1.Write a Python Program to find the factorial of a number ?

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

2.Write a Python Program to display the multiplication table ?

def generateTable(base,entries):

for x in range(1,entries+1):

print(f'{base} X {x} = {base\*x}')

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

values = int(input('Enter no of entries: '))

generateTable(num,values)

Enter a number: 10

Enter no of entries: 10

10 X 1 = 10

10 X 2 = 20

10 X 3 = 30

10 X 4 = 40

10 X 5 = 50

10 X 6 = 60

10 X 7 = 70

10 X 8 = 80

10 X 9 = 90

10 X 10 = 100

3.Write a Python Program to print the fibonacci sequence ?

s\_count = int(input('Enter the no of fibonacci sequences you want? '))

initial\_list = [0,1]

if s\_count < 0:

print('Fibonacci Numbers are not available for Negative Numbers')

elif s\_count <= 2 and s\_count >= 0:

print(initial\_list)

else:

for ins in range(s\_count):

if ins >= 2:

initial\_list.append(initial\_list[ins-1]+initial\_list[ins-2])

print(f'The First {s\_count} fibonacci series are: ',initial\_list)

Enter the no of fibonacci sequences you want? 20

The First 20 fibonacci series are: [0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181]

4.Write a Python Program to check Armstrong number ?

def checkArmstrongNumber():

in\_num = input('Enter a number: ')

sum = 0

for char in range(len(in\_num)):

sum = sum + pow(int(in\_num[char]),3)

if sum == int(in\_num):

print(f'{in\_num} is a Armstrong Number')

else:

print(f'{in\_num} is a Not Armstrong Number')

for x in range(2):

checkArmstrongNumber()

Enter a number: 100

100 is a Not Armstrong Number

Enter a number: 153

153 is a Armstrong Number

5.Write a Python Program to Find Armstrong number in an interval ?

def checkArmstrongNumber(in\_num, storage):

sum = 0

for char in range(len(in\_num)):

sum = sum + pow(int(in\_num[char]),3)

if sum == int(in\_num):

storage.append(int(in\_num))

start\_interval = int(input('Enter the Start of the Interval: '))

end\_interval = int(input('Enter the End of the Interval: '))

list\_of\_armstrong = []

if start\_interval > end\_interval:

print("Start Interval Cannot be Greater than End Interval")

else:

for number in range(start\_interval,end\_interval+1):

checkArmstrongNumber(str(number),list\_of\_armstrong)

print(f'The Armstrong numbers between {start\_interval} and {end\_interval} are {list\_of\_armstrong}')

Enter the Start of the Interval: 1

Enter the End of the Interval: 10000

The Armstrong numbers between 1 and 10000 are [1, 153, 370, 371, 407]

6.Write a Python Program to sum of natural numbers ?

def sumOfNaturalNumbers(num):

sum = num\*((num+1)/2)

print(f'Sum of {num} natural numbers is {sum}')

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

sumOfNaturalNumbers(num)

Enter a number: 100

Sum of 100 natural numbers is 5050.0