Environment setup

Python installation

Installing Python is very easy. The reference version for this course is Python 3.6.x, although all the code should be compatible with any Python 3.x.

- **On Windows:**
  - The advised Python distribution is Anaconda. You can download the executable from https://www.anaconda.com/download/. Then, you just have to follow the installation wizard. Make sure the installer adds on your `PATH` the folder with the necessary executables (`python.exe` for the Python console and `pip.exe` for the pip package manager), so you can call them from any folder on the command prompt or on another terminal emulator.

    You can invoke a Python console with

    ```
    python
    ```

    If you have an older Python version installed on your system make sure that this new one is visible on your system `PATH`s.

- **On Ubuntu Linux:**
  - Python is preinstalled since Artful (17.10) and you can invoke a Python console on your favourite terminal emulator with

    ```
    python3
    ```
  - On Yakkety (16.10) and Zesty (17.4) Python comes in the PPA universe repository. Just run

    ```
    sudo apt-get install python3.6
    ```

    and you will be able to invoke a console with

    ```
    python3.6
    ```
  - On the older systems, like Trusty (14.4) or Xenial (16.4), you can still install Python 3.6 from a PPA repository. You will need to add a third party PPA (https://launchpad.net/~deadsnakes/+archive/ubuntu/ppa), then update, and give the install command.

Packages installation

Now, let's install the necessary packages for the course. In Python you can install packages (libraries) through dedicated package managers. The most popular, and the one we are going to use, is `pip`. The syntax to use pip is the following:

```
pip install <package-name>
```

(or `pip3`, depending on the installation procedure). Some of the packages necessary for this course will be:

- `numpy`
- `scipy`
- `pandas`
- `scikit-learn`
- `jupyter` (already present on Anaconda Python installations)

Notice that, depending on your Python installation, you could have some of these packages already installed.

IDE installation

Any IDE supporting Python is fine for the course. Our recommendation - and in general the most popular free Python IDE - is **PyCharm Community Edition** by JetBrains.

You can get it from here: https://www.jetbrains.com/pycharm/download/

Note that for Linux the official installation uses a Snap package. It is also possible to install it through PPA and umake as shown here: https://itsfoss.com/install-pycharm-ubuntu/