IMPLEMNTATION OF PRIORITY QUEUE
Total Marks: 120
Estimated time: 2 Hours

Q1: Implement Priority queue functions using built in library. [25]

Following function are supported in Priority_queue standard library.
empty()// Tests if the priority_queue is empty.
pop()// Removes the largest element of the priority_queue from the top position.
push()// Adds an element to the priority queue based on the priority of the element.
size()// Returns the number of elements in the priority_queue.
top()// Returns a reference to the largest element at the top of the priority_queue.

Q2:Also implements above priority queue functions using array .[25]
Implement your own user defined functions for empty,pop,push,size,top operations.
Use array based technique for operations.

Q3: Generate 1000 integer type random numbers, and store them in an Array. [10]

q4: Add each integer into priority queue. Call built in PUSH funtion for pushing 1000 integers into priority queue.[10]
Q4a: Verify built in functions, ie: empty(), size(), top(); [10]

Q5: Call built in POP fuction for every integer, ie:1000 times, compute and display execution time for POPING 1000 integers. [20]

Q6: Call user defined POP fuction for every integer, ie:1000 times, compute and display execution time for POPING 1000 integers. [20]

Note:
#include<queue> // Header file
priority_queue <int> q; //priority class object