Installing Anaconda Python

For data science, I recommend installing and using the Anaconda distribution of Python. This section details the installation of the Anaconda distribution of Python on Windows OS, Linux OS and MacOS. Anaconda is free (although the download is large which can take time) and can be installed on school or work computers where you don't have administrator access or the ability to install new programs. Anaconda comes bundled with about 600 packages pre-installed including **Pandas**, **NumPy**, **Matplotlib** and **Scikit-Learn**. These packages are very useful for data science.

Installing Anaconda Python on Windows OS

Follow the steps below to install the Anaconda distribution of Python on Windows.

Steps:

1. Visit Anaconda.com/downloads
2. Select Windows and Download the ***.exe*** installer (Python 3.7 version)
3. Open and run the ***.exe*** installer
4. Follow the installation instructions
5. Open the **Anaconda Prompt** and run some code

Installing Anaconda on MacOS

This section details the installation of the Anaconda Distribution of Python on MacOS. Most versions of MacOS come pre-installed with legacy Python (Version 2.7). You can confirm the legacy version of Python is installed on MacOS by opening and running a command at the MacOS **terminal**. To open the MacOS terminal use `[command]+[Space Bar]` and type `terminal` in the Spotlight Search bar.
In the MacOS Terminal type (note: the dollar sign `$` is used to indicate the terminal prompt. The dollar sign `$` does not need to be typed): `$ python`. You will most likely see Python version 2.7 is installed.

Follow the steps below to install the Anaconda distribution of Python on MacOS.

Steps:

1. Visit Anaconda.com/downloads
2. Select MacOS and Download the ***.dmg*** installer (Python 3.7 version)
3. Open the ***.dmg*** installer
4. Follow the installation instructions
5. Open a terminal and type `python` and run some code

Installing Anaconda on Linux

This section details the installation of the Anaconda distribution of Python on Linux, specifically Ubuntu 18.04, but the instructions should work for other Debian-based Linux distributions as well.

Ubuntu 18.04 comes pre-installed with Python (Version 3.6) and legacy Python (Version 2.7). You can confirm the legacy version of Python is installed by opening up a terminal.

Steps:

1. Visit Anaconda.com/downloads
2. Select Linux and Download the ***.sh*** installer (Python 3.7 version)
3. Verify the Data Integrity of the installer

```
$ sha256sum Anaconda3-2019.03-Linux-x86_64.sh
```

```
Output
45c851b7497cc14d5ca060064394569f724b67d9b5f98a926ed49b834a6bb73a  Anaconda3-2019.03-Lin
```

4. Run the Anaconda Script

```
$ bash Anaconda3-2019.03-Linux-x86_64.sh
```

5. Selection options

```
Output
...
installation finished.
Do you wish the installer to prepend the Anaconda3 install location
to PATH in your /home/sammy/.bashrc ? [yes|no]
[no] >>>
```

It is recommended that you type `yes` to use the `conda` command.

6. Activate installation

```
$ source ~/.bashrc
```

7. Open a terminal and type `python` and run some code

Installing Tensorflow with pip

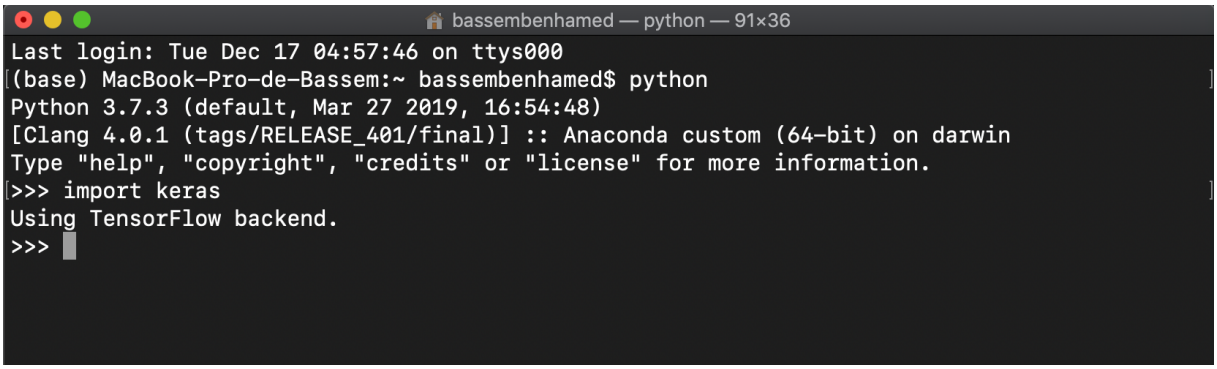
Open your main Terminal (Linux OS or MacOS) or the Anaconda Prompt (Windows OS) and enter the following three commands (line by line):

```
pip install theano

pip install tensorflow

pip install keras
```

You can test



Installing Tensorflow without pip

Tensorflow cannot be installed with Python 3.7 (with pip install), we will install it with Python 3.6. Fortunately, Anaconda has a feature called "environments" that allows you to install more than one version of Python in different environments, each with different packages installed as you see fit. So you can have only one environment for the sole purpose of these tutorials if you wish, and it will not spoil your default Python installation. This allows us to keep 3.7 as Python by default, while installing an older version, too, for use with tensorflow.

Steps:

Open your main Terminal (Linux OS or MacOS) or the Anaconda Prompt (Windows OS) and enter the following commands (step by step):

1. Create a new environment with Anaconda and Python 3.7

```
conda create -n tensorflow python=3.7 anaconda
```

2. Activate the environment

```
activate tensorflow
```

3. After this you can install Theano, TensorFlow and Keras

```
conda install theano
conda install tensorflow
conda install keras
```

4. Update the packages

```
conda update --all
```