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1  /**
2   * Program 2
3   * Stack is an implementation of LinearList
4   * CS310-01
5   * 3/13/2019
6   * @author Karl Parks cssc1506
7   */
8
9  package data_structures;
10
11  import java.util.Iterator;
12
13  public class Stack<E extends Comparable<E>> implements Iterable<E>{
14      private LinearList<E> list;
15
16      public Stack() {
17          list = new LinearList<E>();
18      }
19
20      /* inserts the object obj into the stack
21      */
22      public void push(E obj) {
23          list.addLast(obj);
24          return;
25      }
26
27      /* pops and returns the element on the top of the stack
28      */
29      public E pop() {
30          list.removeLast();
31          return null;
32      }
33
34      /* returns the number of elements currently in the stack
35      */
36      public int size() {
37          return list.size();
38      }
39
40      /* return true if the stack is empty, otherwise false
41      */
42      public boolean isEmpty() {
43          return list.isEmpty();
44      }

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45
46     /* returns but does not remove the element on the top of the stack
47     */
48     public E peek() {
49         return list.peekLast();
50     }
51
52     /* returns true if the object obj is in the stack,
53     * otherwise false
54     */
55     public boolean contains(E obj) {
56         return list.contains(obj);
57     }
58
59     /* returns the stack to an empty state
60     */
61     public void makeEmpty() {
62         list.clear();
63     }
64
65     /* removes the Object obj if it is in the stack and
66     * returns true, otherwise returns false.
67     */
68     public boolean remove(E obj) {
69         boolean tmp = list.contains(obj);
70         list.remove(obj);
71         return tmp;
72     }
73
74     /* returns a iterator of the elements in the stack. The elements
75     * must be in the same sequence as pop() would return them.
76     */
77     @Override
78     public Iterator<E> iterator() {
79         return list.iterator();
80     }
81

```