1273. Delete Tree Nodes Premium

Medium | Topics | Companies | Hint

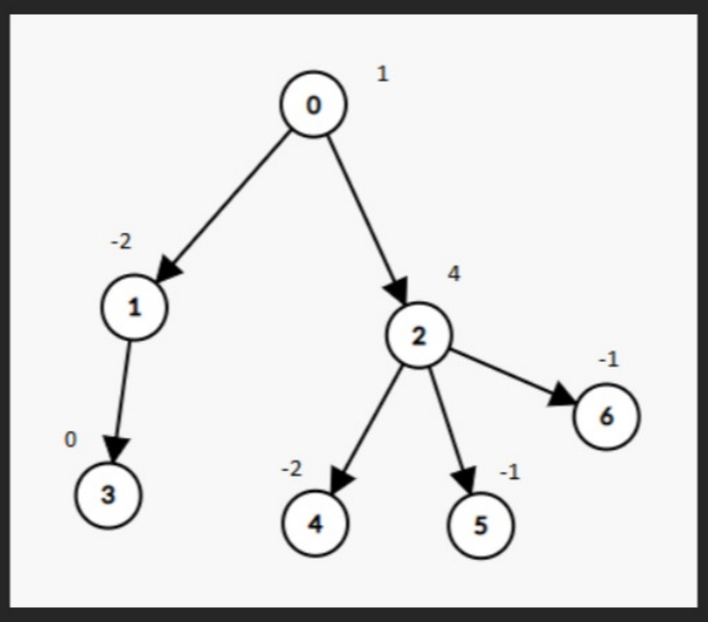
A tree rooted at node 0 is given as follows:

- The number of nodes is `nodes`;
- The value of the `i^th` node is `value[i]`;
- The parent of the `i^th` node is `parent[i]`.

Remove every subtree whose sum of values of nodes is zero.

Return *the number of the remaining nodes in the tree.*

Example 1:




```
Input: nodes = 7, parent = [-1,0,0,1,2,2,2], value = [1,-2,4,0,-2,-1,-1]
Output: 2
```

Example 2:

```
Input: nodes = 7, parent = [-1,0,0,1,2,2,2], value = [1,-2,4,0,-2,-1,-2]
Output: 6
```

Constraints:

- `1 <= nodes <= 10^4`
- `parent.length == nodes`
- `0 <= parent[i] <= nodes - 1`
- `parent[0] == -1` which indicates that `0` is the root.
- `value.length == nodes`
- `-10^5 <= value[i] <= 10^5`
- The given input is **guaranteed** to represent a **valid tree**.

Seen this question in a real interview before? 1/5

Yes No

Accepted **10.6K** | Submissions **17.3K** | Acceptance Rate **61.2%**

Topics

Array Tree Depth-First Search Breadth-First Search

Companies

0 - 6 months

Microsoft 2

Hint 1

Traverse the tree using depth first search.

Hint 2

Find for every node the sum of values of its sub-tree.

Hint 3

Traverse the tree again from the root and return once you reach a node with zero sum of values in its sub-tree.

Discussion (4)