2331. Evaluate Boolean Binary Tree

Description

You are given the `root` of a **full binary tree** with the following properties:

- **Leaf nodes** have either the value `0` or `1`, where `0` represents `False` and `1` represents `True`.
- **Non-leaf nodes** have either the value `2` or `3`, where `2` represents the boolean `OR` and `3` represents the boolean `AND`.

The **evaluation** of a node is as follows:

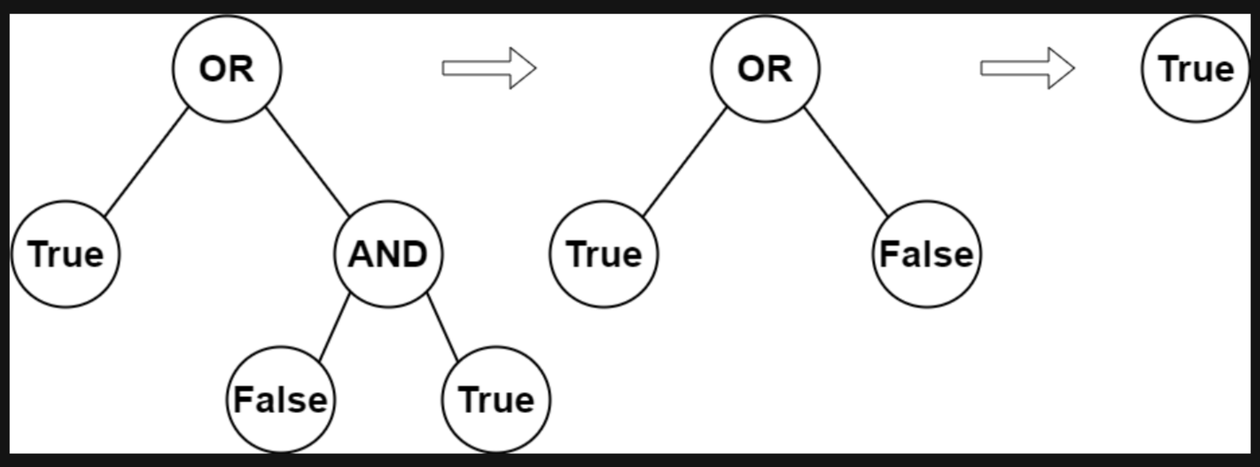
- If the node is a leaf node, the evaluation is the **value** of the node, i.e. `True` or `False`.
- Otherwise, **evaluate** the node's two children and **apply** the boolean operation of its value with the children's evaluations.

Return *the boolean result of* ***evaluating*** *the* `root` *node.*

A **full binary tree** is a binary tree where each node has either `0` or `2` children.

A **leaf node** is a node that has zero children.

Example 1:




```
Input: root = [2,1,3,null,null,0,1]
Output: true
Explanation: The above diagram illustrates the evaluation process.
The AND node evaluates to False AND True = False.
The OR node evaluates to True OR False = True.
The root node evaluates to True, so we return true.
```

Example 2:

```
Input: root = [0]
Output: false
Explanation: The root node is a leaf node and it evaluates to false, so we return false.
```

Constraints:

- The number of nodes in the tree is in the range `[1, 1000]`.
- `0 <= Node.val <= 3`
- Every node has either `0` or `2` children.
- Leaf nodes have a value of `0` or `1`.
- Non-leaf nodes have a value of `2` or `3`.