

1660. Correct a Binary Tree Premium

Medium Topics Companies Hint

You have a binary tree with a small defect. There is **exactly one** invalid node where its right child incorrectly points to another node at the **same depth** but to the **invalid node's right**.

Given the root of the binary tree with this defect, `root`, return *the root of the binary tree after **removing** this invalid node **and every node underneath it** (minus the node it incorrectly points to)*.

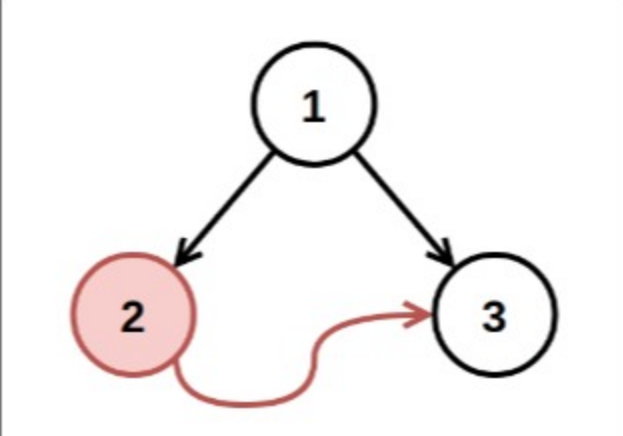
Custom testing:

The test input is read as 3 lines:

- `TreeNode root`
- `int fromNode` (**not available to** `correctBinaryTree`)
- `int toNode` (**not available to** `correctBinaryTree`)

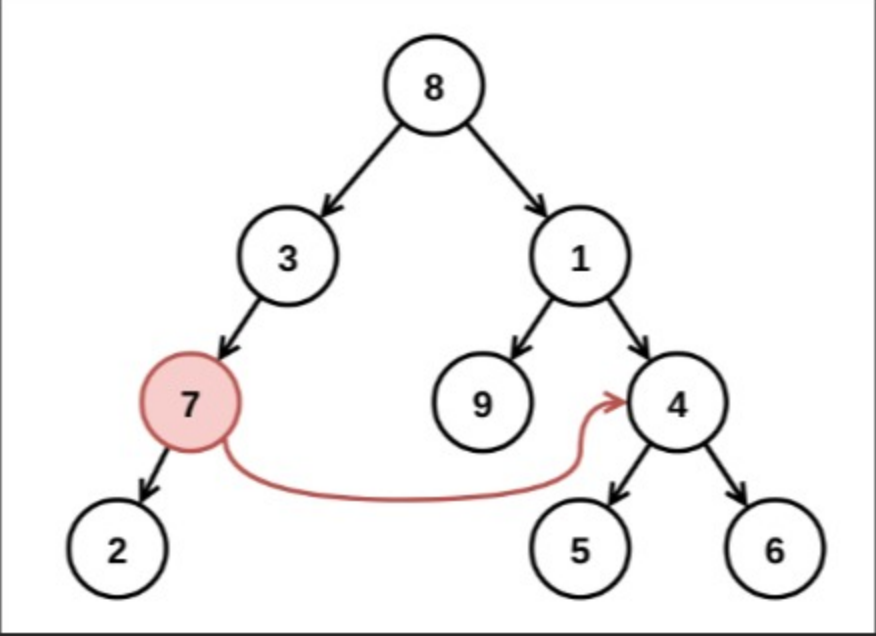
After the binary tree rooted at `root` is parsed, the `TreeNode` with value of `fromNode` will have its right child pointer pointing to the `TreeNode` with a value of `toNode`. Then, `root` is passed to `correctBinaryTree`.

Example 1:



Input: `root = [1,2,3]`, `fromNode = 2`, `toNode = 3`
Output: `[1,null,3]`
Explanation: The node with value 2 is invalid, so remove it.

Example 2:



Input: `root = [8,3,1,7,null,9,4,2,null,null,null,5,6]`, `fromNode = 7`, `toNode = 4`
Output: `[8,3,1,null,null,9,4,null,null,5,6]`
Explanation: The node with value 7 is invalid, so remove it and the node underneath it, node 2.

Constraints:

- The number of nodes in the tree is in the range `[3, 104]`.
- `-109 <= Node.val <= 109`
- All `Node.val` are **unique**.
- `fromNode != toNode`
- `fromNode` and `toNode` will exist in the tree and will be on the same depth.
- `toNode` is to the **right** of `fromNode`.
- `fromNode.right` is `null` in the initial tree from the test data.

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

Yes No

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Hint 1

If you traverse the tree from right to left, the invalid node will point to a node that has already been visited.

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