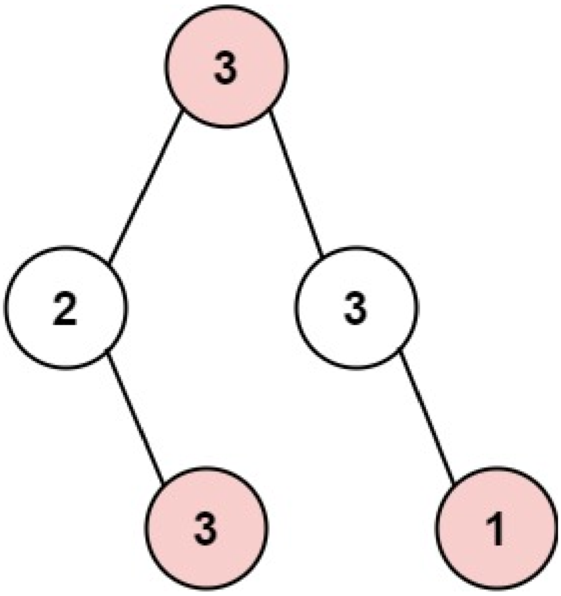
337. House Robber III

The thief has found himself a new place for his thievery again. There is only one entrance to this area, called `root`.

Besides the `root`, each house has one and only one parent house. After a tour, the smart thief realized that all houses in this place form a binary tree. It will automatically contact the police if **two directly-linked houses were broken into on the same night**.

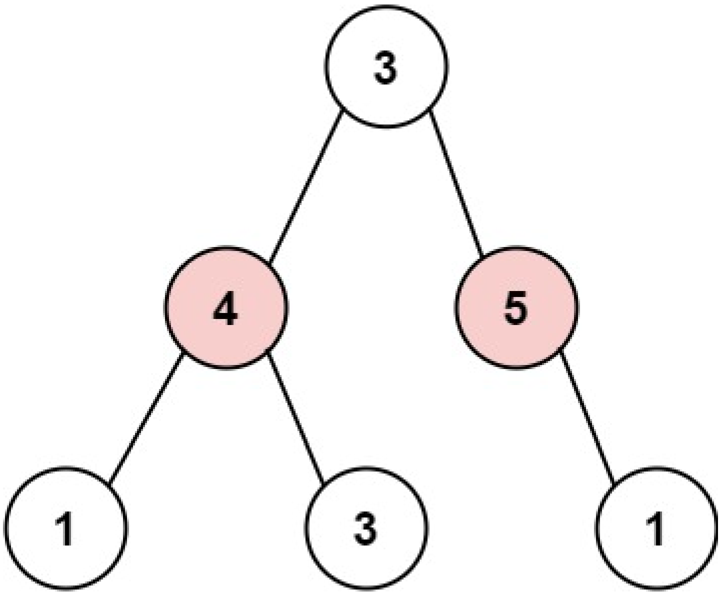
Given the `root` of the binary tree, return *the maximum amount of money the thief can rob* ***without alerting the police***.

Example 1:



```
Input: root = [3,2,3,null,3,null,1]
Output: 7
Explanation: Maximum amount of money the thief can rob = 3 + 3 + 1 = 7.
```

Example 2:



```
Input: root = [3,4,5,1,3,null,1]
Output: 9
Explanation: Maximum amount of money the thief can rob = 4 + 5 = 9.
```

Constraints:

- The number of nodes in the tree is in the range `[1, 10<sup>4</sup>]`.
- `0 <= Node.val <= 10<sup>4</sup>`

-
  ```
    #          self.right = right
    class Pair:
        def __init__(self,a,b):
            self.withRobbery = a
            self.withoutRobbery = b
    class Solution:
        def rob(self, root: Optional[TreeNode]) -> int:
            ans = self.helper(root)
            return max(ans.withRobbery,ans.withoutRobbery)


        def helper(self,root):
            if root is None:
                return Pair(0,0)
            leftResult = self.helper(root.left)
            rightResult = self.helper(root.right)
            moneyWithoutRobbery =
  max(leftResult.withRobbery,leftResult.withoutRobbery) +
  max(rightResult.withRobbery,rightResult.withoutRobbery)
            moneyWithRobbery = leftResult.withoutRobbery + root.val +
  ```

```
rightResult.withoutRobbery
          return Pair(moneyWithRobbery,moneyWithoutRobbery)
```