



Python for Journalists

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What's Python?

Some basic concepts

- Modules
- Variables
- Lists
- Methods
- Control Flow

Usage

IPython Notebook

Executing a script



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Python is a programming language.

Python Main characteristics:

- Easy to learn compared with other languages.
- Open source
- ...



Some basic concepts

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We are going to introduce some basic concepts related to programming in Python. They will be necessary to follow our workshop.

We assume that you never programmed before.

If you have any questions, please ask!

Modules

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Python is a programming language, that mean that we have to write our own functionalities **but no PANIC!!** Someone have done some of this work for us.

Modules are pieces of code with that we can use just importing them. There are thousand of Python modules (statistics, plotting data, web development, etc.).

```
1 import pandas as pd
```

After import a module we can use all its functions, methods and other functionalities.



Variables

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When we write a program we want to reuse some results. For this reason we assign this results (calculus, tables, strings, etc.) to a name obtaining a variable.

In next lines of code we can use this variables.

```
1 radius = 20
2 surface = 3.14*(radius**2)
```

If variables names are representative help us to make our code more readable.



Lists

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A list is a collection of variables. Those variables can be words, numbers, other variables, etc.

```
1 my_list = [ "blanco", 5, 6.4, radius ]
```

To access every item in the list we call it by its position.
BUT!! we start counting on zero:

```
1 my_list[0]  
2 output : "blanco"
```

Methods

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In Python, every variable has available methods (“functions”). But every variable has different methods depending of variable type (integer, string, etc.).

```
1 s = "I'm a string"
2 s.replace('i', 'o')
3 output: "I'm a strong"
```

For this reason is said that “all in Python is an object”.



Control Flow Statements

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To give some kind of intelligence to our code and obtain different outputs depending on some conditions we can use control flow statements.

- **Conditional** (if, elif, else).
- **Loops** (while , for).

Obviously we can mix this two types of control flow statements.

Control Flow Statements - Examples

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```
1 if item[0] == "blanco":  
2     print "El primer elemento es un color"  
3 else:  
4     print "El primer elemento es otra cosa"
```

```
1 for item in my_list:  
2     print item
```

You should respect the indentation in Python (those white spaces at the beginning of some lines)

Control Flow Statements - Examples

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You can also use conditions with ">", "<", "==" , "and", "or"

```
1 if 3000 > 30:  
2     print "El primer elemento es mayor"  
3 else:  
4     print "El segundo elemento es mayor"
```



How to use Python?

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To use Python we need to write our code “somewhere”.

Python have 2 different ways to programming:

- Executing a script.
- Using interactive console.



IPython Notebook

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IPython Notebook

Executing a script

IPython Notebook is a quite new interactive console for programming in Python.

Is not really used by programmers but is widely used in scientific environment.

In Interactive Python console we execute our code line by line and we obtain results steps by step.



Executing a script

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To execute a script we need a file with our code with .py extension and execute this command line in console:

```
1 python my_script.py
```

To execute our code we can use an IDE (Interactive Development Environment) but for beginners is not really necessary.



Thank you :) Now you try!!

