

2265. Count Nodes Equal to Average of Subtree

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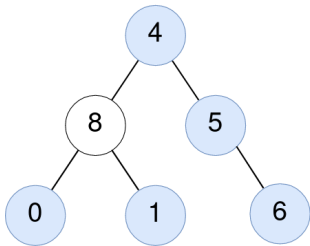
Given the `root` of a binary tree, return the number of nodes where the value of the node is equal to the **average** of the values in its **subtree**.

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.

User Accepted:	4687
User Tried:	4909
Total Accepted:	5008
Total Submissions:	6046
Difficulty:	Medium

Example 1:



**Input:** `root = [4,8,5,0,1,null,6]`  
**Output:** 5  
**Explanation:**  
For the node with value 4: The average of its subtree is  $(4 + 8 + 5 + 0 + 1 + 6) / 6 = 24 / 6 = 4$ .  
For the node with value 5: The average of its subtree is  $(5 + 6) / 2 = 11 / 2 = 5$ .  
For the node with value 0: The average of its subtree is  $0 / 1 = 0$ .  
For the node with value 1: The average of its subtree is  $1 / 1 = 1$ .  
For the node with value 6: The average of its subtree is  $6 / 1 = 6$ .

Example 2:



**Input:** `root = [1]`  
**Output:** 1  
**Explanation:** For the node with value 1: The average of its subtree is  $1 / 1 = 1$ .

Constraints:

- The number of nodes in the tree is in the range `[1, 1000]`.
- `0 <= Node.val <= 1000`

Discuss (https://leetcode.com/problems/count-nodes-equal-to-average-of-subtree/discuss)

JavaScript

```
1 let res, cnt;
2 const averageOfSubtree = (root) => {
3   res = 0;
4   cnt = 0;
5   dfs(root, 0, 0);
6   return res;
7 };
8
9 const dfs = (node, sum, cnt) => {
10   if (!node) return [0, 0];
```

```
11 let cur = node.val, curCnt = 1;
12 let [lsum, cntL] = dfs(node.left, sum, cnt + 1);
13 let [rsum, cntR] = dfs(node.right, sum, cnt + 1);
14 let subtreeSum = cur + lsum + rsum, subTot = 1 + cntL + cntR;
15 if (node.val == parseInt(subtreeSum / subTot)) {
16     res++;
17 }
18 return [subtreeSum, subTot];
19 };
```

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