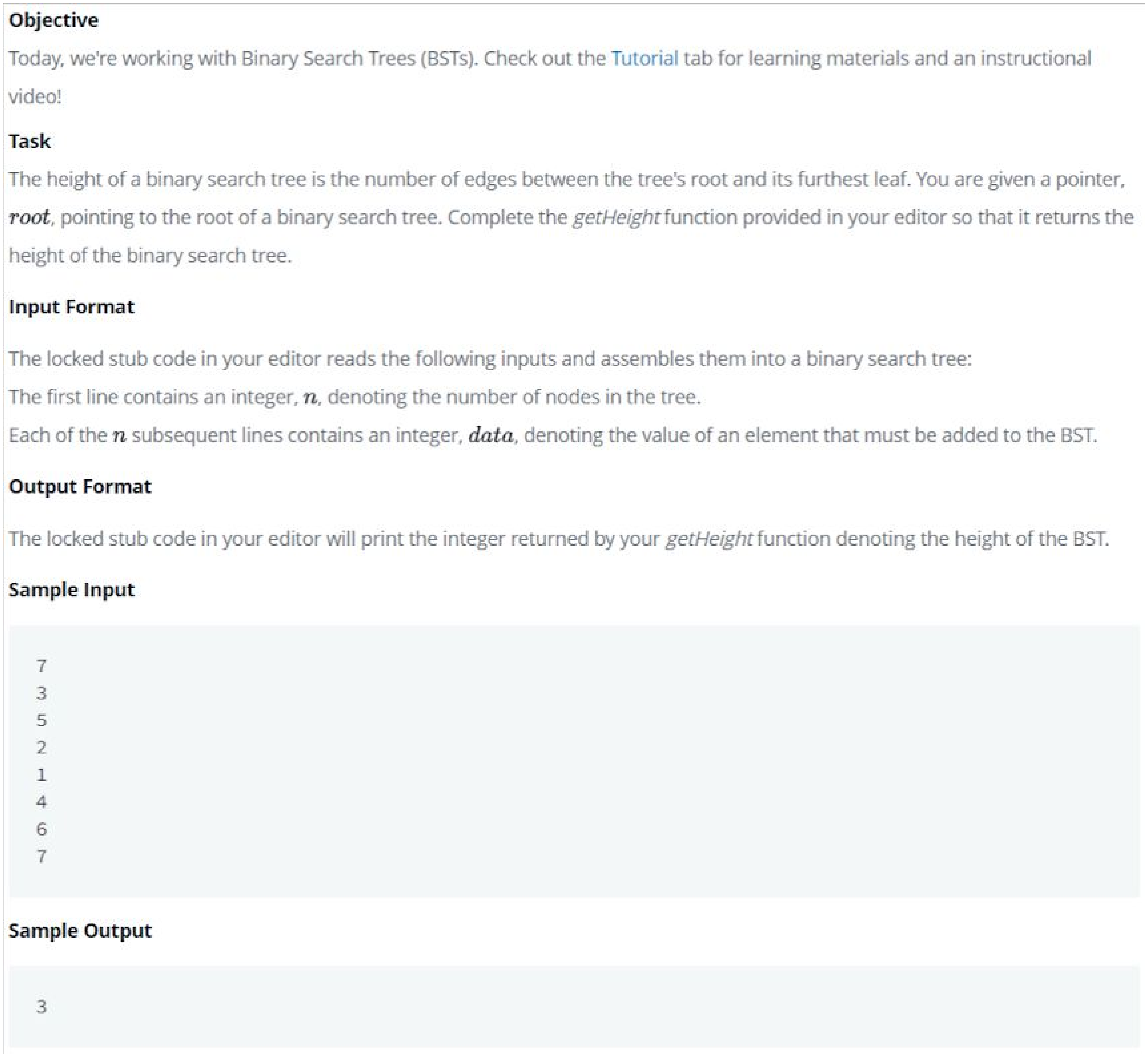
Day 22: Binary Search Trees



Objective

Today, we're working with Binary Search Trees (BSTs). Check out the Tutorial tab for learning materials and an instructional video!

Task

The height of a binary search tree is the number of edges between the tree's root and its furthest leaf. You are given a pointer, $root$, pointing to the root of a binary search tree. Complete the *getHeight* function provided in your editor so that it returns the height of the binary search tree.

Input Format

The locked stub code in your editor reads the following inputs and assembles them into a binary search tree:
The first line contains an integer, n, denoting the number of nodes in the tree.
Each of the n subsequent lines contains an integer, $data$, denoting the value of an element that must be added to the BST.

Output Format

The locked stub code in your editor will print the integer returned by your *getHeight* function denoting the height of the BST.

Sample Input

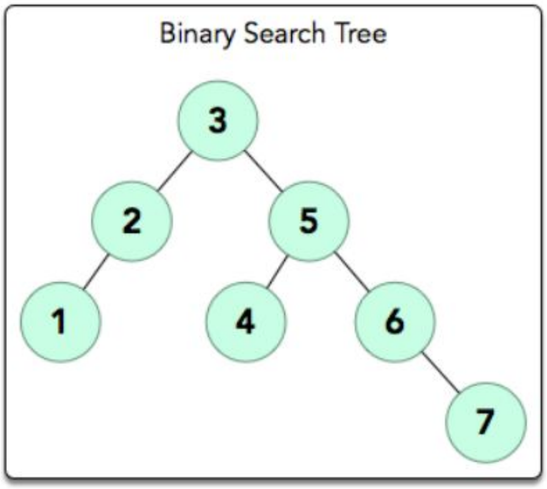
```
7
3
5
2
1
4
6
7
```

Sample Output

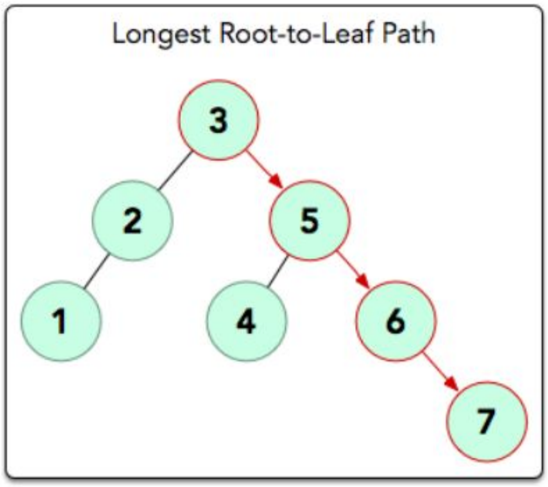
```
3
```

Explanation

The input forms the following BST:



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



There are 4 nodes in this path that are connected by 3 edges, meaning our BST's $height = 3$. Thus, we print 3 as our answer.