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org.apache.commons.collections4.set

## Class UnmodifiableNavigableSet<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.set.AbstractSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractSetDecorator.html)<E>
      * [org.apache.commons.collections4.set.AbstractSortedSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractSortedSetDecorator.html)<E>
        + [org.apache.commons.collections4.set.AbstractNavigableSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)<E>

org.apache.commons.collections4.set.UnmodifiableNavigableSet<E>

* Type Parameters: E - the type of the elements in this set 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>, [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E>, [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<E>, [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<E>, [Unmodifiable](http://docs.google.com/org/apache/commons/collections4/Unmodifiable.html)  
    
  public final class UnmodifiableNavigableSet<E>  
  extends [AbstractNavigableSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)<E>  
  implements [Unmodifiable](http://docs.google.com/org/apache/commons/collections4/Unmodifiable.html)  
  Decorates another NavigableSet to ensure it can't be altered.  
  Attempts to modify it will result in an UnsupportedOperationException.Since: 4.1 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.set.UnmodifiableNavigableSet)

### 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/set/UnmodifiableNavigableSet.html#add-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) object) |
| * + boolean | * + [addAll](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)> coll) |
| * + void | * + [clear](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)> | * + [descendingIterator](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#descendingIterator--)() |
| * + [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> | * + [descendingSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#descendingSet--)() |
| * + [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> | * + [headSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#headSet-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement) |
| * + [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> | * + [headSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#headSet-E-boolean-)([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement, boolean inclusive) |
| * + [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/set/UnmodifiableNavigableSet.html)> | * + [iterator](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#iterator--)() |
| * + boolean | * + [remove](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#remove-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object) |
| * + boolean | * + [removeAll](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#removeAll-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<?> coll) |
| * + boolean | * + [removeIf](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)> filter) |
| * + boolean | * + [retainAll](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#retainAll-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<?> coll) |
| * + [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> | * + [subSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#subSet-E-boolean-E-boolean-)([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement, boolean fromInclusive, [E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement, boolean toInclusive) |
| * + [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> | * + [subSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#subSet-E-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement, [E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement) |
| * + [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> | * + [tailSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#tailSet-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement) |
| * + [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> | * + [tailSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#tailSet-E-boolean-)([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement, boolean inclusive) |
| * + static <E> [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> | * + [unmodifiableNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html#unmodifiableNavigableSet-java.util.NavigableSet-)([NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> set) Factory method to create an unmodifiable set. |

### Methods inherited from class org.apache.commons.collections4.set.[**AbstractNavigableSetDecorator**](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)[ceiling](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#ceiling-E-), [decorated](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#decorated--), [floor](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#floor-E-), [higher](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#higher-E-), [lower](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#lower-E-), [pollFirst](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#pollFirst--), [pollLast](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#pollLast--)

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

### Methods inherited from class org.apache.commons.collections4.set.[**AbstractSetDecorator**](http://docs.google.com/org/apache/commons/collections4/set/AbstractSetDecorator.html)[equals](http://docs.google.com/org/apache/commons/collections4/set/AbstractSetDecorator.html#equals-java.lang.Object-), [hashCode](http://docs.google.com/org/apache/commons/collections4/set/AbstractSetDecorator.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 java.util.[**SortedSet**](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)[comparator](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true#comparator--), [first](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true#first--), [last](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true#last--), [spliterator](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true#spliterator--)

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

### Methods inherited from interface java.util.[**Collection**](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)[parallelStream](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#parallelStream--), [stream](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#stream--)

### 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

#### unmodifiableNavigableSet public static <E> [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> unmodifiableNavigableSet([NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> set) Factory method to create an unmodifiable set.Type Parameters: E - the element type Parameters: set - the set to decorate, must not be null Returns: a new unmodifiable [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true) Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if set is null

#### 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/set/UnmodifiableNavigableSet.html)> iterator()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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)> Specified by: [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#iterator--) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Specified by: [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#iterator--) in interface [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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)>

#### add public boolean add([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) object)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/set/UnmodifiableNavigableSet.html)> Specified by: [add](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#add-E-) in interface [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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)>

#### 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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)> Specified by: [addAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#addAll-java.util.Collection-) in interface [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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)> Specified by: [clear](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#clear--) in interface [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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)>

#### remove public boolean remove([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object)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/set/UnmodifiableNavigableSet.html)> Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#remove-java.lang.Object-) in interface [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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)>

#### 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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.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)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/set/UnmodifiableNavigableSet.html)> Specified by: [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#removeAll-java.util.Collection-) in interface [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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)>

#### retainAll public boolean retainAll([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<?> coll)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/set/UnmodifiableNavigableSet.html)> Specified by: [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#retainAll-java.util.Collection-) in interface [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/set/UnmodifiableNavigableSet.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/set/UnmodifiableNavigableSet.html)>

#### subSet public [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> subSet([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement, [E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement)Specified by: [subSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#subSet-E-E-) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Specified by: [subSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true#subSet-E-E-) in interface [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [subSet](http://docs.google.com/org/apache/commons/collections4/set/AbstractSortedSetDecorator.html#subSet-E-E-) in class [AbstractSortedSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractSortedSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

#### headSet public [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> headSet([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement)Specified by: [headSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#headSet-E-) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Specified by: [headSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true#headSet-E-) in interface [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [headSet](http://docs.google.com/org/apache/commons/collections4/set/AbstractSortedSetDecorator.html#headSet-E-) in class [AbstractSortedSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractSortedSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

#### tailSet public [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> tailSet([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement)Specified by: [tailSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#tailSet-E-) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Specified by: [tailSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true#tailSet-E-) in interface [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [tailSet](http://docs.google.com/org/apache/commons/collections4/set/AbstractSortedSetDecorator.html#tailSet-E-) in class [AbstractSortedSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractSortedSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

#### descendingSet public [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> descendingSet()Specified by: [descendingSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#descendingSet--) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [descendingSet](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#descendingSet--) in class [AbstractNavigableSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

#### descendingIterator 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/set/UnmodifiableNavigableSet.html)> descendingIterator()Specified by: [descendingIterator](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#descendingIterator--) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [descendingIterator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#descendingIterator--) in class [AbstractNavigableSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

#### subSet public [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> subSet([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement, boolean fromInclusive, [E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement, boolean toInclusive)Specified by: [subSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#subSet-E-boolean-E-boolean-) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [subSet](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#subSet-E-boolean-E-boolean-) in class [AbstractNavigableSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

#### headSet public [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> headSet([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) toElement, boolean inclusive)Specified by: [headSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#headSet-E-boolean-) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [headSet](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#headSet-E-boolean-) in class [AbstractNavigableSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

#### tailSet public [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> tailSet([E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html) fromElement, boolean inclusive)Specified by: [tailSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#tailSet-E-boolean-) in interface [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)> Overrides: [tailSet](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html#tailSet-E-boolean-) in class [AbstractNavigableSetDecorator](http://docs.google.com/org/apache/commons/collections4/set/AbstractNavigableSetDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/UnmodifiableNavigableSet.html)>

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