source\_info.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/label.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/quaternion.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-

jar/google/rpc/error\_details.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/backend.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/expr.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/annotations.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/longrunning/operations.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/rpc/code.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/calendar\_period.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/phone\_number.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/resource.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/http.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/cloud/extended\_operations.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/rpc/context/attribute\_context.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/monitored\_resource.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/auth.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/visibility.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/monitoring.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/localized\_text.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/cloud/audit/audit\_log.proto

# 1.192 jackson-datatype-jsr310 2.15.0

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# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library. It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007. It is currently developed by a community of developers.

## Licensing

Jackson components are licensed under Apache (Software) License, version 2.0, as per accompanying LICENSE file.

## Credits

A list of contributors may be found from CREDITS file, which is included in some artifacts (usually source distributions); but is always available from the source code management (SCM) system project uses.

## 1.193 jakarta-validation-api 2.0.2

### 1.193.1 Available under license :

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```
/*
 * Jakarta Bean Validation API
 *
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 */
```

Found in path(s):

```
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Validator.java
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/CascadableDescriptor.java
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintTarget.java
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/FutureOrPresent.java
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Null.java
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintValidatorContext.java
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ExecutableDescriptor.java
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/groups/Default.java
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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/MessageInterpolator.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/package-info.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/Unwrapping.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/MethodDescriptor.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/package-info.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/UnexpectedTypeException.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/BeanDescriptor.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Digits.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/UnwrapByDefault.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/NegativeOrZero.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintViolation.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintDefinitionException.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/spi/ValidationProvider.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ElementKind.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/GroupConversionDescriptor.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/ValueExtractorDeclarationException.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/package-info.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/PositiveOrZero.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/ValueExtractorDefinitionException.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/BootstrapConfiguration.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Validation.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Constraint.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/executable/ValidateOnExecution.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/bootstrap/package-info.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ValidatorFactory.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ParameterDescriptor.java

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\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/package-info.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/GroupSequence.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Negative.java

\* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintValidatorFactory.java



- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ValidationException.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/OverridesAttribute.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/spi/BootstrapState.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Email.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintDeclarationException.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/PropertyDescriptor.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintValidator.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/executable/ExecutableType.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/AssertFalse.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Future.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/DecimalMax.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Positive.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/NotEmpty.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/spi/ConfigurationState.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Payload.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/DecimalMin.java
- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Past.java

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~ Jakarta Bean Validation API

~

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Comments to: <[bean-validation-dev@eclipse.org](mailto:bean-validation-dev@eclipse.org)></a>.<br>

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- \* /opt/cola/permits/1135880235\_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/META-

# 1.194 hdrhistogram 2.1.9

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\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/RecordedValuesIterator.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/DoubleRecorder.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/ShortCountsHistogram.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/EncodableHistogram.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/ZigZagEncoding.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/HistogramLogReader.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/DoublePercentileIterator.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/DoubleHistogramIterationValue.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/DoubleHistogram.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/HistogramIterationValue.java

\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/AllValuesIterator.java  
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\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/Histogram.java  
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\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/ConcurrentHistogram.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/Version.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/Recorder.java  
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\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/PercentileIterator.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/SingleWriterRecorder.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/ConcurrentDoubleHistogram.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/SynchronizedHistogram.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/DoubleLogarithmicIterator.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/AbstractHistogramLogReader.java  
\* /opt/cola/permits/174180979\_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/LinearIterator.java

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/\*

\* package-info.java

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\*/

Found in path(s):

```
* /opt/cola/permits/174180979_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/package-info.java
```

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```
/**
```

```
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```

```
* as explained at http://creativecommons.org/publicdomain/zero/1.0/
```

```
*
```

```
* @author Gil Tene
```

```
*/
```

```
package org.HdrHistogram;
```

```
final class Version {
```

```
 public static final String version="$VERSION$";
```

```
 public static final String build_time="$BUILD_TIMES$";
```

```
}
```

Found in path(s):

```
* /opt/cola/permits/174180979_1651176763.07/0/hdrhistogram-2-1-9-sources-jar/org/HdrHistogram/Version.java.template
```

## 1.195 jackson-jaxrs-base 2.15.0

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## 1.196 netty-codec-smtp 4.1.93.Final

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```

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-->

Found in path(s):

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/META-INF/maven/io.netty/netty-codec-smtp/pom.xml

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Found in path(s):

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/io/netty/handler/codec/smtp/SntpRequestEncoder.java

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/io/netty/handler/codec/smtp/SntpRequests.java

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/io/netty/handler/codec/smtp/package-info.java

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/io/netty/handler/codec/smtp/SntpCommand.java

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/io/netty/handler/codec/smtp/SntpContent.java

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/io/netty/handler/codec/smtp/DefaultSntpContent.java

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-jar/io/netty/handler/codec/smtp/SntpUtils.java

\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-

jar/io/netty/handler/codec/smtp/SmtpResponseDecoder.java  
\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-  
jar/io/netty/handler/codec/smtp/LastSmtpContent.java  
\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-  
jar/io/netty/handler/codec/smtp/SmtpResponse.java  
\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-  
jar/io/netty/handler/codec/smtp/DefaultLastSmtpContent.java  
\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-  
jar/io/netty/handler/codec/smtp/DefaultSmtpResponse.java  
\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-  
jar/io/netty/handler/codec/smtp/DefaultSmtpRequest.java  
\* /opt/cola/permits/1698848009\_1685285746.5913968/0/netty-codec-smtp-4-1-93-final-sources-  
jar/io/netty/handler/codec/smtp/SmtpRequest.java

# 1.197 txw2 20110809

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Eclipse

The following artifacts are EPL.

\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

\* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javax.mail.glassfish

-----  
Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

-----

## Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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## OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

-----

## Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

-----

## MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

-----

Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

Permission to use, copy, modify and distribute UnixCrypt for non-commercial or commercial purposes and without fee is granted provided that the copyright notice appears in all copies.

## 1.202 metrics-logback 4.1.29

### 1.202.1 Available under license :

Apache-2.0

## 1.203 metrics-health-checks 4.2.9

### 1.203.1 Available under license :

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Manifest-Version: 1.0

Automatic-Module-Name: com.codahale.metrics.health

Build-Jdk-Spec: 11

Bundle-Description: An addition to Metrics which provides the ability to run application-specific health checks, allowing you to check your application's health in production.

Bundle-License: <https://www.apache.org/licenses/LICENSE-2.0.html>

Bundle-ManifestVersion: 2

Bundle-Name: Metrics Health Checks

Bundle-SymbolicName: io.dropwizard.metrics.healthchecks



Bundle-Version: 4.2.9  
Created-By: Apache Maven Bundle Plugin 5.1.4  
Export-Package: com.codahale.metrics.health;uses:="com.codahale.metrics";version="4.2.9",com.codahale.metrics.health.jvm;uses:="com.codahale.metrics.health,com.codahale.metrics.jvm";version="4.2.9",com.codahale.metrics.health.annotation;version="4.2.9"  
Implementation-Title: Metrics Health Checks  
Implementation-Version: 4.2.9  
Import-Package: org.slf4j;version="[1.6.0,2.0.0)",com.codahale.metrics;version="[4.2,5)",com.codahale.metrics.health,com.codahale.metrics.health.annotation,com.codahale.metrics.jvm;version="[4.2,5)";resolution:=optional  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"  
Tool: Bnd-5.1.1.202006162103

Found in path(s):

\* /opt/cola/permits/1303106868\_1649401354.9/0/metrics-healthchecks-4-2-9-jar/META-INF/MANIFEST.MF

## 1.204 commons-logging 1.2

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\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogFactory.java

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\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-  
jar/org/apache/commons/logging/impl/AvalonLogger.java  
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jar/org/apache/commons/logging/impl/WeakHashtable.java  
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\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogConfigurationException.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Log4JLogger.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogFactoryImpl.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk13LumberjackLogger.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/SimpleLog.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk14Logger.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogSource.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/NoOpLog.java

\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogKitLogger.java

```
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/Log.java
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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/impl/ServletContextCleaner.java
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- \* /opt/cola/permits/1223666029\_1635937309.22/0/groovy-nio-3-0-9-sources-jar/org/codehaus/groovy/runtime/NioGroovyMethods.java
- \* /opt/cola/permits/1223666029\_1635937309.22/0/groovy-nio-3-0-9-sources-jar/org/apache/groovy/nio/runtime/WritablePath.java
- \* /opt/cola/permits/1223666029\_1635937309.22/0/groovy-nio-3-0-9-sources-jar/org/apache/groovy/nio/extensions/NioExtensions.java
- \* /opt/cola/permits/1223666029\_1635937309.22/0/groovy-nio-3-0-9-sources-jar/org/codehaus/groovy/runtime/WritablePath.java

## 1.206 jna 5.10.0

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- \* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/Pointer.java
- \* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/win32/W32APIOptions.java
- \* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/NativeString.java
- \* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/InvocationMapper.java
- \* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/CallbackResultContext.java
- \* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/Memory.java

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\* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/Library.java  
\* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/JNIEnv.java  
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 \* /opt/cola/permits/1252774624\_1641970131.11/0/jna-5-10-0-sources-jar/com/sun/jna/FunctionResultContext.java  
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<li>Type mapping behavior may be customized by providing a { @link com.sun.jna.TypeMapper} for the { @link com.sun.jna.Library#OPTION\_TYPE\_MAPPER} option when initializing a library interface. See { @link com.sun.jna.win32.W32APITypeMapper} for an example which provides custom conversion of boolean and String

types. You are free to use whatever types are convenient in your defined interfaces, but all custom types `<em>must</em>` provide a mapping to one of the basic or derived types listed above.

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\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-jar/io/grpc/stub/MetadataUtils.java

\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-jar/io/grpc/stub/ClientCalls.java

\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-jar/io/grpc/stub/ServerCalls.java

\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-jar/io/grpc/stub/AbstractStub.java

\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-jar/io/grpc/stub/StreamObserver.java

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\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-  
jar/io/grpc/stub/StreamObservers.java

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\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-  
jar/io/grpc/stub/ClientResponseObserver.java

\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-  
jar/io/grpc/stub/ClientCallStreamObserver.java

\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-  
jar/io/grpc/stub/CallStreamObserver.java

\* /opt/cola/permits/1638411436\_1681425252.2254884/0/grpc-stub-1-24-0-sources-1-  
jar/io/grpc/stub/ServerCallStreamObserver.java

## 1.208 guice 4.2.3

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## 1.209 metrics-jersey2 4.1.29

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## 1.210 picocli 4.6.1

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\* /opt/cola/permits/1177083937\_1625028998.96/0/picocli-4-6-1-sources-jar/picocli/AutoComplete.java

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\*/

/\*\*

\* Called when either the command, option or positional parameter that has this preprocessor configured was recognized by the picocli parser.  
\* <p>Implementors are free to modify one or more of the specified command line arguments before they are processed by the picocli parser (or by the option's { @link IParameterConsumer parameter consumer}, if one is specified).

\* </p><p>

\* Implementors may optionally <em>consume</em> one or more of the specified command line arguments:

\* a return value of { @code true } signals that the preprocessor consumed the parameter:

\* picocli should skip further processing of this option or positional parameter,

\* and the preprocessor implementation takes responsibility for assigning the

\* option or positional parameter a value. A return value of { @code false } means that picocli should

\* process the stack as usual for this option or positional parameter, and picocli is responsible for

\* assigning this option or positional parameter a value.

\* </p><p>

\* For a command, returning { @code true } signals that the preprocessor takes responsibility for parsing all

\* options and positional parameters for this command, and takes responsibility for validating constraints like

\* whether all required options and positional parameters were specified.

\* A return value of { @code false } means that picocli should

\* process the stack as usual for this command, and picocli is responsible for validation.

\* Command preprocessors can signal back to the picocli parser when they detect that the user requested version

\* information or usage help by putting a value of { @code true } in the specified

\* { @code info } map for keys { @code versionHelpRequested } or { @code usageHelpRequested }, respectively.

\* </p><p>

\* If the user input is invalid, implementations should throw a { @link ParameterException }

\* with a message to display to the user.

\* </p>

\* @param args the remaining command line arguments that follow the matched argument

\* (the matched argument is not on the stack anymore)

\* @param commandSpec the command or subcommand that was matched (if the specified { @code argSpec } is

\* { @code null }), or the command that the matched option or positional parameter belongs to

\* @param argSpec the option or positional parameter for which to pre-process command line arguments

\* (may be { @code null } when this method is called for a subcommand that was matched)

\* @param info a map containing additional information on the current parser state,

\* including whether the option parameter was attached to the option name with

\* a `=` separator, whether quotes have already been stripped off the option, etc.

\* Implementations may modify this map to communicate back to the picocli parser.

\* Supported values:

\* <table>

\* <tr>

\* <th>key</th><th>valid values</th><th>type</th>



```

* </tr>
* <tr>
* <td>separator</td><td>" (empty string): attached without separator, ' ' (space): not attached, (any
other string): option name was attached to option param with specified separator</td>
* <td>java.lang.String</td>
* </tr>
* <tr>
* <td>negated</td>
* <td>{@code true}: the option or positional parameter is a {@linkplain Option#negatable()
negated} option/parameter, {@code false}: the option or positional parameter is not a negated
option/parameter</td>
* <td>java.lang.Boolean</td>
* </tr>
* <tr>
* <td>unquoted</td>
* <td>{@code true}: quotes surrounding the value have already been stripped off, {@code false}:
quotes surrounding the value have not yet been stripped off</td>
* <td>java.lang.Boolean</td>
* </tr>
* <tr>
* <td>versionHelpRequested</td>
* <td>{@code true}: version help was requested, {@code false}: version help was not
requested</td>
* <td>java.lang.Boolean</td>
* </tr>
* <tr>
* <td>usageHelpRequested</td>
* <td>{@code true}: usage help was requested, {@code false}: usage help was not requested</td>
* <td>java.lang.Boolean</td>
* </tr>
* </table>
* @returns true if the preprocessor consumed the parameter
* and picocli should skip further processing of the stack for this option or positional parameter;
* false if picocli should continue processing the stack for this option or positional parameter
* @throws ParameterException if the user input is invalid
*/

```

Found in path(s):

\* /opt/cola/permits/1177083937\_1625028998.96/0/picocli-4-6-1-sources-jar/picocli/CommandLine.java

# 1.211 apiguardian-api 1.1.0

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## 1.212 fastdoubleparser 0.8.0

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```
* /opt/cola/permits/1635342750_1681276708.9974823/0/dropwizard-validation-2-0-28-sources-1-
```

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Eclipse

The following artifacts are EPL.

- \* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.

- \* org.eclipse.jetty.orbit:javafx.security.auth.message

The following artifacts are EPL and CDDL 1.0.

- \* org.eclipse.jetty.orbit:javafx.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

- \* javax.servlet:javax.servlet-api
- \* javax.annotation:javax.annotation-api
- \* javax.transaction:javax.transaction-api
- \* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

- \* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>



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## OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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## Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

-----

## MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-el-api

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## Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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# 1.215 jinjava 2.6.0

## 1.215.1 Available under license :

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\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/AbstractFilter.java

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jar/com/hubspot/jinjava/tree/parse/TokenScanner.java

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jar/com/hubspot/jinjava/lib/tag/IncludeTag.java

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jar/com/hubspot/jinjava/lib/tag/IfTag.java

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jar/com/hubspot/jinjava/lib/tag/CycleTag.java

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jar/com/hubspot/jinjava/util/HelperStringTokenizer.java

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jar/com/hubspot/jinjava/tree/ExpressionNode.java

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jar/com/hubspot/jinjava/tree/TextNode.java

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jar/com/hubspot/jinjava/tree/Node.java

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jar/com/hubspot/jinjava/tree/TreeParser.java

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jar/com/hubspot/jinjava/interpret/Context.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/AbsFilter.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/interpret/JinjavaInterpreter.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/util/Variable.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/tag/IfchangedTag.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/tag/ExtendsTag.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/TagNode.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/tag/BlockTag.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/tag/Tag.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/util/ObjectIterator.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/RootNode.java  
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\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/FilterLibrary.java  
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\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/tag/SetTag.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/CutFilter.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/EscapeFilter.java

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\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/Md5Filter.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/loader/FileLocator.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/AddFilter.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/DivideFilter.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/parse/NoteToken.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/parse/TextToken.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/tag/TagLibrary.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/SimpleLibrary.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/Importable.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/util/ForLoop.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/parse/TokenScannerSymbols.java  
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\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/AdvancedFilter.java  
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\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/loader/ResourceLocator.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/parse/Token.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/tag/ElseTag.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/RandomFilter.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/LengthFilter.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/parse/TagToken.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/TruncateFilter.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/util/ObjectTruthValue.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/interpret/InterpretException.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/DatetimeFilter.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/tree/parse/ExpressionToken.java  
\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/ReverseFilter.java

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Found in path(s):

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/BoolFilter.java

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/interpret/DynamicVariableResolver.java

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Found in path(s):

\* /opt/cola/permits/1613098423\_1679654368.0746422/0/jinjava-2-6-0-sources-2-jar/com/hubspot/jinjava/lib/filter/EscapeJinjavaFilter.java

# 1.216 listenablefuture 9999.0-empty-to-avoid-conflict-with-guava

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# 1.217 activation-api 1.1.1

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/\*\*

\* Set the { @code TCP\_QUICKACK } option on the socket.

\* See <a href="https://linux.die.net/man/7/tcp">TCP\_QUICKACK</a>

\* for more details.

\*/

Found in path(s):

\* /opt/cola/permits/1698847981\_1685285755.994296/0/netty-transport-classes-epoll-4-1-93-final-sources-jar/io/netty/channel/epoll/EpollSocketChannelConfig.java

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\* /opt/cola/permits/1698847981\_1685285755.994296/0/netty-transport-classes-epoll-4-1-93-final-sources-  
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Found in path(s):

\* /opt/cola/permits/1698847981\_1685285755.994296/0/netty-transport-classes-epoll-4-1-93-final-sources-  
jar/io/netty/channel/epoll/LinuxSocket.java

\* /opt/cola/permits/1698847981\_1685285755.994296/0/netty-transport-classes-epoll-4-1-93-final-sources-  
jar/io/netty/channel/epoll/NativeStaticallyReferencedJniMethods.java

## 1.219 profiler 1.1.1

### 1.219.1 Available under license :

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/\*

\* jQuery Templates Plugin 1.0.0pre

\* <http://github.com/jquery/jquery-tmpl>

\* Requires jQuery 1.4.2

\*

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\* Dual licensed under the MIT or GPL Version 2 licenses.

\* <http://jquery.org/license>

\*/

Found in path(s):

\* /opt/cola/permits/1257333100\_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/ca/jimr/gae/profiler/resources/jquery.tmpl.min.js

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/\*!

\* jQuery JavaScript Library v1.6.2

\* <http://jquery.com/>

\*

\* Copyright 2011, John Resig

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\* <http://jquery.org/license>

\*

\* Includes Sizzle.js

\* <http://sizzlejs.com/>

\* Copyright 2011, The Dojo Foundation

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\*

\* Date: Thu Jun 30 14:16:56 2011 -0400

\*/

Found in path(s):

\* /opt/cola/permits/1257333100\_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/ca/jimr/gae/profiler/resources/jquery-1.6.2.min.js

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Found in path(s):

- \* /opt/cola/permits/1257333100\_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/com/google/appengine/tools/appstats/MiniProfilerAppstats.java
- \* /opt/cola/permits/1257333100\_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/ca/jimr/gae/profiler/MiniProfiler.java
- \* /opt/cola/permits/1257333100\_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/ca/jimr/gae/profiler/MiniProfilerFilter.java
- \* /opt/cola/permits/1257333100\_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/ca/jimr/gae/profiler/resources/MiniProfilerResourceLoader.java
- \* /opt/cola/permits/1257333100\_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/ca/jimr/gae/profiler/MiniProfilerServlet.java

# 1.220 jetty 9.4.51.v20230217

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Eclipse

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\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.  
\* org.eclipse.jetty.orbit:javafx.security.auth.message

The following artifacts are EPL and CDDL 1.0.  
\* org.eclipse.jetty.orbit:javafx.mail.glassfish

-----  
Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.  
<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api  
\* javax.annotation:javax.annotation-api  
\* javax.transaction:javax.transaction-api  
\* javax.websocket:javax.websocket-api

-----  
Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN

module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

-----  
OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons  
org.ow2.asm:asm

-----  
Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec  
org.apache.taglibs:taglibs-standard-impl

-----  
MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

-----

Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

-----

Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.221 big-math 2.0.0

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 */
```

Found in path(s):

```
* /opt/cola/permits/1182802247_1629961496.53/0/jul-to-slf4j-1-7-32-sources-
jar/org/slf4j/bridge/SLF4JBridgeHandler.java
```

# 1.223 jaxb-api 2.3.1

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Eclipse

The following artifacts are EPL.

\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

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\* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javax.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons  
org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec  
org.apache.taglibs:taglibs-standard-impl

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MortBay

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org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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## 1.225 guava 32.0.0-jre

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\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/http/multipart/InterfaceHttpData.java

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\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/http/ComposedLastHttpContent.java  
\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/spdy/SpdyRstStreamFrame.java  
\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/spdy/SpdyStreamFrame.java  
\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/spdy/SpdyGoAwayFrame.java  
\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/spdy/SpdySynReplyFrame.java

\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/spdy/SpdyHttpDecoder.java  
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\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/spdy/SpdyCodecUtil.java  
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\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/spdy/SpdyStreamStatus.java  
\* /opt/cola/permits/1698848030\_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-jar/io/netty/handler/codec/http/DefaultFullHttpResponse.java  
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jar/io/netty/handler/codec/http/websocketx/CloseWebSocketFrame.java
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jar/io/netty/handler/codec/http/websocketx/WebSocketServerProtocolHandshakeHandler.java
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* /opt/cola/permits/1698848030_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-
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* /opt/cola/permits/1698848030_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocketDecoderConfig.java
* /opt/cola/permits/1698848030_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-
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* /opt/cola/permits/1698848030_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-
jar/io/netty/handler/codec/http/websocketx/extensions/WebSocketExtensionFilter.java
* /opt/cola/permits/1698848030_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-
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* /opt/cola/permits/1698848030_1685285723.526563/0/netty-codec-http-4-1-93-final-sources-
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jar/io/netty/handler/codec/http/websocketx/WebSocketServerHandshaker07.java  
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## 1.229 jackson-databind 2.14.1

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<http://www.eclipse.org/legal/epl-v10.html>

Jetty may be distributed under either license.

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Eclipse

The following artifacts are EPL.

\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

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\* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javax.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

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MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-el-api

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Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

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## 1.231 liquibase 4.22.0

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\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyFieldDoc.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyProgramElementDoc.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyClassDocAssembler.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyType.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyExecutableMemberDoc.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyMethodDoc.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/GroovyDocParser.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/OutputTool.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/gstringTemplates/GroovyDocTemplateInfo.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyAnnotationRef.java

\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyPackageDoc.java



\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/GroovyDocTool.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyMethodDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/ResourceManager.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyMemberDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/Main.groovy  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyParameter.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyClassDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyRootDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyAnnotationRef.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/GroovyRootDocBuilder.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/groovydoc/GroovyType.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/LinkArgument.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/apache/groovy/groovydoc/tools/GroovyDocUtil.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyConstructorDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/ExternalGroovyClassDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/MockOutputTool.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/GroovyDocWriter.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyTag.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyFieldDoc.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/GroovyDocTemplateEngine.java  
\* /opt/cola/permits/1268276226\_1644386929.71/0/groovy-groovydoc-3-0-9-sources-jar/org/codehaus/groovy/tools/groovydoc/SimpleGroovyDoc.java

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Found in path(s):

```
* /opt/cola/permits/1268276226_1644386929.71/0/groovy-groovydoc-3-0-9-sources-
jar/org/codehaus/groovy/tools/groovydoc/Main.properties
```

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```
/*! normalize.css v2.1.0 | MIT License | git.io/normalize */
```

Found in path(s):

```
* /opt/cola/permits/1268276226_1644386929.71/0/groovy-groovydoc-3-0-9-sources-
jar/org/codehaus/groovy/tools/groovydoc/gstringTemplates/topLevel/stylesheet.css
```

## 1.235 guava 31.1-jre

### 1.235.1 Available under license :

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```

```
*/
```

```
/**
```

```
* Outer class that exists solely to let us write { @code Partially.GwtIncompatible } instead of plain
* { @code GwtIncompatible }. This is more accurate for { @link Futures#catching }, which is available
* under GWT but with a slightly different signature.
```

```
*
```

```
* <p>We can't use { @code PartiallyGwtIncompatible } because then the GWT compiler wouldn't recognize
* it as a { @code GwtIncompatible } annotation. And for { @code Futures.catching }, we need the GWT
* compiler to autostrip the normal server method in order to expose the special, inherited GWT
* version.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
```

jar/com/google/common/util/concurrent/Partially.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/Network.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/PredecessorsFunction.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/ImmutableGraph.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/MutableGraph.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/RecursiveDeleteOption.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/SuccessorsFunction.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/Graph.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/ImmutableNetwork.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/Graphs.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/TopKSelector.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/MutableNetwork.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/InsecureRecursiveDeleteException.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/JdkBackedImmutableSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/hash/ImmutableSupplier.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ExecutionSequencer.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/JdkBackedImmutableMultiset.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/RegularImmutableSortedSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableAsList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ComparisonChain.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/collect/ImmutableClassToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SingletonImmutableList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TableCollectors.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/DiscreteDomain.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SingletonImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableEnumSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/EmptyImmutableSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractIndexedListIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/RegularImmutableList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ComputationException.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ArrayTable.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableEntry.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableBiMap.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Serialization.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/HashBasedTable.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapValues.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMultiset.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMap.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapKeySet.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedSet.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMultimap.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CollectPreconditions.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Tables.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/StandardRowSortedTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapEntrySet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Collections2.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/StandardTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableCollection.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Table.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/TreeBasedTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Platform.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Range.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/EmptyImmutableListMultimap.java

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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/NullnessCasts.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/NullnessCasts.java

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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/AbstractHasher.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/UnsignedInteger.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/UnsignedLongs.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/CacheStats.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FunctionalEquivalence.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeParameter.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/DoubleMath.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/MessageDigestHashFunction.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/PairwiseEquivalence.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/BloomFilter.java



\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/TreeRangeSet.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/Weigher.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/HttpHeaders.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularContiguousSet.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/LoadingCache.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/AbstractCache.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/BloomFilterStrategies.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/UncheckedExecutionException.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Queues.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/EndpointPairIterator.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/ForwardingNetwork.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/AbstractGraph.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/ElementOrder.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/NetworkConnections.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/UndirectedNetworkConnections.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/EdgesConnecting.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Comparators.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/GraphConnections.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/ImmutableValueGraph.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/SequentialExecutor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/Longs.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/Ints.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/Booleans.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ListenableFutureTask.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/escape/Escaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/Shorts.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/internal/Finalizer.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/FileBackedOutputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/thirdparty/publicsuffix/TrieParser.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/Stopwatch.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/CharMatcher.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/primitives/Floats.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/Converter.java

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\* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular

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jar/com/google/common/primitives/IntsMethodsForWeb.java

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jar/com/google/common/eventbus/Subscriber.java

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jar/com/google/common/base/MoreObjects.java

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jar/com/google/common/util/concurrent/ListenerCallQueue.java

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jar/com/google/common/math/Quantiles.java  
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jar/com/google/common/eventbus/SubscriberRegistry.java  
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jar/com/google/common/cache/LongAdder.java  
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jar/com/google/common/cache/Striped64.java  
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jar/com/google/common/hash/Striped64.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/GeneralRange.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Count.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableSortedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SortedIterable.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractRangeSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SortedIterables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMultiset.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CollectSpliterators.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Java8Compatibility.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/Java8Compatibility.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/ToDoubleRounder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Java8Compatibility.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableListIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RowSortedTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/MinMaxPriorityQueue.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/ParametricNullness.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/html/ElementTypesAreNonnullByDefault.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/SimpleTimeLimiter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/FluentFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/AppendableWriter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AggregateFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/PatternFilenameFilter.java

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\* This following method is a modified version of one found in

\* <http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30>  
\* which contained the following notice:  
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\* Other contributors include Andrew Wright, Jeffrey Hayes, Pat Fisher, Mike Judd.  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/MoreExecutors.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/PatternCompiler.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/JdkPattern.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/CommonMatcher.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/CommonPattern.java  
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\* This method was rewritten in Java from an intermediate step of the Murmur hash function in  
\* <http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp>, which contained the  
\* following header:

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Found in path(s):

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/SmallCharMatcher.java

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jar/com/google/common/base/VerifyException.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/Verify.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/eventbus/SubscriberExceptionContext.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/CharSequenceReader.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/eventbus/SubscriberExceptionHandler.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeVisitor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredMultimapValues.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Runnables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/HashingInputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Utf8.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/xml/XmlEscapers.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ByteArrayDataInput.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Cut.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Callables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/annotations/GwtIncompatible.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/annotations/GwtCompatible.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/Escapers.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/SignedBytes.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SparseImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/LocalCache.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/ArrayBasedCharEscaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/HostSpecifier.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/Platform.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/CacheBuilder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/UnsignedBytes.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/InternetDomainName.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingFluentFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingListenableFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Service.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeResolver.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Splitter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LineProcessor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/MapMakerInternalMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/ReferenceEntry.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractIdleService.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/UrlEscapers.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Platform.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/ArrayBasedEscaperMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractService.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/DenseImmutableTable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ByteProcessor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/SettableFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ByteArrayDataOutput.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/html/HtmlEscapers.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizablePhantomReference.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LineBuffer.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Function.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LittleEndianDataOutputStream.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Throwables.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CountingOutputStream.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Closeables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/DeadEvent.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Preconditions.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Supplier.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/MultiInputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/Primitives.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Objects.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LineReader.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/Interners.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CountingInputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/Subscribe.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizableReference.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/DirectExecutor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/AbstractIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/ByteStreams.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/EnumMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizableReferenceQueue.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Functions.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/AllowConcurrentEvents.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/HashBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Resources.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizableSoftReference.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/CharStreams.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Defaults.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Predicate.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Charsets.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Suppliers.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/FinalizableWeakReference.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Files.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Flushables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/eventbus/EventBus.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/LittleEndianDataInputStream.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Predicates.java

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- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredSetMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredEntryMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableAsList.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CompactLinkedHashSet.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableList.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/TransformedIterator.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedSet.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/EvictingQueue.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CompactLinkedHashMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingDeque.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredEntrySetMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractNavigableMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredKeySetMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/FilteredMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableEnumMap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/AllEqualOrdering.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableSortedMultiset.java
- \* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ForwardingBlockingDeque.java

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/TreeTraverser.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ForwardingNavigableSet.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/SortedMultisetBridge.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/RangeMap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ForwardingNavigableMap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/CompactHashSet.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/CompactHashMap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/FilteredKeyListMultimap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/TransformedListIterator.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ForwardingImmutableSet.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/TreeRangeMap.java
```

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```

```
*/
```

```
/**
```

```
* Holder for web specializations of methods of { @code Floats }. Intended to be empty for regular
* version.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/primitives/FloatsMethodsForWeb.java
```

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```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/hash/MacHashFunction.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/hash/LittleEndianByteArray.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/CombinedFuture.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/io/ReaderInputStream.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/InterruptibleTask.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/AggregateFutureState.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/hash/FarmHashFingerprint64.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/AsyncCallable.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ConsumingQueueIterator.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/Platform.java
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/BaseEncoding.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ImmutableRangeMap.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/Stats.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/PairedStats.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/StatsAccumulator.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/xml/package-info.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/Closer.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/package-info.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/SmoothRateLimiter.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/SipHashFunction.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/Parameter.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/io/FileWriteMode.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/math/PairedStatsAccumulator.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/CartesianList.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/reflect/TypeCapture.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/LongAddable.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/LongAddables.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/cache/LongAddable.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/escape/package-info.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/util/concurrent/ServiceManager.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/Invokable.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/cache/LongAddables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/html/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/CharSource.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/base/StandardSystemProperty.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/hash/ChecksumHashFunction.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/hash/AbstractByteHasher.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/ClassPath.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/TypeToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/math/LinearTransformation.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/CharSink.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/ByteSource.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/io/ByteSink.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/AbstractInvocationHandler.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/util/concurrent/RateLimiter.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableRangeSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/reflect/MutableTypeToInstanceMap.java  
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jar/com/google/common/io/MoreFiles.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/MultimapBuilder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableMapEntry.java

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jar/com/google/common/collect/ImmutableSortedAsList.java

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*/
/**
* Holder for extra methods of {@code Objects} only in web. Intended to be empty for regular
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*/
```

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* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/base/ExtraObjectsMethodsForWeb.java
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jar/com/google/common/collect/LinkedHashMultiset.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/UsingToStringOrdering.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/MutableClassToInstanceMap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ForwardingListIterator.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ArrayListMultimap.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/Synchronized.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSet.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ForwardingSortedSet.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ComparatorOrdering.java
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
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jar/com/google/common/collect/RegularImmutableSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractMapEntry.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ConcurrentHashMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Iterables.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SingletonImmutableSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/NullsFirstOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/EnumBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TreeMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ExplicitOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Lists.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractBiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMapEntry.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ReverseNaturalOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/LinkedListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingQueue.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/HashMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractMapBasedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractSortedSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/LexicographicalOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Ordering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/collect/AbstractListMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/BiMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ClassToInstanceMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/NaturalOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingSortedMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ReverseOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Iterators.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingConcurrentMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/TreeMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/LinkedHashMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/HashMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractMapBasedMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ByFunctionOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/MapDifference.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Sets.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Interner.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/NullsLastOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-

jar/com/google/common/collect/ForwardingIterator.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingList.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multisets.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/EnumHashMap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingObject.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Maps.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/AbstractSetMultimap.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/Multimaps.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/CompoundOrdering.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/ForwardingCollection.java  
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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedMultiset.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-  
jar/com/google/common/collect/SortedMultisets.java  
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```

```
/**
 * Returns an array containing all of the elements in the specified collection. This method
 * returns the elements in the order they are returned by the collection's iterator. The returned
 * array is "safe" in that no references to it are maintained by the collection. The caller is
 * thus free to modify the returned array.
 *
 * <p>This method assumes that the collection size doesn't change while the method is running.
 *
 * <p>TODO(kevinb): support concurrently modified collections?
 *
 * @param c the collection for which to return an array of elements
 */
```

Found in path(s):

```
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ObjectArrays.java
```

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```

```
/*
 * This method was rewritten in Java from an intermediate step of the Murmur hash function in
 * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
 * following header:
 *
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 */
```

Found in path(s):

```
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/Hashing.java
```

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```
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/IndexedImmutableSet.java
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/JdkBackedImmutableBiMap.java
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/JdkBackedImmutableMap.java
*/opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/BaseImmutableMultimap.java
```

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/annotations/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Atomics.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/SortedLists.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/net/package-info.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/annotations/Beta.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/collect/ContiguousSet.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Ascii.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Equivalence.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/UncaughtExceptionHandler.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ListeningExecutorService.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Monitor.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/base/Strings.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ClosingFuture.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/AbstractBaseGraph.java  
\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/graph/BaseGraph.java

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/\*\*  
\* Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular  
\* version.  
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Found in path(s):

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/ShortsMethodsForWeb.java

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jar/com/google/common/reflect/Reflection.java

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jar/com/google/common/collect/Streams.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/Internal.java

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\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingCondition.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/ImmutableIntArray.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/hash/AbstractHashFunction.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/ImmutableDoubleArray.java

\* /opt/cola/permits/1301953781\_1649307346.56/0/guava-31-1-jre-sources-1-jar/com/google/common/primitives/ImmutableLongArray.java

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jar/com/google/common/util/concurrent/ServiceManagerBridge.java  
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/\*\*

\* Holder for web specializations of methods of { @code Doubles }. Intended to be empty for regular  
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jar/com/google/common/primitives/DoublesMethodsForWeb.java  
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*/
/**
 * Not supported. You are attempting to create a map that may contain a non-{@code Comparable}
 * key. Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy
 * version.
 *
 * @throws UnsupportedOperationException always
 * @deprecated Pass a key of type {@code Comparable} to use {@link
 * ImmutableSortedMap#of(Comparable, Object)}.
 */
```

Found in path(s):

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* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java
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 */
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 *
 * As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
 * java.util.HashMap class.
 */
```

Found in path(s):

```
* /opt/cola/permits/1301953781_1649307346.56/0/guava-31-1-jre-sources-1-
jar/com/google/common/util/concurrent/Striped.java
```



# 1.236 Lombok 1.18.12

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# 1.238 jackson-module-parameter-names

## 2.15.0

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## 1.242 protobuf-java 3.11.4

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jar/com/google/protobuf/ProtoSyntax.java  
\* /opt/cola/permits/1668779570\_1683634908.6867876/0/protobuf-java-3-11-4-sources-4-  
jar/google/protobuf/struct.proto  
\* /opt/cola/permits/1668779570\_1683634908.6867876/0/protobuf-java-3-11-4-sources-4-  
jar/com/google/protobuf/ExperimentalApi.java  
\* /opt/cola/permits/1668779570\_1683634908.6867876/0/protobuf-java-3-11-4-sources-4-  
jar/com/google/protobuf/Parser.java  
\* /opt/cola/permits/1668779570\_1683634908.6867876/0/protobuf-java-3-11-4-sources-4-  
jar/com/google/protobuf/ServiceException.java

## 1.243 gson 2.10.1

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* /opt/cola/permits/1698848058_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/AbstractSocksMessage.java
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- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthRequest.java
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\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksInitRequest.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksRequest.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5PasswordAuthResponse.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthResponse.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5CommandRequest.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksMessageEncoder.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandResponse.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/SocksMessage.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5InitialResponse.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v4/Socks4CommandType.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksInitResponseDecoder.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksCmdRequestDecoder.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksResponse.java  
\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/UnknownSocksRequest.java  
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\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksAuthResponse.java

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\* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5CommandResponse.java  
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- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksProtocolVersion.java
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- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5AddressType.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthStatus.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksRequestType.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksAddressType.java
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- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksResponseType.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandStatus.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandType.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksCmdStatus.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksAuthScheme.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksCmdType.java
- \* /opt/cola/permits/1698848058\_1685285759.199273/0/netty-codec-socks-4-1-93-final-sources-jar/io/netty/handler/codec/socks/SocksMessageType.java

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\* /opt/cola/permits/1656638364\_1682593601.2844107/0/jsr305-3-0-2-sources-9-jar/javax/annotation/concurrent/GuardedBy.java

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\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/com/sun/nio/sctp/AbstractNotificationHandler.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/com/sun/nio/sctp/UnsupportedOperationException.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/com/sun/nio/sctp/Notification.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/com/sun/nio/sctp/SctpStandardSocketOptions.java  
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\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/channel/sctp/nio/NioSctpServerChannel.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/com/sun/nio/sctp/package-info.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/channel/sctp/SctpMessage.java

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\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/handler/codecsctp/SctpOutboundByteStreamHandler.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/channel/sctp/oi/OioSctpChannel.java  
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\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/channel/sctp/package-info.java

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\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/handler/codecsctp/SctpMessageCompletionHandler.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/handler/codecsctp/package-info.java  
\* /opt/cola/permits/1698848086\_1685285729.8544004/0/netty-transport-sctp-4-1-93-final-sources-jar/io/netty/handler/codecsctp/SctpMessageToMessageDecoder.java

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# 1.251 jackson-annotations 2.14.1

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/\* PRESENT 1 \*/

/\* PRESENT 2 \*/

// PRESENT 3

/\*\* ABSENT \*/

package/\* ABSENT 1 \*/ normal

/\* ABSENT 2 \*/

// COMMENTS: 3

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class Some

// COMMENTS: 0

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License for the GNU Trove library included by the Kotlin embeddable compiler

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<https://github.com/JetBrains/intellij-deps-trove4j> (with `trove4j_changes.txt` describing the changes)

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`org.eclipse.jgit:org.eclipse.jgit`

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BSD-style

`com.jcraft:jsch`

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org.junit.platform:junit-platform-launcher

-----  
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org.mozilla:rhino

/\* PRESENT \*/

fun some() {}

// COMMENTS: 1

/\*

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package org.jetbrains.kotlin.copyright

import junit.framework.AssertionFailedError

import org.jetbrains.kotlin.idea.copyright.UpdateKotlinCopyright

import org.jetbrains.kotlin.idea.test.KotlinLightCodeInsightFixtureTestCase

import org.jetbrains.kotlin.idea.test.PluginTestCaseBase

import org.jetbrains.kotlin.test.InTextDirectivesUtils

import org.junit.Assert

import java.io.File

abstract class AbstractUpdateKotlinCopyrightTest : KotlinLightCodeInsightFixtureTestCase() {

fun doTest(path: String) {

myFixture.configureByFile(fileName())

val fileText = myFixture.file.text.trim()

val expectedNumberOfComments = InTextDirectivesUtils.getPrefixedInt(fileText, "// COMMENTS: ") ?: run {

if (fileText.isNotEmpty()) {

throw AssertionError("Every test should assert number of comments with `COMMENTS`

directive")

} else {

0

}

}

val comments = UpdateKotlinCopyright.getExistentComments(myFixture.file)

for (comment in comments) {

val commentText = comment.text

when {

commentText.contains("PRESENT") -> {

}

commentText.contains("ABSENT") -> {

```

 throw AssertionError("Unexpected comment found: `${commentText}`")
 }
 else -> {
 throw AssertionError("A comment with bad directive found: `${commentText}`")
 }
}
}

Assert.assertEquals(
 "Wrong number of comments found:\n${comments.joinToString(separator = "\n") { it.text }}\n",
 expectedNumberOfComments, comments.size
)
}

override fun getTestDataPath() = File(PluginTestCaseBase.getTestDataPathBase(), "/copyright").path +
File.separator
}
/* PRESENT */

```

package normal

// COMMENTS: 1

Google Dart Js backend was removed - <https://code.google.com/p/dart/source/detail?r=4771>

According to <http://www.apache.org/legal/3party.html> we can include "Google Dart Js backend" in source form, because code license is "New BSD License" (Authorized License).

This part of code will be removed when kotlin will be rewritten on kotlin.

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====

/\* PRESENT \*/

foo()

// COMMENTS: 1

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\*/

```
package org.jetbrains.kotlin.copyright
```

```
import junit.framework.AssertionFailedError
```

```
import org.jetbrains.kotlin.idea.copyright.UpdateKotlinCopyright
```

```
import org.jetbrains.kotlin.idea.test.KotlinLightCodeInsightFixtureTestCase
```

```
import org.jetbrains.kotlin.idea.test.PluginTestCaseBase
```

```
import org.jetbrains.kotlin.test.InTextDirectivesUtils
```

```
import org.junit.Assert
```

```
import java.io.File
```

```
abstract class AbstractUpdateKotlinCopyrightTest : KotlinLightCodeInsightFixtureTestCase() {
```

```
 fun doTest(path: String) {
```

```
 myFixture.configureByFile(path)
```

```
 val fileText = myFixture.file.text.trim()
```

```
 val expectedNumberOfComments = InTextDirectivesUtils.getPrefixedInt(fileText, "// COMMENTS: ") ?: run {
```

```
 if (fileText.isNotEmpty()) {
```

```
 throw AssertionError("Every test should assert number of comments with `COMMENTS`
```

```
directive")
```

```
 } else {
```

```
 0
```

```
 }
```

```
 }
```

```
 val comments = UpdateKotlinCopyright.getExistentComments(myFixture.file)
```

```
 for (comment in comments) {
```

```
 val commentText = comment.text
```

```
 when {
```

```
 commentText.contains("PRESENT") -> {
```

```
 }
```

```
 commentText.contains("ABSENT") -> {
```

```
 throw AssertionError("Unexpected comment found: `$commentText`")
```

```

 }
 else -> {
 throw AssertionError("A comment with bad directive found: `${commentText}`")
 }
}

Assert.assertEquals(
 "Wrong number of comments found:\n${comments.joinToString(separator = "\n") { it.text }}\n",
 expectedNumberOfComments, comments.size
)
}

override fun getTestDataPath() = File(PluginTestCaseBase.getTestDataPathBase(), "/copyright").path +
File.separator
}
/*
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 */

package tasks

import groovy.util.Node
import groovy.util.XmlParser
import org.gradle.api.DefaultTask
import org.gradle.api.Project
import org.gradle.api.tasks.Input
import org.gradle.api.tasks.InputFile
import org.gradle.api.tasks.OutputFile
import org.gradle.api.tasks.TaskAction
import java.io.File
import java.util.*

open class WriteCopyrightToFile : DefaultTask() {

 @InputFile
 var path = project.file("${project.rootDir}/.idea/copyright/apache.xml")

 @OutputFile
 var outputFile: File? = null

 @Input
 var commented: Boolean = true

```

```

@TaskAction
fun write() {
 if (commented) {
 outputFile!!.writeText(project.readCopyrightCommented())
 } else {
 outputFile!!.writeText(project.readCopyright())
 }
}

fun Project.readCopyright(): String {
 val file = rootDir.resolve(".idea/copyright/apache.xml")

 assert(file.exists()) {
 "File $file with copyright not found"
 }

 val xmlParser = XmlParser()
 val node = xmlParser.parse(file)
 assert(node.attribute("name") == "CopyrightManager") {
 "Format changed occasionally?"
 }

 val copyrightBlock = node.children().filterIsInstance<Node>().single()
 val noticeNode = copyrightBlock.children().filterIsInstance<Node>().single { it.attribute("name") == "notice" }
 return noticeNode.attribute("value").toString().replace("$today.year",
GregorianCalendar()[Calendar.YEAR].toString())
}

fun Project.readCopyrightCommented(): String {
 return "/*\n" + readCopyright().prependIndent(" * ") + "\n */"
}
}

```

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Version 2.1, February 1999

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  - License: BSD ([license/third\_party/asm\_license.txt][asm])
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  - License: BSD ([license/third\_party/dart\_LICENSE.txt][dart])
  - Origin: Originally part of the Dart compiler, (c) 2011 the Dart Project Authors,
  
- Path: js/js.inliner/src/org/jetbrains/kotlin/js/inline/FunctionInlineMutator.kt
  - License: BSD ([license/third\_party/dart\_LICENSE.txt][dart])
  - Origin: Originally part of the Dart compiler, (c) 2011 the Dart Project Authors,
  
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- Path: js/js.translator/qunit/qunit.js
  - License: MIT ([license/third\_party/qunit\_license.txt][qunit])
  - Origin: QUnit, Copyright (c) 2012 John Resig, Jrn Zaefferer,
  
- Path: libraries/stdlib/src/kotlin/collections
  - License: Apache 2 ([license/third\_party/gwt\_license.txt][gwt])
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- Path: libraries/stdlib/unsigned/src/kotlin/UnsignedUtils.kt
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  - Origin: Derived from Guava's UnsignedLongs, (C) 2011 The Guava Authors
  
- Path: libraries/stdlib/jvm/src/kotlin/util/MathJVM.kt
  - License: Boost Software License 1.0 ([license/third\_party/boost\_LICENSE.txt][boost])
  - Origin: Derived from boost special math functions, Copyright Eric Ford & Hubert Holin 2001.
  
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- Path: libraries/stdlib/js-v1/src/js/long.js
  - License: Apache 2 ([license/third\_party/closure-compiler\_LICENSE.txt][closure-compiler])
  - Origin: Google Closure Library, Copyright 2009 The Closure Library Authors
  
- Path: libraries/stdlib/js-v1/src/js/polyfills.js
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  - Origin: Derived from boost special math functions, Copyright Eric Ford & Hubert Holin 2001.
  
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- Path: plugins/lint/lint-checks
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- Path: idea/idea-gradle-tooling-api/src/org/gradle/tooling/model/kotlin/dsl
  - License: Apache 2 ([license/third\_party/gradle\_license.txt][gradle])
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- Path: third-party/annotations/androidx
  - License: Apache 2 ([license/third\_party/aosp\_license.txt][aosp])
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  - License: LGPL 2.1 ([license/third\_party/testdata/findbugs\_license.txt][findbugs])
  - Origin: Bytecode Analysis Framework, Copyright (C) 2005 University of Maryland
  
- Path: third-party/jdk8-annotations/org/eclipse
  - License: Eclipse Public License v1.0 ([license/third\_party/testdata/eclipse\_license.txt][eclipse])
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- Path: third-party/annotations/io/reactivex
  - License: Apache 2 ([license/third\_party/testdata/rxjava\_license.txt][rxjava])

- Origin: RxJava, Copyright (c) 2016-present, RxJava Contributors
  
- Path: third-party/annotations/lombok
  - License: MIT ([license/third\_party/testdata/lombok\_license.txt][lombok])
  - Origin: Project Lombok, Copyright (C) 2009-2013 The Project Lombok Authors
  
- Path: idea/idea-android/tests/org/jetbrains/kotlin/android/AndroidTestBase.java
  - License: Apache 2 ([license/third\_party/aosp\_license.txt][aosp])
  - Origin: Copyright (C) 2011-15 The Android Open Source Project
  
- Path: idea/testData/android/lintQuickfix/requiresApi/RequiresApi.java
  - License: Apache 2 ([license/third\_party/aosp\_license.txt][aosp])
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- Path: idea/testData/android/lint/IntRange.java
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- Path: idea/testData/android/lint/RequiresPermission.java
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- Path: libraries/tools/kotlin-gradle-plugin-integration-  
tests/src/test/resources/testProject/allOpenSpring/src/org/springframework/stereotype/Component.java
  - License: Apache 2 ([license/third\_party/testdata/spring\_license.txt][spring])
  - Origin: Spring Framework, Copyright 2002-2007 the original author or authors.
  
- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/AndroidDaggerProject
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  - Origin: Dagger, Copyright (C) 2013 Square, Inc.
  
- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/kapt2
  - License: Apache 2 ([license/third\_party/testdata/dagger\_license.txt][dagger])
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- Path: libraries/tools/kotlin-maven-plugin-test/src/it/test-allopen-  
spring/src/main/java/org/springframework/stereotype/Component.java
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  - Origin: Gradle, Copyright 2002-2017 Gradle, Inc.

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  - License: Eclipse Public License v1.0 ([license/third\_party/testdata/eclipse\_license.txt][eclipse]) and Eclipse Distribution License - v1.0 ([license/third\_party/testdata/eclipse\_distribution\_license.txt][eclipse-distribution])
  - Origin: javax.persistence, Copyright (c) 2008, 2017 Sun Microsystems, Oracle Corporation.
  
- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/noArgJpa/src/javax/persistence/Entity.java
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  - Origin: javax.persistence, Copyright (c) 2008, 2017 Sun Microsystems, Oracle Corporation.
  
- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/noArgJpa/src/javax/persistence/Embeddable.java
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  - Origin: javax.persistence, Copyright (c) 2008, 2017 Sun Microsystems, Oracle Corporation.
  
- Path: libraries/tools/kotlin-test-js-runner/karma-kotlin-reporter.js
  - License: MIT ([license/third\_party/karma\_LICENSE.txt](third\_party/karma\_LICENSE.txt) and [license/third\_party/karma-teamcity-reporter\_LICENSE.txt](third\_party/karma-teamcity-reporter\_LICENSE.txt))
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- Path: libraries/tools/kotlin-test-js-runner/mocha-kotlin-reporter.js
  - License: MIT ([license/third\_party/mocha-teamcity-reporter\_LICENSE.txt](third\_party/mocha-teamcity-reporter\_LICENSE.txt))
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```
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-jar/META-INF/maven/io.netty/netty-handler-proxy/pom.xml
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 */
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Found in path(s):

```
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-
jar/io/netty/handler/proxy/ProxyConnectionEvent.java
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-
jar/io/netty/handler/proxy/ProxyConnectException.java
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-
jar/io/netty/handler/proxy/Socks4ProxyHandler.java
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-
jar/io/netty/handler/proxy/HttpProxyHandler.java
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-
jar/io/netty/handler/proxy/package-info.java
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-
jar/io/netty/handler/proxy/Socks5ProxyHandler.java
* /opt/cola/permits/1698848157_1685285743.4325588/0/netty-handler-proxy-4-1-93-final-sources-
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analysis/common/src/resources/org/apache/lucene/analysis/ro/stopwords.txt,  
analysis/common/src/resources/org/apache/lucene/analysis/bg/stopwords.txt,  
analysis/common/src/resources/org/apache/lucene/analysis/hi/stopwords.txt

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analysis/common/src/java/org/apache/lucene/analysis/de/GermanLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/de/GermanMinimalStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/es/SpanishLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/fi/FinnishLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/fr/FrenchLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/fr/FrenchMinimalStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/hu/HungarianLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/it/ItalianLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/pt/PortugueseLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/ru/RussianLightStemmer.java  
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*/
```

Found in path(s):

```
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/CompositeELResolver.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ELResolver.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/MethodInfo.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-
jar/javax/el/PropertyNotFoundException.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ListELResolver.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/FunctionMapper.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ArrayELResolver.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ValueExpression.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-
jar/javax/el/MethodNotFoundException.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ELContextListener.java
```

```

* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-
jar/javax/el/ResourceBundleELResolver.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/Expression.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ELContext.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/BeanELResolver.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ValueReference.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ELException.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ExpressionFactory.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/MapELResolver.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/MethodExpression.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/VariableMapper.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-jar/javax/el/ELContextEvent.java
* /opt/cola/permits/1128408631_1611918005.99/0/juel-api-2-2-7-sources-1-
jar/javax/el/PropertyNotWritableException.java

```

# 1.257 ant 1.10.12

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## 1.258 Iz4 1.9.4

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Upstream-Contact: Yann Collet <[Cyan4973@github.com](mailto:Cyan4973@github.com)>

Source: <https://github.com/lz4/lz4>

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- \* /opt/cola/permits/1268277696\_1644386512.94/0/groovy-swing-3-0-9-sources-jar/org/codehaus/groovy/binding/package.html

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Found in path(s):

\* /opt/cola/permits/1268277696\_1644386512.94/0/groovy-swing-3-0-9-sources-jar/groovy/swing/binding/JListProperties.groovy  
\* /opt/cola/permits/1268277696\_1644386512.94/0/groovy-swing-3-0-9-sources-jar/org/apache/groovy/swing/binding/ClosureSourceBinding.java  
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\* /opt/cola/permits/1268277696\_1644386512.94/0/groovy-swing-3-0-9-sources-jar/groovy/swing/table/TableSorter.java  
\* /opt/cola/permits/1268277696\_1644386512.94/0/groovy-swing-3-0-9-sources-jar/groovy/swing/factory/RootPaneContainerFactory.groovy  
\* /opt/cola/permits/1268277696\_1644386512.94/0/groovy-swing-3-0-9-sources-jar/groovy/swing/impl/TableLayoutCell.java  
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## 1.262 activation-api 1.2.2

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```
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jar/com/google/j2objc/annotations/Weak.java
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jar/com/google/j2objc/annotations/OnDealloc.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/J2ObjCIncompatible.java
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jar/com/google/j2objc/annotations/LoopTranslation.java
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jar/com/google/j2objc/annotations/RetainedLocalRef.java
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jar/com/google/j2objc/annotations/ReflectionSupport.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/Property.java
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jar/com/google/j2objc/annotations/ObjectiveCName.java
```

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## 1.266 javax-ws-rs-api 2.0.1

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Upstream-Contact: Yann Collet <[Cyan4973@github.com](mailto:Cyan4973@github.com)>

Source: <https://github.com/lz4/lz4>

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Eclipse

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\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

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\* org.eclipse.jetty.orbit:javax.security.auth.message

The following artifacts are EPL and CDDL 1.0.

\* org.eclipse.jetty.orbit:javax.mail.glassfish

-----

Oracle

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

-----

Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

-----

OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

-----

Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

-----

MortBay

The following artifacts are ASL2 licensed. Based on selected classes from following Apache Tomcat jars, all ASL2 licensed.

org.mortbay.jasper:apache-jsp

org.apache.tomcat:tomcat-jasper

org.apache.tomcat:tomcat-juli

org.apache.tomcat:tomcat-jsp-api

org.apache.tomcat:tomcat-el-api

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-api

org.apache.tomcat:tomcat-util-scan

org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el

org.apache.tomcat:tomcat-jasper-el

org.apache.tomcat:tomcat-el-api

-----

Mortbay

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville. Permission to use, copy, modify and distribute UnixCrypt for non-commercial or commercial purposes and without fee is granted provided that the copyright notice appears in all copies.

## 1.279 hibernate-validator 6.1.7.Final

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```
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/util/package-info.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/util/StatusValues.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/producer/package-
info.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/TestSet.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-
jar/org/tap4j/representer/Tap13Representer.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/TestResult.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/TapResult.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/parser/Parser.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-
jar/org/tap4j/representer/RepresenterException.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/parser/package-info.java
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* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-
jar/org/tap4j/consumer/TapConsumerException.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-
jar/org/tap4j/consumer/TapConsumerFactory.java
* /opt/cola/permits/1613098593_1679654363.3271081/0/tap4j-4-1-sources-2-
```

jar/org/tap4j/model/AbstractTapElementDiagnostic.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/TapElement.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/SkipPlan.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/Footer.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/producer/TapProducer.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/Comment.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/Header.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/package-info.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/producer/Producer.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/representer/TapJunitRepresenter.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/consumer/package-  
 info.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/parser/Tap13Parser.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/parser/Memento.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/representer/DumperOptions.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/Plan.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/parser/ParserException.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/producer/ProducerException.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/representer/package-  
 info.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/representer/Representer.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/util/TapVersionValues.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/Text.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/producer/TapProducerFactory.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-jar/org/tap4j/model/Directive.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/consumer/TapConsumerImpl.java  
 \* /opt/cola/permits/1613098593\_1679654363.3271081/0/tap4j-4-1-sources-2-  
 jar/org/tap4j/consumer/TapConsumer.java

## 1.282 t-digest 3.2

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Found in path(s):

\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/FloatHistogram.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/AVLGroupTree.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/Sort.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/TDigest.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/IntAVLTree.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/Histogram.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/MergingDigest.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/Centroid.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/Simple64.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/AbstractTDigest.java  
\* /opt/ws\_local/PERMITS\_SQL/1091220915\_1600449900.56/0/t-digest-3-2-sources-1-  
jar/com/tdunning/math/stats/AVLTreeDigest.java

## 1.283 groovy-dateutil 3.0.9

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\* /opt/cola/permits/1268275752\_1644386843.29/0/groovy-dateutil-3-0-9-sources-  
jar/org/apache/groovy/dateutil/extensions/DateUtilExtensions.java  
\* /opt/cola/permits/1268275752\_1644386843.29/0/groovy-dateutil-3-0-9-sources-  
jar/org/apache/groovy/dateutil/extensions/DateUtilStaticExtensions.java

## 1.284 slf4j 1.7.36

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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/spec/Ordering.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpSCUnboundedAtomicArrayQueue.java  
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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/LinkedQueueAtomicNode.java  
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jar/org/jctools/queues/BaseSpSCLinkedArrayQueue.java
No license file was found, but licenses were detected in source scan.

```

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</goals>
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</plugin>
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</build>

<distributionManagement>
<repository>
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<name>jctools-jctools</name>
<url>https://api.bintray.com/maven/jctools/jctools/jctools-core/;publish=1</url>
</repository>
</distributionManagement>

<url>https://github.com/JCTools</url>

```

<inceptionYear>2013</inceptionYear>

<licenses>

<license>

<name>Apache License, Version 2.0</name>

<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>

<distribution>repo</distribution>

</license>

</licenses>

<scm>

<url>https://github.com/JCTools/JCTools</url>

<connection>scm:git:https://github.com/JCTools/JCTools</connection>

<tag>HEAD</tag>

</scm>

<developers>

<developer>

<url>https://github.com/nitsanw</url>

</developer>

<developer>

<url>https://github.com/mjpt777</url>

</developer>

<developer>

<url>https://github.com/RichardWarburton</url>

</developer>

<developer>

<url>https://github.com/kay</url>

</developer>

<developer>

<url>https://github.com/franz1981</url>

</developer>

</developers>

<prerequisites>

<maven>3.5.0</maven>

</prerequisites>

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</project>
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Found in path(s):

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INF/maven/org.jctools/jctools-core/pom.xml
```

# 1.286 groovyjsr 3.0.9

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*/
```

Found in path(s):

```
* /opt/cola/permits/1551849362_1675381053.1014845/0/groovy-jsr223-3-0-9-sources-1-
jar/org/codehaus/groovy/jsr223/ScriptStaticExtensions.java
* /opt/cola/permits/1551849362_1675381053.1014845/0/groovy-jsr223-3-0-9-sources-1-
jar/org/codehaus/groovy/jsr223/ScriptExtensions.java
```

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```
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```

org.codehaus.groovy.jsr223.GroovyScriptEngineFactory

Found in path(s):

```
* /opt/cola/permits/1551849362_1675381053.1014845/0/groovy-jsr223-3-0-9-sources-1-jar/META-INF/services/javax.script.ScriptEngineFactory
```

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```
/*
```

```
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\*/

Found in path(s):

\* /opt/cola/permits/1551849362\_1675381053.1014845/0/groovy-jsr223-3-0-9-sources-1-jar/org/codehaus/groovy/jsr223/GroovyScriptEngineImpl.java

\* /opt/cola/permits/1551849362\_1675381053.1014845/0/groovy-jsr223-3-0-9-sources-1-jar/org/codehaus/groovy/jsr223/GroovyCompiledScript.java

\* /opt/cola/permits/1551849362\_1675381053.1014845/0/groovy-jsr223-3-0-9-sources-1-jar/org/codehaus/groovy/jsr223/GroovyScriptEngineFactory.java

# 1.287 jetty-webapp 9.4.51.v20230217

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Eclipse

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\* org.eclipse.jetty.orbit:org.eclipse.jdt.core

The following artifacts are EPL and ASL2.  
\* org.eclipse.jetty.orbit:javax.security.auth.message

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\* org.eclipse.jetty.orbit:javax.mail.glassfish

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Oracle

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

\* javax.servlet:javax.servlet-api

\* javax.annotation:javax.annotation-api

\* javax.transaction:javax.transaction-api

\* javax.websocket:javax.websocket-api

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Oracle OpenJDK

If ALPN is used to negotiate HTTP/2 connections, then the following artifacts may be included in the distribution or downloaded when ALPN module is selected.

\* java.sun.security.ssl

These artifacts replace/modify OpenJDK classes. The modifications are hosted at github and both modified and original are under GPL v2 with classpath exceptions.

<http://openjdk.java.net/legal/gplv2+ce.html>

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OW2

The following artifacts are licensed by the OW2 Foundation according to the terms of <http://asm.ow2.org/license.html>

org.ow2.asm:asm-commons

org.ow2.asm:asm

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Apache

The following artifacts are ASL2 licensed.

org.apache.taglibs:taglibs-standard-spec

org.apache.taglibs:taglibs-standard-impl

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## MortBay

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org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-api  
org.apache.tomcat:tomcat-util-scan  
org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

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## Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

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## Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville.

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# 1.288 metrics-json 4.1.29

## 1.288.1 Available under license :

Apache-2.0



# 1.289 cyrus-sasl 2.1.28

## 1.289.1 Available under license :

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\* Tim Martin

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\*/

/\*

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* Rob Earhart
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* Rob Siemborski
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## 1.295 jaxb2-reflection 2.2.6

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Found in path(s):

\* /opt/cola/permits/1535154686\_1679313434.8808954/0/jaxb-impl-2-2-6-jar/META-INF/maven/com.sun.xml.txw2/txw2/pom.xml

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Found in path(s):

\* /opt/cola/permits/1535154686\_1679313434.8808954/0/jaxb-impl-2-2-6-jar/META-INF/maven/com.sun.istack/istack-commons-runtime/pom.xml

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\* /opt/cola/permits/1535154686\_1679313434.8808954/0/jaxb-impl-2-2-6-jar/com/sun/xml/bind/v2/Messages.properties

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\* /opt/cola/permits/1535154686\_1679313434.8808954/0/jaxb-impl-2-2-6-jar/com/sun/xml/bind/v2/model/impl/Messages\_pt\_BR.properties

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## 1.296 jedis 3.3.0

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Found in path(s):

\* /opt/ws\_local/PERMITS\_SQL/1047560748\_1590497249.67/0/jedis-3-3-0-sources-  
jar/redis/clients/jedis/util/RedisInputStream.java

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Found in path(s):

\* /opt/ws\_local/PERMITS\_SQL/1047560748\_1590497249.67/0/jedis-3-3-0-sources-  
jar/redis/clients/jedis/util/MurmurHash.java

## 1.297 ant-launcher 1.10.12

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