Is This a Binary Search Tree?

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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.

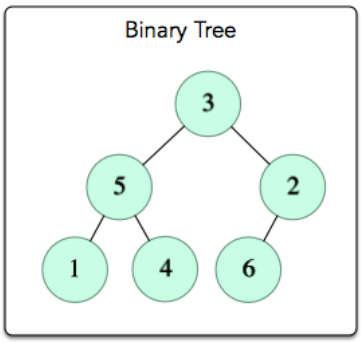
Constraints

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

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
```

Python 3

```
""" Node is defined as
class node:
  def __init__(self, data):
      self.data = data
      self.left = None
      self.right = None
"""
def check_binary_search_tree_(root):
    def helper(node, minimum, maximum):
        # Base case.
        if node is None:
            return True

        if node.data <= minimum or node.data >= maximum:
            return False

        return helper(node.left, minimum, node.data) and helper(node.right, node.data, maximum)

    return helper(root, -float('inf'), float('inf'))
```

EMACS Line: 1 Col: 1

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

You have earned 30.00 points!

You are now 281.2 points away from the gold level for your problem solving badge.

25% 568.8/850

Congratulations

You solved this challenge. Would you like to challenge your friends?

Next Challenge

Test case 0

Test case 1

Test case 2

Test case 3

Test case 4

Test case 5

Test case 6

Compiler Message

```
Success
```

Input (stdin) Download

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

Expected Output Download

```
Yes
```