Priority Queue

Goal: Can write and use a heap implementation of a priority queue.

Problem Description

In this assignment, you will create a generic heap class and use it to implement a priority queue.

Driver Class

Create a driver class to test your priority queue.

Heap Class

Use the following UML to create a Heap Class.

MaxHeap<E extends Comparable>
-data:Object[] -manyItems:int
+MaxHeap(int) +insert(E):void +remove():E +peek():E +isEmpty():boolean -heapifyUp(int):void -heapifyDown(int):void

Priority Queue Class

Use the following UML to create a heap implementation of a priority queue.

PriorityQueue<E extends Comparable>
-heap:Heap<E>
+PriorityQueue() +add(E):void +poll():E +peek():E +isEmpty():boolean