**PROBLEM SOLVING AND PYTHON PROGRAMMING**

**RECORD**

**PYTHON PROGRAM USING CONTROL STATEMENTS AND EXPRESSIONS**

**EXERCISE NO :** 4

**DATE :** 07-01-2023

1. **NUMBER SERIES**

**Write a program to find the sum of the series 2+4+6+8+…+N**

**PROGRAM :**

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

i=0

sum=0

while(i<=n):

sum=sum+i

i=i+2

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

**OUTPUT :**

Enter the range of number: 20

The sum of the series= 110

**Write a program to find the sum of the series 1+11+111+1111+…+N**

**PROGRAM :**

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

sum=0

y=0

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

sum=sum+y

y=(y\*10)+1

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

**OUTPUT :**

Enter the range of number: 9

The sum of the series= 12345678

1. **NUMBER PATTERNS – INVERTED PYRAMID PATTERN OF NUMBERS**

**PROGRAM :**

for i in range(1,6):

for j in range(i,6):

print(i,end=" ")

print()

**OUTPUT :**

1 1 1 1 1

2 2 2 2

3 3 3

4 4

5

1. **PYRAMID PATTERN – DOWNWARD FULL PYRAMID PATTERN OF STAR**

**PROGRAM :**

n=6

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

for j in range(0,n-i):

print(end=" ")

for k in range(0,i):

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

print()

**OUTPUT :**

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1. **CHECK WHETHER THE GIVEN NUMBER IS AN ARMSTRONG NUMBER OR NOT**

**PROGRAM :**

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

num=n

sum=0

while(n>0):

rem=n%10

sum=sum+(rem\*\*3)

n=n//10

if(sum==num):

print("It is an Armstrong Number")

else:

print("It is not an Armstrong Number")

**OUTPUT :**

1. Enter a number:153

It is an Armstrong Number

1. Enter a number:8653

It is not an Armstrong Number