1. Write a Python Program to Display Fibonacci Sequence Using Recursion?

Sol:- def fibonacci(n):

if n <= 1:

return n

else:

return (fibonacci(n-1) + fibonacci(n-2))

nterms = int(input("Enter the number of terms: "))

if nterms <= 0:

print("Please enter a positive integer")

else:

print("Fibonacci sequence:")

for i in range(nterms):

print(fibonacci(i))

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

Sol:- def factorial(n):

if n == 0:

return 1

else:

return n \* factorial(n-1)

# take input from user

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

# check if the number is negative

if num < 0:

print("Factorial cannot be found for negative numbers")

elif num == 0:

print("Factorial of 0 is 1")

else:

print("Factorial of", num, "is", factorial(num))

1. Write a Python Program to calculate your Body Mass Index?

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

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

bmi = weight / (height \*\* 2)

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

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

Sol:- import math

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

ln\_x = math.log(x)

print(f"The natural logarithm of {x} is {ln\_x:.2f}")

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

Sol:- def cube\_sum(n):

if n < 1:

return None

sum = 0

for i in range(1, n+1):

sum += i\*\*3

return sum

# Example usage

n = 5

result = cube\_sum(n)

if result:

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

else:

print("Invalid input!")