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org.apache.commons.collections4.iterators

## Class FilterIterator<E>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.iterators.FilterIterator<E>
* All Implemented Interfaces: [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<E> Direct Known Subclasses: [UniqueFilterIterator](http://docs.google.com/org/apache/commons/collections4/iterators/UniqueFilterIterator.html)  
    
  public class FilterIterator<E>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<E>  
  Decorates another [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true) using a predicate to filter elements.  
  This iterator decorates the underlying iterator, only allowing through those elements that match the specified [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html).Since: 1.0

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [FilterIterator](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#FilterIterator--)() Constructs a new FilterIterator that will not function until [setIterator](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#setIterator-java.util.Iterator-) is invoked. |
| * + [FilterIterator](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#FilterIterator-java.util.Iterator-)([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> iterator) Constructs a new FilterIterator that will not function until [setPredicate](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#setPredicate-org.apache.commons.collections4.Predicate-) is invoked. |
| * + [FilterIterator](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#FilterIterator-java.util.Iterator-org.apache.commons.collections4.Predicate-)([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> iterator, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> predicate) Constructs a new FilterIterator that will use the given iterator and predicate. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> | * + [getIterator](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#getIterator--)() Gets the iterator this iterator is using. |
| * + [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> | * + [getPredicate](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#getPredicate--)() Gets the predicate this iterator is using. |
| * + boolean | * + [hasNext](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#hasNext--)() Returns true if the underlying iterator contains an object that matches the predicate. |
| * + [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html) | * + [next](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#next--)() Returns the next object that matches the predicate. |
| * + void | * + [remove](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#remove--)() Removes from the underlying collection of the base iterator the last element returned by this iterator. |
| * + void | * + [setIterator](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#setIterator-java.util.Iterator-)([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> iterator) Sets the iterator for this iterator to use. |
| * + void | * + [setPredicate](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#setPredicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> predicate) Sets the predicate this the iterator to use. |

### 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

#### FilterIterator public FilterIterator() Constructs a new FilterIterator that will not function until [setIterator](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#setIterator-java.util.Iterator-) is invoked.

#### FilterIterator public FilterIterator([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> iterator) Constructs a new FilterIterator that will not function until [setPredicate](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html#setPredicate-org.apache.commons.collections4.Predicate-) is invoked.Parameters: iterator - the iterator to use

#### FilterIterator public FilterIterator([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> iterator, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> predicate) Constructs a new FilterIterator that will use the given iterator and predicate.Parameters: iterator - the iterator to use predicate - the predicate to use

### Method Detail

#### hasNext public boolean hasNext() Returns true if the underlying iterator contains an object that matches the predicate.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/FilterIterator.html)> Returns: true if there is another object that matches the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if either the iterator or predicate are null

#### next public [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html) next() Returns the next object that matches the predicate.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/FilterIterator.html)> Returns: the next object which matches the given predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if either the iterator or predicate are null [NoSuchElementException](https://docs.oracle.com/javase/7/docs/api/java/util/NoSuchElementException.html?is-external=true) - if there are no more elements that match the predicate

#### remove public void remove() Removes from the underlying collection of the base iterator the last element returned by this iterator. This method can only be called if next() was called, but not after hasNext(), because the hasNext() call changes the base iterator.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/FilterIterator.html)> Throws: [IllegalStateException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalStateException.html?is-external=true) - if hasNext() has already been called.

#### getIterator public [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> getIterator() Gets the iterator this iterator is using.Returns: the iterator

#### setIterator public void setIterator([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<? extends [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> iterator) Sets the iterator for this iterator to use. If iteration has started, this effectively resets the iterator.Parameters: iterator - the iterator to use

#### getPredicate public [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> getPredicate() Gets the predicate this iterator is using.Returns: the predicate

#### setPredicate public void setPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/iterators/FilterIterator.html)> predicate) Sets the predicate this the iterator to use.Parameters: predicate - the predicate to use

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