

```
1  class WaitFreeQueue<T> {
2      int head = 0, tail = 0;
3      T[] items;
4      public WaitFreeQueue(int capacity) {
5          items = (T[]) new Object[capacity];
6      }
7      public void enq(T x) throws FullException {
8          if (tail - head == items.length)
9              throw new FullException();
10         items[tail % items.length] = x;
11         tail++;
12     }
13     public T deq() throws EmptyException {
14         if (tail - head == 0)
15             throw new EmptyException();
16         T x = items[head % items.length];
17         head++;
18         return x;
19     }
20 }
```

FIGURE 3.3 A single-enqueuer/single-dequeuer FIFO queue. The structure is identical to that of the lock-based FIFO queue, except that there is no need for the lock to coordinate access.