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org.apache.commons.collections4.comparators

## Class ComparableComparator<E extends [**Comparable**](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true)<? super E>>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.comparators.ComparableComparator<E>
* Type Parameters: E - the type of objects compared by this comparator All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<E>  
    
  public class ComparableComparator<E extends [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true)<? super E>>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<E>, [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true)  
  A [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true) that compares [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true) objects.  
  This Comparator is useful, for example, for enforcing the natural order in custom implementations of [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html?is-external=true) and [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true).  
  Note: In the 2.0 and 2.1 releases of Commons Collections, this class would throw a [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) if either of the arguments to [compare](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#compare-T-T-) were null, not [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true), or for which [compareTo](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true#compareTo-T-) gave inconsistent results. This is no longer the case. See [compare](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#compare-T-T-) for details.Since: 2.0 See Also: [Collections.reverseOrder()](https://docs.oracle.com/javase/7/docs/api/java/util/Collections.html?is-external=true#reverseOrder--), [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.comparators.ComparableComparator)

### Field SummaryFields

|  |  |
| --- | --- |
| * + Modifier and Type | * + Field and Description |
| * + static [ComparableComparator](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) | * + [INSTANCE](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#INSTANCE) The singleton instance. |

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [ComparableComparator](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#ComparableComparator--)() Constructor whose use should be avoided. |

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

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static <E extends [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true)<? super E>> [ComparableComparator](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html)<E> | * + [comparableComparator](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#comparableComparator--)() Gets the singleton instance of a ComparableComparator. |
| * + int | * + [compare](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#compare-E-E-)([E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) obj1, [E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) obj2) Compare the two [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true) arguments. |
| * + boolean | * + [equals](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#equals-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object) Returns true iff *that* Object is is a [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true) whose ordering is known to be equivalent to mine. |
| * + int | * + [hashCode](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#hashCode--)() Implement a hash code for this comparator that is consistent with [equals](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#equals-java.lang.Object-). |

### 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--), [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--), [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.[**Comparator**](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)[comparing](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#comparing-java.util.function.Function-), [comparing](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#comparing-java.util.function.Function-java.util.Comparator-), [comparingDouble](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#comparingDouble-java.util.function.ToDoubleFunction-), [comparingInt](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#comparingInt-java.util.function.ToIntFunction-), [comparingLong](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#comparingLong-java.util.function.ToLongFunction-), [naturalOrder](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#naturalOrder--), [nullsFirst](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#nullsFirst-java.util.Comparator-), [nullsLast](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#nullsLast-java.util.Comparator-), [reversed](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#reversed--), [reverseOrder](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#reverseOrder--), [thenComparing](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#thenComparing-java.util.Comparator-), [thenComparing](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#thenComparing-java.util.function.Function-), [thenComparing](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#thenComparing-java.util.function.Function-java.util.Comparator-), [thenComparingDouble](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#thenComparingDouble-java.util.function.ToDoubleFunction-), [thenComparingInt](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#thenComparingInt-java.util.function.ToIntFunction-), [thenComparingLong](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#thenComparingLong-java.util.function.ToLongFunction-)

### Field Detail

#### INSTANCE public static final [ComparableComparator](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) INSTANCE The singleton instance.

### Constructor Detail

#### ComparableComparator public ComparableComparator() Constructor whose use should be avoided. Please use the [comparableComparator()](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#comparableComparator--) method whenever possible.

### Method Detail

#### comparableComparator public static <E extends [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true)<? super E>> [ComparableComparator](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html)<E> comparableComparator() Gets the singleton instance of a ComparableComparator. Developers are encouraged to use the comparator returned from this method instead of constructing a new instance to reduce allocation and GC overhead when multiple comparable comparators may be used in the same VM.Type Parameters: E - the element type Returns: the singleton ComparableComparator Since: 4.0

#### compare public int compare([E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) obj1, [E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) obj2) Compare the two [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true) arguments. This method is equivalent to: ((Comparable)obj1).compareTo(obj2)Specified by: [compare](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#compare-T-T-) in interface [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) extends [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true)<? super [E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html)>> Parameters: obj1 - the first object to compare obj2 - the second object to compare Returns: negative if obj1 is less, positive if greater, zero if equal Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if *obj1* is null, or when ((Comparable)obj1).compareTo(obj2) does [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if *obj1* is not a Comparable, or when ((Comparable)obj1).compareTo(obj2) does

#### hashCode public int hashCode() Implement a hash code for this comparator that is consistent with [equals](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html#equals-java.lang.Object-).Overrides: [hashCode](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#hashCode--) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) Returns: a hash code for this comparator. Since: 3.0

#### equals public boolean equals([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) object) Returns true iff *that* Object is is a [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true) whose ordering is known to be equivalent to mine. This implementation returns true iff *object*.[getClass()](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#getClass--) equals this.getClass(). Subclasses may want to override this behavior to remain consistent with the [Comparator.equals(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#equals-java.lang.Object-) contract.Specified by: [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true#equals-java.lang.Object-) in interface [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html) extends [Comparable](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html?is-external=true)<? super [E](http://docs.google.com/org/apache/commons/collections4/comparators/ComparableComparator.html)>> Overrides: [equals](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#equals-java.lang.Object-) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) Parameters: object - the object to compare with Returns: true if equal Since: 3.0

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