2A Exchange of two variables using third variable

a=int(input('First value:'))

b=int(input('Second value:'))

c=a

a=b

b=c

print('The exchanged values are are a={a} and b={b}',a,b)

output:

First value:2

Second value:3

The exchanged values are are a={a} and b={b} 3 2

>>>

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2b comma operator

a=int(input('First value:'))

b=int(input('Second value:'))

c=a

a=b

b=c

print('The exchanged values are are a={a} and b={b}',a,b)

output:

First value:45

Second value:25

The exchanged values are are a={a} and b={b} 25 45

>>>

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2c 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={a} and b={b}',a,b)

Output:

First value:10

Second value:15

The exchanged values are are a={a} and b={b} 15 10

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2c 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={a} and b={b}',a,b)

Output:

First value:2

Second value:3

The exchanged values are a={a} and b={b} 3 2

>>>

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2d circulating the list 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:

Enter values:1,2,3,4,5

The original list is {a}

Circulating the list

['2', '3', '4', '5', '1']

['3', '4', '5', '1', '2']

['4', '5', '1', '2', '3']

['5', '1', '2', '3', '4']

['1', '2', '3', '4', '5']

>>>

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2(e) calculating 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:

Enter values:1,2,3,4,5

The original list is {a}

Circulating the list

['2', '3', '4', '5', '1']

['2', '3', '4', '5', '1']

['2', '3', '4', '5', '1']

['2', '3', '4', '5', '1']

['2', '3', '4', '5', '1']

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2(f) calculating the 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}',d)

Output:

Enter x1:3

Enter x2:7

Enter y1:2

Enter y2:8

The distance between two points is {d} 7.211102550927978

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