

K Sum Paths

Given a binary tree and an integer **K**. Find the number of paths in the tree which have their sum equal to K.

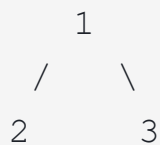
A path may start from any node and end at any node in the **downward** direction.

Since the answer may be very large, compute it modulo **10^9+7** .

Example 1:

Input:

Tree =



K = 3

Output:

2

Explanation:

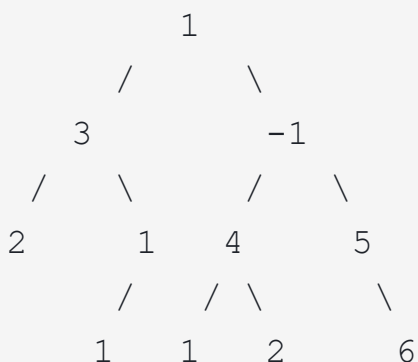
Path 1 : 1 + 2 = 3

Path 2 : only leaf node 3

Example 2:

Input:

Tree =



K = 5

Output:

8

Explanation:

The following paths sum to K.

3 2

3 1 1

1 3 1

4 1

1 -1 4 1

-1 4 2

5

1 -1 5

Your Task:

You don't need to read input or print anything. Complete the function **sumK()** which takes root node and integer K as input parameters and returns the number of paths that have sum K.

Expected Time Complexity: O(N)

Expected Auxiliary Space: O(Height of Tree)

Constraints:

$1 \leq N \leq 2 \cdot 10^4$

$-10^5 \leq \text{Node Value} \leq 10^5$

$-10^9 \leq K \leq 10^9$