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Sec:C

Problem Statement -1 : Given a binary tree, write a program that will return true if the binary tree is a mirror image of itself, and false if it is not.

Input: Tree

The correct output given this binary tree would be true because it is symmetrical else false.

Code:

```
class TreeNode:
    def __init__(self, val=0, left=None, right=None):
        self.val = val
        self.left = left
        self.right = right

def isMirror(root1, root2):
    if root1 is None and root2 is None:
        return True
    if root1 is None or root2 is None:
        return False
    return (root1.val == root2.val) and isMirror(root1.left, root2.right) and
isMirror(root1.right, root2.left)

def isSymmetric(root):
    if root is None:
        return True
    return isMirror(root.left, root.right)

# Example usage
root = TreeNode(1)
```

```
root.left = TreeNode(2)
root.right = TreeNode(2)
root.left.left = TreeNode(3)
root.left.right = TreeNode(4)
root.right.left = TreeNode(4)
root.right.right = TreeNode(3)
```

```
print(isSymmetric(root))
```

Output:

A screenshot of a console window with a black background and a blue title bar. The title bar contains three icons: a checkmark, a double-headed arrow, and a trash can. The console displays the word "True" in white text. Below it, in green text, it says "...Program finished with exit code 0" and "Press ENTER to exit console.".

```
True

...Program finished with exit code 0
Press ENTER to exit console.
```