

Binary Tree Playlist...



Video -

32

Count Nodes Equal to
Average Of Subtree

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Company :- Not known yet. Soon, will update

2265. Count Nodes Equal to Average of Subtree

Hint

Medium

1.3K

24



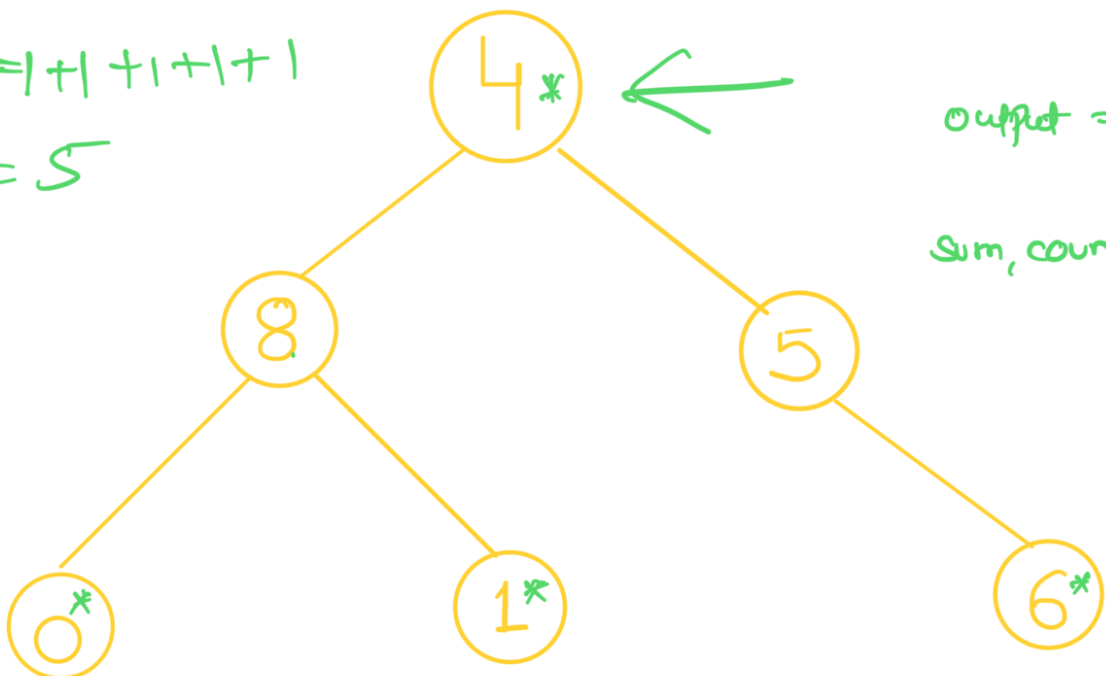
Companies

Given the root of a binary tree, return the number of nodes where the value of the node is equal to the average of the values in its subtree.

Note:

- The average of n elements is the sum of the n elements divided by n and rounded down to the nearest integer.
- A subtree of root is a tree consisting of root and all of its descendants.

$$\begin{aligned} \text{Count} &= 1 + 1 + 1 + 1 + 1 \\ &= 5 \end{aligned}$$



Output = 5

Sum, count

Brute Force :-

① For every node,
Sum Count

```
void Solve (root) {  
    if (root == NULL)  
        return;  
  
    int count = 0; ←  
    Sum = findSum (root, count);  
    if (root->val == Sum/count)  
        result += 1;  
  
    Solve (root->left);  
    Solve (root->right);  
}
```

```

int findSum (root, int &count) {
    if (root == NULL)
        return 0;

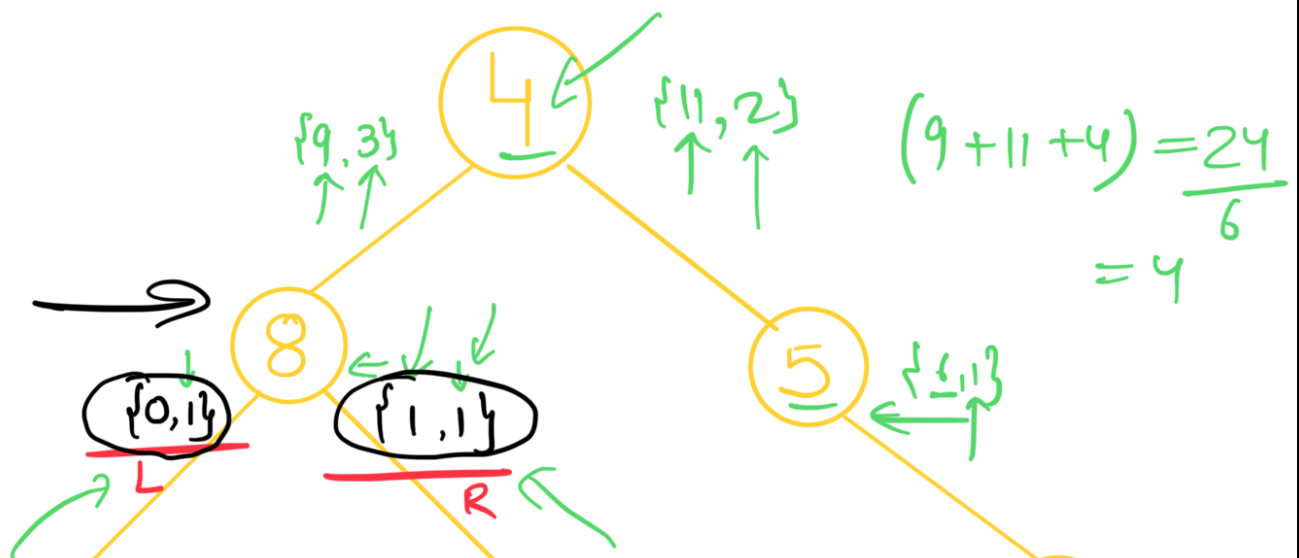
    count++;

    int lSum = findSum(root->left, count);
    int rSum = findSum(root->right, count);

    return lSum + rSum + root->val;
}

```

Optimal ... (Intuition)

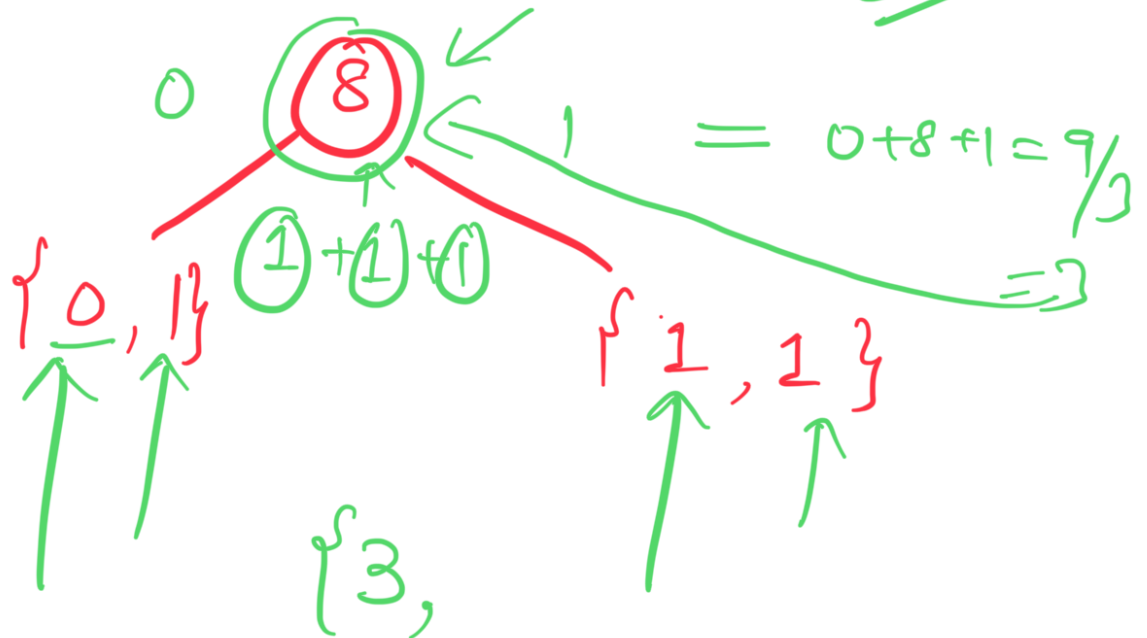


0
{0, 1}

1
{1, 1}

6
{6, 1}

$$\text{result} = 1 + 1 + 1 + 1 + 1 = \underline{\underline{5}}$$



Sum, count

pair<int, int> Solve (root) {

if (root == NULL)

return {0, 0};

auto P1 = solve (root->left);

auto P2 = solve (root->right);

T.C = $O(n)$

totalSum = P1.first + P2.first + root->val;

$$\text{totCount} = P1.\text{second} + P2.\text{second} + 1 ;$$

$$\text{avg} = (\text{totSum} / \text{totCa}) ;$$

$$if (\text{avg} == \text{root} \rightarrow \text{val})$$

$$\text{Result} += 1 ;$$

return { totalSum, totalCount };

}