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

def genFibonacci(n,a,b):

if n == 0:

return 1

else:

result = a+b

print(result, end=', ')

genFibonacci(n-1,b,result)

in\_num = int(input('Enter the length of Series: '))

print('0, 1',end=', ')

genFibonacci(in\_num,1,2)

Enter the length of Series: 20

0, 1, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, 6765, 10946, 17711, 28657,

2. Write a Python Program to Find Factorial of a Number using Recursion ?

def factorial(num):

if (num < 1):

return 1

else:

return num\*factorial(num-1)

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

value = factorial(num)

print(f'The Factorial of {num} is {value}')

Enter a number: 5

The Factorial of 5 is 120

3. Write a Python Program to Calculate your Body Mass Index ?

def calculateBMI():

in\_weight = eval(input('Enter your Weight(kgs): '))

in\_height = eval(input('Enter your Height(mts): '))

calc\_bmi = in\_weight/pow(in\_height,2)

if (calc\_bmi < 18.5):

status = 'Underweight'

elif (calc\_bmi >= 18.5 and calc\_bmi < 24.9):

status = 'Healthy'

elif (calc\_bmi >= 24.9 and calc\_bmi < 30):

status = 'Overweight'

elif (calc\_bmi >=30):

status = 'Suffering from Obesity'

print(f'Your\'re BMI is {calc\_bmi} and status is {status} ')

calculateBMI()

Enter your Weight(kgs): 70

Enter your Height(mts): 1.8

Your're BMI is 21.604938271604937 and status is Healthy

4. Write a Python Program to Calculate the Natural Logarithm of any Number ?

import math

def genNatLog():

in\_num = eval(input("Enter a Number:"))

print(math.log(in\_num))

genNatLog()

Enter a Number:32

3.4657359027997265

5. Write a Python Program for Cube sum of first n Natural Numbers ?

def cubeOfNaturalNumbers():

in\_num = int(input("Enter the no of Natural Numbers: "))

result = pow(((in\_num \* (in\_num +1))/2),2)

print(f'The Cube Sum of First {in\_num} Natural Numbers is {result}')

cubeOfNaturalNumbers()

Enter the no of Natural Numbers: 3

The Cube Sum of First 3 Natural Numbers is 36.0