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org.apache.commons.collections4

## Class MultiSetUtils

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.MultiSetUtils
* public class MultiSetUtils  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  Provides utility methods and decorators for [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html) instances.Since: 4.1

### Field SummaryFields

|  |  |
| --- | --- |
| * + Modifier and Type | * + Field and Description |
| * + static [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html) | * + [EMPTY\_MULTISET](http://docs.google.com/org/apache/commons/collections4/MultiSetUtils.html#EMPTY_MULTISET) An empty unmodifiable multiset. |

### Method SummaryAll Methods Static Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> | * + [emptyMultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSetUtils.html#emptyMultiSet--)() Get an empty MultiSet. |
| * + static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> | * + [predicatedMultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSetUtils.html#predicatedMultiSet-org.apache.commons.collections4.MultiSet-org.apache.commons.collections4.Predicate-)([MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> multiset, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super E> predicate) Returns a predicated (validating) multiset backed by the given multiset. |
| * + static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> | * + [synchronizedMultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSetUtils.html#synchronizedMultiSet-org.apache.commons.collections4.MultiSet-)([MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> multiset) Returns a synchronized (thread-safe) multiset backed by the given multiset. |
| * + static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> | * + [unmodifiableMultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSetUtils.html#unmodifiableMultiSet-org.apache.commons.collections4.MultiSet-)([MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<? extends E> multiset) Returns an unmodifiable view of the given multiset. |

### Methods inherited from class java.lang.[**Object**](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[clone](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#clone--), [equals](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#equals-java.lang.Object-), [finalize](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#finalize--), [getClass](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#getClass--), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#hashCode--), [notify](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notify--), [notifyAll](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notifyAll--), [toString](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#toString--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-int-)

### Field Detail

#### EMPTY\_MULTISET public static final [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html) EMPTY\_MULTISET An empty unmodifiable multiset.

### Method Detail

#### synchronizedMultiSet public static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> synchronizedMultiSet([MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> multiset) Returns a synchronized (thread-safe) multiset backed by the given multiset. In order to guarantee serial access, it is critical that all access to the backing multiset is accomplished through the returned multiset. It is imperative that the user manually synchronize on the returned multiset when iterating over it: MultiSet multiset = MultiSetUtils.synchronizedMultiSet(new HashMultiSet()); ... synchronized(multiset) { Iterator i = multiset.iterator(); // Must be in synchronized block while (i.hasNext()) foo(i.next()); } } Failure to follow this advice may result in non-deterministic behavior.Type Parameters: E - the element type Parameters: multiset - the multiset to synchronize, must not be null Returns: a synchronized multiset backed by that multiset Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the MultiSet is null

#### unmodifiableMultiSet public static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> unmodifiableMultiSet([MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<? extends E> multiset) Returns an unmodifiable view of the given multiset. Any modification attempts to the returned multiset will raise an [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true).Type Parameters: E - the element type Parameters: multiset - the multiset whose unmodifiable view is to be returned, must not be null Returns: an unmodifiable view of that multiset Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the MultiSet is null

#### predicatedMultiSet public static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> predicatedMultiSet([MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> multiset, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super E> predicate) Returns a predicated (validating) multiset backed by the given multiset. Only objects that pass the test in the given predicate can be added to the multiset. Trying to add an invalid object results in an IllegalArgumentException. It is important not to use the original multiset after invoking this method, as it is a backdoor for adding invalid objects.Type Parameters: E - the element type Parameters: multiset - the multiset to predicate, must not be null predicate - the predicate for the multiset, must not be null Returns: a predicated multiset backed by the given multiset Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the MultiSet or Predicate is null

#### emptyMultiSet public static <E> [MultiSet](http://docs.google.com/org/apache/commons/collections4/MultiSet.html)<E> emptyMultiSet() Get an empty MultiSet.Type Parameters: E - the element type Returns: an empty MultiSet

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