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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/ComparatorPredicate.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/functors/ClosureTransformer.html)
* [Next Class](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/functors/ComparatorPredicate.html)
* [No Frames](http://docs.google.com/ComparatorPredicate.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* [Nested](#3znysh7) |
* Field |
* [Constr](#2et92p0) |
* [Method](#tyjcwt)
* Detail:
* Field |
* [Constr](#1t3h5sf) |
* [Method](#17dp8vu)

org.apache.commons.collections4.functors

## Class ComparatorPredicate<T>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.functors.ComparatorPredicate<T>
* All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T>  
    
  public class ComparatorPredicate<T>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T>, [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true)
* Predicate that compares the input object with the one stored in the predicate using a comparator. In addition, the comparator result can be evaluated in accordance to a supplied criterion value.  
  In order to demonstrate the use of the predicate, the following variables are declared:  
   Integer ONE = Integer.valueOf(1);  
   Integer TWO = Integer.valueOf(2);  
    
   Comparator comparator = new Comparator() {  
    
   public int compare(Object first, Object second) {  
   return ((Integer) second) - ((Integer) first);  
   }  
    
   };  
     
  Using the declared variables, the ComparatorPredicate can be used used in the following way:  
   ComparatorPredicate.comparatorPredicate(ONE, comparator).evaluate(TWO);  
     
  The input variable TWO in compared to the stored variable ONE using the supplied comparator. This is the default usage of the predicate and will return true if the underlying comparator returns 0. In addition to the default usage of the predicate, it is possible to evaluate the comparator's result in several ways. The following [ComparatorPredicate.Criterion](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html) enumeration values are provided by the predicate:
  + EQUAL
  + GREATER
  + GREATER\_OR\_EQUAL
  + LESS
  + LESS\_OR\_EQUAL

The following examples demonstrates how these constants can be used in order to manipulate the evaluation of a comparator result.  
 ComparatorPredicate.comparatorPredicate(ONE, comparator,**ComparatorPredicate.Criterion.GREATER**).evaluate(TWO);  
   
The input variable TWO is compared to the stored variable ONE using the supplied comparator using the GREATER evaluation criterion constant. This instructs the predicate to return true if the comparator returns a value greater than 0.Since: 4.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.functors.ComparatorPredicate)

### Nested Class SummaryNested Classes

|  |  |
| --- | --- |
| * + Modifier and Type | * + Class and Description |
| * + static class | * + [ComparatorPredicate.Criterion](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html) |

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [ComparatorPredicate](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html#ComparatorPredicate-T-java.util.Comparator-org.apache.commons.collections4.functors.ComparatorPredicate.Criterion-)([T](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html) object, [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<[T](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html)> comparator, [ComparatorPredicate.Criterion](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html) criterion) Constructor that performs no validation. |

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

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [comparatorPredicate](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html#comparatorPredicate-T-java.util.Comparator-)(T object, [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<T> comparator) Factory to create the comparator predicate |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [comparatorPredicate](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html#comparatorPredicate-T-java.util.Comparator-org.apache.commons.collections4.functors.ComparatorPredicate.Criterion-)(T object, [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<T> comparator, [ComparatorPredicate.Criterion](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html) criterion) Factory to create the comparator predicate |
| * + boolean | * + [evaluate](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html#evaluate-T-)([T](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html) target) Evaluates the predicate. |

### 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-)

### Constructor Detail

#### ComparatorPredicate public ComparatorPredicate([T](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html) object, [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<[T](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html)> comparator, [ComparatorPredicate.Criterion](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html) criterion) Constructor that performs no validation. Use comparatorPredicate if you want that.Parameters: object - the object to compare to comparator - the comparator to use for comparison criterion - the criterion to use to evaluate comparison

### Method Detail

#### comparatorPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> comparatorPredicate(T object, [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<T> comparator) Factory to create the comparator predicateType Parameters: T - the type that the predicate queries Parameters: object - the object to compare to comparator - the comparator to use for comparison Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if comparator is null

#### comparatorPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> comparatorPredicate(T object, [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<T> comparator, [ComparatorPredicate.Criterion](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html) criterion) Factory to create the comparator predicateType Parameters: T - the type that the predicate queries Parameters: object - the object to compare to comparator - the comparator to use for comparison criterion - the criterion to use to evaluate comparison Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if comparator or criterion is null

#### evaluate public boolean evaluate([T](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html) target)

* + - Evaluates the predicate. The predicate evaluates to true in the following cases:
      * comparator.compare(object, input) == 0 && criterion == EQUAL
      * comparator.compare(object, input) < 0 && criterion == LESS
      * comparator.compare(object, input) > 0 && criterion == GREATER
      * comparator.compare(object, input) >= 0 && criterion == GREATER\_OR\_EQUAL
      * comparator.compare(object, input) <= 0 && criterion == LESS\_OR\_EQUAL

Specified by: [evaluate](http://docs.google.com/org/apache/commons/collections4/Predicate.html#evaluate-T-) in interface [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<[T](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.html)> Parameters: target - the target object to compare to Returns: true if the comparison succeeds according to the selected criterion Throws: [IllegalStateException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalStateException.html?is-external=true) - if the criterion is invalid (really not possible) See Also: [Predicate.evaluate(java.lang.Object)](http://docs.google.com/org/apache/commons/collections4/Predicate.html#evaluate-T-), [Comparator.compare(java.lang.Object first, java.lang.Object second)](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#compare-T-T-)

[Skip navigation links](#3j2qqm3)

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/ComparatorPredicate.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/functors/ClosureTransformer.html)
* [Next Class](http://docs.google.com/org/apache/commons/collections4/functors/ComparatorPredicate.Criterion.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/functors/ComparatorPredicate.html)
* [No Frames](http://docs.google.com/ComparatorPredicate.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* [Nested](#3znysh7) |
* Field |
* [Constr](#2et92p0) |
* [Method](#tyjcwt)
* Detail:
* Field |
* [Constr](#1t3h5sf) |
* [Method](#17dp8vu)

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