CSC 202: Installing Python, Jupyter Notebook, and Python modules

Overview

In this class we will use several tools for developing and running Python programs. In particular, we will work with the following:

1. *Python* (https://www.python.org/), a general purpose programming language
2. *Jupyter Notebook*s (https://jupyter.org/), web-based platforms for creating, explaining, and sharing code.

Both Python and Jupyter Notebooks can be installed from the Anaconda Individual Distribution.

Installing the Anaconda Individual Distribution

Install the Anaconda Distribution for your system by following the directions at the following link: https://www.anaconda.com/products/individual

The Anaconda Distribution comes with both *Python* and *Jupyter Notebook*.

Running Jupyter Notebook

Open Anaconda Navigator, and then click Launch under the Jupyter Notebook app.

Installing Python modules

Your Python installation comes with hundreds of modules, such as the *math* module. We will use additional modules for specialized tasks, which can be installed from Anaconda Navigator.

To select packages for installation, first click on "Environments", and make sure that the "base (root)" environment is selected. Then change the dropdown from "Installed" to "Not installed".
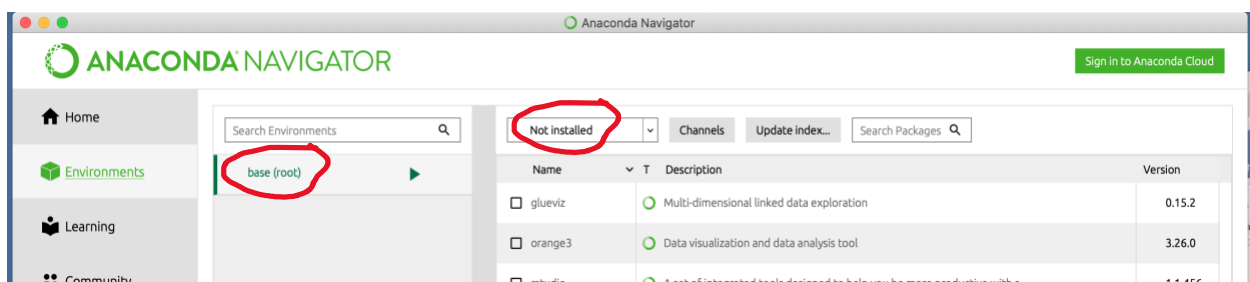
Install a module by typing the module name in the "Search Packages" box to find the module, then checking the check box next to the module name. You may select multiple modules for installation at the same time. When ready for installation, click "Apply" on the bottom right., and click "Apply" again following the notification of the packages that will be installed. Note that the

installation process may take some time. However, if it takes more than 10 minutes, or if you have any other trouble installing packages let me know!

Follow the instructions above to install the following modules:

- textblob
- nltk
- wordcloud
- spacy
- tweepy
- folium

To install several modules, we need to add a *channel* (which is a URL where modules are available). Select the "Channels" button near the top of the page, click Add, then type the following and press enter:

```
https://conda.anaconda.org/conda-forge/
```

Then click "Update Channels" to add the channel. Now install the following modules:

- spacy
- spacy-model-en_core_web_sm
- speechrecognition
- pyaudio

Installing tensorflow

In order to install *tensorflow*, we must create a new Anaconda environment (an environment is a collection of modules; a separate *tensorflow* environment is necessary to ensure that its modules do not conflict with any of the other modules that are installed). Create an environment by clicking "Create" at the bottom of the Environments tab (see figure on next page). Name the environment "tensorflow_environment", select Python under Packages, and select the most recent version. Then click Create to create the environment.

After the environment has been created, select the *tensorflow_environment* and install the following packages:

- tensorflow
- keras
- nb_conda
- matplotlib
- pandas