

```
1 package components.queue;
2
3 import java.util.Iterator;
4
5
6
7
8
9
10 /**
11  * {@code Queue} represented as a {@code Sequence} of entries,
12  * with
13  * implementations of primary methods.
14  *
15  * @param <T>
16  *         type of {@code Queue} entries
17  * @correspondence this = $this.entries
18  */
19
20 public class Queue3<T> extends QueueSecondary<T> {
21
22     /*
23     * Private members
24     */
25
26     /**
27     * Entries included in {@code this}.
28     */
29     private Sequence<T> entries;
30
31     /**
32     * Creator of initial representation.
33     */
34     private void createNewRep() {
35         this.entries = new Sequence1L<T>();
36     }
37
38     /*
39     * Constructors
40     */
41
42     /**
43     * No-argument constructor.
44     */
45     public Queue3() {
46         this.createNewRep();
47     }
48 }
```

```
47     /*
48      * Standard methods removed to reduce clutter...
49      */
50
51     /*
52      * Kernel methods
53      */
54
55     @Override
56     public final void enqueue(T x) {
57         assert x != null : "Violation of: x is not null";
58
59         entries.add(entries.length()-1, x);
60
61     }
62
63     @Override
64     public final T dequeue() {
65         assert this.length() > 0 : "Violation of: this != <>";
66
67
68         return entries.remove(0);
69     }
70
71     @Override
72     public final int length() {
73
74
75         return entries.length();
76     }
77
78     /**
79      * Reports the front of {@code this}.
80      *
81      * @return the front entry of {@code this}
82      * @aliases reference returned by {@code front}
83      * @requires this != <>
84      * @ensures <front> is prefix of this
85      */
86
87     public T front() {
88         assert this.length() > 0 : "Violation of: this != <>";
89
```

```
90         return entries.entry(0);
91     }
92 }
93
94
95
96 @Override
97 public void clear() {
98     // TODO Auto-generated method stub
99 }
100
101
102 @Override
103 public Queue<T> newInstance() {
104     // TODO Auto-generated method stub
105     return null;
106 }
107
108 @Override
109 public void transferFrom(Queue<T> arg0) {
110     // TODO Auto-generated method stub
111 }
112
113
114 @Override
115 public Iterator<T> iterator() {
116     // TODO Auto-generated method stub
117     return null;
118 }
119
120 /*
121  * Iterator removed to reduce clutter...
122  */
123
124 }
```