

#### **Problem 4:** Distinct numbers in Window

```
class TreeNode:
```

```
    def __init__(self, value):
```

```
        self.value = value
```

```
        self.left = None
```

```
        self.right = None
```

```
def distinctNumbersInWindow(root, window_size):
```

```
    distinct_numbers = set()
```

```
    window_numbers = set()
```

```
    def traverse(node):
```

```
        if not node:
```

```
            return
```

```
        window_numbers.add(node.value)
```

```
        distinct_numbers.add(node.value)
```

```
        if len(window_numbers) > window_size:
```

```
            window_numbers.remove(node.value)
```

```
        traverse(node.left)
```

```
        traverse(node.right)
```

```
    traverse(root)
```

```
    return len(distinct_numbers)
```

```
root = TreeNode(1)
```

```
root.left = TreeNode(2)
```

```
root.right = TreeNode(3)
```

```
root.left.left = TreeNode(2)
```

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

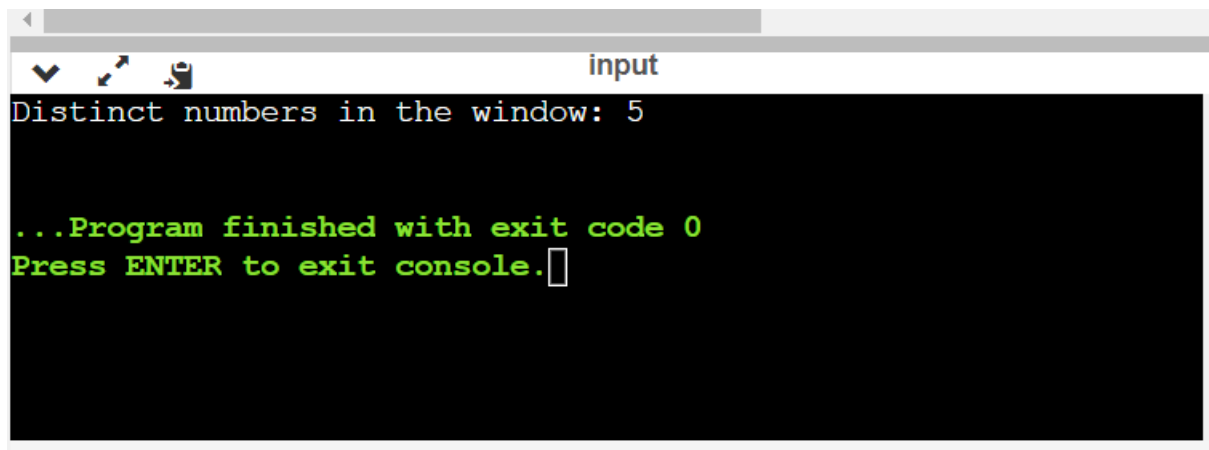
```
root.right.left = TreeNode(3)
```

```
root.right.right = TreeNode(5)
```

```
window_size = 3
```

```
distinct_count = distinctNumbersInWindow(root, window_size)
```

```
print("Distinct numbers in the window:", distinct_count)
```



```
input
Distinct numbers in the window: 5

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