20 September 2021 07:13

450. Delete Node in a BST

Medium

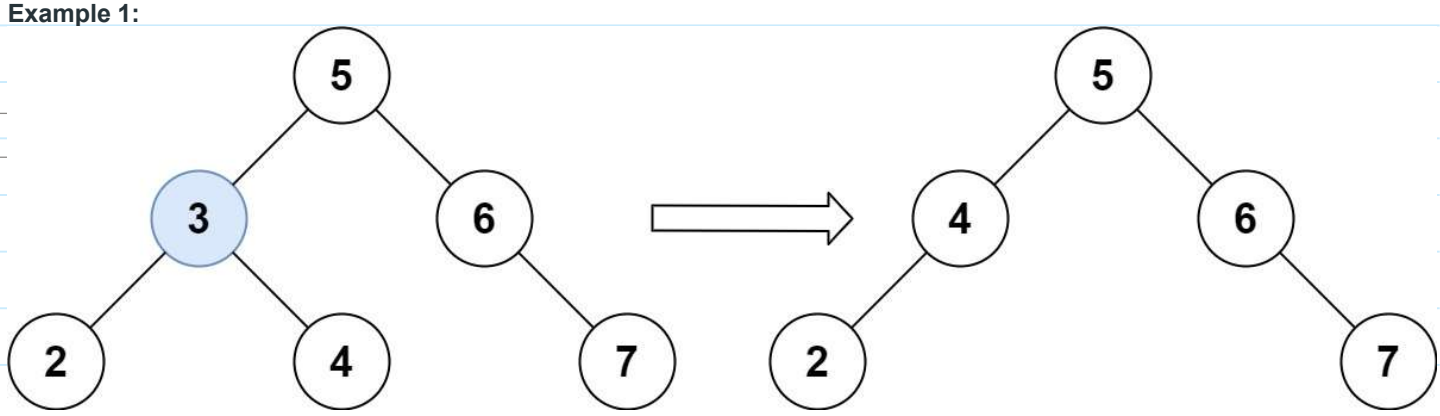
4943146Add to ListShare

Given a root node reference of a BST and a key, delete the node with the given key in the BST. Return the root node reference (possibly updated) of the BST.

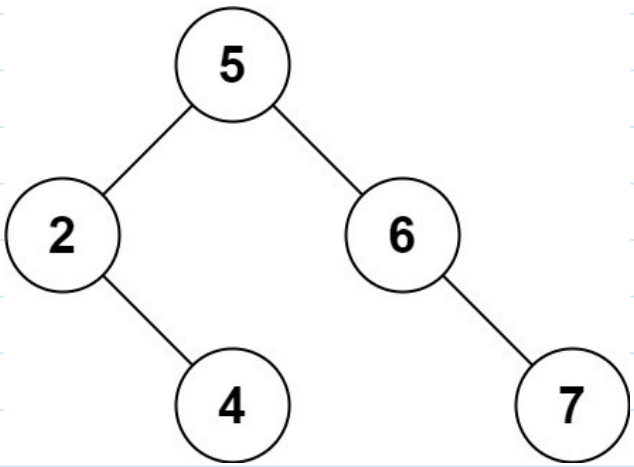
Basically, the deletion can be divided into two stages:

1. Search for a node to remove.
2. If the node is found, delete the node.

Example 1:



Input: root = [5,3,6,2,4,null,7], key = 3
Output: [5,4,6,2,null,null,7]
Explanation: Given key to delete is 3. So we find the node with value 3 and delete it.
One valid answer is [5,4,6,2,null,null,7], shown in the above BST.
Please notice that another valid answer is [5,2,6,null,4,null,7] and it's also accepted.



Example 2:
Input: root = [5,3,6,2,4,null,7], key = 0

Output: [5,3,6,2,4,null,7]
Explanation: The tree does not contain a node with value = 0.
Example 3:
Input: root = [], key = 0
Output: []

Constraints:

- The number of nodes in the tree is in the range [0, 104].
- -105 <= Node.val <= 105
- Each node has a **unique** value.
- root is a valid binary search tree.
- -105 <= key <= 105

Follow up: Could you solve it with time complexity O(height of tree)?

From <https://leetcode.com/problems/delete-node-in-a-bst/>