Python Variables

## Variables

Variables are containers for storing data values.

## Creating Variables

Python has no command for declaring a variable.

A variable is created the moment you first assign a value to it.

## Casting

If you want to specify the data type of a variable, this can be done with casting.

## Get the Type

You can get the data type of a variable with the type() function.

## Single or Double Quotes?

String variables can be declared either by using single or double quotes:

## Case-Sensitive

Variable names are case-sensitive.

# Python - Variable Names

## Variable Names

A variable can have a short name (like x and y) or a more descriptive name (age, carname, total\_volume).

Rules for Python variables:

* 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)
* A variable name cannot be any of the [Python keywords](https://www.w3schools.com/python/python_ref_keywords.asp).

## Multi Words Variable Names

Variable names with more than one word can be difficult to read.

There are several techniques you can use to make them more readable:

## Camel Case

Each word, except the first, starts with a capital letter:

myVariableName = "John"

## Pascal Case

Each word starts with a capital letter:

MyVariableName = "John"

## Snake Case

Each word is separated by an underscore character:

my\_variable\_name = "John"

# Python Variables - Assign Multiple Values

## Many Values to Multiple Variables

Python allows you to assign values to multiple variables in one line:

**Note:** Make sure the number of variables matches the number of values, or else you will get an error.

## One Value to Multiple Variables

And you can assign the same value to multiple variables in one line:

## Unpack a Collection

If you have a collection of values in a list, tuple etc. Python allows you to extract the values into variables. This is called unpacking.

# Python - Output Variables

## Output Variables

* The Python print() function is often used to output variables.
* In the print() function, you output multiple variables, separated by a comma:
* You can also use the + operator to output multiple variables:
* In the print() function, when you try to combine a string and a number with the + operator, Python will give you an error:
* The best way to output multiple variables in the print() function is to separate them with commas, which even support different data types: