

Python Modules

- A **module** is a file containing Python definitions and statements such as variables, functions, classes etc;
- The file name is the module name with the suffix **.py** appended;
Example: **automation.py** is the file and **automation** is the module;
- **There isn't a special syntax to create a module;**
- Python **modules** and **packages** are two mechanisms that facilitate **modular programming**;
- **Before using a module, we must import it !**

Example:

```
>>> import math
>>> type(math)
<class 'module'>
>>> dir(math)
['__doc__', '__loader__', '__name__', '__package__', '__spec__', 'acos', 'acosh',.....]
>>> math.sqrt(2)
1.4142135623730951
```

Type of Modules

- **Built-in modules**: they come with Python and are part of so called **Python Standard Library**.
- **External modules**: they are not included in the standard Python Installation. They must be downloaded from the Internet.
- **pip** is a simple utility that downloads and installs modules and packages at you command line directly from the Internet;
- Display all available modules:

`help('modules')`
- Modules have been written either in **Python** itself, or in **C**