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))**

**Enter a number: 5**

**Factorial of 5: 120**

**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))**

**Enter a number: 7**

**7 x 1 = 7**

**7 x 2 = 14**

**7 x 3 = 21**

**7 x 4 = 28**

**7 x 5 = 35**

**7 x 6 = 42**

**7 x 7 = 49**

**7 x 8 = 56**

**7 x 9 = 63**

**7 x 10 = 70**

**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**

**Enter a length: 11**

**0 1 1 2 3 5 8 13 21 34 55**

**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))

Enter a number: 153

153 is an armstrong number

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))

Enter a number: 1221

1221 is not an armstrong number

**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 = ' ')

Enter the lower value of range: 100

Enter the higher value of range: 1500

From 100 to 1500 following are the Armstrong Number:

153 370 371 407

**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))

Enter a positive number: 100

Sum of 100 natural number is 5050