

Type of Variables

Python has three standard data types

- Numbers
- String
- List

Number

- int (signed integers) Ex. 1, 43, 19, 29, 123
- float (floating point real values) Ex. 12.33, 2.9, 4.2

String

String is set of characters.Ex. "Animal", "MoMo123", 'Coding'

**Can be used for both Double Quote and Single Quote*

List

Lists are the most versatile of Python's compound data types. A list contains items separated by commas and enclosed within square brackets ([])

f-string

f-strings are a great new way to format strings

Example

Input

```
name = 'Momo' age
= 19
print(f'My name is {name}. I am {age} years old.')
```

Output

```
My name is Momo. I am 19 years old.
```

Limiting floats to two decimal points

The **round()** function returns a floating-point number which will be rounded to specified numbers, and it will round the float to two decimal places.

Example:

Input

```
my_float = 2.13456 limit_float =  
round(my_float, 2) print(limit_float)
```

Output

```
2.13
```

While Loop

“while loop” will depends on condition true or false. Syntax

```
while expression Statement
```

```
#Example file for working with loops
```

```
x = 0  
while(x < 4):  
    print(x)  
    x = x + 1
```

Output

```
0  
1  
2  
3
```

**Need “count” for while loop*

For Loop

Unlike while loop, “For loop” will depends on the elements it has to iterate.

Example:

```
#Example file for working with loops

for x in range(2,7):
    print(x)
```

Output

```
2
3
4
5
6
```

Example 2:

```
for i in range(1,7,2):
    print(i)
```

Output

```
1
3
5
```

Example 3:

```
for i in range(7,1,-1):
    print(i)
```

Output

```
7
6
5
4
3
2
```

Function

A function is a block of code which only runs when it is called. You can pass data, known as parameters, into a function. A function can return data as a result.

Example 1

Input

```
def my_function():    print("Hello World")  
  
my_function()
```

Output

```
Hello World
```

Example 2: return value

Input

```
def    my_function(x):  
return    5        *    x  
print(my_function(3))
```

Output

```
15
```

If-else

```
int a = 10  
if a == 10:  
    print("Yes")  
else:  
    print("No")
```

Output

```
Yes
```

Elif

```
a = 10
if a % 1 == 0:
    print("1")
elif a % 2 == 0:
    print("2")
```

Output

```
1
```

Moderation

```
a = 10 % 3
b = 10 % 4
print(a)
print(b)
```

Output

```
1
2
```

Division with no decimal

```
a = 10 / 3
b = 10 // 3
print(a)
print(b)
```

Output

```
3.3333
3
```

Convert type

```
number = "123"
print(type(number))

number = int(number)
```

```
print(type(number))
```

Output

```
class type<'string'>  
class type<'int'>
```

Another Example

```
text = "Hello World!"  
print(type(int(text)))
```

Output

```
Error
```

ASCII

```
letter = "a"  
print(ord(a))  
  
number = 96  
print(chr(number))
```

Output

```
96  
a
```

Split

```
a = "1,2,3,4,5,6,7"  
b = "1 2 3 4 5 6 7"  
c = "1/2/3/4/5/6/7"  
  
print(a.split(","))  
print(b.split(" "))  
print(c.split("/"))
```

Output

```
[1,2,3,4,5,6,7]  
[1,2,3,4,5,6,7]  
[1,2,3,4,5,6,7]
```

List add, update and remove

```
a = [1,2,3]
print(a)

a.append(4)
print(a)

a.remove(1)
print(a)

a[0] = 999
print(a)
```

Output

```
[1,2,3]
[1,2,3,4]
[2,3,4]
[999,3,4]
```

Slice List & Index

```
a = [1,2,3,4,5,6]
print("Index 0 : ", a[0])
print("Index 1 : ", a[1])

print(a[0:2])
print(a[0:])
print(a[0:-1])
```

Output

```
Index 0 : 1
Index 1 : 2

[1,2]
[1,2,3,4,5,6]
[1,2,3,4,5]
```

Sort List

```
a = [5,2,3,1,4]
a.sort()
print(a)
```

```
b = [5,2,3,1,4]
c = sorted(b)
print(c)
```

Output

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

Len

```
a = [1,2,3,4,5]
print(len(a))
```

Output

```
5
```

Upper and Lower

```
a = "hElloWorld"
print(a.upper())
print(a.lower())
```

Output

```
HELLOWORLD
helloworld
```

String format

```
a = "My name"
b = "is"

print(a+b+" Doraemon")
```


Output

```
My name is Doraemon
```

Abs

```
a = 5-10  
print(a)  
print(abs(a))
```

Output

```
-5  
5
```