## 31. How to calculate the mass,density,volume

```
mdv=(input("enter(m,d,v):"))
if mdv=='m':
   d=int(input("enter density:"))
   v=int(input("enter volume:"))
   print((d*v),end=" ")
elif mdv=='d':
   m=int(input("enter mass:"))
   v=int(input("enter volume:"))
   print((m/v),end=" ")
elif mdv=='v':
    m=int(input("enter mass:"))
    d=int(input("enter density:"))
    print((m/d),end=" ")
```

**S1**: mdv=m

if m=’m’:

d=6

d=18

**d*v=6*18=108**

**Similarly remaining things also same**

## 32.How to determine the quadrant of point

```
import math
a=int(input("enter a:"))
b=int(input("enter b:"))
c=int(input("enter c:"))
y=b*b-4*a*c
if(y>0):
   x1=(-b+math.sqrt(y))/(2*a)
   x2=(-b-math.sqrt(y))/(2*a)
   print("x1:%.2f,x2:%.2f"%(x1,x2))


else:
   y1=-b/(2*a)
   y2=-b/(2*a)
   print("y1:%.2f,y2:%.2f"%(y1,y2))
```

# we import math library to calculate the square ops

a=4

b=4

c=-5

y=(4)(4)-4(4)(-5)=16+80=96

if(80>0):

x1=(-4+srqt(80))/2*4=(-4+8.94)/8=0.72

x2=(-4-sqrt(80))/2*4=(-4-8.94)/8=-1.72

**x1=0.72,x2=-1.72**

**if in case y =0 then we get the y1 and y2**

## 33. How to determine if a triangle exist or not (based on side)¶

In [17]:

```
a=int(input("enter a:"))
b=int(input("enter b:"))
c=int(input("enter c:"))
if(a+b>c)and(b+c>a)and(a+c>b):
    print("Triangle is exists")
else:
    print("Triangle is not exists")
```

```
a=3
b=4
c=5
if (3+4)>5 and (4+5)>3 and(3+5)>4:
Triangle exists
```

## 34. How to check the if the point belongs to circle¶

```
import math
x=float(input("enter x:"))
y=float(input('enter y:'))
r=float(input("enter hypothenis:"))
h=math.sqrt(pow(x,2)+pow(y,2))
if(h<=r):
    print("It is belongs to circle")
else:
    print("It is not belongs to circle")
```

```
x=3
y=4
 r=5
h=sqrt(pow(3,2)+pow(4,2)=5
if(5<=5):
 It belongs to circle
```

## 35. How to print ASCII table

```
for i in range(32,128):
    print(chr(i),end=" ")
    if((i-1)%10)==0:
        print()
print()
```

```
for loop
print(chr(32))=we get the 32 character value
# it shows the if suppose if(41-1)%10==0 it goes to  next line #
 if above loop satisfies then goes to new line
```

## 36. How to create the multiplication table using while,for loop¶

```
x=1
while x<10:
   y=1
   while y<10:
      print("%3d"%(x*y),end="")
      y=y+1
   print()
   x=x+1
print()
```

```
s1:
 while 1<10:
y=1
while 1<10:
  1*1=1
  y=1+1=2
similiarly loop
iterate upto y=9
```

```
s2:
while 2<10:
y=1
while(1<10)
2*1=2
y=1+1=2
Similarly so on up to y=9
```

***Using for loop***

```
for i in range(1,10):
   for j in range(1,10):
         print("%3d"%(i*j),end=" ")
   print()
print()
```

for loop upto 9 with initial variable as i

for loop upto 9 with initial variable as j

(1*1),(1*2)……(1*9)

goes to new line

## 37. How to convert from base 2 to 9

```
n=int(input('enter nbr:'))
b=int(input('enter base:'))
if not(2<=b<=9):
   quit()
num2=" "
while(n>0):
   r=n%b
   num2=num2+str(r)
   n=n//b
num2=num2[::-1]
print(num2)
```

This problem is similar to the day3 23.problem go and check the procedure .

## 38. How to built a simple calculator

```
while True:
    a=input("enter (+,-,*,/)")
    if a == 0:
        quit()
    if a in ('+','-','/','*'):
        x=int(input("x:"))
        y=int(input("y:"))

        if a=='+':
            s=x+y
            print(s,end=" ")
            break

        elif a=='-':
            s=x-y
            print(s,end=" ")
            break
        elif a=='*':
            s=x*y
            print(s,end=" ")
            break

        elif a=='/':
            if y!=0:
                print(x//y,end=" ")
                break
            else:
                print("No values")
```

**s1**:a=+

```
if + in ('+','-','/','*'):
x=5
y=6

if +==+:
s=5+6=11
```

**output=11**

```
 # comes out of the loop
```

**similarly it is same for -,/,* operators**

## 39. How to count number of digits in given number

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

# THIS PROBLEM IS SIMILAR TO THE DAY3 26. PROBLEM BUT ONLY FEW CHANGES IN CODE #

## 40.How to get the even and odd number of digits

```
n=int(input("enter number:"))
ev=0
od=0
while(n>0):
   if(n%2==0):
      ev=ev+1
   else:
      od=od+1
   n=n//10
print("Ev:%d,Od:%d"%(ev,od))
```

**S1:**n=12458
ey=0
od=0
(12458>0):
if 12458%2==0:
ev=0+1=1
n=12458//10=1245

**S2:**
(1245>0):
if 1245%2==0)
od=0+1=1
n=1245//10=124

**similarly remaining steps…….**