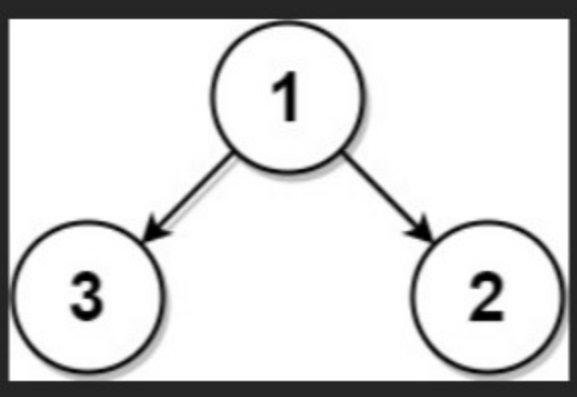
742. Closest Leaf in a Binary Tree Premium

Medium | Topics | Companies | Hint

Given the `root` of a binary tree where every node has **a unique value** and a target integer `k`, return *the value of the **nearest leaf node** to the target `k` in the tree.*

Nearest to a leaf means the least number of edges traveled on the binary tree to reach any leaf of the tree. Also, a node is called a leaf if it has no children.

Example 1:

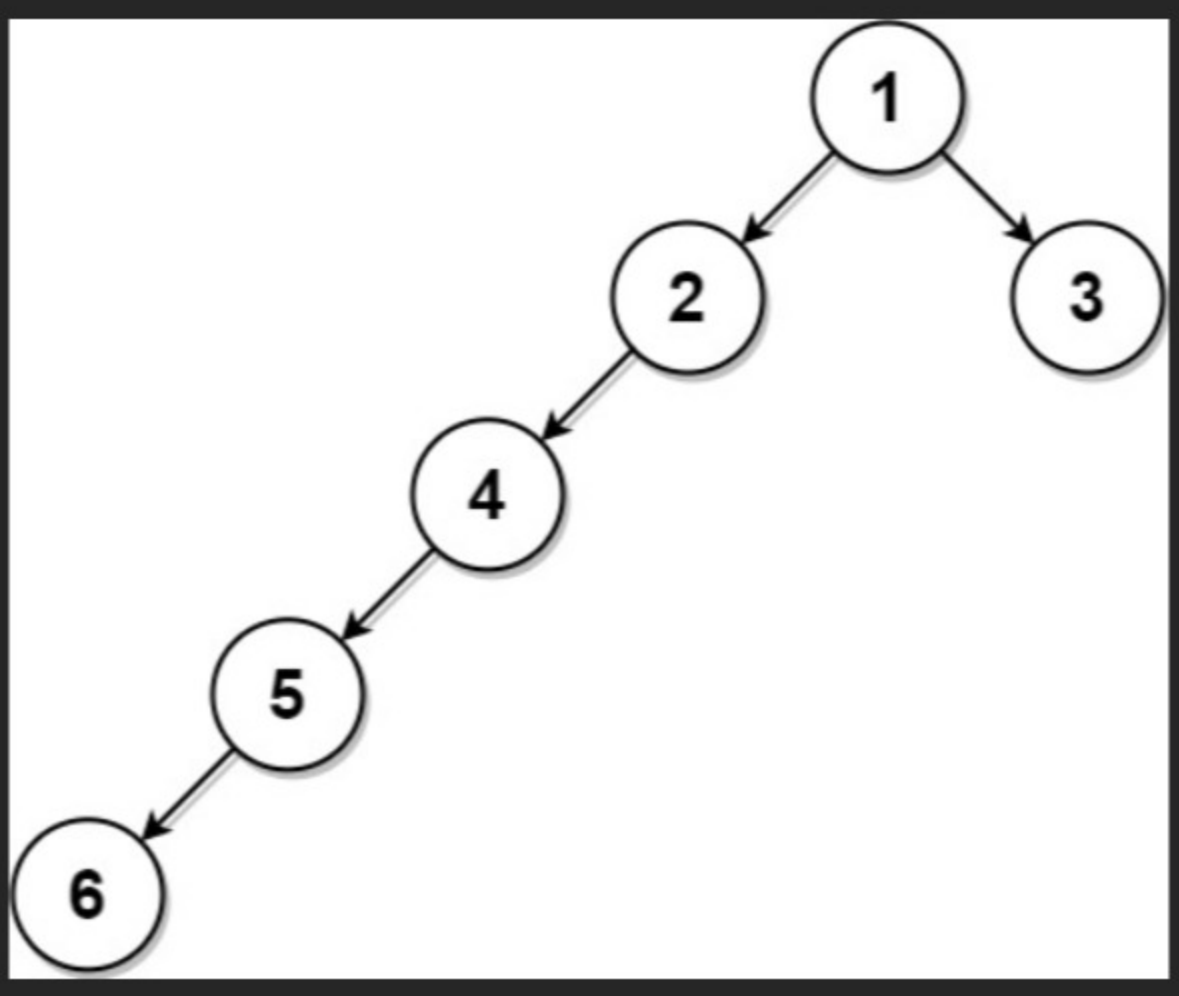



```
Input: root = [1,3,2], k = 1
Output: 2
Explanation: Either 2 or 3 is the nearest leaf node to the target of 1.
```

Example 2:


```
Input: root = [1], k = 1
Output: 1
Explanation: The nearest leaf node is the root node itself.
```

Example 3:




```
Input: root = [1,2,3,4,null,null,null,5,null,6], k = 2
Output: 3
Explanation: The leaf node with value 3 (and not the leaf node with value 6) is nearest to the node with value 2.
```

Constraints:

- The number of nodes in the tree is in the range `[1, 1000]`.
- `1 <= Node.val <= 1000`
- All the values of the tree are **unique**.
- There exist some node in the tree where `Node.val == k`.

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

Yes No

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Hint 1

Convert the tree to a general graph, and do a breadth-first search. Alternatively, find the closest leaf for every node on the path from root to target.

Discussion (7)