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org.apache.commons.collections4.bag

## Class UnmodifiableSortedBag<E>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + [org.apache.commons.collections4.collection.AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<E>
    - [org.apache.commons.collections4.bag.AbstractBagDecorator](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html)<E>
      * [org.apache.commons.collections4.bag.AbstractSortedBagDecorator](http://docs.google.com/org/apache/commons/collections4/bag/AbstractSortedBagDecorator.html)<E>
        + org.apache.commons.collections4.bag.UnmodifiableSortedBag<E>
* Type Parameters: E - the type of elements in this bag All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<E>, [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<E>, [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<E>, [SortedBag](http://docs.google.com/org/apache/commons/collections4/SortedBag.html)<E>, [Unmodifiable](http://docs.google.com/org/apache/commons/collections4/Unmodifiable.html)  
    
  public final class UnmodifiableSortedBag<E>  
  extends [AbstractSortedBagDecorator](http://docs.google.com/org/apache/commons/collections4/bag/AbstractSortedBagDecorator.html)<E>  
  implements [Unmodifiable](http://docs.google.com/org/apache/commons/collections4/Unmodifiable.html)  
  Decorates another [SortedBag](http://docs.google.com/org/apache/commons/collections4/SortedBag.html) to ensure it can't be altered.  
  This class is Serializable from Commons Collections 3.1.  
  Attempts to modify it will result in an UnsupportedOperationException.Since: 3.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.bag.UnmodifiableSortedBag)

### Method SummaryAll Methods Static Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + boolean | * + [add](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#add-E-)([E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html) object) *(Violation)* Adds one copy of the specified object to the Bag. |
| * + boolean | * + [add](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#add-E-int-)([E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html) object, int count) Adds nCopies copies of the specified object to the Bag. |
| * + boolean | * + [addAll](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#addAll-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> coll) |
| * + void | * + [clear](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#clear--)() |
| * + [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> | * + [iterator](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#iterator--)() Returns an [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true) over the entire set of members, including copies due to cardinality. |
| * + boolean | * + [remove](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#remove-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object) *(Violation)* Removes all occurrences of the given object from the bag. |
| * + boolean | * + [remove](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#remove-java.lang.Object-int-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object, int count) Removes nCopies copies of the specified object from the Bag. |
| * + boolean | * + [removeAll](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#removeAll-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<?> coll) *(Violation)* Remove all elements represented in the given collection, respecting cardinality. |
| * + boolean | * + [removeIf](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#removeIf-java.util.function.Predicate-)([Predicate](https://docs.oracle.com/javase/8/docs/api/java/util/function/Predicate.html?is-external=true)<? super [E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> filter) |
| * + boolean | * + [retainAll](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#retainAll-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<?> coll) *(Violation)* Remove any members of the bag that are not in the given collection, respecting cardinality. |
| * + [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> | * + [uniqueSet](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#uniqueSet--)() Returns a [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true) of unique elements in the Bag. |
| * + static <E> [SortedBag](http://docs.google.com/org/apache/commons/collections4/SortedBag.html)<E> | * + [unmodifiableSortedBag](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html#unmodifiableSortedBag-org.apache.commons.collections4.SortedBag-)([SortedBag](http://docs.google.com/org/apache/commons/collections4/SortedBag.html)<E> bag) Factory method to create an unmodifiable bag. |

### Methods inherited from class org.apache.commons.collections4.bag.[**AbstractSortedBagDecorator**](http://docs.google.com/org/apache/commons/collections4/bag/AbstractSortedBagDecorator.html)[comparator](http://docs.google.com/org/apache/commons/collections4/bag/AbstractSortedBagDecorator.html#comparator--), [decorated](http://docs.google.com/org/apache/commons/collections4/bag/AbstractSortedBagDecorator.html#decorated--), [first](http://docs.google.com/org/apache/commons/collections4/bag/AbstractSortedBagDecorator.html#first--), [last](http://docs.google.com/org/apache/commons/collections4/bag/AbstractSortedBagDecorator.html#last--)

### Methods inherited from class org.apache.commons.collections4.bag.[**AbstractBagDecorator**](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html)[equals](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html#equals-java.lang.Object-), [getCount](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html#getCount-java.lang.Object-), [hashCode](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html#hashCode--)

### Methods inherited from class org.apache.commons.collections4.collection.[**AbstractCollectionDecorator**](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)[contains](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#contains-java.lang.Object-), [containsAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#containsAll-java.util.Collection-), [isEmpty](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#isEmpty--), [setCollection](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#setCollection-java.util.Collection-), [size](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#size--), [toArray](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#toArray--), [toArray](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#toArray-T:A-), [toString](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#toString--)

### 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--), [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--), [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--), [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-)

### Methods inherited from interface org.apache.commons.collections4.[**Bag**](http://docs.google.com/org/apache/commons/collections4/Bag.html)[containsAll](http://docs.google.com/org/apache/commons/collections4/Bag.html#containsAll-java.util.Collection-), [getCount](http://docs.google.com/org/apache/commons/collections4/Bag.html#getCount-java.lang.Object-), [size](http://docs.google.com/org/apache/commons/collections4/Bag.html#size--)

### Methods inherited from interface java.util.[**Collection**](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)[contains](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#contains-java.lang.Object-), [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#equals-java.lang.Object-), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#hashCode--), [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#isEmpty--), [parallelStream](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#parallelStream--), [spliterator](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#spliterator--), [stream](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#stream--), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#toArray--), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#toArray-T:A-)

### Methods inherited from interface java.lang.[**Iterable**](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)[forEach](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true#forEach-java.util.function.Consumer-)

### Method Detail

#### unmodifiableSortedBag public static <E> [SortedBag](http://docs.google.com/org/apache/commons/collections4/SortedBag.html)<E> unmodifiableSortedBag([SortedBag](http://docs.google.com/org/apache/commons/collections4/SortedBag.html)<E> bag) Factory method to create an unmodifiable bag. If the bag passed in is already unmodifiable, it is returned.Type Parameters: E - the type of the elements in the bag Parameters: bag - the bag to decorate, must not be null Returns: an unmodifiable SortedBag Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if bag is null Since: 4.0

#### iterator public [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> iterator() Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#iterator--) Returns an [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true) over the entire set of members, including copies due to cardinality. This iterator is fail-fast and will not tolerate concurrent modifications.Specified by: [iterator](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true#iterator--) in interface [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Specified by: [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#iterator--) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Specified by: [iterator](http://docs.google.com/org/apache/commons/collections4/Bag.html#iterator--) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [iterator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#iterator--) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Returns: iterator over all elements in the Bag

#### add public boolean add([E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html) object) Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#add-E-) *(Violation)* Adds one copy of the specified object to the Bag. If the object is already in the [Bag.uniqueSet()](http://docs.google.com/org/apache/commons/collections4/Bag.html#uniqueSet--) then increment its count as reported by [Bag.getCount(Object)](http://docs.google.com/org/apache/commons/collections4/Bag.html#getCount-java.lang.Object-). Otherwise add it to the [Bag.uniqueSet()](http://docs.google.com/org/apache/commons/collections4/Bag.html#uniqueSet--) and report its count as 1. Since this method always increases the size of the bag, according to the [Collection.add(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#add-E-) contract, it should always return true. Since it sometimes returns false, this method violates the contract.Specified by: [add](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#add-E-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Specified by: [add](http://docs.google.com/org/apache/commons/collections4/Bag.html#add-E-) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [add](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#add-E-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Parameters: object - the object to add Returns: true if the object was not already in the uniqueSet

#### addAll public boolean addAll([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> coll)Specified by: [addAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#addAll-java.util.Collection-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [addAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#addAll-java.util.Collection-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)>

#### clear public void clear()Specified by: [clear](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#clear--) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [clear](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#clear--) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)>

#### remove public boolean remove([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object) Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#remove-java.lang.Object-) *(Violation)* Removes all occurrences of the given object from the bag. This will also remove the object from the [Bag.uniqueSet()](http://docs.google.com/org/apache/commons/collections4/Bag.html#uniqueSet--). According to the [Collection.remove(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#remove-java.lang.Object-) method, this method should only remove the *first* occurrence of the given object, not *all* occurrences.Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#remove-java.lang.Object-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Specified by: [remove](http://docs.google.com/org/apache/commons/collections4/Bag.html#remove-java.lang.Object-) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [remove](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#remove-java.lang.Object-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Parameters: object - the object to remove Returns: true if this call changed the collection

#### removeIf public boolean removeIf([Predicate](https://docs.oracle.com/javase/8/docs/api/java/util/function/Predicate.html?is-external=true)<? super [E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> filter)Specified by: [removeIf](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#removeIf-java.util.function.Predicate-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [removeIf](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#removeIf-java.util.function.Predicate-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Since: 4.4

#### removeAll public boolean removeAll([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<?> coll) Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#removeAll-java.util.Collection-) *(Violation)* Remove all elements represented in the given collection, respecting cardinality. That is, if the given collection coll contains n copies of a given object, the bag will have n fewer copies, assuming the bag had at least n copies to begin with. The [Collection.removeAll(Collection)](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#removeAll-java.util.Collection-) method specifies that cardinality should *not* be respected; this method should remove *all* occurrences of every object contained in the given collection.Specified by: [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#removeAll-java.util.Collection-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Specified by: [removeAll](http://docs.google.com/org/apache/commons/collections4/Bag.html#removeAll-java.util.Collection-) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [removeAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#removeAll-java.util.Collection-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Parameters: coll - the collection to remove Returns: true if this call changed the collection

#### retainAll public boolean retainAll([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<?> coll) Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#retainAll-java.util.Collection-) *(Violation)* Remove any members of the bag that are not in the given collection, respecting cardinality. That is, if the given collection coll contains n copies of a given object and the bag has m > n copies, then delete m - n copies from the bag. In addition, if e is an object in the bag but !coll.contains(e), then remove e and any of its copies. The [Collection.retainAll(Collection)](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#retainAll-java.util.Collection-) method specifies that cardinality should *not* be respected; this method should keep *all* occurrences of every object contained in the given collection.Specified by: [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#retainAll-java.util.Collection-) in interface [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Specified by: [retainAll](http://docs.google.com/org/apache/commons/collections4/Bag.html#retainAll-java.util.Collection-) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [retainAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#retainAll-java.util.Collection-) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Parameters: coll - the collection to retain Returns: true if this call changed the collection

#### add public boolean add([E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html) object, int count) Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#add-E-int-) Adds nCopies copies of the specified object to the Bag. If the object is already in the [Bag.uniqueSet()](http://docs.google.com/org/apache/commons/collections4/Bag.html#uniqueSet--) then increment its count as reported by [Bag.getCount(Object)](http://docs.google.com/org/apache/commons/collections4/Bag.html#getCount-java.lang.Object-). Otherwise add it to the [Bag.uniqueSet()](http://docs.google.com/org/apache/commons/collections4/Bag.html#uniqueSet--) and report its count as nCopies.Specified by: [add](http://docs.google.com/org/apache/commons/collections4/Bag.html#add-E-int-) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [add](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html#add-E-int-) in class [AbstractBagDecorator](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Parameters: object - the object to add count - the number of copies to add Returns: true if the object was not already in the uniqueSet

#### remove public boolean remove([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object, int count) Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#remove-java.lang.Object-int-) Removes nCopies copies of the specified object from the Bag. If the number of copies to remove is greater than the actual number of copies in the Bag, no error is thrown.Specified by: [remove](http://docs.google.com/org/apache/commons/collections4/Bag.html#remove-java.lang.Object-int-) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [remove](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html#remove-java.lang.Object-int-) in class [AbstractBagDecorator](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Parameters: object - the object to remove count - the number of copies to remove Returns: true if this call changed the collection

#### uniqueSet public [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> uniqueSet() Description copied from interface: [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html#uniqueSet--) Returns a [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true) of unique elements in the Bag. Uniqueness constraints are the same as those in [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true).Specified by: [uniqueSet](http://docs.google.com/org/apache/commons/collections4/Bag.html#uniqueSet--) in interface [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Overrides: [uniqueSet](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html#uniqueSet--) in class [AbstractBagDecorator](http://docs.google.com/org/apache/commons/collections4/bag/AbstractBagDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/bag/UnmodifiableSortedBag.html)> Returns: the Set of unique Bag elements

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