

S.Y. B. Tech. Academic Year 2022-23 Semester: IV

Advanced Data Structures

LABORATORY WRITE UP

Experiment Number: 07

TITLE: Min and Max Heap

PROBLEM STATEMENT:

Read the marks obtained by students of second year in an online examination of particular subject. Find out maximum and minimum marks obtained in that subject. Use heap data structure and Heap sort.

OBJECTIVE:

1. To study the concept of heap
2. To study different types of heap and their algorithms

CET2001B

THEORY: *//To be Written by Students*

// Write theory by elaborating below points

Write in brief about

- What is Heap?
- Write different types of Heaps
- Construction of heap and Data Structure used for creation.

IMPLEMENTATION:

- **PLATFORM:**
 - 64-bit Open source Linux or its derivatives.
 - Open Source C++ Programming tool like g++/Eclipse Editor.

- **TEST CONDITIONS:-**

1. Input min 10 elements.
2. Display Max and Min Heap
3. Find Maximum and Minimum marks obtained in a particular subject.

- **PSEUDO CODE:** *//To be Written by Students*

Write pseudo code for Create Max and Min Heap, Heapify function (i.e. Insert () function.)

TIME COMPLEXITY: *//To be Written by Students*

Find out time complexity of Max and Min Heap

- **CONCLUSION:**

Thus, we have implemented Min and Max Heap.

- **FAQs** *//To be Written by Students*

1. Discuss with suitable example for heap sort?
2. Compute the time complexity of heap sort?

- **PRACTICE ASSIGNMENTS**

1. Write a program to implement Heap sort.