1. Write a Python Program to Display Fibonacci Sequence Using Recursion?
2. Write a Python Program to Find Factorial of Number Using Recursion?
3. Write a Python Program to calculate your Body Mass Index?
4. Write a Python Program to calculate the natural logarithm of any number?
5. Write a Python Program for cube sum of first n natural numbers?

**Solution: 1**

def fibonacci\_rec(n):

if n <= 1:

return n

else:

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

n\_terms= int(input("Enter the number of termst to be printed in the fibonacci series "))

# check if the number of terms is valid

if n\_terms <= 0:

print("Invalid input ! Please input a positive value")

else:

print("Fibonacci series:")

for i in range(n\_terms):

print(fibonacci\_rec(i))

**Solution: 2**

def recursive\_factorial(number):

if number==1:

return 1

elif number==0:

return 0

else:

return(number\*recursive\_factorial(number-1))

n = int(input("Enter the number for which you want to find the factorial of "))

print(recursive\_factorial(n))

**Solution: 3**

def BMI(height, weight):

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

return bmi

# Driver code

height = float(input("Enter the height in floating values"))

weight = int(input("Enter the weight in integer values"))

# calling the BMI function

bmi = BMI(height, weight)

print("The BMI is", format(bmi), "so ", end='')

# Conditions to find out BMI category

if (bmi < 18.5):

print("underweight")

elif ( bmi >= 18.5 and bmi < 24.9):

print("Healthy")

elif ( bmi >= 24.9 and bmi < 30):

print("overweight")

elif ( bmi >=30):

print("Suffering from Obesity")

**Solution: 4**

import numpy as np

num= int(input("Enter the integer number for which you want to find the natural log"))

np.log(10)

**Solution: 5**

n = int(input("Enter the number"))

sum =0

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

sum+=i

print("cube sum of first n natural numbers is ", sum\*\*3)