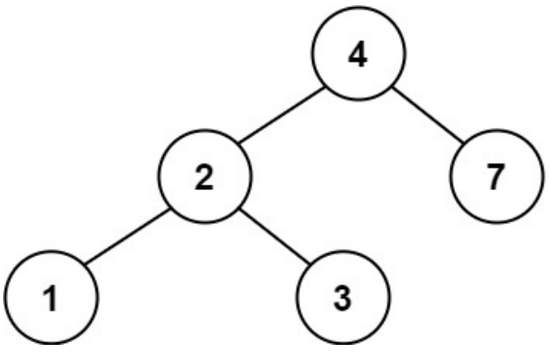
701. Insert into a Binary Search Tree

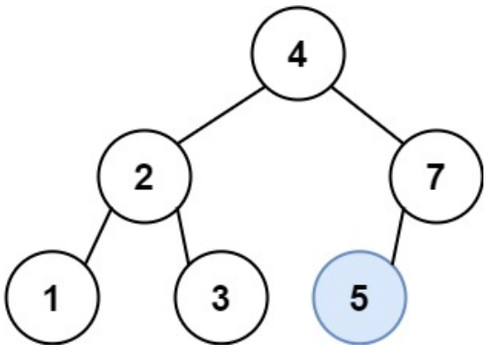
Medium Topics Companies

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 inse*

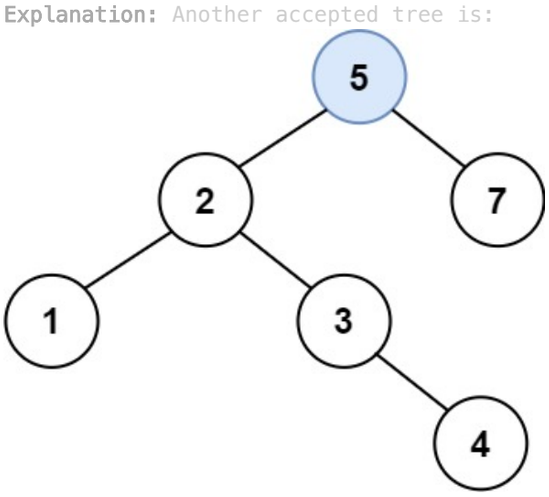
Notice that there may exist multiple valid ways for the insertion, as long as the tree remains a BST after insertion. You can return **any of the**

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 <= Node.val <= 10^8`
- All the values `Node.val` are **unique**.
- `-10^8 <= val <= 10^8`
- It's **guaranteed** that `val` does not exist in the original BST.