Experiment 5

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Aim:

a) Symmetric tree

b) Validate binary search tree

c) Maximum depth of binary tree

Objective: To learn about linked list.

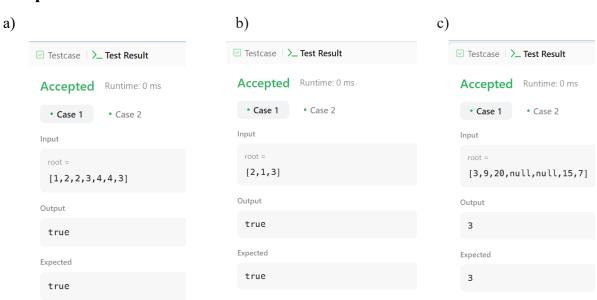
Code:

```
a)
class Solution {
public:
bool isMirror(TreeNode* t1, TreeNode* t2) {
if (!t1 && !t2) return true;
if (!t1 || !t2) return false;
return (t1-val=t2-val) % is Mirror (t1-val) % is Mirror (t1-va
bool isSymmetric(TreeNode* root) {
return isMirror(root, root);
}};
b)
class Solution {
public:
bool is ValidBSTHelper(TreeNode* node, long long lower, long long upper) {
if (!node) return true;
if (node->val <= lower || node->val >= upper) return false;
```

```
return isValidBSTHelper(node->left, lower, node->val) && isValidBSTHelper(node->right, node->val, upper);
} bool isValidBST(TreeNode* root) {
return isValidBSTHelper(root, LLONG_MIN, LLONG_MAX);
};

c) class Solution {
public:
int maxDepth(TreeNode* root) {
if (!root) return 0;
return 1 + max(maxDepth(root->left),maxDepth(root->right));
}};
```

Output:



Learning Outcomes:

- a) Understand the concept of trees.
- b) Learnt about different problem like validate binary search tree, symmetric tree.
- c) Gain an understanding about the efficiency of tree