

Full stack web development using python

Variables and types



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Agenda

- ① Variables
- ② Dynamic Type
- ③ type()
- ④ Data Types

Variables

- Variables are used to hold data during execution of the program.
- In C, C++, You need to declare variables. Only after declaration you can use them.

```
int a;  
float b;
```

C, C++ are statically typed languages

Variables

- In C, C++, You need to declare variables.
Only after declaration you can use them.

```
int a;  
float b;
```

Python is dynamically typed language.

- In Python you don't declare variables.
If there is a need of a variable
you think of a name and start
using it as a variable

C/C++

int a; ← declaration

a = 5;

a++;

printf(" %d", a);

a = 7;

a

Python

a = 5 ← declaration

a = 5

a = a + 5

Automatic
declaration

Variable name

- variable name is any combination of alphabet, digit and underscore.
- variable name cannot start with digit.
- variable names are case sensitive.
- Keywords cannot be used as variable names.

Deleting Variable

$x = 5$

`del x`

Dynamic Type

- Not only the value of a variable may change during program execution but the type as well.

$x = 5$ # type of x is int

$x = 5.7$ # type of x is float

$x = \text{True}$ # type of x is bool

$x = \text{"MyString"}$ # type of x is str

✓ $a = 5$

✓ $a = 6$

✓ $a = 3.4$

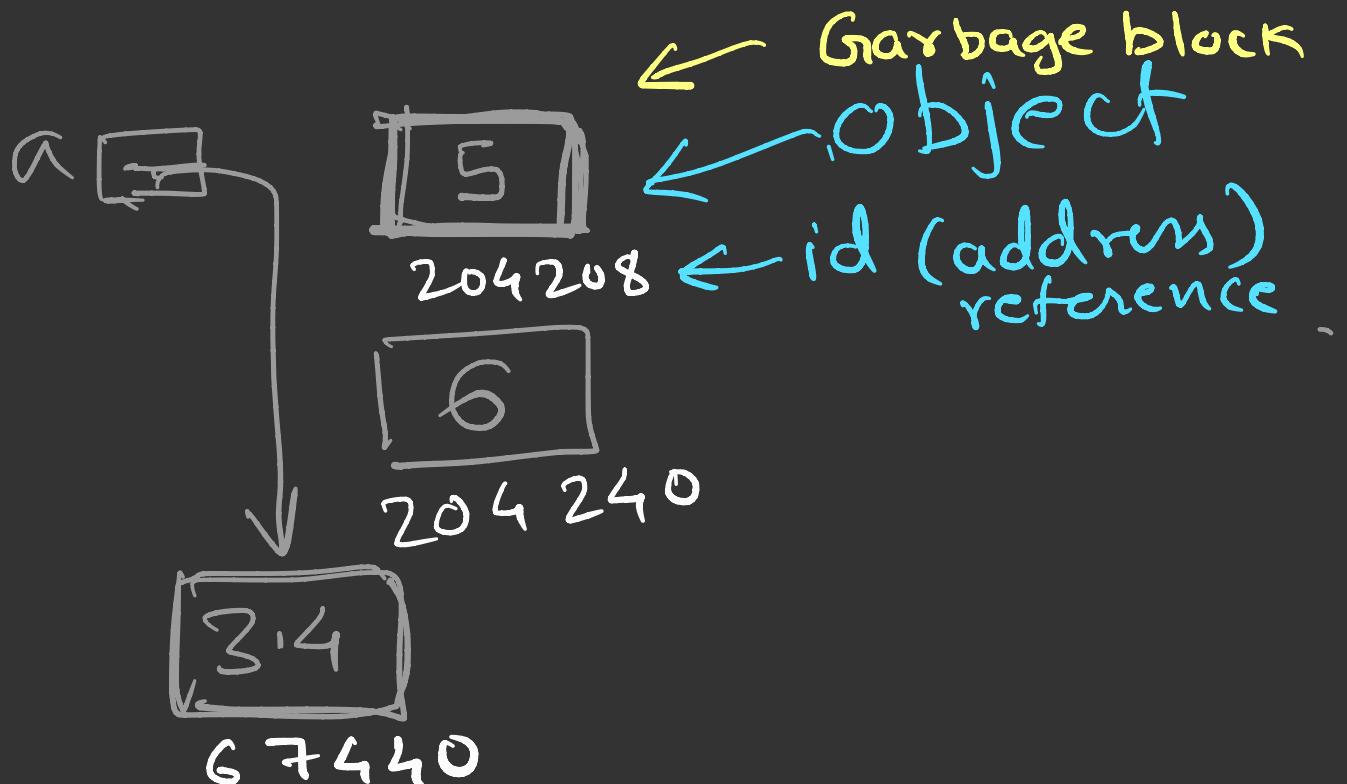
int

float

bool

str

data types
classes



C/C++
 a
 $a=5$
 $a=6$

type()

- type() is a predefined function which returns the data type of a specified variable

x = 5

type(x)

x = 5.7

type(x)

data type is always a class in Python

Data Types

- Numbers

int

5

float

3.7

complex

3+4j

• Boolean

bool

True
False

. String

str

"MySirG" | """MySirG"""
'MySirG' | '''MySirG'''

double is not
char is not

there in Python
there in Python