* Write a Python Program to Display Fibonacci Sequence Using Recursion?

# Function to generate Fibonacci sequence using recursion

def fibonacci(n):

if n <= 0:

return []

elif n == 1:

return [0]

elif n == 2:

return [0, 1]

else:

fib\_sequence = fibonacci(n - 1)

fib\_sequence.append(fib\_sequence[-1] + fib\_sequence[-2])

return fib\_sequence

# Input the number of terms from the user

terms = int(input("Enter the number of terms for the Fibonacci sequence: "))

# Display the Fibonacci sequence

result = fibonacci(terms)

print(f"The Fibonacci sequence up to {terms} terms is: {result}")

* Write a Python Program to Find Factorial of Number Using Recursion?

# Function to calculate factorial using recursion

def factorial(n):

if n == 0 or n == 1:

return 1

else:

return n \* factorial(n - 1)

# Input a number from the user

num = int(input("Enter a number: "))

# Display the factorial

result = factorial(num)

print(f"The factorial of {num} is: {result}")

* Write a Python Program to calculate your Body Mass Index?

# Function to calculate Body Mass Index (BMI)

def calculate\_bmi(weight, height):

return weight / (height \*\* 2)

# Input weight and height from the user

weight = float(input("Enter your weight in kilograms: "))

height = float(input("Enter your height in meters: "))

# Calculate BMI

bmi = calculate\_bmi(weight, height)

# Display the BMI and corresponding category

print(f"Your Body Mass Index (BMI) is: {bmi:.2f}")

# Interpretation of BMI categories

if bmi < 18.5:

print("You are underweight.")

elif 18.5 <= bmi < 24.9:

print("You have a normal weight.")

elif 25 <= bmi < 29.9:

print("You are overweight.")

else:

print("You are obese.")

* Write a Python Program to calculate the natural logarithm of any number?

import math

# Input a number from the user

num = float(input("Enter a number: "))

# Calculate the natural logarithm

logarithm\_result = math.log(num)

# Display the result

print(f"The natural logarithm of {num} is: {logarithm\_result}")

* Write a Python Program for cube sum of first n natural numbers?

# Function to calculate the cube sum of first n natural numbers

def cube\_sum(n):

return sum(i\*\*3 for i in range(1, n+1))

# Input the number of natural numbers from the user

num = int(input("Enter the number of natural numbers: "))

# Calculate and display the cube sum

result = cube\_sum(num)

print(f"The cube sum of the first {num} natural numbers is: {result}")