

1382. Balance a Binary Search Tree

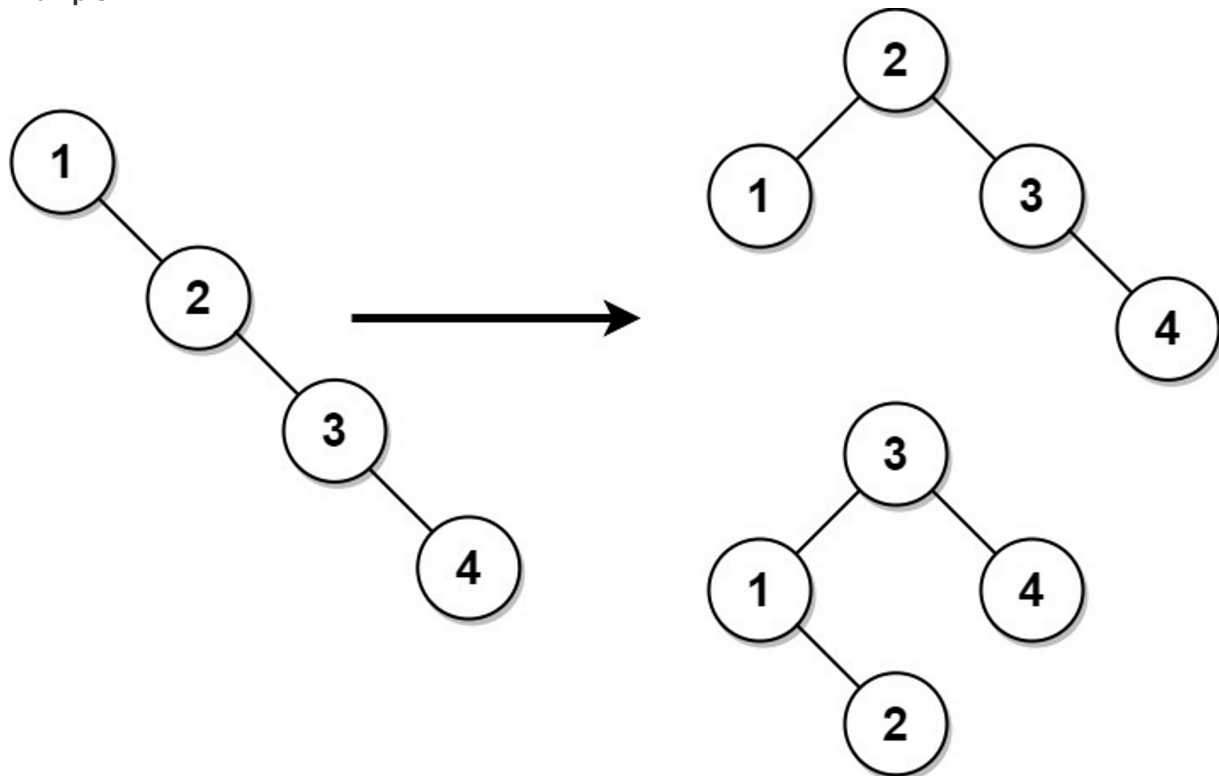
Medium

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Given the **root** of a binary search tree, return a **balanced** binary search tree with the same *node values*. If there is more than one answer, return **any of them**.

A binary search tree is **balanced** if the depth of the two subtrees of every node never differs by more than 1.

Example 1:

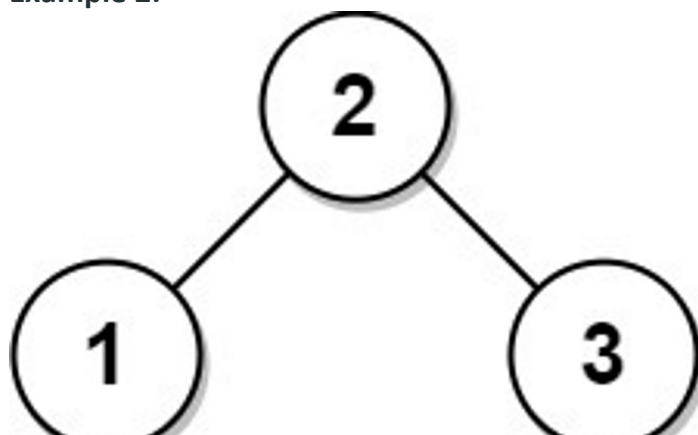


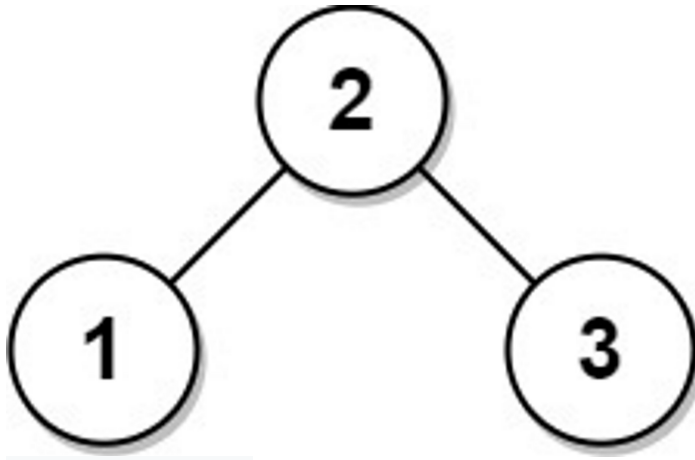
Input: root = [1,null,2,null,3,null,4,null,null]

Output: [2,1,3,null,null,null,4]

Explanation: This is not the only correct answer, [3,1,4,null,2] is also correct.

Example 2:





Input: root = [2,1,3]

Output: [2,1,3]

Constraints:

- The number of nodes in the tree is in the range [1, 104].
- $1 \leq \text{Node.val} \leq 105$

From <<https://leetcode.com/problems/balance-a-binary-search-tree/>>