



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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## Experiment 6

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**Branch:** CSE

**Semester:** 6

**Subject Name:** AP LAB-II

**UID:** 22BCS12743

**Section/Group:** 603-B

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**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:

☒ Testcase | [Test Result](#)

**Accepted** Runtime: 0 ms

• Case 1 • Case 2

Input

root =  
[3,9,20,null,null,15,7]

Output

3

Expected

3

☒ Testcase | [Test Result](#)

**Accepted** Runtime: 0 ms

• Case 1 • Case 2 • Case 3 • Case 4

Input

root =  
[1,null,2,3]

Output

[1,3,2]

Expected

[1,3,2]

### 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.