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## Swap values in a list or values of variables in Python

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In Python, you can easily swap values without `temp` (temporary variable).

It is possible to swap values of variables and to swap values (elements) in a list.

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## Swap values of variables

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To swap values of variables, write as follows:

```
a = 1
b = 2

a, b = b, a

print('a = ', a)
print('b = ', b)
# a = 2
# b = 1
```

source: [swap\\_values.py](#)

You don't have to set up temporary variables like `temp`.

Similarly, you can write assignments of values to multiple variables in one line.

- **Related:** Multiple assignment in Python: Assign multiple values or the same value to multiple variables

```
a, b = 100, 200

print('a = ', a)
print('b = ', b)
# a = 100
# b = 200
```

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Not only swap of two values but also three or more is possible.

```
a, b, c, d = 0, 1, 2, 3

a, b, c, d = c, d, a, b

print('a = ', a)
print('b = ', b)
print('c = ', c)
print('d = ', d)
# a = 2
# b = 3
# c = 0
# d = 1
```

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## Swap values (elements) in a list

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The elements of the list can also be replaced. The order of the elements of the list is rearranged.

```
l = [0, 1, 2, 3, 4]

l[0], l[3] = l[3], l[0]

print(l)
# [3, 1, 2, 0, 4]
```

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To sort all elements in ascending or descending order, use the built-in function `sorted()` or the list method `sort()`.

- **Related:** [Sort a list, string, tuple in Python \(sort, sorted\)](#)

```
print(sorted(l))
# [0, 1, 2, 3, 4]

print(sorted(l, reverse=True))
# [4, 3, 2, 1, 0]
```

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