

Write a Python program to check whether a given a binary tree is a valid binary search tree (BST) or not?

```
class TreeNode(object):
    def __init__(self, x):
        self.val = x
        self.left = None
        self.right = None

def is_BST(root):
    stack = []
    prev = None

    while root or stack:
        while root:
            stack.append(root)
            root = root.left
        root = stack.pop()
        if prev and root.val <= prev.val:
            return False
        prev = root
        root = root.right
    return True

root = TreeNode(2)
root.left = TreeNode(1)
root.right = TreeNode(3)

result = is_BST(root)
print(result)

root = TreeNode(1)
root.left = TreeNode(2)
root.right = TreeNode(3)

result = is_BST(root)
print(result)
```

alvas-education-foundation/cse... Untitled27.ipynb - Colaboratory

colab.research.google.com/drive/1w5fktU5TpU1GcDPNIkyvCawzaygUpeo

Untitled27.ipynb

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

```
def isBST(root, prev):
    if root is None:
        return True
    root = root.left
    root = stack.pop()
    if prev and root.val <= prev.val:
        return False
    prev = root
    root = root.right
    return True

root = TreeNode(2)
root.left = TreeNode(1)
root.right = TreeNode(3)

result = isBST(root)
print(result)

root = TreeNode(1)
root.left = TreeNode(2)
root.right = TreeNode(3)

result = isBST(root)
print(result)
```

True  
False

RAM  
Disk

Editing

Type here to search

4:56 PM 6/16/2020