Given the root of a binary search tree and a node p in it, return *the in-order successor of that node in the BST*. If the given node has no in-order successor in the tree, return null.

The successor of a node p is the node with the smallest key greater than p.val.

**Example 1:**

![](data:text/html; charset=UTF-8;base64,)

Input: root = [2,1,3], p = 1  
Output: 2  
Explanation: 1's in-order successor node is 2. Note that both p and the return value is of TreeNode type.

**Example 2:**

![](data:text/html; charset=UTF-8;base64,)

Input: root = [5,3,6,2,4,null,null,1], p = 6  
Output: null  
Explanation: There is no in-order successor of the current node, so the answer is null.

**Constraints:**

* The number of nodes in the tree is in the range [1, 104].
* -105 <= Node.val <= 105
* All Nodes will have unique values.