Liver Transplant Priority Queue

A **priority queue** is an abstract data type which is like a regular queue or a stack data structure, but where additionally each element has a "priority" associated with it. In a priority queue, an element with high priority is served before an element with low priority. If two elements have the same priority, they are served according to their order in the queue (although the API says “ties are broken arbitrarily”)

In this project you will create a class Patient to implement your own priority queue.

Complete the following to simulate patients on a liver transplant list. The patient with the highest priority gets the transplant first. Use this interface and main method.

```
public interface PriorityQueue
{
boolean isEmpty();
void add(Object x);

Object poll();
//Retrieves and removes the head of this queue, or null if this queue is empty.

Object peek();
//Retrieves, but does not remove, the head of this queue, returning null if this queue is empty.

int size();
}

public static void main(String[] args)
{
        LiverTransplantQueue pq= new LiverTransplantQueue();
        pq.add(new Patient("Smith",3));
        pq.add(new Patient("Chen",2));
        pq.add(new Patient("Jones",3));
        pq.add(new Patient("Wong",3));
        pq.add(new Patient("Gupta",2));
        pq.add(new Patient("Garcia",1));
        pq.add(new Patient("Brown",3));
        System.out.println("The list is");
        System.out.println(pq);
        while(pq.size()>0)
        {
                System.out.println("The next patient for the liver transplant is");
                System.out.println(pq.poll());
 }

}
```