

CET2001B

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

Advanced Data Structures

LABORATORY WRITE UP

Experiment Number: 02

TITLE: Binary tree and its Traversal

PROBLEM STATEMENT:

Implement binary tree using C++ and perform following operations: Creation of binary tree and traversal (recursive and non- recursive)

OBJECTIVE:

1. To study data structure : Tree & Binary Tree
2. To study different traversals in Binary Tree
3. To study recursive and non-recursive approach of programming

THEORY: *//To be Written by Students*

// Write theory by elaborating below points

Write in brief about

- Tree
- Different definitions related to binary tree.
- Different Traversals (Inorder, Preorder and Postorder)

IMPLEMENTATION:

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

- **TEST CONDITIONS:-**

1. Input at least 10 nodes.
2. Display all traversals of binary tree with 10 nodes.(recursive and nonrecursive)

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

Write pseudo code for create, inorder, preorder, postorder (non-recursive)

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

Find out time complexity of above operations

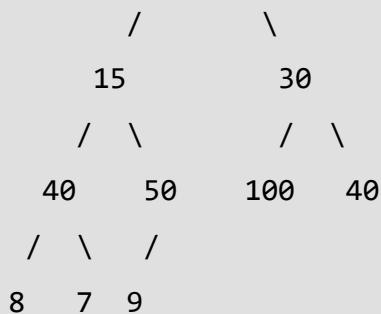
- **CONCLUSION:**

Thus, implemented different operations on CLL.

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

1. Explain any one application of binary tree with suitable example.
2. Explain sequential representation of binary tree with example.
3. Write inorder, preorder and postorder for following tree.

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- **PRACTICE ASSIGNMENTS**

1. Write a program to find the depth of binary tree.

//Code and output can be copy pasted