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016 \*/  
017package org.apache.commons.collections4.functors;  
018  
019import java.util.Collection;  
020  
021import org.apache.commons.collections4.Predicate;  
022  
023/\*\*  
024 \* Predicate implementation that returns true if any of the  
025 \* predicates return true.  
026 \* If the array of predicates is empty, then this predicate returns false.  
027 \* <p>  
028 \* NOTE: In versions prior to 3.2 an array size of zero or one  
029 \* threw an exception.  
030 \* </p>  
031 \*  
032 \* @since 3.0  
033 \*/  
034public final class AnyPredicate<T> extends AbstractQuantifierPredicate<T> {  
035  
036 /\*\* Serial version UID \*/  
037 private static final long serialVersionUID = 7429999530934647542L;  
038  
039 /\*\*  
040 \* Factory to create the predicate.  
041 \* <p>  
042 \* If the array is size zero, the predicate always returns false.  
043 \* If the array is size one, then that predicate is returned.  
044 \*  
045 \* @param <T> the type that the predicate queries  
046 \* @param predicates the predicates to check, cloned, not null  
047 \* @return the <code>any</code> predicate  
048 \* @throws NullPointerException if the predicates array is null  
049 \* @throws NullPointerException if any predicate in the array is null  
050 \*/  
051 @SuppressWarnings("unchecked")  
052 public static <T> Predicate<T> anyPredicate(final Predicate<? super T>... predicates) {  
053 FunctorUtils.validate(predicates);  
054 if (predicates.length == 0) {  
055 return FalsePredicate.<T>falsePredicate();  
056 }  
057 if (predicates.length == 1) {  
058 return (Predicate<T>) predicates[0];  
059 }  
060 return new AnyPredicate<>(FunctorUtils.copy(predicates));  
061 }  
062  
063 /\*\*  
064 \* Factory to create the predicate.  
065 \* <p>  
066 \* If the collection is size zero, the predicate always returns false.  
067 \* If the collection is size one, then that predicate is returned.  
068 \*  
069 \* @param <T> the type that the predicate queries  
070 \* @param predicates the predicates to check, cloned, not null  
071 \* @return the <code>all</code> predicate  
072 \* @throws NullPointerException if the predicates array is null  
073 \* @throws NullPointerException if any predicate in the array is null  
074 \*/  
075 @SuppressWarnings("unchecked")  
076 public static <T> Predicate<T> anyPredicate(final Collection<? extends Predicate<? super T>> predicates) {  
077 final Predicate<? super T>[] preds = FunctorUtils.validate(predicates);  
078 if (preds.length == 0) {  
079 return FalsePredicate.<T>falsePredicate();  
080 }  
081 if (preds.length == 1) {  
082 return (Predicate<T>) preds[0];  
083 }  
084 return new AnyPredicate<>(preds);  
085 }  
086  
087 /\*\*  
088 \* Constructor that performs no validation.  
089 \* Use <code>anyPredicate</code> if you want that.  
090 \*  
091 \* @param predicates the predicates to check, not cloned, not null  
092 \*/  
093 public AnyPredicate(final Predicate<? super T>... predicates) {  
094 super(predicates);  
095 }  
096  
097 /\*\*  
098 \* Evaluates the predicate returning true if any predicate returns true.  
099 \*  
100 \* @param object the input object  
101 \* @return true if any decorated predicate return true  
102 \*/  
103 @Override  
104 public boolean evaluate(final T object) {  
105 for (final Predicate<? super T> iPredicate : iPredicates) {  
106 if (iPredicate.evaluate(object)) {  
107 return true;  
108 }  
109 }  
110 return false;  
111 }  
112  
113}