

ASSIGNMENT 2
PROBLEMS ON CONTROL STATEMENTS

NUMBER SERIES:

1. WRITE A PROGRAM TO PRINT SERIES 0,2,6,12,20,30,42...N:

PROGRAM CODE:

```
n=int(input("Enter the range of number(Limit):"))
i=1
while i<=n:
    print((i*i)-i,end=" ")
    i+=1
```

OUTPUT:

Enter the range of number(Limit):7
0 2 6 12 20 30 42

2. WRITE A PROGRAM TO PRINT SERIES 0,2,8,14,24,34...N:

PROGRAM CODE:

```
n=int(input("Enter the range of number(Limit):"))
i=1
pr=0
while i<=n:
    if(i%2==0):
        pr=pow(i, 2) - 2
        print(pr,end=" ")
    else:
        pr = pow(i, 2) - 1
        print(pr, end=" ")
    i+=1
```

OUTPUT:

Enter the range of number(Limit):4
0 2 8 14

3. WRITE A PROGRAM TO PRINT ARITHMETIC SERIES 1,4,7,10....

PROGRAM CODE:

```
a=int(input("enter a num:"))
i=1
for i in range(i,a,3):
    print(i)
```

OUTPUT:

enter a num:10
1
4
7

4. WRITE A PYTHON PROGRAM TO FIND THE SUM OF SERIES 1^3,2^3,3^3.....N^3:

PROGRAM CODE:

```
n=int(input("Enter a num:"))
i=1
```

```

sum=0
while(i<n):
    print(i,end=",")
    sum=sum+(i*i*i)
    i=i+1
    print(sum)

```

OUTPUT:

Enter a num:8

1,1

2,9

3,36

4,100

5,225

6,441

7,784

5.WRITE PYTHON PROGRAM TO FIND THE SUM OF SERIES $2+4+6+8...+N$

PROGRAM CODE:

```

n=int(input("Enter a num:"))
i=1
sum=0
while(i<n):
    print(i,end=",")
    sum=sum+(i*2)
    i=i+1
    print(sum)

```

OUTPUT:

Enter a num:5

1,2

2,6

3,12

4,20

WRITE A PYTHON PROGRAM TO FIND THE SUM OF SERIES $1+11+111...+N$

PROGRAM CODE:

```

n=int(input("Enter the n value:"))
s=0
sum1=0
print("Series are",end=" ")
for i in range(0,n):
    s=s*10+1
    print(s,end=" ")
    sum1=sum1+s
print()
print("Series sum=",sum1)

```

OUTPUT:

Enter the n value:4

Series are 1 11 111 1111
Series sum= 1234

7.WRITE A PYTHON PROGRAM FOR FIBONACCI SERIES:

PROGRAM CODE:

```
a=int(input("Enter the terms"))
f=0                                #first element of series
s=1                                #second element of series
if a<=0:
    print("The requested series is:",f)
else:
    print(f,s,end=" ")
    for x in range(2,a):
        next=f+s
        print(next,end=" ")
        f=s
        s=next
```

OUTPUT:Enter the terms4

0 1 1 2

8.WRITE A PROGRAM TO FIND THE SUM OF SERIES 1+3+5+7....+N:

PROGRAM CODE:

```
n=int(input("enter a num:"))
i=1
sum=0
while(i<n):
    sum=sum+i
    i=i+2
    print(sum)
```

OUTPUT:

enter a num:6

1

4

9

9.WRITE A PROGRAM TO FIND SUM OF SERIES 1+2+3...+N:

PROGRAM CODE:

```
n=int(input("enter a num:"))
i=1
sum=0
while(i<n):
    sum=sum+i
    i=i+1
print(sum)
```

OUTPUT:

enter a num:6

1

3

6

10

15

10.WRITE A PYTHON PROGRAM TO FIND THE SUM OF SERIES OF 1!,2!,3!...+N:

PROGRAM CODE:

```
num = int(input("enter a number: "))
fac = 1
for i in range(1, num + 1):
    fac=fac*i
print("factorial of ", num, " is ", fac)
```

OUTPUT:

enter a number: 5

1

3

6

10

15

**12.WRITE A PYTHON PROGRAM TO FIND THE SUM OF SERIES 9+99+999
+9999.....+N:**

PROGRAM CODE:

```
n=int(input("Enter the n value:"))
s=0
sum1=0
```

```
print("Series are",end=" ")
for i in range(0,n):
    s=s*8+1
    print(s,end=" ")
    sum1=sum1+s
print()
print("Series sum=",sum1)
```

OUTPUT:

Enter the n value:3

Series are 1 9 73

Series sum= 83