INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, NAGPUR
Department of Computer Science and Engineering

CSL 210 – Data Structures with Applications
Assignment 5

Date: 20th September 2023

Q1) Build a min heap from array and make sure that heap order property is maintained after every input. The input is checked if it is greater than it's parent, if it's not, it is swapped.

You can take the sample array as: arr = [1,5,6,8,9,7,3]

Write a generalized program so that user can input any set of values. Your insertion function should take O(n) time as compared to O(n log n) time.

Q2) Write a delete_max function to delete the element with the maximum key in a min-max heap. It should take O (log n).

Q3) Write a program to implement Heap sort by building a heap for the given set of elements and then deleting one element at a time. Show the complexity of your code.