

## 5465. Number of Nodes in the Sub-Tree With the Same Label

sions (/contest/weekly-contest-198/problems/number-of-nodes-in-the-sub-tree-with-the-same-label/submissions/)

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Given a tree (i.e. a connected, undirected graph that has no cycles) consisting of  $n$  nodes numbered from  $0$  to  $n - 1$  and exactly  $n - 1$  edges. The **root** of the tree is the node  $0$ , and each node of the tree has a **label** which is a lower-case character given in the string `labels` (i.e. The node with the number  $i$  has the label `labels[i]`).

The `edges` array is given on the form `edges[i] = [ai, bi]`, which means there is an edge between nodes  $a_i$  and  $b_i$  in the tree.

Return an array of size  $n$  where `ans[i]` is the number of nodes in the subtree of the  $i^{\text{th}}$  node which have the same label as node  $i$ .

A subtree of a tree  $T$  is the tree consisting of a node in  $T$  and all of its descendant nodes.

User Accepted: 0

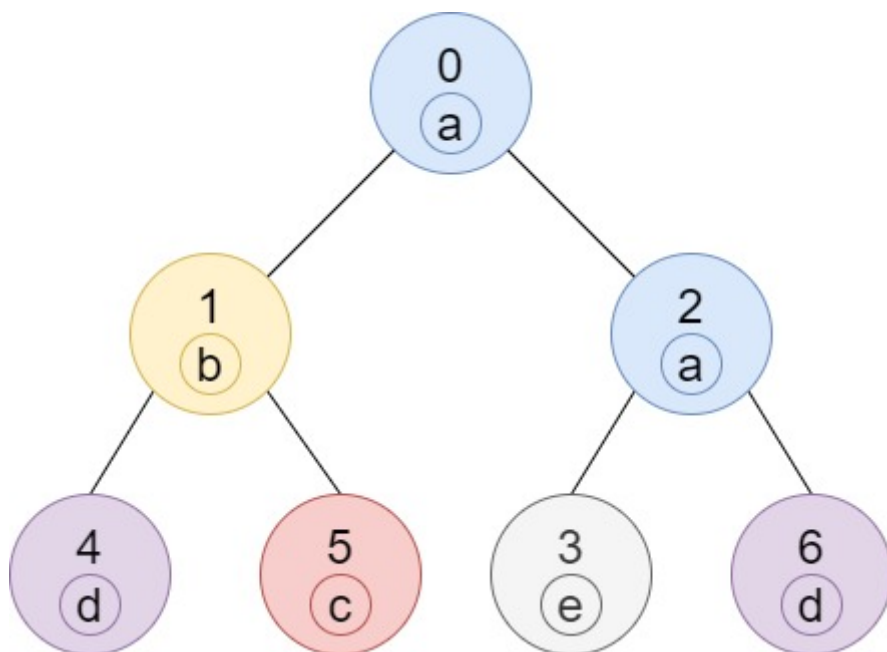
User Tried: 0

Total Accepted: 0

Total Submissions: 0

Difficulty: Medium

### Example 1:

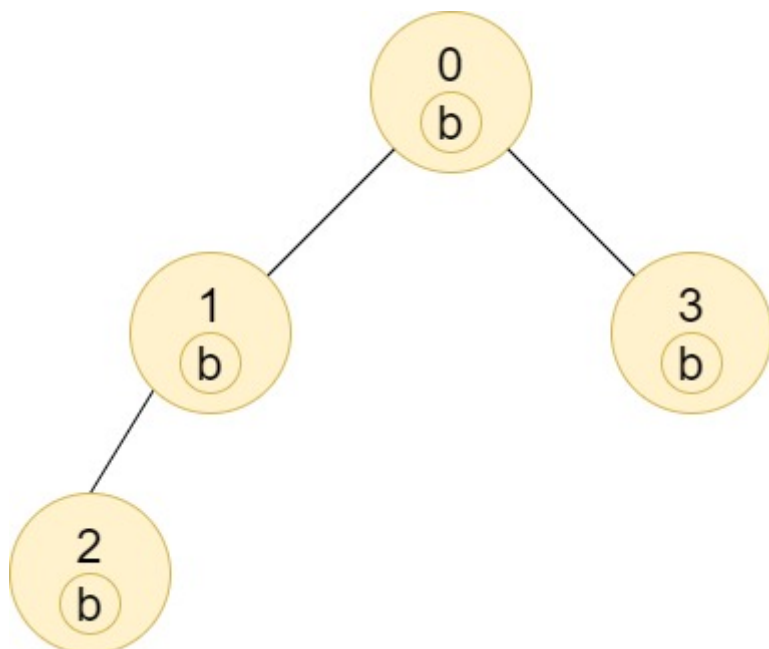


**Input:**  $n = 7$ , `edges = [[0,1],[0,2],[1,4],[1,5],[2,3],[2,6]]`, `labels = "abaedcd"`

**Output:** `[2,1,1,1,1,1,1]`

**Explanation:** Node 0 has label 'a' and its sub-tree has node 2 with label 'a' as well, thus Node 0 has a label 'a'. The sub-tree of node 1 contains nodes 1,4 and 5, as nodes 4 and 5

### Example 2:



**Input:**  $n = 4$ ,  $edges = [[0,1],[1,2],[0,3]]$ ,  $labels = "bbbb"$

**Output:**  $[4,2,1,1]$

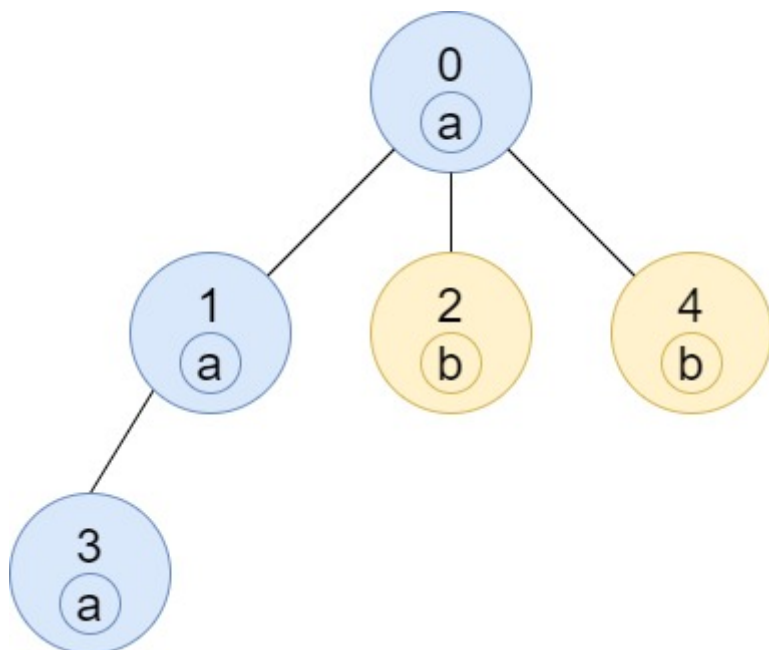
**Explanation:** The sub-tree of node 2 contains only node 2, so the answer is 1.

The sub-tree of node 3 contains only node 3, so the answer is 1.

The sub-tree of node 1 contains nodes 1 and 2, both have label 'b', thus the answer is 2.

The sub-tree of node 0 contains nodes 0, 1, 2 and 3, all with label 'b', thus the answer is 4.

#### Example 3:



**Input:**  $n = 5$ ,  $edges = [[0,1],[0,2],[1,3],[0,4]]$ ,  $labels = "aabab"$

**Output:**  $[3,2,1,1,1]$

#### Example 4:

**Input:**  $n = 6$ ,  $edges = [[0,1],[0,2],[1,3],[3,4],[4,5]]$ ,  $labels = "cbabaa"$

**Output:**  $[1,2,1,1,2,1]$

**Example 5:**

**Input:**  $n = 7$ ,  $edges = [[0,1],[1,2],[2,3],[3,4],[4,5],[5,6]]$ ,  $labels = "aaabaaa"$   
**Output:**  $[6,5,4,1,3,2,1]$

**Constraints:**

- $1 \leq n \leq 10^5$
- $edges.length == n - 1$
- $edges[i].length == 2$
- $0 \leq a_i, b_i < n$
- $a_i \neq b_i$
- $labels.length == n$
- $labels$  is consisting of only of lower-case English letters.

JavaScript



```
1  /**
2   * @param {number} n
3   * @param {number[][]} edges
4   * @param {string} labels
5   * @return {number[]}
6   */
7  var countSubTrees = function(n, edges, labels) {
8
9  };
```

☐ Custom Testcase

Use Example Testcases

Run

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