Is This a Binary Search Tree?

by saikiran9194

Problem Submissions Leaderboard Discussions Editorial

For the purposes of this challenge, we define a binary tree to be a binary search tree with the following ordering requirements:

- The $data$ value of every node in a node's left subtree is *less than* the data value of that node.
- The $data$ value of every node in a node's right subtree is *greater than* the data value of that node.

Given the root node of a binary tree, can you determine if it's also a binary search tree?

Complete the function in your editor below, which has 1 parameter: a pointer to the root of a binary tree. It must return a *boolean* denoting whether or not the binary tree is a binary search tree. You may have to write one or more helper functions to complete this challenge.

Input Format

You are not responsible for reading any input from stdin. Hidden code stubs will assemble a binary tree and pass its root node to your function as an argument.

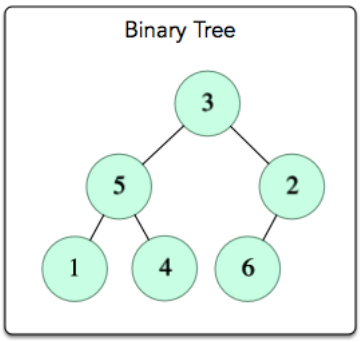
Constraints

- $0 \leq data \leq 10^4$

Output Format

You are not responsible for printing any output to stdout. Your function must return *true* if the tree is a binary search tree; otherwise, it must return *false*. Hidden code stubs will print this result as a *Yes* or *No* answer on a new line.

Sample Input



Sample Output

No

Medium Submitted 24582 times
Max Score 30

Need Help?

View Discussions

View Editorial Solution

View Top Submissions

Rate This Challenge:

Download problem statement

Download sample test cases

Suggest Edits

Current Buffer (saved locally, editable) Python 3

```
""" Node is defined as
class node:
  def __init__(self, data):
      self.data = data
      self.left = None
      self.right = None
"""
def check(root,minvalue,maxvalue):
    if root==None:
        return True
    if root.data>minvalue and root.data<maxvalue and check(root.left,minvalue,root.data) and check(root.right,root.data,maxvalue):
        return True
    else:
        return False
def check_binary_search_tree_(root):
    return check(root,-1,100000)
```

Line: 14 Col: 21

Upload Code as File Test against custom input Run Code Submit Code

Testcase 0 ✔

Congratulations, you passed the sample test case.

Click the **Submit Code** button to run your code against all the test cases.

Input (stdin)

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

Your Output (stdout)

```
Yes
```

Expected Output

```
Yes
```