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[Skip navigation links](#1fob9te)

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/TransformedQueue.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-all.html)
* [Help](http://docs.google.com/help-doc.html)
* [Prev Class](http://docs.google.com/org/apache/commons/collections4/queue/SynchronizedQueue.html)
* [Next Class](http://docs.google.com/org/apache/commons/collections4/queue/UnmodifiableQueue.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/queue/TransformedQueue.html)
* [No Frames](http://docs.google.com/TransformedQueue.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* Nested |
* [Field](#2et92p0) |
* [Constr](#tyjcwt) |
* [Method](#3dy6vkm)
* Detail:
* Field |
* [Constr](#lnxbz9) |
* [Method](#1ksv4uv)

org.apache.commons.collections4.queue

## Class TransformedQueue<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.queue.TransformedQueue<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 TransformedQueue<E>  
  extends [TransformedCollection](http://docs.google.com/org/apache/commons/collections4/collection/TransformedCollection.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 transform objects that are added.  
  The add/offer 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: 4.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.queue.TransformedQueue)

### 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 | * + [TransformedQueue](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#TransformedQueue-java.util.Queue-org.apache.commons.collections4.Transformer-)([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/TransformedQueue.html)> queue, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html),? extends [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.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/queue/TransformedQueue.html) | * + [element](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#element--)() |
| * + 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/TransformedQueue.html)> | * + [getQueue](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#getQueue--)() Gets the decorated queue. |
| * + boolean | * + [offer](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#offer-E-)([E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html) obj) |
| * + [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html) | * + [peek](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#peek--)() |
| * + [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html) | * + [poll](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#poll--)() |
| * + [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html) | * + [remove](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#remove--)() |
| * + static <E> [TransformedQueue](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html)<E> | * + [transformedQueue](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#transformedQueue-java.util.Queue-org.apache.commons.collections4.Transformer-)([Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<E> queue, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super E,? extends E> transformer) Factory method to create a transforming queue that will transform existing contents of the specified queue. |
| * + static <E> [TransformedQueue](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html)<E> | * + [transformingQueue](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#transformingQueue-java.util.Queue-org.apache.commons.collections4.Transformer-)([Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<E> queue, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super E,? extends E> transformer) Factory method to create a transforming queue. |

### 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-), [decorated](http://docs.google.com/org/apache/commons/collections4/collection/AbstractCollectionDecorator.html#decorated--), [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

#### TransformedQueue protected TransformedQueue([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/TransformedQueue.html)> queue, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html),? extends [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html)> transformer) Constructor that wraps (not copies). If there are any elements already in the queue being decorated, they are NOT transformed.Parameters: queue - the queue 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 queue or transformer is null

### Method Detail

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

#### transformedQueue public static <E> [TransformedQueue](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html)<E> transformedQueue([Queue](https://docs.oracle.com/javase/7/docs/api/java/util/Queue.html?is-external=true)<E> queue, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super E,? extends E> transformer) Factory method to create a transforming queue that will transform existing contents of the specified queue. If there are any elements already in the queue being decorated, they will be transformed by this method. Contrast this with [transformingQueue(Queue, Transformer)](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html#transformingQueue-java.util.Queue-org.apache.commons.collections4.Transformer-).Type Parameters: E - the type of the elements in the queue Parameters: queue - the queue to decorate, must not be null transformer - the transformer to use for conversion, must not be null Returns: a new transformed Queue Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if queue or transformer is null Since: 4.0

#### getQueue 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/TransformedQueue.html)> getQueue() Gets the decorated queue.Returns: the decorated queue

#### offer public boolean offer([E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.html) obj)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/TransformedQueue.html)>

#### poll public [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.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/TransformedQueue.html)>

#### peek public [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.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/TransformedQueue.html)>

#### element public [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.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/TransformedQueue.html)>

#### remove public [E](http://docs.google.com/org/apache/commons/collections4/queue/TransformedQueue.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/TransformedQueue.html)>

[Skip navigation links](#3as4poj)

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/TransformedQueue.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-all.html)
* [Help](http://docs.google.com/help-doc.html)
* [Prev Class](http://docs.google.com/org/apache/commons/collections4/queue/SynchronizedQueue.html)
* [Next Class](http://docs.google.com/org/apache/commons/collections4/queue/UnmodifiableQueue.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/queue/TransformedQueue.html)
* [No Frames](http://docs.google.com/TransformedQueue.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* Nested |
* [Field](#2et92p0) |
* [Constr](#tyjcwt) |
* [Method](#3dy6vkm)
* Detail:
* Field |
* [Constr](#lnxbz9) |
* [Method](#1ksv4uv)

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