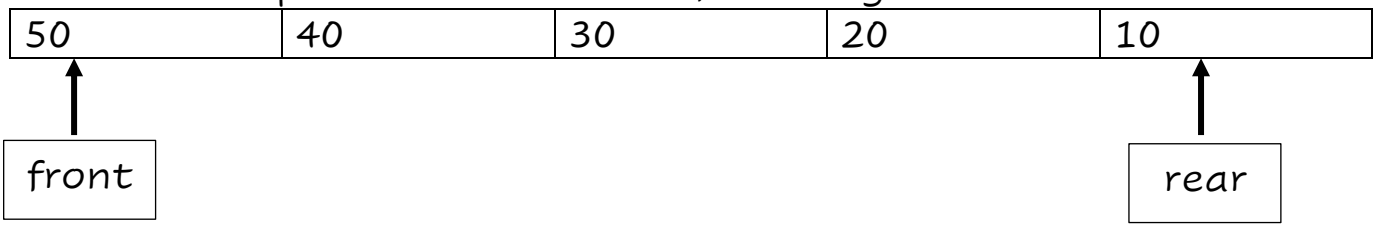
TASK

Introduction

Your task is to implement the priority queue which is an extension of the Queue data structure where each element has a particular priority associated with it. It is based on the priority value, the elements from the queue are deleted.

Example

If we add the following value to the priority queue : 10, 50, 30, 40, 20 then the queue will be as the following:



Implementation

Implement the following functions with writing a comment to explain what function is used for, parameters, return values and the complexity of the function.

- implement any extra function you may need, or you may think it's useful and modify the main to test this function. (main is shown bleow)

Function	Brief
`enqueue()`	This function is used to insert new data into the queue.
`dequeue()`	This function removes the element with the highest priority from the queue.
`peek()`	This function is used to get the highest priority element in the queue without removing it from the queue.

Pseudo code example

```
Main():
  PriorityQueue PQ;
  InitiateQueue(&PQ);
if not FullQueue():
  Enqueue(&PQ,20);
if not FullQueue():
  Enqueue(&PQ,10);
if not FullQueue():
  Enqueue(&PQ,30);
if not FullQueue():
  Enqueue(&PQ,50);
if not FullQueue():
  Enqueue(&PQ,40);
if not emptyQueue():
  print(dequeue(&PQ))
if not emptyQueue():
  print(dequeue(&PQ))
if not emptyQueue():
  print(dequeue(&PQ))
if not emptyQueue():
  print(dequeue(&PQ))
if not emptyQueue():
  print(dequeue(&PQ))
```