Lab Assignment 7 (Heap Sort): CS2233

18th October, 2024

Kindly adhere to the following instructions.

- Please write a C/C++ program corresponding to each problem. Your code should be well commented and variable names should be appropriately chosen. Also, prepare a `readme` text file where you can mention instructions to run the program/how to take input, etc.

- Create a folder and put all the code files and `readme` text file in it, give a name to the folder as "yourName_yourRollNo", zip the folder and submit it to the Google Classroom portal.

- Your code will also be checked against plagiarism (both from web and peer).

- Any form of plagiarism (web/chatGPT/with peers) will be severely penalised and will result in an F grade.

Question: Given an array of n elements, write a code in C to sort these elements using `Heap Sort.` In your implementation first, it should create a `Heap` of the elements in the array and then output the sorted sequence of these elements using the following operations:

- `Delete-Min()`

- `Heapify()`

Your final code should not take any extra auxiliary space.
Example:
Input:

57 64 72 85 93 58 69 76 88 94 61 79 66 82 97

Output:

57 58 61 64 66 69 72 76 79 82 85 88 93 94 97