CET2001B

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

Advanced Data Structures

LABORATORY WRITE UP

Experiment Number: 09

TITLE: AVL Trees

PROBLEM STATEMENT:

A Dictionary stores keywords & its meaning. Provide facility for adding new keywords, deleting keywords, updating values of any entry. Provide facility to display whole data sorted in ascending/ Descending order. Also find how many maximum comparisons may require for finding any keyword. Use Height balance tree and find the complexity for finding a keyword.

OBJECTIVE:

1. To study the concept of AVL trees
2. To study different rotations applied on AVL tree

THEORY: ***//To be Written by Students***

// Write theory by elaborating below points

Write in brief about

- What is AVL tree?
- Explain Different cases of AVL trees.
- Construction of AVL trees 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 AVL trees

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

  Find out time complexity of creation of AVL trees

- **CONCLUSION:**

  Thus, we have implemented various rotation on AVL trees

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

1. Discuss AVL trees with suitable example?
2. Compute the time complexity of AVL tree creation?

- **PRACTICE ASSIGNMENTS**

  1. Write a program to implement various AVL tree rotations.