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org.apache.commons.collections4

## Class PredicateUtils

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.PredicateUtils
* public class PredicateUtils  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
* PredicateUtils provides reference implementations and utilities for the Predicate functor interface. The supplied predicates are:
  + Invoker - returns the result of a method call on the input object
  + InstanceOf - true if the object is an instanceof a class
  + Equal - true if the object equals() a specified object
  + Identity - true if the object == a specified object
  + Null - true if the object is null
  + NotNull - true if the object is not null
  + Unique - true if the object has not already been evaluated
  + And/All - true if all of the predicates are true
  + Or/Any - true if any of the predicates is true
  + Either/One - true if only one of the predicate is true
  + Neither/None - true if none of the predicates are true
  + Not - true if the predicate is false, and vice versa
  + Transformer - wraps a Transformer as a Predicate
  + True - always return true
  + False - always return false
  + Exception - always throws an exception
  + NullIsException/NullIsFalse/NullIsTrue - check for null input
  + Transformed - transforms the input before calling the predicate

All the supplied predicates are Serializable.Since: 3.0

### Method SummaryAll Methods Static Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [allPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#allPredicate-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true only if all of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [allPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#allPredicate-org.apache.commons.collections4.Predicate...-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true only if all of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [andPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#andPredicate-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true only if both of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [anyPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#anyPredicate-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true if any of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [anyPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#anyPredicate-org.apache.commons.collections4.Predicate...-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true if any of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [asPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#asPredicate-org.apache.commons.collections4.Transformer-)([Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super T,[Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true)> transformer) Create a new Predicate that wraps a Transformer. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [eitherPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#eitherPredicate-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true if one, but not both, of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [equalPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#equalPredicate-T-)(T value) Creates a Predicate that checks if the input object is equal to the specified object using equals(). |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [exceptionPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#exceptionPredicate--)() Gets a Predicate that always throws an exception. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [falsePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#falsePredicate--)() Gets a Predicate that always returns false. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [identityPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#identityPredicate-T-)(T value) Creates a Predicate that checks if the input object is equal to the specified object by identity. |
| * + static [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> | * + [instanceofPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#instanceofPredicate-java.lang.Class-)([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<?> type) Creates a Predicate that checks if the object passed in is of a particular type, using instanceof. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [invokerPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#invokerPredicate-java.lang.String-)([String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) methodName) Creates a Predicate that invokes a method on the input object. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [invokerPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#invokerPredicate-java.lang.String-java.lang.Class:A-java.lang.Object:A-)([String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) methodName, [Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<?>[] paramTypes, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[] args) Creates a Predicate that invokes a method on the input object. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [neitherPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#neitherPredicate-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true if neither of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [nonePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#nonePredicate-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true if none of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [nonePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#nonePredicate-org.apache.commons.collections4.Predicate...-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true if none of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [notNullPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#notNullPredicate--)() Gets a Predicate that checks if the input object passed in is not null. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [notPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#notPredicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Create a new Predicate that returns true if the specified predicate returns false and vice versa. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [nullIsExceptionPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#nullIsExceptionPredicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Gets a Predicate that throws an exception if the input object is null, otherwise it calls the specified Predicate. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [nullIsFalsePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#nullIsFalsePredicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Gets a Predicate that returns false if the input object is null, otherwise it calls the specified Predicate. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [nullIsTruePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#nullIsTruePredicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Gets a Predicate that returns true if the input object is null, otherwise it calls the specified Predicate. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [nullPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#nullPredicate--)() Gets a Predicate that checks if the input object passed in is null. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [onePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#onePredicate-java.util.Collection-)([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true if only one of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [onePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#onePredicate-org.apache.commons.collections4.Predicate...-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true if only one of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [orPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#orPredicate-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true if either of the specified predicates are true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [transformedPredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#transformedPredicate-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Predicate-)([Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super T,? extends T> transformer, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Creates a predicate that transforms the input object before passing it to the predicate. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [truePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#truePredicate--)() Gets a Predicate that always returns true. |
| * + static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> | * + [uniquePredicate](http://docs.google.com/org/apache/commons/collections4/PredicateUtils.html#uniquePredicate--)() Creates a Predicate that returns true the first time an object is encountered, and false if the same object is received again. |

### 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-)

### Method Detail

#### exceptionPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> exceptionPredicate() Gets a Predicate that always throws an exception. This could be useful during testing as a placeholder.Type Parameters: T - the type that the predicate queries Returns: the predicate See Also: [ExceptionPredicate](http://docs.google.com/org/apache/commons/collections4/functors/ExceptionPredicate.html)

#### truePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> truePredicate() Gets a Predicate that always returns true.Type Parameters: T - the type that the predicate queries Returns: the predicate See Also: [TruePredicate](http://docs.google.com/org/apache/commons/collections4/functors/TruePredicate.html)

#### falsePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> falsePredicate() Gets a Predicate that always returns false.Type Parameters: T - the type that the predicate queries Returns: the predicate See Also: [FalsePredicate](http://docs.google.com/org/apache/commons/collections4/functors/FalsePredicate.html)

#### nullPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> nullPredicate() Gets a Predicate that checks if the input object passed in is null.Type Parameters: T - the type that the predicate queries Returns: the predicate See Also: [NullPredicate](http://docs.google.com/org/apache/commons/collections4/functors/NullPredicate.html)

#### notNullPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> notNullPredicate() Gets a Predicate that checks if the input object passed in is not null.Type Parameters: T - the type that the predicate queries Returns: the predicate See Also: [NotNullPredicate](http://docs.google.com/org/apache/commons/collections4/functors/NotNullPredicate.html)

#### equalPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> equalPredicate(T value) Creates a Predicate that checks if the input object is equal to the specified object using equals().Type Parameters: T - the type that the predicate queries Parameters: value - the value to compare against Returns: the predicate See Also: [EqualPredicate](http://docs.google.com/org/apache/commons/collections4/functors/EqualPredicate.html)

#### identityPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> identityPredicate(T value) Creates a Predicate that checks if the input object is equal to the specified object by identity.Type Parameters: T - the type that the predicate queries Parameters: value - the value to compare against Returns: the predicate See Also: [IdentityPredicate](http://docs.google.com/org/apache/commons/collections4/functors/IdentityPredicate.html)

#### instanceofPredicate public static [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> instanceofPredicate([Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<?> type) Creates a Predicate that checks if the object passed in is of a particular type, using instanceof. A null input object will return false.Parameters: type - the type to check for, may not be null Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the class is null See Also: [InstanceofPredicate](http://docs.google.com/org/apache/commons/collections4/functors/InstanceofPredicate.html)

#### uniquePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> uniquePredicate() Creates a Predicate that returns true the first time an object is encountered, and false if the same object is received again. The comparison is by equals(). A null input object is accepted and will return true the first time, and false subsequently as well.Type Parameters: T - the type that the predicate queries Returns: the predicate See Also: [UniquePredicate](http://docs.google.com/org/apache/commons/collections4/functors/UniquePredicate.html)

#### invokerPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> invokerPredicate([String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) methodName) Creates a Predicate that invokes a method on the input object. The method must return either a boolean or a non-null Boolean, and have no parameters. If the input object is null, a PredicateException is thrown. For example, PredicateUtils.invokerPredicate("isEmpty"); will call the isEmpty method on the input object to determine the predicate result.Type Parameters: T - the type that the predicate queries Parameters: methodName - the method name to call on the input object, may not be null Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the methodName is null. See Also: [InvokerTransformer](http://docs.google.com/org/apache/commons/collections4/functors/InvokerTransformer.html), [TransformerPredicate](http://docs.google.com/org/apache/commons/collections4/functors/TransformerPredicate.html)

#### invokerPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> invokerPredicate([String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) methodName, [Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<?>[] paramTypes, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[] args) Creates a Predicate that invokes a method on the input object. The method must return either a boolean or a non-null Boolean, and have no parameters. If the input object is null, a PredicateException is thrown. For example, PredicateUtils.invokerPredicate("isEmpty"); will call the isEmpty method on the input object to determine the predicate result.Type Parameters: T - the type that the predicate queries Parameters: methodName - the method name to call on the input object, may not be null paramTypes - the parameter types args - the arguments Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the method name is null [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the paramTypes and args don't match See Also: [InvokerTransformer](http://docs.google.com/org/apache/commons/collections4/functors/InvokerTransformer.html), [TransformerPredicate](http://docs.google.com/org/apache/commons/collections4/functors/TransformerPredicate.html)

#### andPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> andPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true only if both of the specified predicates are true.Type Parameters: T - the type that the predicate queries Parameters: predicate1 - the first predicate, may not be null predicate2 - the second predicate, may not be null Returns: the and predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if either predicate is null See Also: [AndPredicate](http://docs.google.com/org/apache/commons/collections4/functors/AndPredicate.html)

#### allPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> allPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true only if all of the specified predicates are true. If the array of predicates is empty, then this predicate returns true.Type Parameters: T - the type that the predicate queries Parameters: predicates - an array of predicates to check, may not be null Returns: the all predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates array is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the array is null See Also: [AllPredicate](http://docs.google.com/org/apache/commons/collections4/functors/AllPredicate.html)

#### allPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> allPredicate([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true only if all of the specified predicates are true. The predicates are checked in iterator order. If the collection of predicates is empty, then this predicate returns true.Type Parameters: T - the type that the predicate queries Parameters: predicates - a collection of predicates to check, may not be null Returns: the all predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates collection is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the collection is null See Also: [AllPredicate](http://docs.google.com/org/apache/commons/collections4/functors/AllPredicate.html)

#### orPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> orPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true if either of the specified predicates are true.Type Parameters: T - the type that the predicate queries Parameters: predicate1 - the first predicate, may not be null predicate2 - the second predicate, may not be null Returns: the or predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if either predicate is null See Also: [OrPredicate](http://docs.google.com/org/apache/commons/collections4/functors/OrPredicate.html)

#### anyPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> anyPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true if any of the specified predicates are true. If the array of predicates is empty, then this predicate returns false.Type Parameters: T - the type that the predicate queries Parameters: predicates - an array of predicates to check, may not be null Returns: the any predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates array is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the array is null See Also: [AnyPredicate](http://docs.google.com/org/apache/commons/collections4/functors/AnyPredicate.html)

#### anyPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> anyPredicate([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true if any of the specified predicates are true. The predicates are checked in iterator order. If the collection of predicates is empty, then this predicate returns false.Type Parameters: T - the type that the predicate queries Parameters: predicates - a collection of predicates to check, may not be null Returns: the any predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates collection is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the collection is null See Also: [AnyPredicate](http://docs.google.com/org/apache/commons/collections4/functors/AnyPredicate.html)

#### eitherPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> eitherPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true if one, but not both, of the specified predicates are true. XORType Parameters: T - the type that the predicate queries Parameters: predicate1 - the first predicate, may not be null predicate2 - the second predicate, may not be null Returns: the either predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if either predicate is null See Also: [OnePredicate](http://docs.google.com/org/apache/commons/collections4/functors/OnePredicate.html)

#### onePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> onePredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true if only one of the specified predicates are true. If the array of predicates is empty, then this predicate returns false.Type Parameters: T - the type that the predicate queries Parameters: predicates - an array of predicates to check, may not be null Returns: the one predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates array is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the array is null See Also: [OnePredicate](http://docs.google.com/org/apache/commons/collections4/functors/OnePredicate.html)

#### onePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> onePredicate([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true if only one of the specified predicates are true. The predicates are checked in iterator order. If the collection of predicates is empty, then this predicate returns false.Type Parameters: T - the type that the predicate queries Parameters: predicates - a collection of predicates to check, may not be null Returns: the one predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates collection is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the collection is null See Also: [OnePredicate](http://docs.google.com/org/apache/commons/collections4/functors/OnePredicate.html)

#### neitherPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> neitherPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate1, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate2) Create a new Predicate that returns true if neither of the specified predicates are true.Type Parameters: T - the type that the predicate queries Parameters: predicate1 - the first predicate, may not be null predicate2 - the second predicate, may not be null Returns: the neither predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if either predicate is null See Also: [NonePredicate](http://docs.google.com/org/apache/commons/collections4/functors/NonePredicate.html)

#### nonePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> nonePredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>... predicates) Create a new Predicate that returns true if none of the specified predicates are true. If the array of predicates is empty, then this predicate returns true.Type Parameters: T - the type that the predicate queries Parameters: predicates - an array of predicates to check, may not be null Returns: the none predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates array is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the array is null See Also: [NonePredicate](http://docs.google.com/org/apache/commons/collections4/functors/NonePredicate.html)

#### nonePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> nonePredicate([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<? extends [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T>> predicates) Create a new Predicate that returns true if none of the specified predicates are true. The predicates are checked in iterator order. If the collection of predicates is empty, then this predicate returns true.Type Parameters: T - the type that the predicate queries Parameters: predicates - a collection of predicates to check, may not be null Returns: the none predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicates collection is null [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if any predicate in the collection is null See Also: [NonePredicate](http://docs.google.com/org/apache/commons/collections4/functors/NonePredicate.html)

#### notPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> notPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Create a new Predicate that returns true if the specified predicate returns false and vice versa.Type Parameters: T - the type that the predicate queries Parameters: predicate - the predicate to not Returns: the not predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicate is null See Also: [NotPredicate](http://docs.google.com/org/apache/commons/collections4/functors/NotPredicate.html)

#### asPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> asPredicate([Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super T,[Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true)> transformer) Create a new Predicate that wraps a Transformer. The Transformer must return either Boolean.TRUE or Boolean.FALSE otherwise a PredicateException will be thrown.Type Parameters: T - the type that the predicate queries Parameters: transformer - the transformer to wrap, may not be null Returns: the transformer wrapping predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the transformer is null See Also: [TransformerPredicate](http://docs.google.com/org/apache/commons/collections4/functors/TransformerPredicate.html)

#### nullIsExceptionPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> nullIsExceptionPredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Gets a Predicate that throws an exception if the input object is null, otherwise it calls the specified Predicate. This allows null handling behaviour to be added to Predicates that don't support nulls.Type Parameters: T - the type that the predicate queries Parameters: predicate - the predicate to wrap, may not be null Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicate is null. See Also: [NullIsExceptionPredicate](http://docs.google.com/org/apache/commons/collections4/functors/NullIsExceptionPredicate.html)

#### nullIsFalsePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> nullIsFalsePredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Gets a Predicate that returns false if the input object is null, otherwise it calls the specified Predicate. This allows null handling behaviour to be added to Predicates that don't support nulls.Type Parameters: T - the type that the predicate queries Parameters: predicate - the predicate to wrap, may not be null Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicate is null. See Also: [NullIsFalsePredicate](http://docs.google.com/org/apache/commons/collections4/functors/NullIsFalsePredicate.html)

#### nullIsTruePredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> nullIsTruePredicate([Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Gets a Predicate that returns true if the input object is null, otherwise it calls the specified Predicate. This allows null handling behaviour to be added to Predicates that don't support nulls.Type Parameters: T - the type that the predicate queries Parameters: predicate - the predicate to wrap, may not be null Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the predicate is null. See Also: [NullIsTruePredicate](http://docs.google.com/org/apache/commons/collections4/functors/NullIsTruePredicate.html)

#### transformedPredicate public static <T> [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<T> transformedPredicate([Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super T,? extends T> transformer, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super T> predicate) Creates a predicate that transforms the input object before passing it to the predicate.Type Parameters: T - the type that the predicate queries Parameters: transformer - the transformer to call first predicate - the predicate to call with the result of the transform Returns: the predicate Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the transformer or the predicate is null Since: 3.1 See Also: [TransformedPredicate](http://docs.google.com/org/apache/commons/collections4/functors/TransformedPredicate.html)

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