| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/DecimalFormatSymbols.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**](http://docs.google.com/java/text/DecimalFormat.html)   [**NEXT CLASS**](http://docs.google.com/java/text/FieldPosition.html) | [**FRAMES**](http://docs.google.com/index.html?java/text/DecimalFormatSymbols.html)    [**NO FRAMES**](http://docs.google.com/DecimalFormatSymbols.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#2s8eyo1) |

## **java.text**

Class DecimalFormatSymbols

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

**All Implemented Interfaces:** [Serializable](http://docs.google.com/java/io/Serializable.html), [Cloneable](http://docs.google.com/java/lang/Cloneable.html)

public class **DecimalFormatSymbols**extends [Object](http://docs.google.com/java/lang/Object.html)implements [Cloneable](http://docs.google.com/java/lang/Cloneable.html), [Serializable](http://docs.google.com/java/io/Serializable.html)

This class represents the set of symbols (such as the decimal separator, the grouping separator, and so on) needed by DecimalFormat to format numbers. DecimalFormat creates for itself an instance of DecimalFormatSymbols from its locale data. If you need to change any of these symbols, you can get the DecimalFormatSymbols object from your DecimalFormat and modify it.

**See Also:**[Locale](http://docs.google.com/java/util/Locale.html), [DecimalFormat](http://docs.google.com/java/text/DecimalFormat.html), [Serialized Form](http://docs.google.com/serialized-form.html#java.text.DecimalFormatSymbols)

| **Constructor Summary** | |
| --- | --- |
| [**DecimalFormatSymbols**](http://docs.google.com/java/text/DecimalFormatSymbols.html#DecimalFormatSymbols())()            Create a DecimalFormatSymbols object for the default locale. |
| [**DecimalFormatSymbols**](http://docs.google.com/java/text/DecimalFormatSymbols.html#DecimalFormatSymbols(java.util.Locale))([Locale](http://docs.google.com/java/util/Locale.html) locale)            Create a DecimalFormatSymbols object for the given locale. |

| **Method Summary** | |
| --- | --- |
| [Object](http://docs.google.com/java/lang/Object.html) | [**clone**](http://docs.google.com/java/text/DecimalFormatSymbols.html#clone())()            Standard override. |
| boolean | [**equals**](http://docs.google.com/java/text/DecimalFormatSymbols.html#equals(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) obj)            Override equals. |
| static [Locale](http://docs.google.com/java/util/Locale.html)[] | [**getAvailableLocales**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getAvailableLocales())()            Returns an array of all locales for which the getInstance methods of this class can return localized instances. |
| [Currency](http://docs.google.com/java/util/Currency.html) | [**getCurrency**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getCurrency())()            Gets the currency of these DecimalFormatSymbols. |
| [String](http://docs.google.com/java/lang/String.html) | [**getCurrencySymbol**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getCurrencySymbol())()            Returns the currency symbol for the currency of these DecimalFormatSymbols in their locale. |
| char | [**getDecimalSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getDecimalSeparator())()            Gets the character used for decimal sign. |
| char | [**getDigit**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getDigit())()            Gets the character used for a digit in a pattern. |
| [String](http://docs.google.com/java/lang/String.html) | [**getExponentSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getExponentSeparator())()            Returns the string used to separate the mantissa from the exponent. |
| char | [**getGroupingSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getGroupingSeparator())()            Gets the character used for thousands separator. |
| [String](http://docs.google.com/java/lang/String.html) | [**getInfinity**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getInfinity())()            Gets the string used to represent infinity. |
| static [DecimalFormatSymbols](http://docs.google.com/java/text/DecimalFormatSymbols.html) | [**getInstance**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getInstance())()            Gets the DecimalFormatSymbols instance for the default locale. |
| static [DecimalFormatSymbols](http://docs.google.com/java/text/DecimalFormatSymbols.html) | [**getInstance**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getInstance(java.util.Locale))([Locale](http://docs.google.com/java/util/Locale.html) locale)            Gets the DecimalFormatSymbols instance for the specified locale. |
| [String](http://docs.google.com/java/lang/String.html) | [**getInternationalCurrencySymbol**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getInternationalCurrencySymbol())()            Returns the ISO 4217 currency code of the currency of these DecimalFormatSymbols. |
| char | [**getMinusSign**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getMinusSign())()            Gets the character used to represent minus sign. |
| char | [**getMonetaryDecimalSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getMonetaryDecimalSeparator())()            Returns the monetary decimal separator. |
| [String](http://docs.google.com/java/lang/String.html) | [**getNaN**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getNaN())()            Gets the string used to represent "not a number". |
| char | [**getPatternSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getPatternSeparator())()            Gets the character used to separate positive and negative subpatterns in a pattern. |
| char | [**getPercent**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getPercent())()            Gets the character used for percent sign. |
| char | [**getPerMill**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getPerMill())()            Gets the character used for per mille sign. |
| char | [**getZeroDigit**](http://docs.google.com/java/text/DecimalFormatSymbols.html#getZeroDigit())()            Gets the character used for zero. |
| int | [**hashCode**](http://docs.google.com/java/text/DecimalFormatSymbols.html#hashCode())()            Override hashCode. |
| void | [**setCurrency**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setCurrency(java.util.Currency))([Currency](http://docs.google.com/java/util/Currency.html) currency)            Sets the currency of these DecimalFormatSymbols. |
| void | [**setCurrencySymbol**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setCurrencySymbol(java.lang.String))([String](http://docs.google.com/java/lang/String.html) currency)            Sets the currency symbol for the currency of these DecimalFormatSymbols in their locale. |
| void | [**setDecimalSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setDecimalSeparator(char))(char decimalSeparator)            Sets the character used for decimal sign. |
| void | [**setDigit**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setDigit(char))(char digit)            Sets the character used for a digit in a pattern. |
| void | [**setExponentSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setExponentSeparator(java.lang.String))([String](http://docs.google.com/java/lang/String.html) exp)            Sets the string used to separate the mantissa from the exponent. |
| void | [**setGroupingSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setGroupingSeparator(char))(char groupingSeparator)            Sets the character used for thousands separator. |
| void | [**setInfinity**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setInfinity(java.lang.String))([String](http://docs.google.com/java/lang/String.html) infinity)            Sets the string used to represent infinity. |
| void | [**setInternationalCurrencySymbol**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setInternationalCurrencySymbol(java.lang.String))([String](http://docs.google.com/java/lang/String.html) currencyCode)            Sets the ISO 4217 currency code of the currency of these DecimalFormatSymbols. |
| void | [**setMinusSign**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setMinusSign(char))(char minusSign)            Sets the character used to represent minus sign. |
| void | [**setMonetaryDecimalSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setMonetaryDecimalSeparator(char))(char sep)            Sets the monetary decimal separator. |
| void | [**setNaN**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setNaN(java.lang.String))([String](http://docs.google.com/java/lang/String.html) NaN)            Sets the string used to represent "not a number". |
| void | [**setPatternSeparator**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setPatternSeparator(char))(char patternSeparator)            Sets the character used to separate positive and negative subpatterns in a pattern. |
| void | [**setPercent**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setPercent(char))(char percent)            Sets the character used for percent sign. |
| void | [**setPerMill**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setPerMill(char))(char perMill)            Sets the character used for per mille sign. |
| void | [**setZeroDigit**](http://docs.google.com/java/text/DecimalFormatSymbols.html#setZeroDigit(char))(char zeroDigit)            Sets the character used for zero. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [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** |
| --- |

### DecimalFormatSymbols

public **DecimalFormatSymbols**()

Create a DecimalFormatSymbols object for the default locale. This constructor can only construct instances for the locales supported by the Java runtime environment, not for those supported by installed [DecimalFormatSymbolsProvider](http://docs.google.com/java/text/spi/DecimalFormatSymbolsProvider.html) implementations. For full locale coverage, use the [getInstance](http://docs.google.com/java/text/DecimalFormatSymbols.html#getInstance(java.util.Locale)) method.

### DecimalFormatSymbols

public **DecimalFormatSymbols**([Locale](http://docs.google.com/java/util/Locale.html) locale)

Create a DecimalFormatSymbols object for the given locale. This constructor can only construct instances for the locales supported by the Java runtime environment, not for those supported by installed [DecimalFormatSymbolsProvider](http://docs.google.com/java/text/spi/DecimalFormatSymbolsProvider.html) implementations. For full locale coverage, use the [getInstance](http://docs.google.com/java/text/DecimalFormatSymbols.html#getInstance(java.util.Locale)) method.

**Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if locale is null

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

### getAvailableLocales

public static [Locale](http://docs.google.com/java/util/Locale.html)[] **getAvailableLocales**()

Returns an array of all locales for which the getInstance methods of this class can return localized instances. The returned array represents the union of locales supported by the Java runtime and by installed [DecimalFormatSymbolsProvider](http://docs.google.com/java/text/spi/DecimalFormatSymbolsProvider.html) implementations. It must contain at least a Locale instance equal to [Locale.US](http://docs.google.com/java/util/Locale.html#US).

**Returns:**An array of locales for which localized DecimalFormatSymbols instances are available.**Since:** 1.6

### getInstance

public static final [DecimalFormatSymbols](http://docs.google.com/java/text/DecimalFormatSymbols.html) **getInstance**()

Gets the DecimalFormatSymbols instance for the default locale. This method provides access to DecimalFormatSymbols instances for locales supported by the Java runtime itself as well as for those supported by installed [DecimalFormatSymbolsProvider](http://docs.google.com/java/text/spi/DecimalFormatSymbolsProvider.html) implementations.

**Returns:**a DecimalFormatSymbols instance.**Since:** 1.6

### getInstance

public static final [DecimalFormatSymbols](http://docs.google.com/java/text/DecimalFormatSymbols.html) **getInstance**([Locale](http://docs.google.com/java/util/Locale.html) locale)

Gets the DecimalFormatSymbols instance for the specified locale. This method provides access to DecimalFormatSymbols instances for locales supported by the Java runtime itself as well as for those supported by installed [DecimalFormatSymbolsProvider](http://docs.google.com/java/text/spi/DecimalFormatSymbolsProvider.html) implementations.

**Parameters:**locale - the desired locale. **Returns:**a DecimalFormatSymbols instance. **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if locale is null**Since:** 1.6

### getZeroDigit

public char **getZeroDigit**()

Gets the character used for zero. Different for Arabic, etc.

### setZeroDigit

public void **setZeroDigit**(char zeroDigit)

Sets the character used for zero. Different for Arabic, etc.

### getGroupingSeparator

public char **getGroupingSeparator**()

Gets the character used for thousands separator. Different for French, etc.

### setGroupingSeparator

public void **setGroupingSeparator**(char groupingSeparator)

Sets the character used for thousands separator. Different for French, etc.

### getDecimalSeparator

public char **getDecimalSeparator**()

Gets the character used for decimal sign. Different for French, etc.

### setDecimalSeparator

public void **setDecimalSeparator**(char decimalSeparator)

Sets the character used for decimal sign. Different for French, etc.

### getPerMill

public char **getPerMill**()

Gets the character used for per mille sign. Different for Arabic, etc.

### setPerMill

public void **setPerMill**(char perMill)

Sets the character used for per mille sign. Different for Arabic, etc.

### getPercent

public char **getPercent**()

Gets the character used for percent sign. Different for Arabic, etc.

### setPercent

public void **setPercent**(char percent)

Sets the character used for percent sign. Different for Arabic, etc.

### getDigit

public char **getDigit**()

Gets the character used for a digit in a pattern.

### setDigit

public void **setDigit**(char digit)

Sets the character used for a digit in a pattern.

### getPatternSeparator

public char **getPatternSeparator**()

Gets the character used to separate positive and negative subpatterns in a pattern.

### setPatternSeparator

public void **setPatternSeparator**(char patternSeparator)

Sets the character used to separate positive and negative subpatterns in a pattern.

### getInfinity

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

Gets the string used to represent infinity. Almost always left unchanged.

### setInfinity

public void **setInfinity**([String](http://docs.google.com/java/lang/String.html) infinity)

Sets the string used to represent infinity. Almost always left unchanged.

### getNaN

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

Gets the string used to represent "not a number". Almost always left unchanged.

### setNaN

public void **setNaN**([String](http://docs.google.com/java/lang/String.html) NaN)

Sets the string used to represent "not a number". Almost always left unchanged.

### getMinusSign

public char **getMinusSign**()

Gets the character used to represent minus sign. If no explicit negative format is specified, one is formed by prefixing minusSign to the positive format.

### setMinusSign

public void **setMinusSign**(char minusSign)

Sets the character used to represent minus sign. If no explicit negative format is specified, one is formed by prefixing minusSign to the positive format.

### getCurrencySymbol

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

Returns the currency symbol for the currency of these DecimalFormatSymbols in their locale.

**Since:** 1.2

### setCurrencySymbol

public void **setCurrencySymbol**([String](http://docs.google.com/java/lang/String.html) currency)

Sets the currency symbol for the currency of these DecimalFormatSymbols in their locale.

**Since:** 1.2

### getInternationalCurrencySymbol

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

Returns the ISO 4217 currency code of the currency of these DecimalFormatSymbols.

**Since:** 1.2

### setInternationalCurrencySymbol

public void **setInternationalCurrencySymbol**([String](http://docs.google.com/java/lang/String.html) currencyCode)

Sets the ISO 4217 currency code of the currency of these DecimalFormatSymbols. If the currency code is valid (as defined by [Currency.getInstance](http://docs.google.com/java/util/Currency.html#getInstance(java.lang.String))), this also sets the currency attribute to the corresponding Currency instance and the currency symbol attribute to the currency's symbol in the DecimalFormatSymbols' locale. If the currency code is not valid, then the currency attribute is set to null and the currency symbol attribute is not modified.

**Since:** 1.2 **See Also:**[setCurrency(java.util.Currency)](http://docs.google.com/java/text/DecimalFormatSymbols.html#setCurrency(java.util.Currency)), [setCurrencySymbol(java.lang.String)](http://docs.google.com/java/text/DecimalFormatSymbols.html#setCurrencySymbol(java.lang.String))

### getCurrency

public [Currency](http://docs.google.com/java/util/Currency.html) **getCurrency**()

Gets the currency of these DecimalFormatSymbols. May be null if the currency symbol attribute was previously set to a value that's not a valid ISO 4217 currency code.

**Returns:**the currency used, or null**Since:** 1.4

### setCurrency

public void **setCurrency**([Currency](http://docs.google.com/java/util/Currency.html) currency)

Sets the currency of these DecimalFormatSymbols. This also sets the currency symbol attribute to the currency's symbol in the DecimalFormatSymbols' locale, and the international currency symbol attribute to the currency's ISO 4217 currency code.

**Parameters:**currency - the new currency to be used **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if currency is null**Since:** 1.4 **See Also:**[setCurrencySymbol(java.lang.String)](http://docs.google.com/java/text/DecimalFormatSymbols.html#setCurrencySymbol(java.lang.String)), [setInternationalCurrencySymbol(java.lang.String)](http://docs.google.com/java/text/DecimalFormatSymbols.html#setInternationalCurrencySymbol(java.lang.String))

### getMonetaryDecimalSeparator

public char **getMonetaryDecimalSeparator**()

Returns the monetary decimal separator.

**Since:** 1.2

### setMonetaryDecimalSeparator

public void **setMonetaryDecimalSeparator**(char sep)

Sets the monetary decimal separator.

**Since:** 1.2

### getExponentSeparator

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

Returns the string used to separate the mantissa from the exponent. Examples: "x10^" for 1.23x10^4, "E" for 1.23E4.

**Returns:**the exponent separator string**Since:** 1.6 **See Also:**[setExponentSeparator(java.lang.String)](http://docs.google.com/java/text/DecimalFormatSymbols.html#setExponentSeparator(java.lang.String))

### setExponentSeparator

public void **setExponentSeparator**([String](http://docs.google.com/java/lang/String.html) exp)

Sets the string used to separate the mantissa from the exponent. Examples: "x10^" for 1.23x10^4, "E" for 1.23E4.

**Parameters:**exp - the exponent separator string **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if exp is null**Since:** 1.6 **See Also:**[getExponentSeparator()](http://docs.google.com/java/text/DecimalFormatSymbols.html#getExponentSeparator())

### clone

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

Standard override.

**Overrides:**[clone](http://docs.google.com/java/lang/Object.html#clone()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a clone of this instance.**See Also:**[Cloneable](http://docs.google.com/java/lang/Cloneable.html)

### equals

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

Override equals.

**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 reference object with which to compare. **Returns:**true if this object is the same as the obj argument; false otherwise.**See Also:**[Object.hashCode()](http://docs.google.com/java/lang/Object.html#hashCode()), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### hashCode

public int **hashCode**()

Override hashCode.

**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/DecimalFormatSymbols.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**](http://docs.google.com/java/text/DecimalFormat.html)   [**NEXT CLASS**](http://docs.google.com/java/text/FieldPosition.html) | [**FRAMES**](http://docs.google.com/index.html?java/text/DecimalFormatSymbols.html)    [**NO FRAMES**](http://docs.google.com/DecimalFormatSymbols.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#2s8eyo1) |

[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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