Jan 2025 CSE 106 Data Structures and Algorithms I Sessional
Assignment on Heaps

A max binary heap is a data structure with the following properties.

1. It is a complete binary tree.

2. The value at any node in the tree is greater than or equal to values of each of the node's child.

In this assignment, you will have to implement a max binary heap. The necessary functionalities that need to be implemented are demonstrated in `main.cpp`. You will also need `numbers.txt` for taking input. You need to implement the functionalities of the heap data structure in a separate `heap.h` file to run the `main.cpp` file. Go through the code carefully and try to understand what you need to do to run the `main` function successfully.

We will take only the `heap.h` file as submission and run that against the provided `main.cpp`. You cannot change the `main.cpp` file.

Please DO NOT COPY solutions from anywhere (your friends, seniors, internet, LLMs etc.). Any form of plagiarism (irrespective of source or destination), will result in -100% marks in the assignment.

Submission Guideline:

1. Create a folder with your 7 digit student ID as its name

2. Put only the `heap.h` into the directory.

3. Zip the directory (compress in .zip format; .rar, .7z or any other format is not acceptable)

4. Upload the .zip file on Moodle.

For example, if your student id is 2305001, create a directory named 2305001. Put only your header file (`heap.h`) into 2305001. Compress 2305001 into `2305001.zip` and upload on Moodle. Failure to follow the above-mentioned submission guideline will result in 10% penalty.

Submission Deadline: July 11, 2025 10:00 PM