

Leetcode Problem

Kth Largest Sum in a problem

Problem List

2583. Kth Largest Sum in a Binary Tree

Attempted

Medium

Topics

Companies

Hint

You are given the `root` of a binary tree and a positive integer `k`.

The **level sum** in the tree is the sum of the values of the nodes that are on the **same level**.

Return the **k^{th} largest level sum** in the tree (not necessarily distinct). If there are fewer than `k` levels in the tree, return `-1`.

Note that two nodes are on the same level if they have the same distance from the root.

Example 1:

```
graph TD; 5((5)) --> 8((8)); 5 --> 9((9)); 8 --> 2((2)); 8 --> 1((1)); 9 --> 3((3)); 9 --> 7((7))
```

527 14

Code

Auto

```
1 /**
2  * Definition for a binary tree node.
3  * struct TreeNode {
4  *     int val;
5  *     struct TreeNode *left;
6  *     struct TreeNode *right;
7  * };
8  */
9 int height(struct TreeNode* root)
10 {
11     if(root==NULL)
12     {
13         return 0;
14     }
15     else
16     {
17         int lheight=height(root->left);
18         int rheight=height(root->right);
19         if(lheight>rheight)
20         {
21             return lheight+1;
22         }
23         else
24         {
25             return rheight+1;
26         }
27     }
28 }
29
30 void dfs(struct TreeNode* root, int level, long long* sums) {
31     if (root == NULL){
32         return;
33     }
34 }
```

Ln 32, Col 17

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Code

Auto

```
33 }
34 sums[level] = sums[level] + root->val;
35 if(root->left)
36 {
37     dfs(root->left, level + 1, sums);
38 }
39 if(root->right){
40     dfs(root->right, level + 1, sums);
41 }
42 }
43
44 long long kthLargestLevelSum(struct TreeNode* root, int k) {
45     int h = height(root);
46     if (k > h) {
47         return -1;
48     }
49     long long* sums = (long long*)calloc(h, sizeof(long long));
50
51     dfs(root, 0, sums);
52
53     for (int i = 0; i < h - 1; i++) {
54         for (int j = 0; j < h - i - 1; j++) {
55             if (sums[j] < sums[j + 1]) {
56                 long long temp = sums[j];
57                 sums[j] = sums[j + 1];
58                 sums[j + 1] = temp;
59             }
60         }
61     }
62
63     long long largest = 0;
64     // ...
65 }
```

Ln 55, Col 41

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DescriptionEditorialSolutionsSubmissions

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Note that two nodes are on the same level if they have the same distance from the root.

Example 1:

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Code

C Auto

```
65 largest=sums[k-1];
66
67 free(sums);
68 return largest;
69 }
70
71
```

SavedLn 89, Col 1

TestcaseTest Result

AcceptedRuntime: 4 ms

Case 1Case 2

Input

root =
[5, 8, 9, 2, 1, 3, 7, 4, 6]

k =
2

Output

13

Expected

13

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Example 1:

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Code

C Auto

```
65 largest=sums[k-1];
66
67 free(sums);
68 return largest;
69 }
70
71
```

SavedLn 89, Col 1

TestcaseTest Result

AcceptedRuntime: 4 ms

Case 1Case 2

Input

root =
[1, 2, null, 3]

k =
1

Output

3

Expected

3