CSA0670-Design and Analysis of Algorithms for Tractability Problems.

2.Write a program to check the given no is Armstrong or not using recursive function.

Program:

```
def num_of_digits(n):
    if n == 0:
        return 0
    return 1 + num_of_digits(n // 10)

def sum_of_powers(n, power):
    if n == 0:
        return 0
    return (n % 10) ** power + sum_of_powers(n // 10, power)

def is_armstrong(n):
    num_digits = num_of_digits(n)
    return n == sum_of_powers(n, num_digits)

# Example usage
n = 153
if is_armstrong(n):
    print(f"{n} is an Armstrong number.")
else:
    print(f"{n} is not an Armstrong number.")
```

Output:

153 is an Armstrong number.

Time Complexity: O(log10n)