

Input & Output

By Yizhou Qian, Feb 2014 [Python 3]

Input

Usually, your programs needs some input from users. For example, you have a program which can solve equations, and you want the users to input equations. SO, here you need to use input function.

```
a = input() # This is the basic format of input. The variable a will record the words that the user typed with keyboard.
```

#Example 01 – Welcome

```
a = input() #You want the user to input his or her name here
print('Welcome to the programming world', a)
```

```
# Add some words to let the user know what he or she needs to input
user_name = input('Please input your name:') #You want the user to input his or her name here
print('Welcome to the programming world', user_name)
```

Attention: All the input is string!

```
#How to input an integer
my_int = int(input()) #Use this statement to convert string to integer
```

```
#How to input several integers
a , b , c = map(int,input().split()) # This statement is very important! Please try to memorize it.
```

#When you use this input statement, you should use space to separate different variables.

For example: 12 30 5

#Example 02 – Three integers

```
a , b , c = map(int,input().split())
print('My first integer is', a)
print('My second integer is', b)
print('My third integer is', c)
```

Advanced Printing

#Example 01 – separator

```
a = 'Py'
b = 'thon'
print(a,b)
print(a,b, sep='') #Use sep="" to replace the whitespace separator between items.
```

#Example 02 – end

```
for i in 'Python':  
    print(i)
```

```
for i in 'Python':
```

```
    print(i, end="") #Use end="" to replace the new line after print.
```

String Format

```
>>> print('{0} and {1}'.format('cat','dog'))
```

cat and dog

```
>>> print('{1} and {0}'.format('cat','dog'))
```

dog and cat

#Example 01 – integer

```
for i in range(1,20):
```

```
    print('{0:5}'.format(i),end="")
```

```
    if(i == 10):print()
```

#Example 02 – float point number

```
for i in range(1,20):
```

```
    a = i /3
```

```
    print('{0:5.2f}'.format(a),end=' ')
```

```
    if(i == 10):print()
```