Day 3:

22. LCM OF THREE NUMBERS

```
a=int(input("enter a:"))
b=int(input("enter b:"))
c=int(input("enter c:"))
if(a>b) and (a>c):
    max1=a
elif (b>c) and (b>a):
    max1=b
else:
    max1=c
```

```
if(12>15)and(12>18):
 Not true
(15>18)and(15>12):
Not true
else:
 max=18
```

```
while True:
    if((max1%a==0)and(max1%b==0) and (max1%c==0)):
        print(max1,end=" ")
        break
    max1=max1+1
```

```
if(18%12==0) and(18%15==0)and
   (18%18==0):
 It is  finally satisfies when
        max1=180 (to get 180 value
                  it iterates)
```

22(a): Lcm of two numbers using recursion

```
a=int(input("enter a:"))
b=int(input("enter b:"))
```

```
def gcd(a,b):
    if b==0:
        return a
    return gcd(b,a%b)
def lcm(a,b):
    lcm=(a*b)/gcd(a,b)
    return int(lcm)
gcd(a,b)
lcm(a,b)
```

s1:gcd(4,6)
if 6==0:
Then it return "a" value
return gcd(6,4%6)=gcd(6,4)
s5:lcm(4,6)
lcm=4*6 /2
lcm=12

s2: gcd(6,4)
if 4==0:
"a" value
gcd(4,6%4)=gcd(4,2)

s3: gcd(4,2)
if 2==0:
"a" value
gcd(2,4%2)=(2,0)
s4:gcd(2,0):
if 0==0:
a=2
i.e., gcd(a,b)=2

23. Decimal to any conversion upto 36

```
n=int(input("enter decimal number:"))
b=int(input("enter base:"))
def dectobase(n):
    base1=" "
    while(n>0):
        dig=n%b
       if(dig<10):
            base1=base1+str(dig)
        else:
            base1=base1+chr(ord('A')+dig-10)

        n=n//10
    base1=(base1[::-1])
    return int(base1)
dectobase(n)
```

s1: n=15
b=8
dectobase(15)
base1=" "
while(15>0)
dig=15%8=7
if(7<10)
base1=7
else:
false
n=15//10=1

s2:while(1>0)
dig=1%8=1
if(1<10)
base1=71
n=1//10=0
Loops comes out of loop
base1=17(reverse a string)
int(17)=17

24. Binary to Decimal number

n=int(input("enter binary number:"))	**s1**:n=10111		
dec=0	dec=0		
base=1	base=1		
binary=n	binary=10111		
while(binary>0):	(10111>0):	**s2**:(1011>0)	**s3**:(101>0)
r=binary%10	r=10111%10=1	r=1011%10=1	r=101%10=1
dec=dec+r*base	dec=0+1*1=1	dec=1+1*2=3	dec=3+1*4=7
binary=binary//10	10111//10=1011	1011//10=101	101//10=10
base=base*2	base=1*2=2	base=2*2=4	base=4*2=8
print(dec,end=" ")	**Similarly remaining are same to get the value dec=23**		

24(a): Binary to Octal number

```
n=int(input("enter binary number:"))
def dectooct(n):
    dec=0
    base=1
    while(n>0):
        r=n%10
        dec=dec+r*base
        base=base*2
        n=n//10

    def basetooct(dec):
        oct1=0
        base=1
        while(dec>0):
            r1=dec%8
```

s1:First we convert the binary to decimal so follow the above program to get the decimal value

s2: Then convert the decimal to octal by the below steps as follows.

```
        oct1=oct1+r1*base
        dec=dec//8
        base=base*10
    print(oct1,end=" ")
  basetooct(dec)
dectooct(n)
```

25. Octal to Decimal number

Similiarly follow the same steps in 24 .program to get the *OCTAL TO DECIMAL NUMBER*

26.Count number of digits in a given number

```
n=int(input("enter number:"))
count=0
if(n==0):
   count=1
while(n>0):
   r=n%10
   if(r>=0):
      count=count+1
   n=n//10
print(count,end=" ")
```

S1:if(1234==0)	**s2**:if(123==0)	**s3**: if(12==0)	**s4**:if(1==0)
false	false	false	false
(1234>0)	(123>0)	(12>0)	(1>0)
r=1234%10=4	123%10=3	12%10=2	1%10=1
if(4>=0)	if(3>=0)	if(2>=0)	if(1>=0)
count=0+1=1	count=1+1=2	count=2+1=3	**count=4**
n=1234//10=123	n=123//10=12	n=12//10=1	1//10=0

Series programs

27. 1 2 3 6 9 18 27.....

```
n=int(input())
a=1
b=2
print(a,b,end=" ")
for i in range(3,n+1):
    if (i%2==1):
        a=a*3
        print(a,end=" ")

    else:
        b=b*3
        print(b,end=" ")
```

s1:n=4
a=1
b=2
1 2
for i in range(3,5):
if(3%2==1)
a=1*3=3
3

s2:i=4
if(4%2==1):
false

else:
b=2*3=6
6

s3:Finally output is 1 2 3 6……..

28. 3 8 6 11 9 14 12……..

This program is similar to 27. Program …same procedure…..

29. How to check the divisiblility of number

```
x=int(input("enter x:"))
y=int(input("enter y:"))
if(x%y==0):
    print(x,"is divisible by",y)
else:
    print(x,"is not divisible by",y)
```

x=4
y=2
if(4%2==0)
4 is divisible by 2

30. How to create the simple thermometer

```
x=input("enter 'c' or 'f':")
unit=x[-1]
x=int(x[0:-1])
if unit=='C'or unit=='c':
    x=round(x*(9/5)+32)
    print(str(x)+'F')
elif unit=='F'or unit=='f':
    x=round((x-32)*(5/9))
    print(str(x)+'C')
```

```
x=1c
unit=c
x=1
if c==c:
x=round(1*(9/5)+32)=34
34F
```