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```java
import java.util.Arrays;

public class PriorityQueue {
    static int size = 20;
    static int heap[] = new int[size];
    static int n = 0;

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        for (int i = 1; i <= 7; i++) {
            int x = sc.nextInt();
            enqueue(x);
        }
        System.out.println(Arrays.toString(heap));
        dequeue();
        System.out.println(Arrays.toString(heap));

    }

    static void enqueue(int k) {
        int q = n++;
        heap[q] = k;
        while (q != 0) {
            int p = (q - 1) / 2;
            System.out.println(heap[p]);
            System.out.println(heap[q]);

            if (heap[p] < heap[q]) {
                break;
            }
            swap(p, q);
            q = p;
        } // while
    }// eng

    static void swap(int i, int j) {
        int t = heap[i];
        heap[i] = heap[j];
        heap[j] = t;
    }
```

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42
43      static int dequeue() {
44          int k = heap[n];
45          int p = 0;
46          heap[0] = heap[--n];
47          while (true) {
48              int q;
49              if (2 * p + 1 >= n)
50                  break;
51              if (2 * p + 1 == (n - 1))
52                  q = 2 * p + 1;
53              else
54                  q = (heap[2 * p + 1] < heap[2 * p + 2]) ? 2 * p + 1 : 2 * p + 2;
55              if (heap[p] < heap[q])
56                  break;
57              swap(p, q);
58              p = q;
59          }
60          return k;
61
62      }
63  }
```