

Paths from root with a specified sum

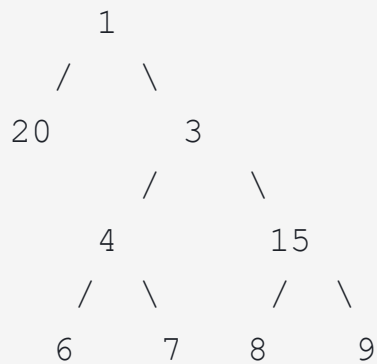
Given a Binary tree and a sum **S**, print all the paths, **starting from root**, that sums upto the given sum. Path **may not** end on a leaf node.

Example 1:

Input :

sum = 8

Input tree



Output :

1 3 4

Explanation :

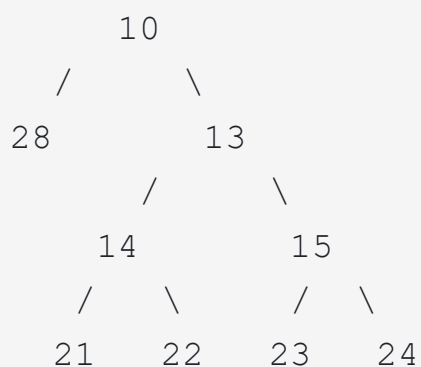
Sum of path 1, 3, 4 = 8.

Example 2:

Input :

sum = 38

Input tree



Output :

10 28

10 13 15

Explanation :

Sum of path 10, 28 = 38 and

Sum of path 10, 13, 15 = 38.

Your task :

You don't have to read input or print anything. Your task is to complete the function **printPaths()** that takes the root of the tree and sum as input and returns a vector of vectors containing the paths that lead to the sum.

Expected Time Complexity: $O(N^2)$

Expected Space Complexity: $O(N)$

Your Task :

$1 \leq N \leq 2 \cdot 10^3$

$-10^3 \leq \text{sum}, \text{Node.key} \leq 10^3$