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org.apache.commons.collections4.queue

## Class PredicatedQueue<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.PredicatedCollection](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)<E>
      * org.apache.commons.collections4.queue.PredicatedQueue<E>
* Type Parameters: E - the type of elements held in this queue 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>, [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<E>  
    
  public class PredicatedQueue<E>  
  extends [PredicatedCollection](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)<E>  
  implements [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<E>  
  Decorates another [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true) to validate that additions match a specified predicate.  
  This queue exists to provide validation for the decorated queue. It is normally created to decorate an empty queue. If an object cannot be added to the queue, an IllegalArgumentException is thrown.  
  One usage would be to ensure that no null entries are added to the queue.  
  Queue queue = PredicatedQueue.predicatedQueue(new UnboundedFifoQueue(), NotNullPredicate.INSTANCE);Since: 4.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.queue.PredicatedQueue)

### Nested Class Summary

### Nested classes/interfaces inherited from class org.apache.commons.collections4.collection.[**PredicatedCollection**](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)[PredicatedCollection.Builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)<[E](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.Builder.html)>

### Field Summary

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

### Constructor SummaryConstructors

|  |  |
| --- | --- |
| * + Modifier | * + Constructor and Description |
| * + protected | * + [PredicatedQueue](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#PredicatedQueue-java.util.Queue-org.apache.commons.collections4.Predicate-)([Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)> queue, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)> predicate) Constructor that wraps (not copies). |

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

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + protected [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)> | * + [decorated](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#decorated--)() Gets the queue being decorated. |
| * + [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) | * + [element](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#element--)() |
| * + boolean | * + [offer](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#offer-E-)([E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) object) Override to validate the object being added to ensure it matches the predicate. |
| * + [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) | * + [peek](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#peek--)() |
| * + [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) | * + [poll](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#poll--)() |
| * + static <E> [PredicatedQueue](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)<E> | * + [predicatedQueue](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#predicatedQueue-java.util.Queue-org.apache.commons.collections4.Predicate-)([Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<E> Queue, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super E> predicate) Factory method to create a predicated (validating) queue. |
| * + [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) | * + [remove](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html#remove--)() |

### Methods inherited from class org.apache.commons.collections4.collection.[**PredicatedCollection**](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html)[add](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#add-E-), [addAll](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#addAll-java.util.Collection-), [builder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#builder-org.apache.commons.collections4.Predicate-), [notNullBuilder](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#notNullBuilder--), [predicatedCollection](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#predicatedCollection-java.util.Collection-org.apache.commons.collections4.Predicate-), [validate](http://docs.google.com/org/apache/commons/collections4/collection/PredicatedCollection.html#validate-E-)

### 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--), [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--), [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.[**Queue**](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)[add](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true#add-E-)

### Methods inherited from interface java.util.[**Collection**](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)[addAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#addAll-java.util.Collection-), [clear](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#clear--), [contains](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#contains-java.lang.Object-), [containsAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#containsAll-java.util.Collection-), [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--), [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#iterator--), [parallelStream](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#parallelStream--), [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#remove-java.lang.Object-), [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#removeAll-java.util.Collection-), [removeIf](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#removeIf-java.util.function.Predicate-), [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#retainAll-java.util.Collection-), [size](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true#size--), [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-)

### Constructor Detail

#### PredicatedQueue protected PredicatedQueue([Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)> queue, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)> predicate) Constructor that wraps (not copies). If there are any elements already in the collection being decorated, they are validated.Parameters: queue - the queue to decorate, must not be null predicate - the predicate to use for validation, must not be null Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if queue or predicate is null [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the Queue contains invalid elements

### Method Detail

#### predicatedQueue public static <E> [PredicatedQueue](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)<E> predicatedQueue([Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<E> Queue, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super E> predicate) Factory method to create a predicated (validating) queue. If there are any elements already in the queue being decorated, they are validated.Type Parameters: E - the type of the elements in the queue Parameters: Queue - the queue to decorate, must not be null predicate - the predicate to use for validation, must not be null Returns: a new predicated queue Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if queue or predicate is null [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the queue contains invalid elements

#### decorated protected [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)> decorated() Gets the queue being decorated.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/queue/PredicatedQueue.html)> Returns: the decorated queue

#### offer public boolean offer([E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) object) Override to validate the object being added to ensure it matches the predicate.Specified by: [offer](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true#offer-E-) in interface [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)> Parameters: object - the object being added Returns: the result of adding to the underlying queue Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the add is invalid

#### poll public [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) poll()Specified by: [poll](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true#poll--) in interface [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)>

#### peek public [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) peek()Specified by: [peek](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true#peek--) in interface [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)>

#### element public [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) element()Specified by: [element](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true#element--) in interface [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)>

#### remove public [E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html) remove()Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true#remove--) in interface [Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/queue/PredicatedQueue.html)>

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