Experiment 6

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Branch: CSE Semester: 6

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.

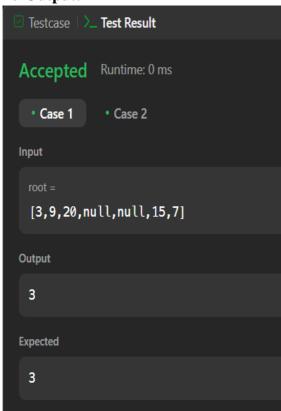
To develop an algorithm for Binary Tree Inorder traversal.

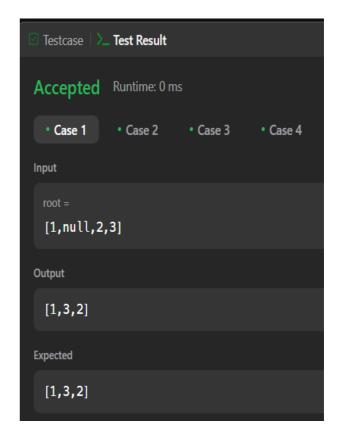
3. Implementation/Code:

```
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)
```

```
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.