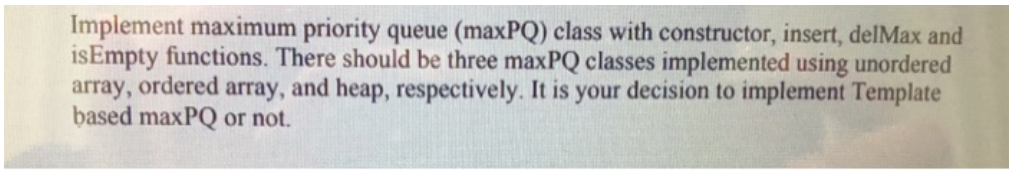
Question:

In c++



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Answer

```
//main.cpp
#include "MaxPQ.h"
using namespace std;

int main()
{
   MaxPQ m(7);
   m.insert(3);
   m.insert(4);
   m.delMax();
   m.show();
   return 0;
}
-----------------------------------------------------
//MaxPQ.cpp
#include "MaxPQ.h"

MaxPQ::MaxPQ(int n)
{
   queue = new int[n];
   length = n;
   index = 0;
}

void MaxPQ::insert(int i)
{
   if(index < length)
   {
      queue[index] = i;
      index++;
   }
   else
   {
      printf("Ran out of spaces\n");
   }
}

int MaxPQ::delMax()
{
   int largest = 0;
   int li = 0;
   for(int i = 0; i <= index; i++)
   {
      if (queue[i] > largest){
         largest = queue[i];
         li = i;
      }
   }
   queue[li] = 0;
   return largest;
}

void MaxPQ::show()
{
   for(int i = 0; i < length; i++){
      printf("%d\n", queue[i]);
   }
}

bool MaxPQ::isEmpty()
{
```

```
    bool foundNZ = false;
    for(int i = 0; i < length; i++) // length not defined
    {
        if (i != 0) foundNZ = true;
    }
    return foundNZ;
}
-------------------------------------------------------------------------
//MaxPQ.h
#ifndef MAXPQ_H
#define MAXPQ_H

#include <stdio.h>

using namespace std;

class MaxPQ
{
private:
    int *queue;
    int index;
    int length;
public:
    MaxPQ(int n);
    void insert(int i);
    int delMax();
    bool isEmpty();
    void show();
};

#endif
```