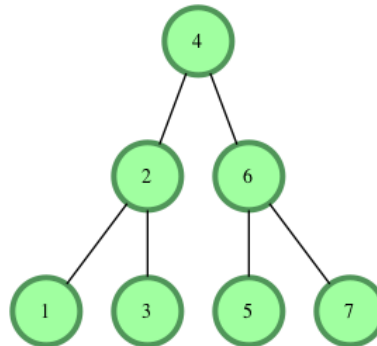


Tree: Height of a Binary Tree

The height of a binary tree is the number of edges between the tree's root and its furthest leaf. For example, the following binary tree is of height **2**:



Function Description

Complete the `getHeight` or `height` function in the editor. It must return the height of a binary tree as an integer.

`getHeight` or `height` has the following parameter(s):

- `root`: a reference to the root of a binary tree.

Note -The Height of binary tree with single node is taken as zero.

Input Format

The first line contains an integer n , the number of nodes in the tree.

Next line contains n space separated integer where i th integer denotes `node[i].data`.

Note: Node values are inserted into a binary search tree before a reference to the tree's root node is passed to your function. In a binary search tree, all nodes on the left branch of a node are less than the node value. All values on the right branch are greater than the node value.

Constraints

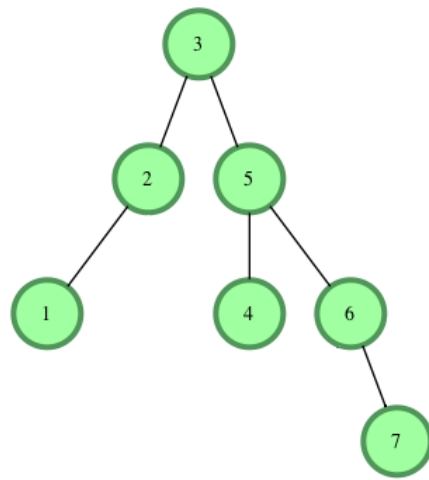
$$1 \leq \text{node.data}[i] \leq 20$$

$$1 \leq n \leq 20$$

Output Format

Your function should return a single integer denoting the height of the binary tree.

Sample Input

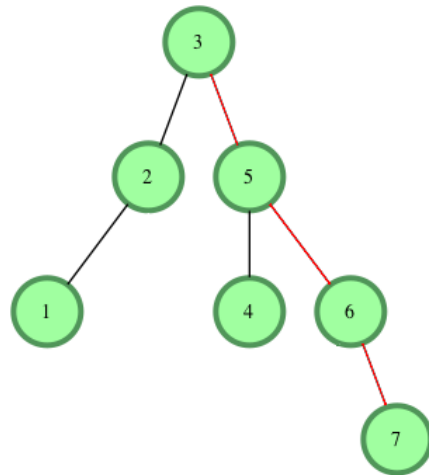


Sample Output

3

Explanation

The longest root-to-leaf path is shown below:



There are **4** nodes in this path that are connected by **3** edges, meaning our binary tree's *height* = **3**.