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

**ANS:-**

*# Python program to find factorial of given number*

**def** factorial(n):

*# single line to find factorial*

**return** 1 **if** (n==1 **or** n==0) **else** n \* factorial(n - 1)

*# Driver Code*

num = 5

print("Factorial of",num,"is",factorial(num))

**Output:**

Factorial of 5 is 120

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

**ANS:-**

number = int(input ("Enter the number of which the user wants to print the multiplication table: "))

# We are using "for loop" to iterate the multiplication 10 times

**print** ("The Multiplication Table of: ", number)

**for** count **in** range(1, 11):

**print** (number, 'x', count, '=', number \* count)

**Output:**

Enter the number : 10

Enter the number of which the user wants to print the multiplication table: 13

The Multiplication Table of: 13

13 x 1 = 13

13 x 2 = 26

13 x 3 = 39

13 x 4 = 52

13 x 5 = 65

13 x 6 = 78

13 x 7 = 91

13 x 8 = 104

13 x 9 = 117

13 x 10 = 130

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

**ANS:-**

n\_terms = int(input ("How many terms the user wants to print? "))

# First two terms

n\_1 = 0

n\_2 = 1

count = 0

# Now, we will check if the number of terms is valid or not

**if** n\_terms <= 0:

**print** ("Please enter a positive integer, the given number is not valid")

# if there is only one term, it will return n\_1

**elif** n\_terms == 1:

**print** ("The Fibonacci sequence of the numbers up to", n\_terms, ": ")

**print**(n\_1)

# Then we will generate Fibonacci sequence of number

**else**:

**print** ("The fibonacci sequence of the numbers is:")

**while** count < n\_terms:

**print**(n\_1)

        nth = n\_1 + n\_2

       # At last, we will update values

        n\_1 = n\_2

        n\_2 = nth

        count += 1

**Output:**

Now we compile the above program in Python, and after compilation, we run it. Then the result is given below -

How many terms the user wants to print? 13

The Fibonacci sequence of the numbers is:

0

1

1

2

3

5

8

13

21

34

55

89

144

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

**ANS:-**

# To check whether the given number is armstrong or not

# without using power function

n = 153  # or n=int(input()) -> taking input from user

s = n  # assigning input value to the s variable

b = len(str(n))

sum1 = 0

while n != 0:

    r = n % 10

    sum1 = sum1+(r\*\*b)

    n = n//10

if s == sum1:

    print("The given number", s, "is armstrong number")

else:

    print("The given number", s, "is not armstrong number")

**Output:-**

The given number 153 is armstrong number

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

**ANS:-**

lwr = 100

uppr = 2000

for numb in range(lwr, uppe + 1):

# order of number

odr = len(str(numb))

# initialize sum

sum = 0

tem = numb

while tem > 0:

digit = tem % 10

sum += digit \*\* odr

tem //= 10

if numb == sum:

print("The Armstrong numbers are: ",numb)

**Output:**

The Armstrong numbers are:

153

370

371

407

1634

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

**ANS:-**

num = int(input("Enter a number: "))

**if** num < 0:

**print**("Enter a positive number")

**else**:

   sum = 0

   # use while loop to iterate un till zero

**while**(num > 0):

       sum += num

       num -= 1

**print**("The sum is",sum)

This example shows the sum of the first 100 positive numbers (0-100)

**Output:**

