

```

1 import components.queue.Queue;
2 import components.queue.Queue1L;
3 import components.simplewriter.SimpleWriter;
4 import components.simplewriter.SimpleWriter1L;
5
6 public class HW8_2231 {
7
8     public static void main(String[] args) {
9         SimpleWriter out = new SimpleWriter1L();
10
11         Queue<String> q = new Queue1L<>();
12
13         q.enqueue("ab");
14         q.enqueue("ac");
15         q.enqueue("aa");
16         q.enqueue("bc");
17
18         String a = "aa";
19         out.println(q);
20         moveToFront(q, a);
21
22         out.println(q);
23
24     }
25
26     /**
27      * Finds {@code x} in {@code q} and, if such exists, moves it to the front
28      * of {@code q}.
29      *
30      * @param <T>
31      *      type of {@code Queue} entries
32      * @param q
33      *      the {@code Queue} to be searched
34      * @param x
35      *      the entry to be searched for
36      * @updates q
37      * @ensures <pre>
38      *   perms(q, #q) and
39      *   if <x> is substring of q
40      *   then <x> is prefix of q
41      * </pre>
42      */
43     private static <T> void moveToFront(Queue<T> q, T x) {
44         Queue<T> temp = new Queue1L<>();
45         int leng = q.length();
46         T e = (T) "0";
47
48         for (int i = 0; i < leng; i++) {
49             T a = q.dequeue();
50             if (a.equals(x)) {
51                 e = a;
52             } else {
53                 temp.enqueue(a);
54             }
55         }
56
57         Queue<T> result = new Queue1L<>();
58         result.enqueue(e);
59         result.append(temp);

```

```
60         q.transferFrom(result);
61
62     }
63
64 }
65
```