# Experiment no:- 1

## # Area of Triangle

```
a=int(input(" Enter height of Triangle  "))
b=int(input(" Enter base  of Triangle  "))
areaofTriangle =(a*b)/2
print(" Area of Triangle is ",areaofTriangle)
```

## #Area of Rectangle

```
l=int(input(" Enter the length of the rectangle "))
w=int(input(" Enter the width of the rectangle "))
areaofRectangle=l*w
print(" Area of Rectangle is ",areaofRectangle)
```

## #Area of circle

```
r=int(input(" Enter the radius of circle "))
pi=3.14 #22/7
areaofcircle= pi*r*r
print(" Area of circle is ",areaofcircle)
```

## Output:-

```
Enter height of Triangle  14
Enter base  of Triangle  12
Area of Triangle is  84.0
Enter the length of the rectangle 14
Enter the width of the rectangle 12
Area of Rectangle is  168
Enter the radius of circle 5
Area of circle is  78.5
```

# Experiment no:- 2

```
list1 = [10,20,30]
list2 = [40,50,60,70,80]
list3 = list1 + list2
print(list3)
```

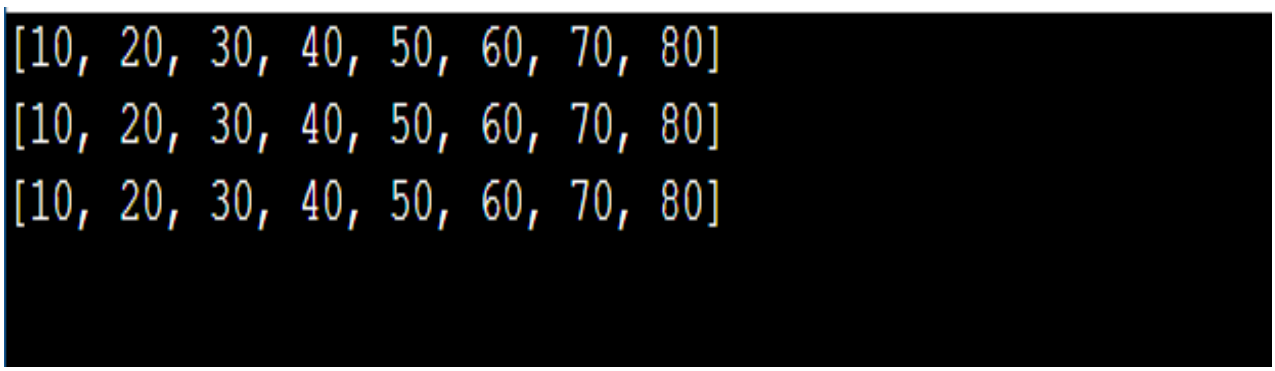
**# OR**

```
list1 = [10,20,30]
list2 = [40,50,60,70,80]
for ele in list2:
    list1.append(ele)
print(list1)
```

**# OR**

```
list1 = [10,20,30]
list2 = [40,50,60,70,80]
list1.extend(list2)
print(list1)
```

## Output:-



# Experiment no:- 3

```
list1 = [10,20,30]
list2 = [40,10,30,50,60,70,80]
list3 = []

for ele in list1:
    if ele in list2:
        list3.append(ele)
print(list3)
```

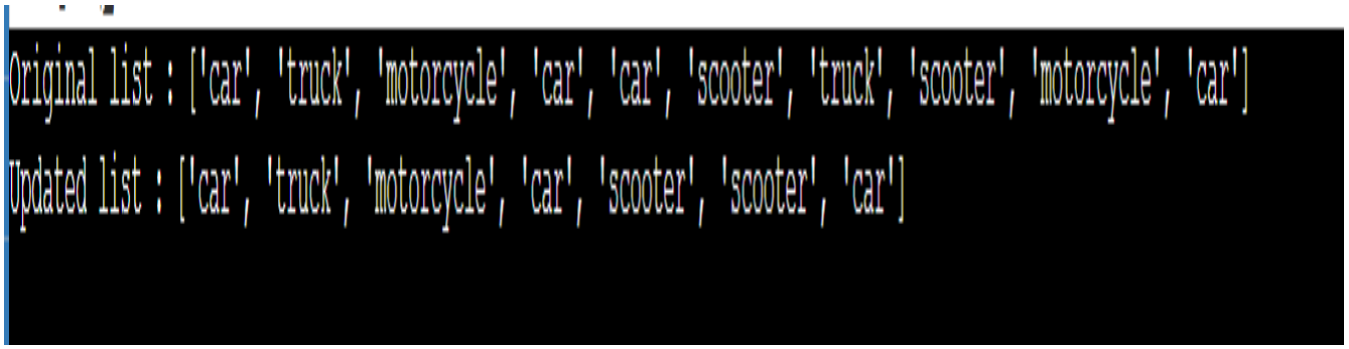
**Output:-**

```
[10, 30]
```

# Experiment no:- 4

```
list1 = ["car", "truck", "motorcycle", "car", "car", "scooter",
         "truck", "scooter", "motorcycle", "car"]
i = 3
word = "car"
# about to delete 3rd occurrence of "car" in this list
print("Original list :", list1)
ind = 0
count = 0
while ind<len(list1):
    if list1[ind] == word:
        count = count + 1
    if count == i:
        list1.pop(ind)
    ind = ind + 1
print("Updated list :", list1)
```

**Output:-**



# Experiment no:- 5

```
s1 = "There was a king. He was very brave."
ls = s1.split(" ")
set1 = set(ls)
for word in set1:
    c = ls.count(word)
    print(word, " - ", c)
```

**Output:-**

```
brave.  -  1
was  -  2
There  -  1
a  -  1
king.  -  1
He  -  1
very  -  1
```

# Experiment no:- 6

```
s1 = "There was a king. He was very brave."
print("Enter substring to search for : ")
s2 = input()

if s2 in s1:
    print("Requested substring is present")
else:
    print("Requested substring is not present")
```

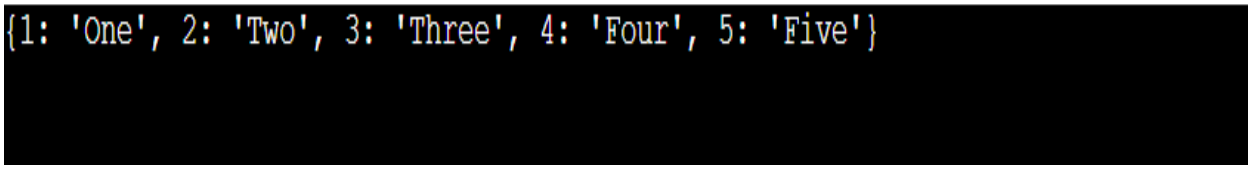
**Output:-**

# Experiment no:- 7

```
list1 = [1,2,3,4,5]
list2 = ["One", "Two", "Three", "Four", "Five"]

d = dict(zip(list1,list2))
print(d)
```

**Output:-**



# Experiment no:- 8

```
d = {}
i = 1
while i<=5:
    print("Enter an alphabet")
    alpha = input()
    print("Enter word begins with", alpha)
    word = input()
    d[alpha] = word
    i = i + 1
print(d)
```

**Output:-**

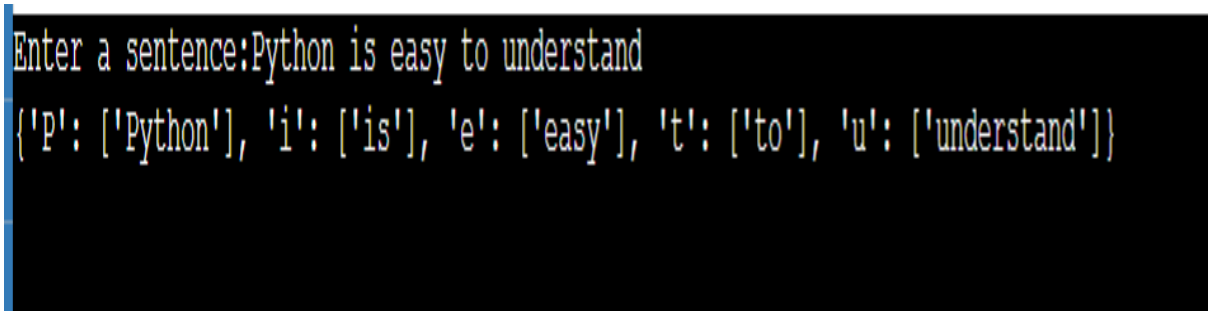
```
Enter an alphabet
p
Enter word begins with p
Pran
Enter an alphabet
v
Enter word begins with v
Vaibhav
Enter an alphabet
d
Enter word begins with d
Dhiraj
Enter an alphabet
h
Enter word begins with h
Harshal
Enter an alphabet
P
Enter word begins with P
Priti
{'p': 'Pran', 'v': 'Vaibhav', 'd': 'Dhiraj', 'h': 'Harshal', 'P': 'Priti'}
```

# Experiment no:- 9

```
string1 = input("Enter a sentence:")
words = string1.split(" ")

dictionary={}
for char in words:
    if (char[0] not in dictionary.keys()):
        dictionary [char[0]]=[]
        dictionary [char[0]] .append (char)
    else:
        if (char not in dictionary [char[0]]):
            dictionary [char[0]].append (char)
print (dictionary)
```

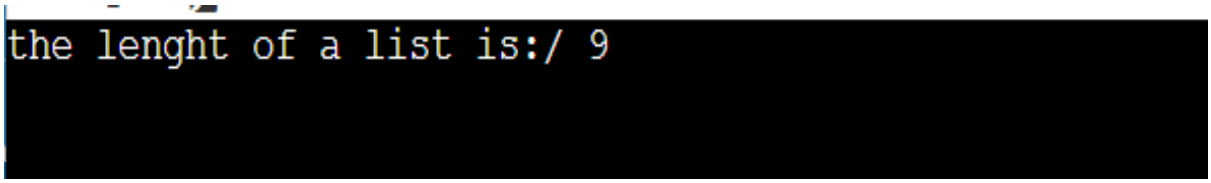
**Output:-**



# Experiment no:- 10

```
def rec_lenght (a):
    global count
    if a:
        count=count+1
        rec_lenght(a[1:])
    return count
list1=[1,2,3,4,5,6,7,8,9]
count=0
lenght= rec_lenght (list1)
print ("the lenght of a list is:/", lenght)
```

**Output:-**



## Experiment no:- 11

```
import math
class sphere:
    def __init__ (self,radius):
        self.radius=radius
    def caldiameter (self):
        return 2*self.radius
    def calcircumference (self):
        return 2* math.pi * self.radius
    def calvolume (self):
        return (4/3) * math.pi * self.radius**3
r=int(input("Enter the radius of sphere: "))
obj=sphere(r)
d=obj.caldiameter()
print("diameter of sphere: ",d)
c = obj.calcircumference ()
print("circumference of sphere: ",c)
v=obj.calvolume ()
print ("volume of sphere: ", v)
```

**Output:-**

```
Enter the radius of sphere: 5
diameter of sphere:  10
circumference of sphere:  31.41592653589793
volume of sphere:  523.5987755982989
```

# Experiment no:- 12

```
fobj = open("testfile2.txt", "w")
fobj.write("there was a king. he was very brave.")
fobj.close()

fobj2 = open("testfile2.txt", "r")
s = fobj2.read()
fobj2.close()

s2 = s.title()
fobj3 = open("testfile2.txt", "w")
fobj3.write(s2)
fobj.close()
```

**Output:-**