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org.apache.commons.collections4.iterators

## Class ReverseListIterator<E>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.iterators.ReverseListIterator<E>
* All Implemented Interfaces: [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<E>, [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<E>, [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html)<E>, [ResettableIterator](http://docs.google.com/org/apache/commons/collections4/ResettableIterator.html)<E>, [ResettableListIterator](http://docs.google.com/org/apache/commons/collections4/ResettableListIterator.html)<E>  
    
  public class ReverseListIterator<E>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [ResettableListIterator](http://docs.google.com/org/apache/commons/collections4/ResettableListIterator.html)<E>  
  Iterates backwards through a List, starting with the last element and continuing to the first. This is useful for looping around a list in reverse order without needing to actually reverse the list.  
  The first call to next() will return the last element from the list, and so on. The hasNext() method works in concert with the next() method as expected. However, the nextIndex() method returns the correct index in the list, thus it starts high and reduces as the iteration continues. The previous methods work similarly.Since: 3.2

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [ReverseListIterator](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#ReverseListIterator-java.util.List-)([List](https://docs.oracle.com/javase/7/docs/api/java/util/List.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> list) Constructor that wraps a list. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + void | * + [add](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#add-E-)([E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) obj) Adds a new element to the list between the next and previous elements. |
| * + boolean | * + [hasNext](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#hasNext--)() Checks whether there is another element. |
| * + boolean | * + [hasPrevious](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#hasPrevious--)() Checks whether there is a previous element. |
| * + [E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) | * + [next](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#next--)() Gets the next element. |
| * + int | * + [nextIndex](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#nextIndex--)() Gets the index of the next element. |
| * + [E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) | * + [previous](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#previous--)() Gets the previous element. |
| * + int | * + [previousIndex](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#previousIndex--)() Gets the index of the previous element. |
| * + void | * + [remove](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#remove--)() Removes the last returned element. |
| * + void | * + [reset](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#reset--)() Resets the iterator back to the start (which is the end of the list as this is a reversed iterator) |
| * + void | * + [set](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html#set-E-)([E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) obj) Replaces the last returned element. |

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

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

### Constructor Detail

#### ReverseListIterator public ReverseListIterator([List](https://docs.oracle.com/javase/7/docs/api/java/util/List.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> list) Constructor that wraps a list.Parameters: list - the list to create a reversed iterator for Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the list is null

### Method Detail

#### hasNext public boolean hasNext() Checks whether there is another element.Specified by: [hasNext](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true#hasNext--) in interface [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/iterators/ReverseListIterator.html)> Specified by: [hasNext](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#hasNext--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Returns: true if there is another element

#### next public [E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) next() Gets the next element. The next element is the previous in the list.Specified by: [next](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true#next--) in interface [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/iterators/ReverseListIterator.html)> Specified by: [next](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#next--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Returns: the next element in the iterator

#### nextIndex public int nextIndex() Gets the index of the next element.Specified by: [nextIndex](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#nextIndex--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Returns: the index of the next element in the iterator

#### hasPrevious public boolean hasPrevious() Checks whether there is a previous element.Specified by: [hasPrevious](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#hasPrevious--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Specified by: [hasPrevious](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html#hasPrevious--) in interface [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Returns: true if there is a previous element

#### previous public [E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) previous() Gets the previous element. The next element is the previous in the list.Specified by: [previous](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#previous--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Specified by: [previous](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html#previous--) in interface [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Returns: the previous element in the iterator

#### previousIndex public int previousIndex() Gets the index of the previous element.Specified by: [previousIndex](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#previousIndex--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Returns: the index of the previous element in the iterator

#### remove public void remove() Removes the last returned element.Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true#remove--) in interface [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/iterators/ReverseListIterator.html)> Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#remove--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the list is unmodifiable [IllegalStateException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalStateException.html?is-external=true) - if there is no element to remove

#### set public void set([E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) obj) Replaces the last returned element.Specified by: [set](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#set-E-) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Parameters: obj - the object to set Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the list is unmodifiable [IllegalStateException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalStateException.html?is-external=true) - if the iterator is not in a valid state for set

#### add public void add([E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html) obj) Adds a new element to the list between the next and previous elements.Specified by: [add](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#add-E-) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)> Parameters: obj - the object to add Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the list is unmodifiable [IllegalStateException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalStateException.html?is-external=true) - if the iterator is not in a valid state for set

#### reset public void reset() Resets the iterator back to the start (which is the end of the list as this is a reversed iterator)Specified by: [reset](http://docs.google.com/org/apache/commons/collections4/ResettableIterator.html#reset--) in interface [ResettableIterator](http://docs.google.com/org/apache/commons/collections4/ResettableIterator.html)<[E](http://docs.google.com/org/apache/commons/collections4/iterators/ReverseListIterator.html)>

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