DATE: 06/06/2024

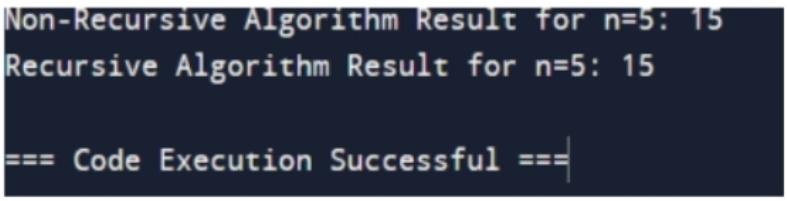
14.Write a program that demonstrate the mathematcal analysis of non
recursive and recursive algorithms.

AIM: To fnd demonstrate the mathematcal analysis of non recursive and
recursive algorithms.

CODE:

```
def non_recursive_algorithm(n):
result = 0
for i in range(1, n+1):
result += i
return result
def recursive_algorithm(n):
if n == 0:
return n + recursive_algorithm(n-1)
n = 5
non_recursive_result = non_recursive_algorithm(n)
recursive_result = recursive_algorithm(n)
print(f"Non-Recursive Algorithm Result for n={n}:
{non_recursive_result}")
print(f"Recursive Algorithm Result for n={n}: {recursive_result}")
```

OUTPUT:



Time complexity: O(n)