# Amount of Time for Binary Tree to Be Infected

You are given the root of a binary tree with **unique** values, and an integer start. At minute 0, an **infection** starts from the node with value start.

Each minute, a node becomes infected if:

- The node is currently uninfected.

- The node is adjacent to an infected node.

Return *the number of minutes needed for the entire tree to be infected.*

Example 1:
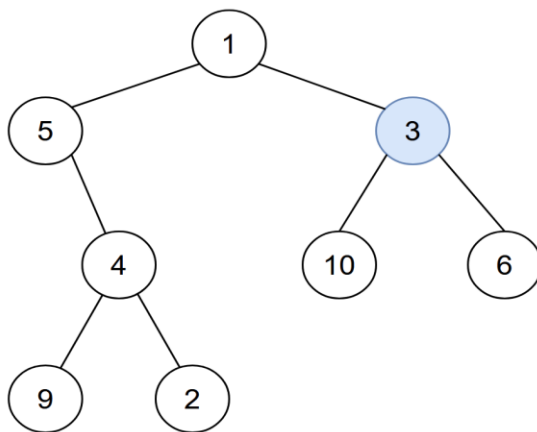
Input: root = [1,5,3,null,4,10,6,9,2], start = 3

Output: 4

Explanation: The following nodes are infected during:

- Minute 0: Node 3

- Minute 1: Nodes 1, 10 and 6

- Minute 2: Node 5

- Minute 3: Node 4

- Minute 4: Nodes 9 and 2

It takes 4 minutes for the whole tree to be infected so we return 4.

Example 2:

Input: root = [1], start = 1

Output: 0

Explanation: At minute 0, the only node in the tree is infected so we return 0.

Constraints:

- The number of nodes in the tree is in the range $[1, 10^5]$.
- $1 <= Node.val <= 10^5$
- Each node has a **unique** value.
- A node with a value of start exists in the tree.