

ASSIGNMENT 2

WAP to enter a number and display its hexadecimal and octal equivalent and it's squareroot.

```
In [1]: import math

def oct(n1):
    st=''
    while(1):
        r=int(n1%8)
        n1=int(n1/8)
        st+=str(r)
        if(n1==0):
            break
    print("Octal Form :", int(st[::-1]))

def hex(n1):
    st=''
    while(1):
        r=int(n1%16)
        n1=int(n1/16)
        if(r>=0 and r<=9):
            st+=str(r)
        else:
            switcher = {
                10: 'A',
                11: 'B',
                12: 'C',
                13: 'D',
                14: 'E',
                15: 'F'
            }
            st+=switcher.get(r)
        if(n1==0):
            break
    print("Hexadecimal Form :", st[::-1])

n=input("Enter a number :")

print("Square root :", round(math.sqrt(int(n)), 2))
oct(int(n))
hex(int(n))
```

```
Enter a number :3759
Square root : 61.31
Octal Form : 7257
Hexadecimal Form : EAF
```

WAP to calculate area of triangle using Heron's formula.

```
In [1]: a, b, c=input("Enter three side of triangle :").split(' ')
a, b, c=float(a), float(b), float(c)
s=a+b+c/2
area=(s*(s-a)*(s-b)*(s-c))**0.5
print("Area of triangle is :", round(area))
```

Enter three side of triangle :4 9 15

Area of triangle is : 146

WAP to calculate distance between two points (2D / 3D).

```
In [3]: import math

print("1. 2D Point\n2. 3D Point\n")
c=int(input("Enter :"))
if c==1:
    x1, y1=input("Enter value of x1, y1 :").split()
    x1, y1=int(x1), int(y1)
    x2, y2=input("Enter value of x2, y2 :").split()
    x2, y2=int(x2), int(y2)
    print("Distance :", round(math.sqrt((x2-x1)**2+(y2-y1)**2), 2))
elif c==2:
    x1, y1, z1=input("Enter value of x1, y1, z1 :").split()
    x1, y1, z1=int(x1), int(y1), int(z1)
    x2, y2, z2=input("Enter value of x2, y2, z2 :").split()
    x2, y2, z2=int(x2), int(y2), int(z2)
    print("Distance :", round(math.sqrt((x2-x1)**2+(y2-y1)**2+(z2-z1)**2), 2))
else:
    print("Invalid Choice :")
```

1. 2D Point
2. 3D Point

```
Enter :1
Enter value of x1, y1 :2 5
Enter value of x2, y2 :7 9
Distance : 6.4
```

WAP to calculate bill amount for an item.

```
In [4]: price=float(input("Enter price of book :"))
nos=int(input("Enter number of copies required :"))
dprice=price-price*(40/100)
bill=nos*dprice+3+(nos-1)*0.75
print("MRP :", price, "\nNo. of copies :", nos, "\nDiscounted Price(40% off) :", d
print("Total Price :", bill)
```

```
Enter price of book :45
Enter number of copies required :7
MRP : 45.0
No. of copies : 7
Discounted Price(40% off) : 27.0
Delivery charges : $3 / $0.75

Total Price : 196.5
```

WAP to calculate result of a student based on two examinations, one sports event, and three activities.

```
In [5]: e1, e2=input("Enter marks of two subjects :").split()
e1, e2=float(e1), float(e2)
s1=float(input("Enter marks of sports event :"))
a1, a2, a3=input("Enter marks of three activities :").split()
a1, a2, a3 =float(a1), float(a2), float(a3)
res=0.5*(e1+e2) + 0.3*(a1+a2+a3) + 0.2*s1;
print("Result :", round(res), '/ 210')
```

```
Enter marks of two subjects :67 88
Enter marks of sports event :95
Enter marks of three activities :67 78 89
Result : 167 / 210
```