**PROGRAMMING PYTHON ASSIGNMENT – 4**

**1. Write a Python Program to Find the Factorial of a Number?**

**Sol.**

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

fact = 1

for i in range(num, 0, -1):

    fact = fact\*i

print("\nFactorial of {}: {}".format(num, fact))

**2. Write a Python Program to Display the multiplication Table?**

**Sol.**

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

for i in range(1, 11):

    print("{} x {} = {}".format(num, i, num\*i))

**3. Write a Python Program to Print the Fibonacci sequence?**

**Sol.**

fibo\_length = int(input("Enter a length: "))

a = 0

b = 1

print(a, end = ' ')

print(b, end = ' ')

while(fibo\_length-2 > 0):

    nt = a + b

    print(nt, end = ' ')

    a = b

    b = nt

    fibo\_length -= 1

**4. Write a Python Program to Check Armstrong Number?**

**Sol.**

import math

def fibo\_check(num):

    l = len(str(num))  ## l = number of digits of number

    sum1 = 0

    temp\_num = num

    while(num > 0):

        d = num % 10

        sum1 += int(math.pow(d, l))

        num = num // 10

    if(sum1 == int(temp\_num)):

        return 1

    else:

        return 0

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

if(fibo\_check(num)):

    print("{} is an armstrong number".format(num))

else:

    print("{} is not an armstrong number".format(num))

**5. Write a Python Program to Find Armstrong Number in an Interval?**

**Sol.**

low = int(input("Enter the lower value of range: "))

high = int(input("Enter the higher value of range: "))

print("\nFrom {} to {} following are the Armstrong Number:".format(low, high), end='\n')

for i in range(low, high+1):

    if(fibo\_check(i)):

        print(i, end = ' ')

**6. Write a Python Program to Find the Sum of Natural Numbers?**

**Sol.**

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

total\_sum = 0

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

    total\_sum += i

print("Sum of {} natural number is {}".format(num, total\_sum))