**Expt no: 4**

**Date: 11/1/23**

**NUMBER SERIES**

**1. WRITE A PROGRAM TO ARITHMETIC SERIES 1 4 7 10 ….**

**SOURCE CODE:**

first\_num=int(input("Enter the First Number:"))

n= int(input("Enter the range of number(Limit):"))

diff= int(input("Enter the Difference Between two Number:"))

while(first\_num<=n):

print(first\_num,end=" ")

first\_num+=diff

**OUTPUT:**

Enter the First Number:1

Enter the range of number(Limit):10

Enter the Difference Between two Number:3

1 4 7 10

**2. Write a Program to Find the sum of series 1³+2³+3³+4³.....+N³.**

**SOURCE CODE:**

n=int(input("Enter the range of number:"))

sum=0

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

sum+=pow(i,3)

print("The sum of the series = ",sum)

**OUTPUT:**

Enter the range of number:15

The sum of the series = 14400

**NUMBER PATTERN**

**3. PYRAMID PATTERN OF NUMBERS**

**SOURCE CODE:**

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

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

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

print(j, end=' ')

print('')

**OUTPUT:**

Enter a number:5

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

**4. DOWNWARD HALF-PYRAMID PATTERN OF STAR**

**SOURCE CODE:**

rows = int(input("Enter number of rows: "))

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

for j in range(0, i):

print("\* ", end=" ")

print("\n")

**OUTPUT:**

Enter number of rows: 5

**\* \* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \***

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**5. CONVERTING BINARY TO DECIMAL**

**SOURCE CODE:**

bin=int(input("Enter binary number: "))

decimal=0

i=0

while(bin>0):

r=bin%10

decimal+=r\*(2\*\*i)

bin//=10

i+=1

print("The decimal number is:”, decimal)

**OUTPUT:**

Enter binary number: 1000

The decimal number is: 8