

INSTALLING PYTHON (FOR NEUROSCIENCE)

1. WINDOWS

There are a number of different “distributions” of Python for Windows, many of which are specifically tailored for scientific applications. Currently we recommend the 64-bit version of WinPython using Python 3.4 (<https://winpython.github.io/#overview>), which is portable, light-weight, and routinely updated. However, other distributions (Anaconda, Canopy, etc.) offer similar features.

TASK 1.1: INSTALL WINPYTHON

WinPython is a “portable” version of Python, meaning everything required to run a Python interpreter is “self-contained” in one directory/folder. This means that you could run Python off of a USB drive, if you so desired, leaving no trace on your computer.

EXERCISE 1.1.1: DOWNLOAD AND RUN THE INSTALLER

- Go here: https://sourceforge.net/projects/winpython/files/WinPython_3.4/3.4.4.2/ and download the “WinPython-64bit-3.4.4.2.exe” file. This is the latest “stable” version. Run the executable and select a convenient directory for installation.

Installing Python just means copying all of the relevant files to a known directory structure. Python.exe will be in the top-level of this directory. The “Lib\Site-Packages\” folder is where you will put new “add-ons” to Python. This is simply a convention, i.e. a place that Python always checks for new files (“packages”).

An IDE (integrated development environment) provides an interface (often a GUI) that makes it easier to program in Python (either via the interpreter console or scripts). It provides visual access to the memory types and contents available, as well as number of convenient debugging/testing tools (e.g. run just “selected” lines in a script). We strongly recommend **Spyder** (Scientific Python Development EnviRonment).

EXERCISE 1.1.2: OPEN YOUR IDE (SPYDER) AND ADD A SHORTCUT TO THE TASKBAR/DESKTOP

- Now you are ready to program! (Note: “Matlab” is an IDE for the Matlab language.)

2. MAC/LINUX

Currently, we recommend Anaconda for Mac or Linux systems. Anaconda is a free, albeit commercial, distribution of Python prepared by Continuum Analytics. Continuum does sell a number of useful add-ons (e.g. for using the GPU), but the base version is quite good and very up-to-date.

TASK 2.1: GET ANACONDA

EXERCISE 2.1.1: INSTALL ANACONDA

- Go the Continuum website (<http://docs.continuum.io/anaconda/install.html>) and follow the instructions for installing the latest version of Anaconda specific to your OS.

You will also want an IDE to program in Python; Anaconda supports many different IDEs. We strongly recommend that you begin with Spyder (see above instructions for Windows).

EXERCISE 2.1.2: OPEN YOUR IDE (SPYDER)

- Follow the instructions here: http://docs.continuum.io/anaconda/ide_integration.html

CORE CONCEPTS

Python

IDE

Spyder

Anaconda

Portable Python

Lib\Site-Packages

Portable Python