

Description Solution Discuss (999+) Submissions

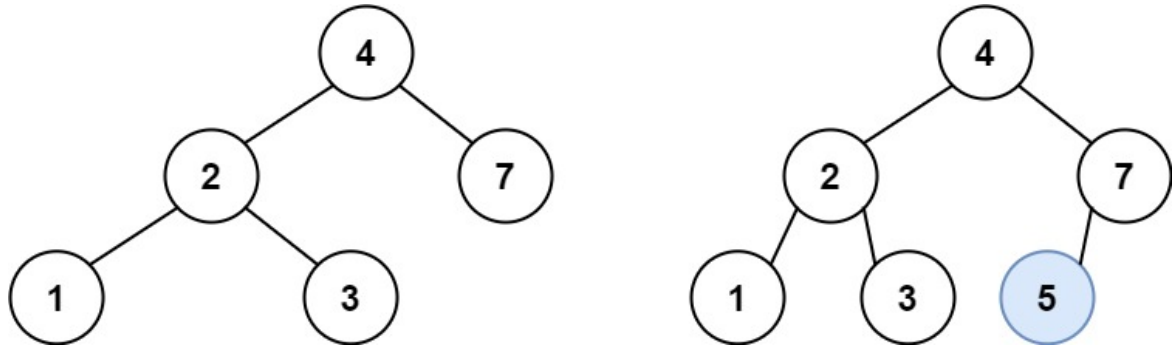
701. Insert into a Binary Search Tree

Medium 3665 146 Add to List Share

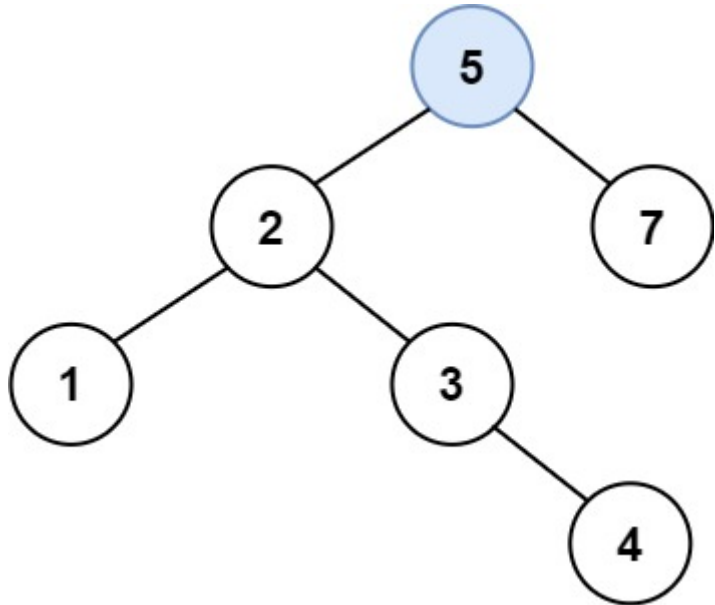
You are given the `root` node of a binary search tree (BST) and a `value` to insert into the tree. Return *the root node of the BST after the insertion*. It is **guaranteed** that the new value does not exist in the original BST.

Notice that there may exist multiple valid ways for the insertion, as long as the tree remains a BST after insertion. You can return **any of them**.

Example 1:



Input: root = [4,2,7,1,3], val = 5
Output: [4,2,7,1,3,5]
Explanation: Another accepted tree is:



Example 2:

Input: root = [40,20,60,10,30,50,70], val = 25
Output: [40,20,60,10,30,50,70,null,null,25]

Example 3:

Input: root = [4,2,7,1,3,null,null,null,null,null,null], val = 5
Output: [4,2,7,1,3,5]

Constraints:

- The number of nodes in the tree will be in the range $[0, 10^4]$.
- $-10^8 \leq \text{Node.val} \leq 10^8$
- All the values `Node.val` are **unique**.
- $-10^8 \leq \text{val} \leq 10^8$
- It's **guaranteed** that `val` does not exist in the original BST.

Accepted 329,760 Submissions 440,900

Seen this question in a real interview before? Yes No

C++

Autocomplete

```
1  /**
2   * Definition for a binary tree node.
3   * struct TreeNode {
4   *     int val;
5   *     TreeNode *left;
6   *     TreeNode *right;
7   *     TreeNode() : val(0), left(nullptr),
8   *     right(nullptr) {}
9   *     TreeNode(int x) : val(x),
10    *     left(nullptr), right(nullptr) {}
11    *     TreeNode(int x, TreeNode *left,
12    *     TreeNode *right) : val(x), left(left),
13    *     right(right) {}
14    * };
15
16 class Solution {
17 public:
18     TreeNode* insertIntoBST(TreeNode* root,
19     int val) {
20         if(root==NULL){
21             return new TreeNode(val);
22         }else if(val < root->val){
23             root->left = insertIntoBST(root-
24             >left, val);
25         }else if(val > root->val){
26             root->right =
27             insertIntoBST(root->right, val);
28         }
29         return root;
30     }
31 };
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```

Testcase Run Code Result Debugger

Accepted Runtime: 0 ms
Your input [4,2,7,1,3]
5
Output [4,2,7,1,3,5]
Expected [4,2,7,1,3,5]

Console Use Example Testcases

Run Code Submit

Problems Pick One < Prev 701/2345 Next >