Creating Variables

Variable Names

Variable is a name which is used to refer memory location. Variable also known as identifier and used to hold value.

A variable can have a short name (like x and y) or a more descriptive name (age, carname, total_volume). Rules for Python variables:

In Python, we don't need to specify the type of variable because Python is a type infer language and smart enough to get variable type.

The equal (=) operator is used to assign value to a variable.

- A variable name must start with a letter or the underscore character
- A variable name cannot start with a number
- A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _)
- Variable names are case-sensitive (age, Age and AGE are three different variables)

Python has no command for declaring a variable. A variable is created the moment you first assign a value to it.

Example

```
x = 5  #x is of type int
y = "Ram" # y is of type str
print(x)
print(y)
```

Output :

5

Ram

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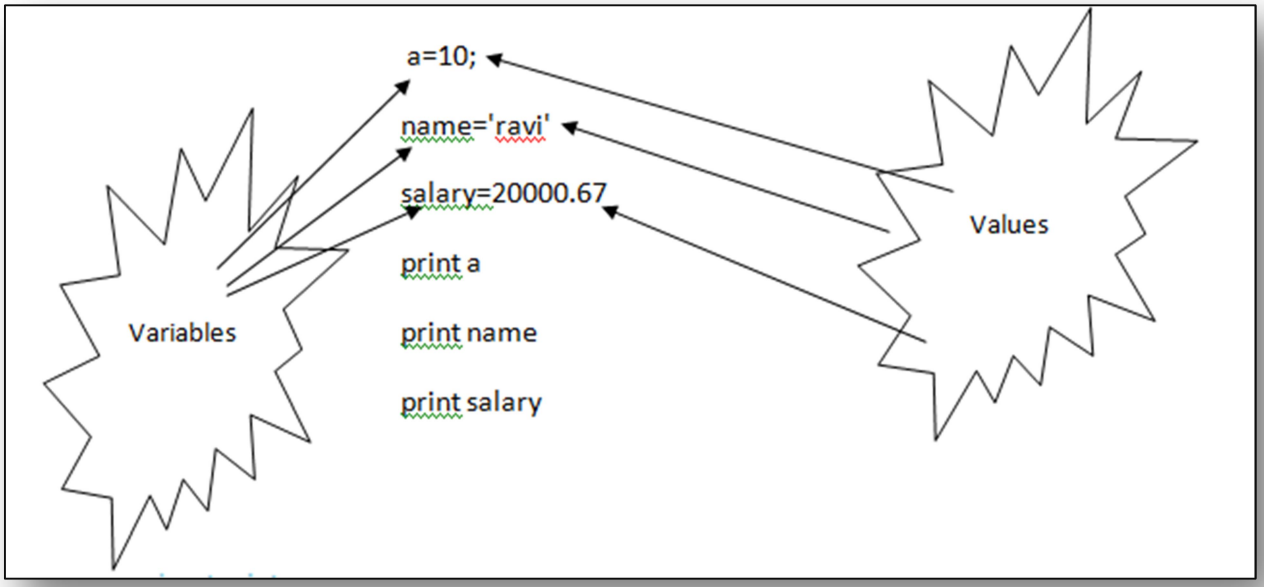

Python Numbers

There are two numeric types in Python:

- int
- float

Variables of numeric types are created when you assign a value to them

Int

Int, or integer, is a whole number, positive or negative, without decimals, of unlimited length.

Example

Integers:

x = 1
y = 35656222554887711
z = -3255522

Float

Float, or "floating point number" is a number, positive or negative, containing one or more decimals.

Example

Floats:

```
x = 1.10
y = 1.0
z = -35.59
```

Specify a Variable Type

There may be times when you want to specify a type on to a variable. This can be done with casting. Python is an object-orientated language, and as such it uses classes to define data types, including its primitive types.

Casting in python is therefore done using constructor functions:

int() - constructs an integer number from an integer literal, a float literal

Example

Integers:

```
x = int(1)   # x will be 1
y = int(2.8) # y will be 2
z = int("3") # z will be 3
```

Output :

1

2

3

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float() - constructs a float number from an integer literal, a float literal or a string literal (providing the string represents a float or an integer)

Example

Floats:

```
x = float(1)     # x will be 1.0
y = float(2.8)   # y will be 2.8
z = float("3")   # z will be 3.0
```

Output :

1.0

2.8

3.0

str() - constructs a string from a wide variety of data types, including strings, integer literals and float literals

Example

Strings:

```
x = str("s1") # x will be 's1'
y = str(2)    # y will be '2'
z = str(3.0)  # z will be '3.0'
```

Output :

s1

2

3.0