Computer Science III	Lab 14C – Priority Queue BASICS	Lab Value - 100

Lab Goal : This lab was designed to teach you more about using a Priority Queue.

Lab Description : Read a list of Strings. Store the Strings in the PriorityQueue and display the list in priority queue order, display the min value, and display the queue in natural order. Make sure your `getNaturalOrder` method is not destructive! (When you print the PQ afterwards it shouldn't be empty.)

Sample Data :

```
one seven six two three four five
one two three four five 1 2 3 4 5
a b c d e f g h i j k l m n o p
p o n m l k j i h g f e d c b a
```

Files Needed ::

PQTester.java
Lab14c.java

Sample Output :

```
       toString() - [five, seven, four, two, three, six, one]
         getMin() - five
getNaturalOrder() - five four one seven six three two
       toString() - [five, seven, four, two, three, six, one]


       toString() - [1, 3, 2, 4, 5, three, five, two, four, one]
         getMin() - 1
getNaturalOrder() - 1 2 3 4 5 five four one three two
       toString() - [1, 3, 2, 4, 5, three, five, two, four, one]


       toString() - [a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p]
         getMin() - a
getNaturalOrder() - a b c d e f g h i j k l m n o p
       toString() - [a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p]


       toString() - [a, b, c, g, h, f, d, j, m, n, i, o, k, l, e, p]
         getMin() - a
getNaturalOrder() - a b c d e f g h i j k l m n o p
       toString() - [a, b, c, g, h, f, d, j, m, n, i, o, k, l, e, p]
```

BASIC PRIORITYQUEUE CODE

```
PriorityQueue<Integer> pq;
pq = new PriorityQueue<Integer>();
pq.add(67);
pq.add(34);
pq.add(12):


out.println(pq.remove());   //outs 12

out.println(pq.remove());   //outs 34

out.println(pq.remove());   //outs 67

PriorityQueue is a minimum heap with the
smallest value at root.
```