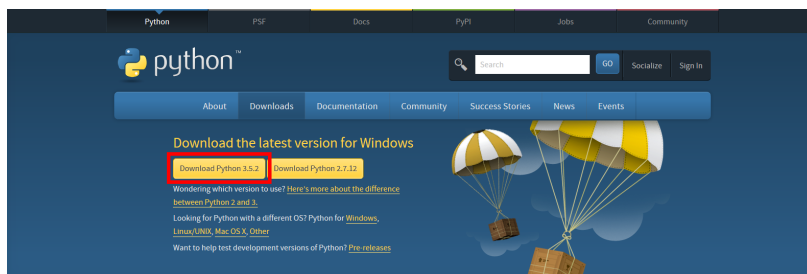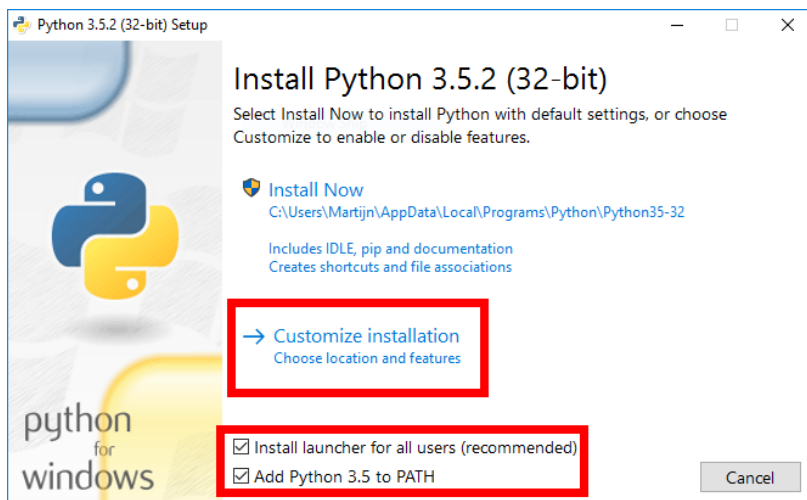# Python 3 Installation Guide
for Windows

Note. Exactly follow the steps in order to make it easier to add functionality to your Python installation (both during this tutorial and afterwards).

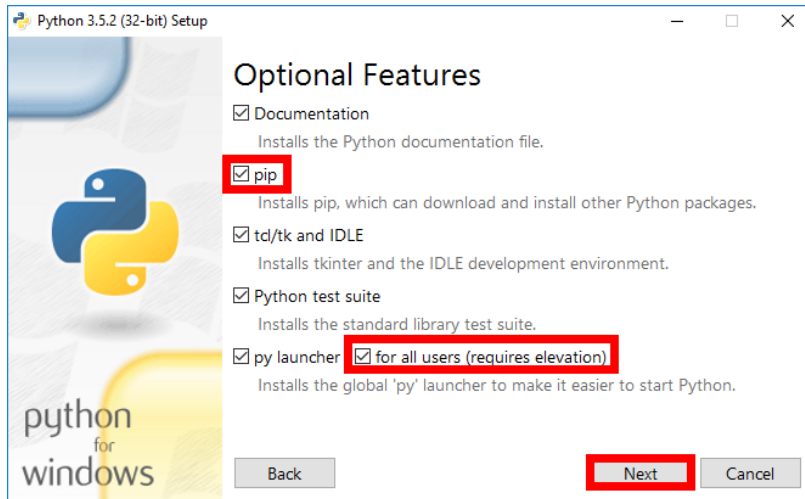## Installing the Python 3 Interpreter

To run files programmed in Python, the Python interpreter is needed. This interpreter goes through your code and executes it step by step.
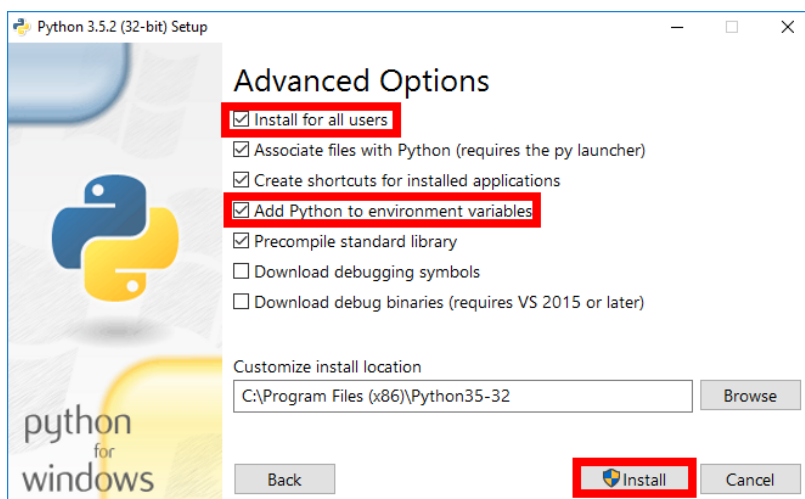

Step 1: Go to `https://www.python.org/downloads/` and download the latest version of Python 3. Open the installer.

Step 2: Select that Python should be installed for all users, and that it should be added to PATH (this makes it easier to find for other applications). After ticking both boxes, continue with a customized installation.
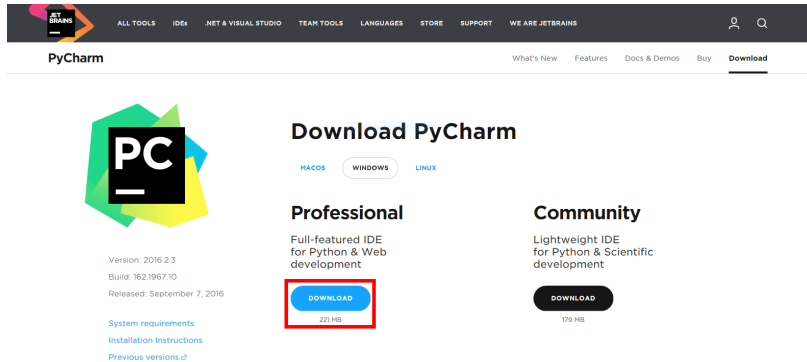
Step 3: Make sure that both pip, which allows you to easily add functionality to Python using packages, and the option to install Python for all users, are ticked. Leave the rest in their default state and continue the installation.

Step 4: Under advanced options, make sure that Python is installed for all users, and that it's added to the environment variables. The text box should then show a subdirectory of the Program Files folder as the installation path. To finish the installation of the Python interpreter, press install.
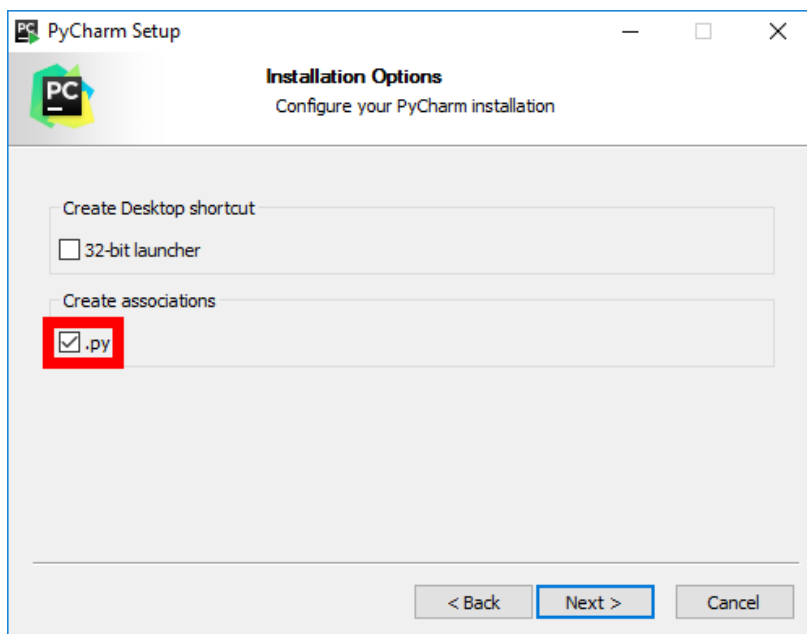
Installing the PyCharm IDE

An IDE such as PyCharm can help making programming in Python easier for you by offering features such as syntax highlighting, completion of commands and execution by only clicking a button.

Step 5: Go to `https://www.jetbrains.com/pycharm/download/` and download PyCharm Professional (in case you don't want to make an account, you can sacrifice some functionality and download the Community version).

While downloading PyCharm, go to `https://www.jetbrains.com/student/` and use your student email address to apply. Shortly thereafter, you will receive an email with your account details.
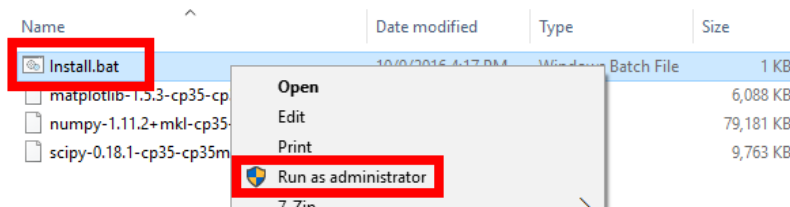

Step 6: Then start the PyCharm installer. Under instalation options, check that .py files should automatically be opened with PyCharm. For the rest, install PyCharm with its default options.

When opening PyCharm after the installation, use the account details you received to register your copy. Furthermore, PyCharm allows you to select a theme; select one you like, you can always change it later on.

Installing Libraries

Libraries allow you to easily perform operations in code that would be much more difficult to program by hand. The libraries you're about to install (numpy, scipy, and matplotlib) are focused on mathematics and allow you to do various things, ranging from integrating to plotting.

Step 7: From the same GitHub folder this guide was in, download the libraries zip file corresponding to your version of Python (for example, 3.5 for version 3.5.2). Once downloaded, unzip the file.

Then, right-click the Install.bat file and open it as administrator. This file should automatically install the three libraries for you. If successful, you shouldn't see any red error text.