

File: /home/trounouf/Dev/COP4520/P...blemDiscussion/figure3.15.java

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```
class IQueue<T> {
    AtomicInteger head = new AtomicInteger(0);
    AtomicInteger tail = new AtomicInteger(0);
    T[0] items = (T[]) new Object[Integer.MAX_VALUE];

    public void enq(T x) {
        int slot;
        do {
            slot = tail.get();
        } while (! tail.compareAndSet(slot, slot+1));
        items[slot] = x;
    }

    public T deq() throws EmptyException {
        T value;
        int slot;
        do {
            slot = head.get();
            value = items[slot];
            if (value == null)
                throw new EmptyException();
        } while (! head.compareAndSet(slot, slot+1));
        return value;
    }
}
```