

```

1  class IQueue<T> {
2      AtomicInteger head = new AtomicInteger(0);
3      AtomicInteger tail = new AtomicInteger(0);
4      T[] items = (T[]) new Object[Integer.MAX_VALUE];
5      public void enq(T x) {
6          int slot;
7          do {
8              slot = tail.get();
9          } while (!tail.compareAndSet(slot, slot+1));
10         items[slot] = x;
11     }
12     public T deq() throws EmptyException {
13         T value;
14         int slot;
15         do {
16             slot = head.get();
17             value = items[slot];
18             if (value == null)
19                 throw new EmptyException();
20         } while (!head.compareAndSet(slot, slot+1));
21         return value;
22     }
23 }

```

**FIGURE 3.13** IQueue implementation for Exercise 3.7.