What are we gonna Master today?

Type Conversion

The process of Converting value of one data type (int, float, str) to another is called type conversion.

Let us see an example on code.

Python has 2 types of type conversion
1. Implicit type Conversion
2. Explicit type Conversion

Implicit type Conversion

In Implicit type conversion, Python automatically convert one data type to another data type.

Here no programmer involvement is needed.

eg.
$$3 + 4.5 = 7.5$$
(int)   (float)   (float)

this int is automatically converted to float

$$3 + 4 = 7 \times$$

Python always convert smaller data type to larger data type to avoid data loss.
eg.
$$a = 10 \qquad b = True$$
$$c = a + b$$

Explicit Type Conversion

In some cases, Python will not do type conversion automatically and we will have to explicitly convert one type to another.

Such type conversion are called Explicit type conversion.

eg.
$$a = 10$$
$$b = '5'$$
$$c = a + b \quad ?$$

To do explicit type conversion, Python gives us pre-defined function.

int ( )   complex ( )   str ( )

float ( )   bool ( )   etc.

int ( ) function

Syntax : int (value)

It returns an integer object converted from given value.

int (2.5) = 1
int (True) = 1
int ('Python') = ?

★ int cannot convert anything other than digits (no str , no complex)

★★ int (4.5) ⇒ 4

So, explicit type casting in above way can also lead to data loss.

float () function

Syntax: float (value)

It returns float object converted from a given value.

Similar to int float can also only handle digit (i.e. base 10 string)

Bool() Function

Syntax: bool (value)

Function converts a given value to bool.

bool (1)   ⟶   True
bool (0)   ⟶   False
bool ('python')   ⟶   True

★ What values are considered 'False' & what are 'true'?

The following values are considered **False**

- None , False
- Zero of any numeric type (0, 0.0, 0+0j, 0j)
- Empty Sequences [() , [] , '', ""]
- Empty mapping {}

All other values are True.

Str ( ) function

Syntax : str (value)

Converts any data type to str, without any special case.

str(1)	$\longrightarrow$	'1'
str (0)	$\longrightarrow$	'0'
str (false)	$\longrightarrow$	'False'