



DEPARTMENT OF

COMPUTER SCIENCE & ENGINEERING

EXPERIMENT -2.1

NAME- Jatin

UID- 20BCS5951

BRANCH- BE- CSE

SECTION- DM 605 B

SEMESTER- 6th

DATE-04 /04/2023

SUBJECT- CC Lab- 2

SUBJECT CODE- 20CSP-351

Q1. Balanced Binary Tree

```
CODE class Solution {
    public boolean isBalanced(TreeNode root) {

        return maxDepth(root) != -1;
    }

    int maxDepth(TreeNode root){
        if(root == null)
            return 0;

        int lh = maxDepth(root.left);
        if(lh == -1)
            return -1;

        int rh = maxDepth(root.right);
        if(rh == -1)
            return -1;

        if(Math.abs(lh - rh) > 1)
            return -1;

        return 1+Math.max(lh, rh);
    }
}
```

Output:



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The screenshot shows a web browser window with the LeetCode website. The URL is `leetcode.com/problems/balanced-binary-tree/submissions/927634647/`. The page is titled "Balanced Binary Tree" and shows a submission by user "Jatin" on April 04, 2023, at 10:37. The submission is for the "Balanced Binary Tree" problem, which is a "LeetCode Premium" problem. The submission status is "Accepted". The submission details show a runtime of 1 ms, beats 94.4%, memory of 43 MB, and beats 6.7%. The submission is written in Java. The code is as follows:

```
/**
 * Definition for a binary tree node.
 * public class TreeNode {
 *     int val;
 *     TreeNode left;
 *     TreeNode right;
 *     TreeNode() {}
 *     TreeNode(int val) { this.val = val; }
 */
```

Q2 Path Sum

```
Code: class Solution {
    public boolean hasPathSum(TreeNode root, int targetSum) {
        if(root==null){
            return false;
        }
        if(root.left==null && root.right==null && root.val==targetSum){
            return true;
        }
        if(hasPathSum(root.left,targetSum-
root.val)||hasPathSum(root.right,targetSum-root.val)){
            return true;
        }else{
            return false;
        }
    }
}
```



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```
}  
  
}  
  
}
```

Output :

The screenshot shows a web browser displaying the LeetCode submission page for the 'Path Sum' problem. The URL is leetcode.com/problems/path-sum/submissions/927635663/. The page is in dark mode. The submission status is 'Accepted'. The user 'Jatin' submitted the solution on April 04, 2023, at 10:39. The solution is written in Java. The runtime is 0 ms, and the memory usage is 42.9 MB. The submission beats 100% of other submissions for runtime and 10.92% for memory. The problem description and other challenges are visible on the left side of the page. The code for the solution is shown at the bottom.

```
/**  
 * Definition for a binary tree node.  
 * public class TreeNode {  
 *     int val;  
 *     TreeNode left;  
 *     TreeNode right;  
 *     TreeNode() {}  
 *     TreeNode(int val) { this.val = val; }  
 * }
```