I.NUMBER SERIES

(1)WRITE THE PROGRAM FOR ARITHMETIC SERIES:

PROGRAM:

series = [1, 4, 7]

for i in range(3,30):

series.append(series[i-1] + 3)

print(series)

OUTPUT:

[1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46, 49, 52, 55, 58, 61, 64, 67, 70, 73, 76, 79, 82, 85, 88]

(2)WRITE A PROGRAM TO FIND SUM OF SERIES:

PROGRAM:

n = int(input("Enter the value of n: "))

sum = 0

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

sum = sum + i\*\*3

print("Sum of the series is:", sum)

OUTPUT:

Enter the value of n: 4

Sum of the series is: 100

>>>

II.NUMBER PATTERN

1

12

123

1234

12345

PROGRAM:

n = int(input("Enter the value of n: "))

sum = 0

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

sum = sum + i\*\*3

print("Sum of the series is:", sum)

OUTPUT:

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

III.PYRAMID PATTERN

Downward half-Pyramid Pattern of Star

PROGRAM:

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

    for j in range(0,i):

      print("\*",end=" ")

    print()

OUTPUT:

Enter number of rows:5

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4.Python code for binary to decimal number

binary\_num = list(input("Input a binary number: "))

value = 0

power = len(binary\_num) - 1

while power >= 0:

    digit = binary\_num.pop()

    if digit == '1':

        value += pow(2, power)

        power -= 1

    print("Decimal value is", value)

o/p

Input a binary number: 1

Decimal value is 1

>>>