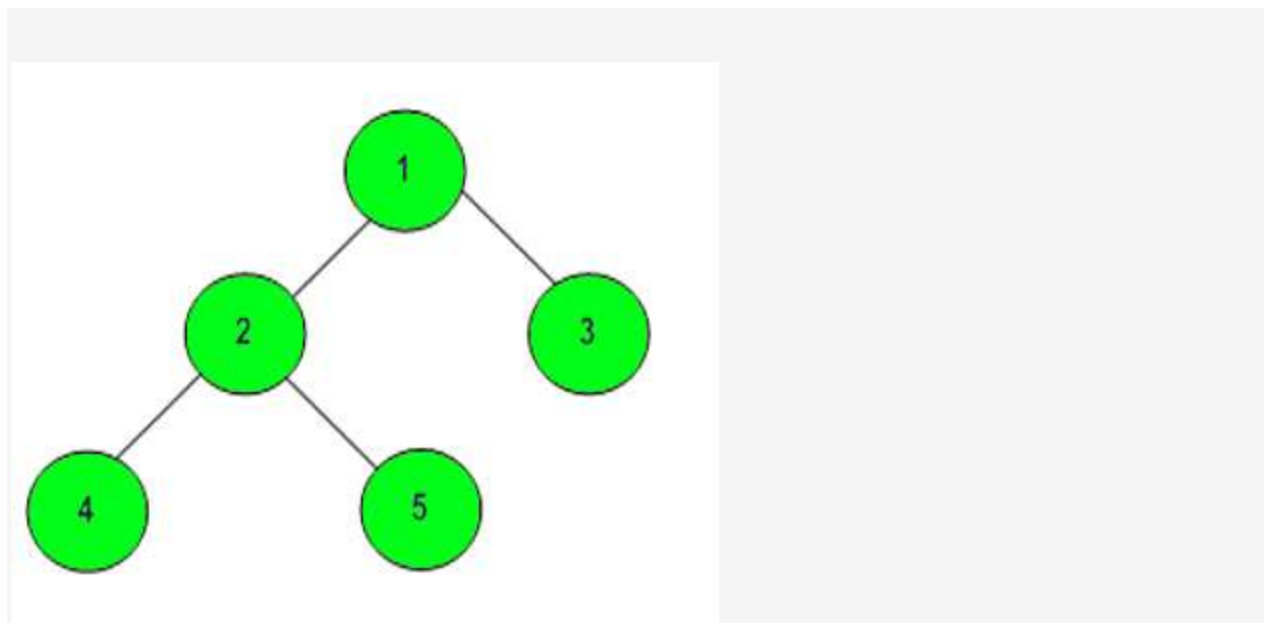


Kth Ancestor in a Tree

Given a binary tree of size N , a **node**, and a positive integer k ., Your task is to complete the function **kthAncestor()**, the function should return the **kth** ancestor of the given node in the binary tree. If there does not exist any such ancestor then return -1.

Note: It is guaranteed that the **node** exists in the tree.

Example 1:



Input:

$K = 2$ Node = 4

Output: 1

Explanation:

Since, K is 2 and node is 4, so we first need to locate the node and look k times its ancestors.

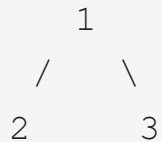
Here in this Case node 4 has 1 as his 2nd Ancestor aka the Root of the tree.

Example 2:

Input:

k=1

node=3



Output:

1

Explanation:

K=1 and node=3 ,Kth ancestor of node 3 is 1.

Your Task:

You are asked to complete the function **kthAncestor()** which accepts **root** of the tree, **k** and **node** as input parameters, and returns the **kth ancestor** of Node which contains node as its value.

Expected Time Complexity: O(N)

Expected Auxiliary Space: O(N)

Constraints:

$1 \leq N \leq 10^5$

$1 \leq K \leq 100$

$1 \leq \text{Node.data} \leq N$