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org.apache.commons.collections4.set

## Class TransformedNavigableSet<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.collection.TransformedCollection](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html)<E>
      * [org.apache.commons.collections4.set.TransformedSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSet.html)<E>
        + [org.apache.commons.collections4.set.TransformedSortedSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html)<E>

org.apache.commons.collections4.set.TransformedNavigableSet<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>  
    
  public class TransformedNavigableSet<E>  
  extends [TransformedSortedSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html)<E>  
  implements [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E>  
  Decorates another NavigableSet to transform objects that are added.  
  The add methods are affected by this class. Thus objects must be removed or searched for using their transformed form. For example, if the transformation converts Strings to Integers, you must use the Integer form to remove objects.Since: 4.1 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.set.TransformedNavigableSet)

### Field Summary

### Fields inherited from class org.apache.commons.collections4.collection.[**TransformedCollection**](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html)[transformer](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html#transformer)

### Constructor SummaryConstructors

|  |  |
| --- | --- |
| * + Modifier | * + Constructor and Description |
| * + protected | * + [TransformedNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#TransformedNavigableSet-java.util.NavigableSet-org.apache.commons.collections4.Transformer-)([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/TransformedNavigableSet.html)> set, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html),? extends [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html)> transformer) Constructor that wraps (not copies). |

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

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) | * + [ceiling](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#ceiling-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e) |
| * + protected [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/TransformedNavigableSet.html)> | * + [decorated](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#decorated--)() Gets the decorated navigable set. |
| * + [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/TransformedNavigableSet.html)> | * + [descendingIterator](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.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/TransformedNavigableSet.html)> | * + [descendingSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#descendingSet--)() |
| * + [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) | * + [floor](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#floor-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e) |
| * + [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/TransformedNavigableSet.html)> | * + [headSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#headSet-E-boolean-)([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) toElement, boolean inclusive) |
| * + [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) | * + [higher](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#higher-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e) |
| * + [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) | * + [lower](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#lower-E-)([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e) |
| * + [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) | * + [pollFirst](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#pollFirst--)() |
| * + [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) | * + [pollLast](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#pollLast--)() |
| * + [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/TransformedNavigableSet.html)> | * + [subSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#subSet-E-boolean-E-boolean-)([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) fromElement, boolean fromInclusive, [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) toElement, boolean toInclusive) |
| * + [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/TransformedNavigableSet.html)> | * + [tailSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#tailSet-E-boolean-)([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) fromElement, boolean inclusive) |
| * + static <E> [TransformedNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html)<E> | * + [transformedNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#transformedNavigableSet-java.util.NavigableSet-org.apache.commons.collections4.Transformer-)([NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> set, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super E,? extends E> transformer) Factory method to create a transforming navigable set that will transform existing contents of the specified navigable set. |
| * + static <E> [TransformedNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html)<E> | * + [transformingNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#transformingNavigableSet-java.util.NavigableSet-org.apache.commons.collections4.Transformer-)([NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> set, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super E,? extends E> transformer) Factory method to create a transforming navigable set. |

### Methods inherited from class org.apache.commons.collections4.set.[**TransformedSortedSet**](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html)[comparator](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#comparator--), [first](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#first--), [getSortedSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#getSortedSet--), [headSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#headSet-E-), [last](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#last--), [subSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#subSet-E-E-), [tailSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#tailSet-E-), [transformedSortedSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#transformedSortedSet-java.util.SortedSet-org.apache.commons.collections4.Transformer-), [transformingSortedSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSortedSet.html#transformingSortedSet-java.util.SortedSet-org.apache.commons.collections4.Transformer-)

### Methods inherited from class org.apache.commons.collections4.set.[**TransformedSet**](http://docs.google.com/org/apache/commons/collections4/set/TransformedSet.html)[equals](http://docs.google.com/org/apache/commons/collections4/set/TransformedSet.html#equals-java.lang.Object-), [hashCode](http://docs.google.com/org/apache/commons/collections4/set/TransformedSet.html#hashCode--), [transformedSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSet.html#transformedSet-java.util.Set-org.apache.commons.collections4.Transformer-), [transformingSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedSet.html#transformingSet-java.util.Set-org.apache.commons.collections4.Transformer-)

### Methods inherited from class org.apache.commons.collections4.collection.[**TransformedCollection**](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html)[add](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html#add-E-), [addAll](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html#addAll-java.util.Collection-), [transform](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html#transform-java.util.Collection-), [transform](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html#transform-E-), [transformedCollection](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html#transformedCollection-java.util.Collection-org.apache.commons.collections4.Transformer-), [transformingCollection](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.html#transformingCollection-java.util.Collection-org.apache.commons.collections4.Transformer-)

### Methods inherited from class org.apache.commons.collections4.collection.[**AbstractCollectionDecorator**](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)[clear](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#clear--), [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--), [iterator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#iterator--), [remove](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#remove-java.lang.Object-), [removeAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#removeAll-java.util.Collection-), [removeIf](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#removeIf-java.util.function.Predicate-), [retainAll](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#retainAll-java.util.Collection-), [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.[**NavigableSet**](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)[headSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#headSet-E-), [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#iterator--), [subSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#subSet-E-E-), [tailSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#tailSet-E-)

### 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)[add](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#add-E-), [addAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#addAll-java.util.Collection-), [clear](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#clear--), [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--), [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#remove-java.lang.Object-), [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#removeAll-java.util.Collection-), [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true#retainAll-java.util.Collection-), [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--), [removeIf](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#removeIf-java.util.function.Predicate-), [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-)

### Constructor Detail

#### TransformedNavigableSet protected TransformedNavigableSet([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/TransformedNavigableSet.html)> set, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html),? extends [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html)> transformer) Constructor that wraps (not copies). If there are any elements already in the set being decorated, they are NOT transformed.Parameters: set - the set to decorate, must not be null transformer - the transformer to use for conversion, must not be null Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if set or transformer is null

### Method Detail

#### transformingNavigableSet public static <E> [TransformedNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html)<E> transformingNavigableSet([NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> set, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super E,? extends E> transformer) Factory method to create a transforming navigable set. If there are any elements already in the set being decorated, they are NOT transformed. Contrast this with [transformedNavigableSet(NavigableSet, Transformer)](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#transformedNavigableSet-java.util.NavigableSet-org.apache.commons.collections4.Transformer-).Type Parameters: E - the element type Parameters: set - the set to decorate, must not be null transformer - the transformer to use for conversion, must not be null Returns: a new transformed [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 or transformer is null

#### transformedNavigableSet public static <E> [TransformedNavigableSet](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html)<E> transformedNavigableSet([NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true)<E> set, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super E,? extends E> transformer) Factory method to create a transforming navigable set that will transform existing contents of the specified navigable set. If there are any elements already in the set being decorated, they will be transformed by this method. Contrast this with [transformingNavigableSet(NavigableSet, Transformer)](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html#transformingNavigableSet-java.util.NavigableSet-org.apache.commons.collections4.Transformer-).Type Parameters: E - the element type Parameters: set - the set to decorate, must not be null transformer - the transformer to use for conversion, must not be null Returns: a new transformed [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 or transformer is null

#### decorated protected [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/TransformedNavigableSet.html)> decorated() Gets the decorated navigable set.Overrides: [decorated](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#decorated--) in class [AbstractCollectionDecorator](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html)<[E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html)> Returns: the decorated navigable set

#### lower public [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) lower([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e)Specified by: [lower](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#lower-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/TransformedNavigableSet.html)>

#### floor public [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) floor([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e)Specified by: [floor](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#floor-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/TransformedNavigableSet.html)>

#### ceiling public [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) ceiling([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e)Specified by: [ceiling](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#ceiling-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/TransformedNavigableSet.html)>

#### higher public [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) higher([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) e)Specified by: [higher](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#higher-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/TransformedNavigableSet.html)>

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

#### pollLast public [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) pollLast()Specified by: [pollLast](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html?is-external=true#pollLast--) 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/TransformedNavigableSet.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/TransformedNavigableSet.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/TransformedNavigableSet.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/TransformedNavigableSet.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/TransformedNavigableSet.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/TransformedNavigableSet.html)> subSet([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.html) fromElement, boolean fromInclusive, [E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.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/TransformedNavigableSet.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/TransformedNavigableSet.html)> headSet([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.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/TransformedNavigableSet.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/TransformedNavigableSet.html)> tailSet([E](http://docs.google.com/org/apache/commons/collections4/set/TransformedNavigableSet.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/TransformedNavigableSet.html)>

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