1

A)

```
a=int(input("first value = "))
b=int(input("second value = "))
c=a
a=b
b=c
print('the exchanged values are ',a,b)
```

output : first value=4 second value=6 exchanged values= 6 , 4

---

b)

```
#exchange using third variable
a=int(input('first value = '))
b=int(input('second value = '))
c=a
a=b
b=c
print('the exchanged variables are ',a,b)
```

output: first value =2 second value=8 exchanged value = 8,2

---

c)

```
#exchange using arithmetic operator
a=int(input('first value = '))
b=int(input('second value = '))
a=a+b
b=a-b
a=a-b
print('the exchanged values are ',a,b)
```

output : first value =3 second value=5 exchanged values=5,3

---

d)

```
#exchange using xor operator
a=int(input('first value = '))
b=int(input('second value = '))
a=a^b
b=a^b
a=a^b
print('the exchanged values are',a,b)
```

output: first value=8 second value=1 exchanged values= 1,8

---

e)

```
#circulating the list of values using in-build functions
a=input('enter values =').split(',')
print('the original list is ',a,'\n','circulating the list')
for i in range(len(a)):
  a.append(a[0])
  a.pop(0)
  print(a)
```

output:

```
['2', '3', '1']
['3', '1', '2']
['1', '2', '3']
```

---

f)

```
#circulating the list using slicing operator
a=input('enter values =').split(',')
print('the original list is',a,'\n','circulating the list')
for i in range(len(a)):
   cir=a[1:]+[a[0]]
   print(cir)
```

output:

```
['2', '3', '1']
```

['3', '1', '2']

['1', '2', '3']

---

g)

```
#distance between two points
import math
x1=int(input('enter x1 ='))
x2=int(input('enter x2 ='))
y1=int(input('enter y1 ='))
y2=int(input('enter y2 ='))
d=math.sqrt((x2-x1)**2+(y2-y1)**2)
print('the distance between two points is',d)
```

output:

enter x1 =23

enter x2 =12

enter y1 =32

enter y2 =11

the distance between two points is 23.706539182259394