Experiment 6

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Branch: CSE   **Section/Group:641/A**

Semester: 6   **Date of Performance:**

Subject Name: AP LAB-II   **Subject Code: 22CSP-351**

1. Aim:

  a. To find and implement the maximum depth of Binary Tree.

  b. To develop an algorithm for Binary Tree Inorder traversal.

2. Objective:

  To implement and analyze maximum depth of Binary Tree.

  To develop an algorithm for Binary Tree Inorder traversal.

3. Implementation/Code:

a.   class Solution { public: int
maxDepth(TreeNode* root) {

    if (!root) return 0;   int leftDepth =
maxDepth(root->left);   int rightDepth =
maxDepth(root->right);   return 1 +
max(leftDepth, rightDepth);
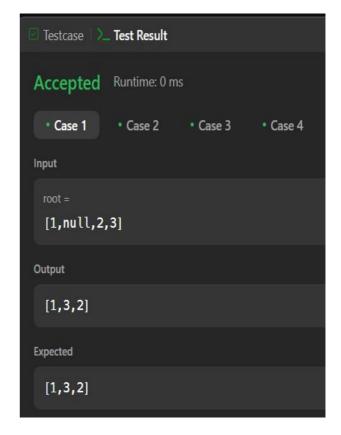
  }
};

b.   class Solution { public:
vector<int> inorderTraversal(TreeNode*
root) {   vector<int>ans;
in(root,ans);   return ans;

  }
  void in(TreeNode* root,vector<int>&ans)
  {

```
        if(root==NULL)
```

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```
        return;        in(root-
>left,ans);
ans.push_back(root->val);
in(root->right,ans);
    }
};
```

4. Output:

5. Learning Outcome:
- Understand string manipulation techniques in C++.
- Implement efficient algorithms for detecting cyclic rotations.
- Apply mathematical approaches to solve missing number problems.
- Utilize standard library functions like accumulate and find.
- Enhance problem-solving skills through algorithm design and analysis.