| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/FontRenderContext.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PREV CLASS   [**NEXT CLASS**](http://docs.google.com/java/awt/font/GlyphJustificationInfo.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/font/FontRenderContext.html)    [**NO FRAMES**](http://docs.google.com/FontRenderContext.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#17dp8vu) |

## **java.awt.font**

Class FontRenderContext

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **java.awt.font.FontRenderContext**

public class **FontRenderContext**extends [Object](http://docs.google.com/java/lang/Object.html)

The FontRenderContext class is a container for the information needed to correctly measure text. The measurement of text can vary because of rules that map outlines to pixels, and rendering hints provided by an application.

One such piece of information is a transform that scales typographical points to pixels. (A point is defined to be exactly 1/72 of an inch, which is slightly different than the traditional mechanical measurement of a point.) A character that is rendered at 12pt on a 600dpi device might have a different size than the same character rendered at 12pt on a 72dpi device because of such factors as rounding to pixel boundaries and hints that the font designer may have specified.

Anti-aliasing and Fractional-metrics specified by an application can also affect the size of a character because of rounding to pixel boundaries.

Typically, instances of FontRenderContext are obtained from a [Graphics2D](http://docs.google.com/java/awt/Graphics2D.html) object. A FontRenderContext which is directly constructed will most likely not represent any actual graphics device, and may lead to unexpected or incorrect results.

**See Also:**[RenderingHints.KEY\_TEXT\_ANTIALIASING](http://docs.google.com/java/awt/RenderingHints.html#KEY_TEXT_ANTIALIASING), [RenderingHints.KEY\_FRACTIONALMETRICS](http://docs.google.com/java/awt/RenderingHints.html#KEY_FRACTIONALMETRICS), [Graphics2D.getFontRenderContext()](http://docs.google.com/java/awt/Graphics2D.html#getFontRenderContext()), [LineMetrics](http://docs.google.com/java/awt/font/LineMetrics.html)

| **Constructor Summary** | |
| --- | --- |
| protected | [**FontRenderContext**](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext())()            Constructs a new FontRenderContext object. |
|  | [**FontRenderContext**](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext(java.awt.geom.AffineTransform,%20boolean,%20boolean))([AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) tx, boolean isAntiAliased, boolean usesFractionalMetrics)            Constructs a FontRenderContext object from an optional [AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) and two boolean values that determine if the newly constructed object has anti-aliasing or fractional metrics. |
|  | [**FontRenderContext**](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext(java.awt.geom.AffineTransform,%20java.lang.Object,%20java.lang.Object))([AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) tx, [Object](http://docs.google.com/java/lang/Object.html) aaHint, [Object](http://docs.google.com/java/lang/Object.html) fmHint)            Constructs a FontRenderContext object from an optional [AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) and two Object values that determine if the newly constructed object has anti-aliasing or fractional metrics. |

| **Method Summary** | |
| --- | --- |
| boolean | [**equals**](http://docs.google.com/java/awt/font/FontRenderContext.html#equals(java.awt.font.FontRenderContext))([FontRenderContext](http://docs.google.com/java/awt/font/FontRenderContext.html) rhs)            Return true if rhs has the same transform, antialiasing, and fractional metrics values as this. |
| boolean | [**equals**](http://docs.google.com/java/awt/font/FontRenderContext.html#equals(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) obj)            Return true if obj is an instance of FontRenderContext and has the same transform, antialiasing, and fractional metrics values as this. |
| [Object](http://docs.google.com/java/lang/Object.html) | [**getAntiAliasingHint**](http://docs.google.com/java/awt/font/FontRenderContext.html#getAntiAliasingHint())()            Return the text anti-aliasing rendering mode hint used in this FontRenderContext. |
| [Object](http://docs.google.com/java/lang/Object.html) | [**getFractionalMetricsHint**](http://docs.google.com/java/awt/font/FontRenderContext.html#getFractionalMetricsHint())()            Return the text fractional metrics rendering mode hint used in this FontRenderContext. |
| [AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) | [**getTransform**](http://docs.google.com/java/awt/font/FontRenderContext.html#getTransform())()            Gets the transform that is used to scale typographical points to pixels in this FontRenderContext. |
| int | [**getTransformType**](http://docs.google.com/java/awt/font/FontRenderContext.html#getTransformType())()            Returns the integer type of the affine transform for this FontRenderContext as specified by [AffineTransform.getType()](http://docs.google.com/java/awt/geom/AffineTransform.html#getType()) |
| int | [**hashCode**](http://docs.google.com/java/awt/font/FontRenderContext.html#hashCode())()            Return a hashcode for this FontRenderContext. |
| boolean | [**isAntiAliased**](http://docs.google.com/java/awt/font/FontRenderContext.html#isAntiAliased())()            Returns a boolean which indicates whether or not some form of antialiasing is specified by this FontRenderContext. |
| boolean | [**isTransformed**](http://docs.google.com/java/awt/font/FontRenderContext.html#isTransformed())()            Indicates whether or not this FontRenderContext object measures text in a transformed render context. |
| boolean | [**usesFractionalMetrics**](http://docs.google.com/java/awt/font/FontRenderContext.html#usesFractionalMetrics())()            Returns a boolean which whether text fractional metrics mode is used in this FontRenderContext. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### FontRenderContext

protected **FontRenderContext**()

Constructs a new FontRenderContext object.

### FontRenderContext

public **FontRenderContext**([AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) tx,  
 boolean isAntiAliased,  
 boolean usesFractionalMetrics)

Constructs a FontRenderContext object from an optional [AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) and two boolean values that determine if the newly constructed object has anti-aliasing or fractional metrics. In each case the boolean values true and false correspond to the rendering hint values ON and OFF respectively.

To specify other hint values, use the constructor which specifies the rendering hint values as parameters : [FontRenderContext(AffineTransform, Object, Object)](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext(java.awt.geom.AffineTransform,%20java.lang.Object,%20java.lang.Object)).

**Parameters:**tx - the transform which is used to scale typographical points to pixels in this FontRenderContext. If null, an identity transform is used.isAntiAliased - determines if the newly constructed object has anti-aliasing.usesFractionalMetrics - determines if the newly constructed object has fractional metrics.

### FontRenderContext

public **FontRenderContext**([AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) tx,  
 [Object](http://docs.google.com/java/lang/Object.html) aaHint,  
 [Object](http://docs.google.com/java/lang/Object.html) fmHint)

Constructs a FontRenderContext object from an optional [AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) and two Object values that determine if the newly constructed object has anti-aliasing or fractional metrics.

**Parameters:**tx - the transform which is used to scale typographical points to pixels in this FontRenderContext. If null, an identity tranform is used.aaHint - - one of the text antialiasing rendering hint values defined in [java.awt.RenderingHints](http://docs.google.com/java/awt/RenderingHints.html). Any other value will throw IllegalArgumentException. [VALUE\_TEXT\_ANTIALIAS\_DEFAULT](http://docs.google.com/java/awt/RenderingHints.html#VALUE_TEXT_ANTIALIAS_DEFAULT) may be specified, in which case the mode used is implementation dependent.fmHint - - one of the text fractional rendering hint values defined in [java.awt.RenderingHints](http://docs.google.com/java/awt/RenderingHints.html). [VALUE\_FRACTIONALMETRICS\_DEFAULT](http://docs.google.com/java/awt/RenderingHints.html#VALUE_FRACTIONALMETRICS_DEFAULT) may be specified, in which case the mode used is implementation dependent. Any other value will throw IllegalArgumentException **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if the hints are not one of the legal values.**Since:** 1.6

| **Method Detail** |
| --- |

### isTransformed

public boolean **isTransformed**()

Indicates whether or not this FontRenderContext object measures text in a transformed render context.

**Returns:**true if this FontRenderContext object has a non-identity AffineTransform attribute. false otherwise.**Since:** 1.6 **See Also:**[getTransform()](http://docs.google.com/java/awt/font/FontRenderContext.html#getTransform())

### getTransformType

public int **getTransformType**()

Returns the integer type of the affine transform for this FontRenderContext as specified by [AffineTransform.getType()](http://docs.google.com/java/awt/geom/AffineTransform.html#getType())

**Returns:**the type of the transform.**Since:** 1.6 **See Also:**[AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html)

### getTransform

public [AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) **getTransform**()

Gets the transform that is used to scale typographical points to pixels in this FontRenderContext.

**Returns:**the AffineTransform of this FontRenderContext.**See Also:**[AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html)

### isAntiAliased

public boolean **isAntiAliased**()

Returns a boolean which indicates whether or not some form of antialiasing is specified by this FontRenderContext. Call [getAntiAliasingHint()](http://docs.google.com/java/awt/font/FontRenderContext.html#getAntiAliasingHint()) for the specific rendering hint value.

**Returns:**true, if text is anti-aliased in this FontRenderContext; false otherwise.**See Also:**[RenderingHints.KEY\_TEXT\_ANTIALIASING](http://docs.google.com/java/awt/RenderingHints.html#KEY_TEXT_ANTIALIASING), [FontRenderContext(AffineTransform,boolean,boolean)](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext(java.awt.geom.AffineTransform,%20boolean,%20boolean)), [FontRenderContext(AffineTransform,Object,Object)](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext(java.awt.geom.AffineTransform,%20java.lang.Object,%20java.lang.Object))

### usesFractionalMetrics

public boolean **usesFractionalMetrics**()

Returns a boolean which whether text fractional metrics mode is used in this FontRenderContext. Call [getFractionalMetricsHint()](http://docs.google.com/java/awt/font/FontRenderContext.html#getFractionalMetricsHint()) to obtain the corresponding rendering hint value.

**Returns:**true, if layout should be performed with fractional metrics; false otherwise. in this FontRenderContext.**See Also:**[RenderingHints.KEY\_FRACTIONALMETRICS](http://docs.google.com/java/awt/RenderingHints.html#KEY_FRACTIONALMETRICS), [FontRenderContext(AffineTransform,boolean,boolean)](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext(java.awt.geom.AffineTransform,%20boolean,%20boolean)), [FontRenderContext(AffineTransform,Object,Object)](http://docs.google.com/java/awt/font/FontRenderContext.html#FontRenderContext(java.awt.geom.AffineTransform,%20java.lang.Object,%20java.lang.Object))

### getAntiAliasingHint

public [Object](http://docs.google.com/java/lang/Object.html) **getAntiAliasingHint**()

Return the text anti-aliasing rendering mode hint used in this FontRenderContext. This will be one of the text antialiasing rendering hint values defined in [java.awt.RenderingHints](http://docs.google.com/java/awt/RenderingHints.html).

**Returns:**text anti-aliasing rendering mode hint used in this FontRenderContext.**Since:** 1.6

### getFractionalMetricsHint

public [Object](http://docs.google.com/java/lang/Object.html) **getFractionalMetricsHint**()

Return the text fractional metrics rendering mode hint used in this FontRenderContext. This will be one of the text fractional metrics rendering hint values defined in [java.awt.RenderingHints](http://docs.google.com/java/awt/RenderingHints.html).

**Returns:**the text fractional metrics rendering mode hint used in this FontRenderContext.**Since:** 1.6

### equals

public boolean **equals**([Object](http://docs.google.com/java/lang/Object.html) obj)

Return true if obj is an instance of FontRenderContext and has the same transform, antialiasing, and fractional metrics values as this.

**Overrides:**[equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)) in class [Object](http://docs.google.com/java/lang/Object.html) **Parameters:**obj - the object to test for equality **Returns:**true if the specified object is equal to this FontRenderContext; false otherwise.**See Also:**[Object.hashCode()](http://docs.google.com/java/lang/Object.html#hashCode()), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### equals

public boolean **equals**([FontRenderContext](http://docs.google.com/java/awt/font/FontRenderContext.html) rhs)

Return true if rhs has the same transform, antialiasing, and fractional metrics values as this.

**Parameters:**rhs - the FontRenderContext to test for equality **Returns:**true if rhs is equal to this FontRenderContext; false otherwise.**Since:** 1.4

### hashCode

public int **hashCode**()

Return a hashcode for this FontRenderContext.

**Overrides:**[hashCode](http://docs.google.com/java/lang/Object.html#hashCode()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a hash code value for this object.**See Also:**[Object.equals(java.lang.Object)](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/FontRenderContext.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PREV CLASS   [**NEXT CLASS**](http://docs.google.com/java/awt/font/GlyphJustificationInfo.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/font/FontRenderContext.html)    [**NO FRAMES**](http://docs.google.com/FontRenderContext.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#17dp8vu) |

[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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