

CSC 202, Installing Python and Related Tools

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 Notebooks* and *Jupyter Lab* (<https://jupyter.org/>), web-based platforms for creating, explaining, and sharing code. *Jupyter Lab* is the “next generation” of Jupyter Notebooks. For us, the main advantage of *Jupyter Lab* is the availability of a console so that we do not have to create new cells to experiment with code.
3. *Spyder* (<https://www.spyder-ide.org/>), an integrated development environment (IDE) for developing and running Python code, recommended for larger programs.

Installing Jupyter Notebook and Spyder through the Anaconda Distribution

Install the Anaconda Distribution for your system by following the directions at the following link: <https://www.anaconda.com/distribution/>

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

Running Jupyter Notebook

Once *Jupyter Notebook* is installed, you can run Jupyter Notebook by typing the following using your machine’s **terminal** or **Anaconda Command Prompt**:

```
jupyter notebook
```

For more information, see <https://jupyter.readthedocs.io/en/latest/install.html>

Installing and Running Jupyter Lab

Install Jupyter Lab by typing the following from your terminal or Anaconda Command prompt:

```
conda install -c conda-forge jupyterlab
```

To run Jupyter Lab, type the following at your terminal or Anaconda Prompt:

```
jupyter lab
```

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 by typing the appropriate commands at your **terminal** or **Anaconda prompt**. See the links below for installation instructions. Use the *import* statement in Python to check whether the module is successfully installed (e.g., open a Jupyter Notebook and type *import math*).

Required modules (will be updated throughout the semester):

- textblob: <https://anaconda.org/conda-forge/textblob>
- wordcloud: <https://anaconda.org/conda-forge/wordcloud>
- spacy: <https://anaconda.org/conda-forge/spacy>
 - en_core_web_sm model: https://anaconda.org/conda-forge/spacy-model-en_core_web_sm
 - en_core_web_lg model: https://anaconda.org/conda-forge/spacy-model-en_core_web_lg
- tweepy: <https://anaconda.org/conda-forge/tweepy>
- folium: <https://anaconda.org/conda-forge/folium>
- SpeechRecognition: <https://anaconda.org/conda-forge/speechrecognition>
- Google API Python Client: <https://anaconda.org/conda-forge/google-api-python-client>

- Tensorflow:

- in order to use Tensorflow, we must create a new Anaconda environment that contains the desired packages. This is accomplished by running the following from your terminal (Mac/Linux) or Anaconda prompt (Windows):

```
conda create -n tf_env tensorflow anaconda ipython jupyterlab  
scikit-learn matplotlib seaborn h5py pydot graphviz
```

- You also will need to install nb_conda
https://anaconda.org/anaconda/nb_conda