PYTHON PROGRAMMING WITH DECISION CONTROL STATEMENTS

Program 1 : - Number series

a) Write a Program to Find the sum of series 2+4+6+8.....+N.

```
n=int(input("Enter a number :"))
sum=0
i=2
while(i<=n):
        sum=sum+i
        i=i+2
print("The Sum is ",sum)
```

Output :-

```
Enter a number : 10
The sum is 30
```

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Program 1 : - Number Series

b) Write a Program to Find the sum of series 1+11+111+1111.....+N.

```
n=int(input("Enter the range of number : "))
sum=0
j=1
for i in range(1,n+1):
        sum=sum+j
        j=(j*10)+1
print("The Sum is ",sum)
```

Output :-

```
Enter the range of number : 5
The sum is 12345
```

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Program 2 : - Number Patterns - Inverted pyramid pattern of numbers

```
n=int(input("Enter the range of numbers : "))
for i in range(1,n+1):
        for j in range(i,n+1):
        print(i,end=" ")
print()
```

Output :-

```
Enter the range of numbers : 5

1 1 1 1 1
2 2 2 2
3 3 3
4 4
5
```

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Program 3 : - Pyramid Pattern - Downward full Pyramid Pattern of star

```
n=int(input("Enter range of stars : "))
space=0
for i in range(n):
        for j in range(space):
        print(" ",end=" ")
        space=space+1
for k in range(n-i,0,-1):
        print(" * ",end=" ")
print()
```

Output :-

```
Enter range of stars : 5

*  *  *  *  *
 *  *  *  *
  *  *  *
   *  *
    *
```

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Program 4 : - Check the given number is Armstrong number

```
n=int(input("Enter a number : "))
num=n
sum=0
for i in range(0,n+1):
    while(n>0):
        rem=n%10
        sum=sum+(rem**3)
        n=n//10
if(sum==num):
    print(num,"is an Armstrong number")
else:
    print(num,"is not an Armstrong number")
```

Output :-

```
Enter a number : 153
153 is an Armstrong number

Enter a number : 150
150 is not an Armstrong number
```