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

## **java.util**

Interface Enumeration<E>

**All Known Subinterfaces:** [NamingEnumeration](http://docs.google.com/javax/naming/NamingEnumeration.html)<T> **All Known Implementing Classes:** [StringTokenizer](http://docs.google.com/java/util/StringTokenizer.html)

public interface **Enumeration<E>**

An object that implements the Enumeration interface generates a series of elements, one at a time. Successive calls to the nextElement method return successive elements of the series.

For example, to print all elements of a Vector<E> *v*:

for (Enumeration<E> e = v.elements(); e.hasMoreElements();)  
 System.out.println(e.nextElement());

Methods are provided to enumerate through the elements of a vector, the keys of a hashtable, and the values in a hashtable. Enumerations are also used to specify the input streams to a SequenceInputStream.

NOTE: The functionality of this interface is duplicated by the Iterator interface. In addition, Iterator adds an optional remove operation, and has shorter method names. New implementations should consider using Iterator in preference to Enumeration.

**Since:** JDK1.0 **See Also:**[Iterator](http://docs.google.com/java/util/Iterator.html), [SequenceInputStream](http://docs.google.com/java/io/SequenceInputStream.html), [nextElement()](http://docs.google.com/java/util/Enumeration.html#nextElement()), [Hashtable](http://docs.google.com/java/util/Hashtable.html), [Hashtable.elements()](http://docs.google.com/java/util/Hashtable.html#elements()), [Hashtable.keys()](http://docs.google.com/java/util/Hashtable.html#keys()), [Vector](http://docs.google.com/java/util/Vector.html), [Vector.elements()](http://docs.google.com/java/util/Vector.html#elements())

| **Method Summary** | |
| --- | --- |
| boolean | [**hasMoreElements**](http://docs.google.com/java/util/Enumeration.html#hasMoreElements())()            Tests if this enumeration contains more elements. |
| [E](http://docs.google.com/java/util/Enumeration.html) | [**nextElement**](http://docs.google.com/java/util/Enumeration.html#nextElement())()            Returns the next element of this enumeration if this enumeration object has at least one more element to provide. |

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

### hasMoreElements

boolean **hasMoreElements**()

Tests if this enumeration contains more elements.

**Returns:**true if and only if this enumeration object contains at least one more element to provide; false otherwise.

### nextElement

[E](http://docs.google.com/java/util/Enumeration.html) **nextElement**()

Returns the next element of this enumeration if this enumeration object has at least one more element to provide.

**Returns:**the next element of this enumeration. **Throws:** [NoSuchElementException](http://docs.google.com/java/util/NoSuchElementException.html) - if no more elements exist.

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Enumeration.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*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#2et92p0) |

[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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