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016 \*/  
017package org.apache.commons.collections4.multiset;  
018  
019import java.util.Set;  
020  
021import org.apache.commons.collections4.MultiSet;  
022import org.apache.commons.collections4.Predicate;  
023import org.apache.commons.collections4.collection.PredicatedCollection;  
024  
025/\*\*  
026 \* Decorates another {@link MultiSet} to validate that additions  
027 \* match a specified predicate.  
028 \* <p>  
029 \* This multiset exists to provide validation for the decorated multiset.  
030 \* It is normally created to decorate an empty multiset.  
031 \* If an object cannot be added to the multiset, an {@link IllegalArgumentException}  
032 \* is thrown.  
033 \* </p>  
034 \* <p>  
035 \* One usage would be to ensure that no null entries are added to the multiset.  
036 \* </p>  
037 \* <pre>  
038 \* MultiSet<E> set =  
039 \* PredicatedMultiSet.predicatedMultiSet(new HashMultiSet<E>(),  
040 \* NotNullPredicate.notNullPredicate());  
041 \* </pre>  
042 \*  
043 \* @param <E> the type held in the multiset  
044 \* @since 4.1  
045 \*/  
046public class PredicatedMultiSet<E> extends PredicatedCollection<E> implements MultiSet<E> {  
047  
048 /\*\* Serialization version \*/  
049 private static final long serialVersionUID = 20150629L;  
050  
051 /\*\*  
052 \* Factory method to create a predicated (validating) multiset.  
053 \* <p>  
054 \* If there are any elements already in the multiset being decorated, they  
055 \* are validated.  
056 \*  
057 \* @param <E> the type of the elements in the multiset  
058 \* @param multiset the multiset to decorate, must not be null  
059 \* @param predicate the predicate to use for validation, must not be null  
060 \* @return a new predicated MultiSet  
061 \* @throws NullPointerException if multiset or predicate is null  
062 \* @throws IllegalArgumentException if the multiset contains invalid elements  
063 \*/  
064 public static <E> PredicatedMultiSet<E> predicatedMultiSet(final MultiSet<E> multiset,  
065 final Predicate<? super E> predicate) {  
066 return new PredicatedMultiSet<>(multiset, predicate);  
067 }  
068  
069 //-----------------------------------------------------------------------  
070 /\*\*  
071 \* Constructor that wraps (not copies).  
072 \* <p>  
073 \* If there are any elements already in the multiset being decorated, they  
074 \* are validated.  
075 \*  
076 \* @param multiset the multiset to decorate, must not be null  
077 \* @param predicate the predicate to use for validation, must not be null  
078 \* @throws NullPointerException if multiset or predicate is null  
079 \* @throws IllegalArgumentException if the multiset contains invalid elements  
080 \*/  
081 protected PredicatedMultiSet(final MultiSet<E> multiset, final Predicate<? super E> predicate) {  
082 super(multiset, predicate);  
083 }  
084  
085 /\*\*  
086 \* Gets the decorated multiset.  
087 \*  
088 \* @return the decorated multiset  
089 \*/  
090 @Override  
091 protected MultiSet<E> decorated() {  
092 return (MultiSet<E>) super.decorated();  
093 }  
094  
095 @Override  
096 public boolean equals(final Object object) {  
097 return object == this || decorated().equals(object);  
098 }  
099  
100 @Override  
101 public int hashCode() {  
102 return decorated().hashCode();  
103 }  
104  
105 //-----------------------------------------------------------------------  
106  
107 @Override  
108 public int add(final E object, final int count) {  
109 validate(object);  
110 return decorated().add(object, count);  
111 }  
112  
113 @Override  
114 public int remove(final Object object, final int count) {  
115 return decorated().remove(object, count);  
116 }  
117  
118 @Override  
119 public int getCount(final Object object) {  
120 return decorated().getCount(object);  
121 }  
122  
123 @Override  
124 public int setCount(final E object, final int count) {  
125 validate(object);  
126 return decorated().setCount(object, count);  
127 }  
128  
129 @Override  
130 public Set<E> uniqueSet() {  
131 return decorated().uniqueSet();  
132 }  
133  
134 @Override  
135 public Set<MultiSet.Entry<E>> entrySet() {  
136 return decorated().entrySet();  
137 }  
138  
139}