Number series

1. Write a program to print Arithmetic series 1 4 7 10...

**Program:**

i=1

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

for i in range(1,n+1,3)

print(i)

**Output**:

Enter the value10

1

4

7

10

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

**Program:**

sum=0

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

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

sum=sum+i\*\*3

print(sum)

**Output:**

Enter the value:4

1

9

36

100

**II. Number Patterns :**

Let’s see how to print the following half pyramid pattern of numbers  
1   
1 2   
1 2 3   
1 2 3 4   
1 2 3 4 5

**Program:**

for i in range(1,6):

print()

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

print(j,end="")

**Output:**

**1**

**12**

**123**

**1234**

**12345**

**III. Pyramid Patterns- Downward half-Pyramid Pattern of Star  
Pattern: –  
\* \* \* \* \*   
\* \* \* \*   
\* \* \*   
\* \*   
\***

**Programe:**

for i in range(1,6):

print()

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

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

**Output:**

**\***

**\*\***

**\*\*\***

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

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

**IV. Convert binary to decimal number**

**Program:**

num=int(input("Enter any binary number:"))

sum=0

i=0

while( num!=0):

rem=num%10

sum=sum+rem\*(2\*\*i)

num=num//10

i=i+1

print("Decimal value",sum)

**Output:**

Enter any binary number: 1010

Decimal value 10