333. Largest BST Subtree

Description

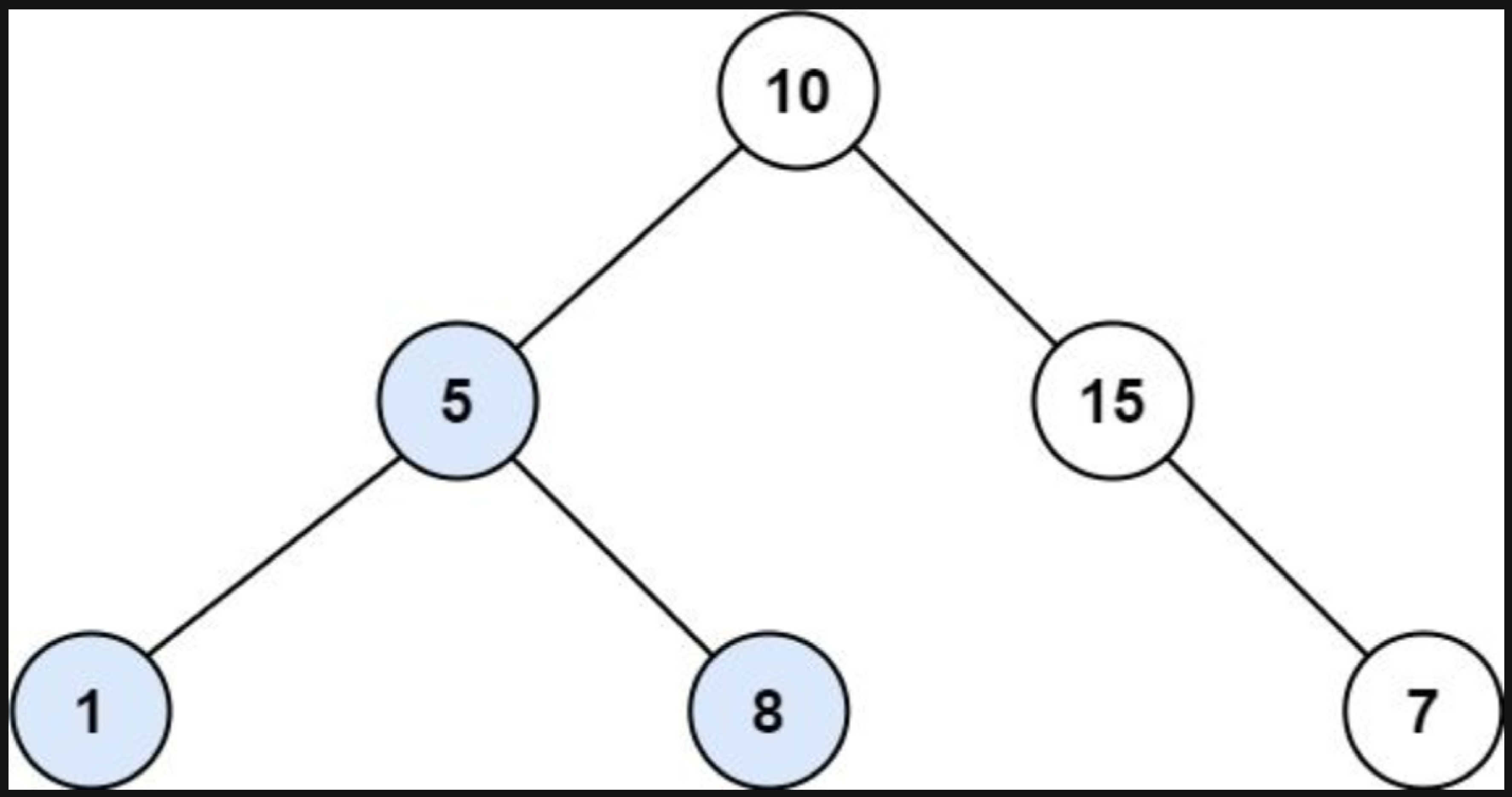
Given the root of a binary tree, find the largest subtree, which is also a Binary Search Tree (BST), where the largest means subtree has the largest number of nodes.

A **Binary Search Tree (BST)** is a tree in which all the nodes follow the below-mentioned properties:

- The left subtree values are less than the value of their parent (root) node's value.
- The right subtree values are greater than the value of their parent (root) node's value.

Note: A subtree must include all of its descendants.

Example 1:



```
Input: root = [10,5,15,1,8,null,7]
Output: 3
Explanation: The Largest BST Subtree in this case is the highlighted one. The return value is the subtree's size, which is 3.
```

Example 2:

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

Constraints:

- The number of nodes in the tree is in the range $[0, 10^4]$.
- $-10^4 <= \text{Node.val} <= 10^4$

Follow up: Can you figure out ways to solve it with `O(n)` time complexity?