

```

1 package MULTISSET;
2
3 public interface MultiSet<E extends Keyed> extends Iterable<E> {
4
5     // returns the number of elements in the collection
6     public int cardinality();
7
8     // returns the number of elements that match item from this
9     public int multiplicity(E item);
10
11     // Adds an item to the collection; note this is a mutable operation
12     public void add(E anItem);
13
14     // returns true if this is empty
15     public Boolean isEmpty();
16
17     // returns a new MultiSet by taking the union of this and aSet,
18     // the operation is immutable, neither this or aSet is modified
19     public MultiSet<E> union(MultiSet<E> aSet);
20
21     // returns true if this contains the same elements as aSet
22     public Boolean equal (MultiSet<E> aSet);
23     // returns a new MultiSet by taking the intersection of this and aSet,
24     // the operation is immutable, neither this or aSet is modified
25     // the operation can be views as min(|S|, |T|)
26     public MultiSet<E> intersection (MultiSet<E> aSet);
27
28     // Returns an iterator over the collection this.
29     public Iterator<E> iterator();
30 }
31 // MultiSet
32

```