

$x = 5 \rightarrow \text{print}(\text{type}(x)) \rightarrow \text{int}$

$x = \text{"ABC"} \rightarrow \text{str}$

$x = \text{"55"}$   
 $\downarrow$   
 $x = \text{int}(x)$   
 $\swarrow$   
 55

# Comment

C++ /

$x = 5$   
 $X = 10$

Different

$-x = 5 \rightarrow \text{private}$

$2x = 10$  X

$x2 = 10$  ✓

$x-1 = 10$  X

$x_1 = 10$  ✓

Case {
 

- $\text{Camel} = \text{my\_Variable} = \text{Methods, fun, var.}$
- $\text{Pascal} = \text{MyVariable} \rightarrow \text{Class}$
- $\text{Snake} = \text{my\_variable} \rightarrow \text{2.7 Py}$

$x, y, z = 10, 20, 30$

$a = b = c = 10$

$d = [10, 30, 20]$

$x, y, z = d \rightarrow \text{unpacking}$

$\text{print}(x, y, z) \rightarrow 10 \ 30 \ 20$

$\text{print}(x+z, y) \rightarrow 30 \ 30$

```

x = 10
def f1():
    x = 5
    print(x)
f1() → 5
print(x) → 10

```

```

def f2():
    global y
    y = 10
    print(y)

f2() → 10
print(y) → 10

```

## Data Type's

Text → str  
 Numeric → int, float, complex x = 10j  
 Sequence → list, tuple, range  
 Mapping → dict  
 Set → set, frozenset  
 Binary → bytes, bytearray, memoryview.  
 None → NoneType

range, xrange  
↘ No in python3

object → ~~a~~ = range(1, 10)  
           ↓  
           a = [1, 2, 3, ...]  
           print(type(a)) → list

```

import sys
a = range(1, 1000)
print(sys.getsizeof(a)) → 80046
      ↓      ↓
      Pkg   Method.

```

```

b = xrange(1, 1000)
print(sys.getsizeof(b)) → 40

```

return	range	xrange
	List of Integer	Generator object.
Speed	Slower	Faster
Memory	More	Less.
	py3	py2
	operation	No Operation.

$x = 15$

$y = 2$

$\text{print}(x//y) \rightarrow 7$  ↖ Floor Division

$2 \times 2 \times 2 \times 2 \times 2 \rightarrow$

$x = 2$

$y = 5$

$z = x ** y$  ↖

$x = 5$

$\text{print}(x > 3 \text{ and } x < 10) \rightarrow \text{True.}$

$x = ["apple", "banana"] \rightarrow$

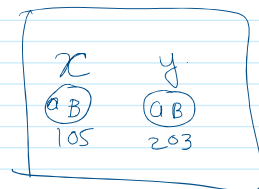
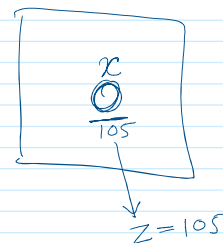
$y = ["apple", "banana"]$

$z = x$

$\text{print}(x \text{ is not } z) \rightarrow \text{False}$

$\text{print}(x \text{ is not } y) \rightarrow \text{True.}$

$\text{print}(x != y) \rightarrow \text{False.}$



`x = ["apple", "banana"]`

`print("banana" in x) → True`

`print("pineapple" not in x)`

## List

- Store from Index (0<sup>th</sup>) position
- Allow duplicate.
- `int ← len(x)`

• `y = ("AA", "BB") → Tuple`

`x = List(y)`

•  $\frac{+ve}{\downarrow}$  Forward     $\frac{-ve}{\downarrow}$  Reverse

Index	0	1	2	3	4	5	6
thislist	=	["apple",	"banana",	"cherry",	"orange",	"kiwi",	"melon", "mango"]
Count	1	2	3	4	5		

`print(thislist[2:5])`

Index    Count

thislist [ :4 ]  
[ 2: ]

<sup>-4</sup> <sup>-3</sup> <sup>-2</sup> <sup>-1</sup>  
thislist = ["apple", "banana", "cherry", "orange", "kiwi", "melon", "mango"]  
<sup>-1</sup>

print(thislist[-4:-1])