113. Path Sum II

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Total Accepted: **111045** Total Submissions: **351157** Difficulty: **Medium** Contributors: **Admin**

Given a binary tree and a sum, find all root-to-leaf paths where each path's sum equals the given sum.

For example:

Given the below binary tree and `sum = 22`,

```
              5
             / \
            4   8
           /   / \
          11  13  4
         /  \    / \
        7    2  5   1
```

return

```
[
   [5,4,11,2],
   [5,8,4,5]
]
```

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C++

```cpp
/**
 * Definition for a binary tree node.
 * struct TreeNode {
 *     int val;
 *     TreeNode *left;
 *     TreeNode *right;
 *     TreeNode(int x) : val(x), left(NULL), right(NULL) {}
 * };
 */
class Solution {
public:
    vector<vector<int>> pathSum(TreeNode* root, int sum) {
        vector<vector<int>> res;
        vector<int> path;
        helper(root,sum,res,path);
        return res;
    }
private:
    void helper(TreeNode* root, int sum, vector<vector<int>>& res, vector<int>& path){
        if(root==NULL) return;
        path.push_back(root->val);
        sum -= root->val;
        if(sum==0&&!root->left&&!root->right)
            res.push_back(path);
        else{
            helper(root->left,sum,res,path);
            helper(root->right,sum,res,path);
        }
        path.pop_back();
    }
};
```

Custom Testcase

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