

Second Smallest In Tree

Find the second smallest value in a binary tree, if one exists.

```
class TreeNode
{
    public:
        TreeNode *left, *right;
        int value;
}; // end class TreeNode
```

Write a function

```
bool secondsmallest(TreeNode *root, int &val)
```

where

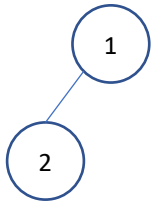
`root` is a pointer to the root of the tree (possibly NULL)

and returns `true` if and only if there exists at least two nodes in the tree in which `val` is set to the second smallest value in the tree,

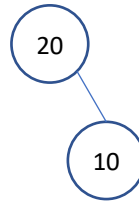
otherwise return `false` and `val` is ignored.

File you must submit: `soln_func.cc`

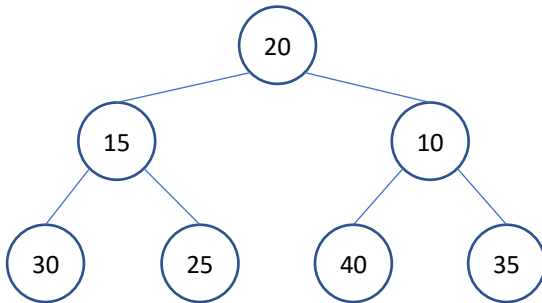
Examples:



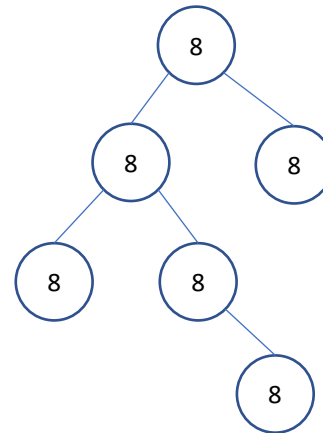
Returns: `true`, sets `val=1`



Returns: `true`, sets `val=10`



Returns: `true`, sets `val=15`



Returns: `true`, sets `val=8`



Returns: `false`, `val` ignored

Explanation: Tree has only one node.