Python

**Difficulty:** **Category:** **Successful Submissions:** 72,003+

# Node Depths

The distance between a node in a Binary Tree and the tree's root is called the node's depth.

Write a function that takes in a Binary Tree and returns the sum of its nodes' depths.

Each `BinaryTree` node has an integer `value`, a `left` child node, and a `right` child node. Children nodes can either be `BinaryTree` nodes themselves or `None` / `null`.

## Sample Input

```
tree =    1
        /     \
       2       3
     /   \   /   \
    4     5 6     7
  /   \
 8     9
```

## Sample Output

```
16
// The depth of the node with value 2 is 1.
// The depth of the node with value 3 is 1.
// The depth of the node with value 4 is 2.
// The depth of the node with value 5 is 2.
// Etc..
// Summing all of these depths yields 16.
```

## Hints

**Hint 1**

**Hint 2**

**Hint 3**

**Optimal Space & Time Complexity**

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