```
class TreeNode :
    def init (self, val)
        self.val = val
        self.r = None
        self.l = None
        self.height = 1

def insert (self, root, key)

    if root == None
        return TreeNode(key)
    elif key < root.val
        root.left = self.insert(root.left, key)
    else
        root.right = self.insert(root.right, key)

    balance = self.getbalan
    bal = max (getbal( leftsubtree, rightsubtree)

    if bal > 1 and key < root.left.val
        return self.rightRotate(root)

    if bal < -1 and key > root.right.val
        return self.leftRotate(root)

    if bal > 1 and key > root.left.val
        root.left = self.leftRotate(root.left)
        return self.RightRotate(root)

    if bal < -1 and key < root.right.val
        root.right = self.rightRotate(root.right)
        return self.leftRotate(Root)
```