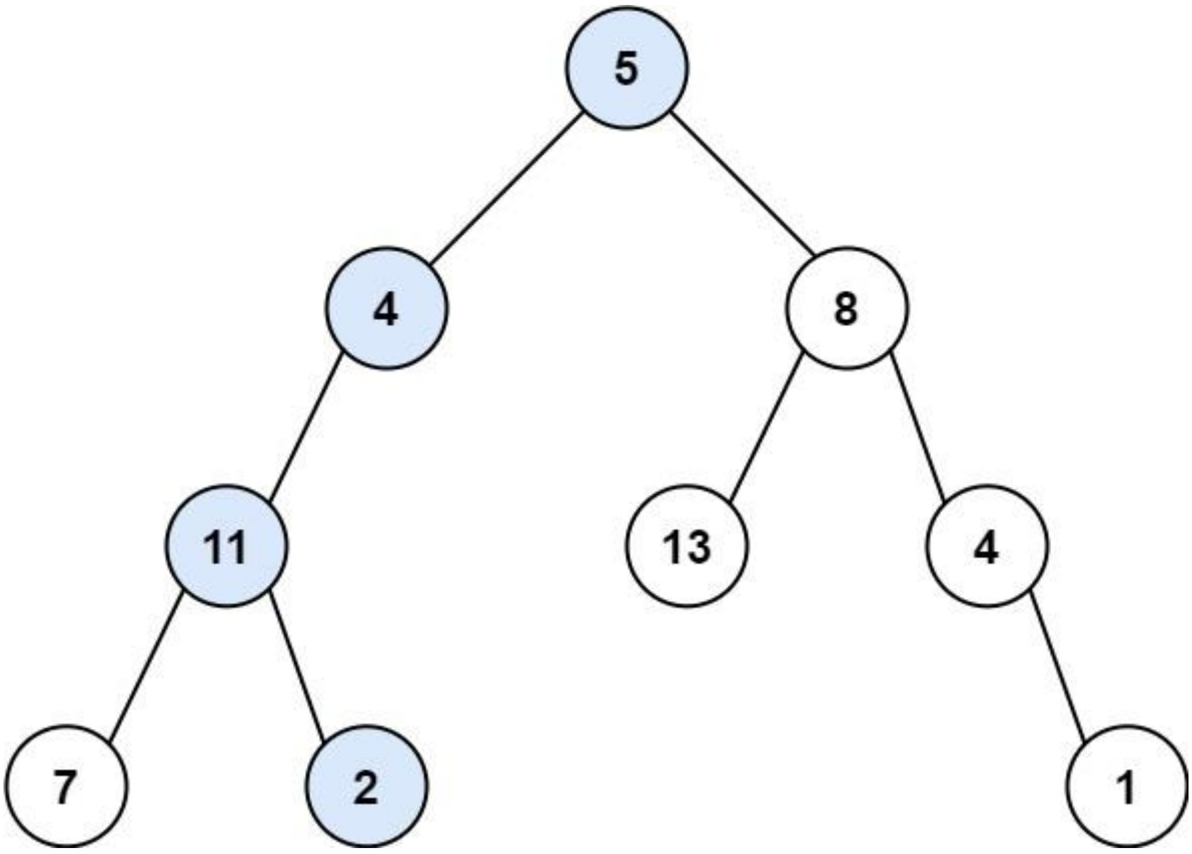
112. Path Sum

Given the root of a binary tree and an integer targetSum, return true if the tree has a **root-to-leaf** path such that adding up all the values along the path equals targetSum.

A **leaf** is a node with no children.

Example 1:

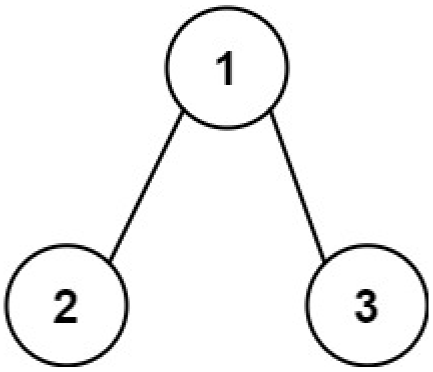


Input: root = [5,4,8,11,null,13,4,7,2,null,null,null,1], targetSum = 22

Output: true

Explanation: The root-to-leaf path with the target sum is shown.

Example 2:



Input: root = [1,2,3], targetSum = 5

Output: false

Explanation: There two root-to-leaf paths in the tree:

(1 --> 2): The sum is 3.

(1 --> 3): The sum is 4.

There is no root-to-leaf path with sum = 5.

Example 3:

Input: root = [], targetSum = 0

Output: false

Explanation: Since the tree is empty, there are no root-to-leaf paths.

Constraints:

- The number of nodes in the tree is in the range [0, 5000].
- -1000 <= Node.val <= 1000
- -1000 <= targetSum <= 1000

```
# Definition for a binary tree node.
# class TreeNode(object):
#     def __init__(self, val=0, left=None, right=None):
#         self.val = val
#         self.left = left
#         self.right = right
class Solution(object):
    def hasPathSum(self, root, targetSum):
        if not root:
            return False

        if not root.left and not root.right:
            return targetSum == root.val

        left_sum = self.hasPathSum(root.left,targetSum-
root.val)
        right_sum = self.hasPathSum(root.right, targetSum-
root.val)
        return left_sum or right_sum
```