Exchange of two values:

Program: using native approach(by introducing third variable temp)

```
p=int(input('enter the first number:'))
q=int(input('enter the second number:'))
print("The value before swapping are",p,q)
temp=p
p=q
q=temp
print("The value after swapping",p,q)
```

output:

```
enter the first number:23
enter the second number:45
The value before swapping are 23 45
The value after swapping 45 23
```

Program: using comma **(,)** operator

```
s=23
t=45
print("The value before swapping:",s,t)
s,t=t,s
print("The value after swapping:",s,t)
```

output:

```
The value before swapping: 23 45
The value after swapping: 45 23
```

Program: using arithmetic operator

```
x=23
y=45
print("the value before swapping are:",x,y)
x=x+y
y=x-y
x=x-y
print("the value after swapping are:",x,y)
```

output:

```
the value before swapping are:  23 45
the value after swapping are:  45  253
```

program: using xor operator

```
j=23
k=45
print("the value before swapping are:",j,k)
j=j^k
k=j^k
j=j^k
print("the value after swapping are:",j,k)
```

output:

```
the value before swapping are: 23 45
the value after swapping are: 45 23
```

circulating the list of value:

program: using in built function

```
s=int(input("enter a value in the list:"))
list=[]
for i in range(0,s):
   element=int(input("enter the value:"))
   list.append(element)
print("circulating the list")
for i in range(0,s):
        element_deleted =list.pop(0)
        list.append(element_deleted)
        print("The circulated list",i+1,list)
```

output:

```
enter a value in the list:6
enter the value:5
enter the value:9
enter the value:2
enter the value:1
enter the value:7
enter the value:0
circulating the list
The circulated list 1 [9,2,1,7,0,5 ]
The circulated list 2 [2,1,7,0,5,9]
The circulated list 3 [1,7,0,5,9,2]
The circulated list 4 [7,0,5,9,2,1]
The circulated list 5 [0,5,9,2,1,7]
```

The circulated list 6[5,9,2,1,7,0]

Program: using slicing operator

```
def circulate(c,n):
   for i in range(1,n+1):
      d=c[i:]+c[:i]
      print("circulate","=",d)
   return
c=[1,2,3,4]
n=int(input("enter n:"))
circulate(c,n)
```

output:

```
enter n:5
circulate = [2, 3, 4, 1]
circulate = [3, 4, 1, 2]
circulate = [4, 1, 2, 3]
circulate = [1, 2, 3, 4]
circulate = [1, 2, 3, 4]
```

calculate the distance between two points:

program:

```
import math
p1=[4,9]
p2=[16,4]
```

```
d=math.sqrt(((p1[0]-p2[0])**2)+((p1[1]-p2[1])**2))
print("the distance between two points:",d)
```

output:

```
the distance between two points: 13.0
```

Basic python programming:

Program(addition):

```
a=10
b=5
c=a+b
print(c)
```

Output:

```
15
```

Program(subtract):

```
a=10
b=5
c=a-b
print(c)
```

OUTPUT:

```
5
```

Program(multiply):

```
a=10
b=5
c=a*b
print(c)
```

output:

50

Program(divide):

```
a=10
b=5
c=a/b
print(c)
```

output:

2.0

To get remainder in divisor operator :

```
a=15
b=5
c=a%b
print(c)
```

output:

0

Calculate the amount of apple:

Program:

```
wt=int(input("Enter the weight of apple:"))
cost=int(input("Enter fixed amount:"))
total=wt*cost
print("the total amount is:",total)
```

output:

```
Enter the weight of apple:3
Enter fixed amount:250
the total amount is: 750
```

convert Fahrenheit into Celsius:

program:

```
fahrenheit=int(input("enter temperature in fahrenheit"))
c=(f-32)*(5/9)
print(c)
```

output:

```
enter temperature in fahrenheit 96
35.55555555555556
```

Program:

Apply 5% discount on total cost of n book:

```
B1=int(input('enter the number of book1:'))
B2=int(input('enter the number of book2:'))
B3=int(input('enter the number of book3:'))
B4=int(input('enter the number of book4:'))
B5=int(input('enter the number of book5:'))
 subtotal=B1+B2+B3+B4+B5
print(sum)
discount=sum*(5/100)
total=subtotal-discount
print('total cost after discount:',total)
```

output:

```
enter the number of book1:240
enter the number of book2:150
enter the number of book3:450
enter the number of book4:360
enter the number of book5:190
the cost of book; 1390
total cost after discount: 1320.5
```

program: To find the given number is prime or not

```
a=int(input("enter the value:"))
i=2
for i in range(2,a):
 if a%i==0:
    p=True
if True:
   print("the given number is not prime")
else:
   print("the given number is prime")
```

output:

```
enter the value:9
the given number is not prime
```

program: To find the given year is leap or onot

```
year=int(input("enter the year:"))
if(year%4==0):
   print("THE GIVEN YEAR IS LEAP YEAR")
else:
   print("The given year is not leap yeat")
```

output:

enter the year:2000

THE GIVEN YEAR IS LEAP YEAR

Program; To calculate simple interest

```
p=int(input("enter the value of p:"))
n=int(input("enter the value of n:"))
r=int(input("enter the value of r:"))
A=(p*n*r)/100
print("THE SIMPLE INTEREST OF AMOUNT IS;",A)
```

output:

enter the value of p:20000

enter the value of n:12

enter the value of r:2

THE SIMPLE INTEREST OF AMOUNT IS; 4800.0