Hi everyone!

Welcome to the first session (asynchronous) for the "Python for Research" Workshop! We are excited to start teaching you the essentials of Python so that you can start doing some cool stuff with it and get into research! Python is an easy to learn, simple to use and an enormously powerful language! The possibilities with Python are virtually endless. However, we will be focusing on a very specific part of Python, that is, using it in a scientific research context. If you are interested in other applications of Python, the internet is the best place to start searching for information. One comprehensive source for learning Python and its various applications is this website.

Now, the first step in any coding workshop is to make sure everybody has the appropriate softwares installed. This is usually the most difficult part because of the different laptop operating systems, software configurations etc. However, don't be daunted! We will follow a fairly standardized process to install the necessary software.

To learn Python, we will be making use of Jupyter Notebooks. Jupyter notebooks are an excellent interactive platform for coding and is used in both teaching and research contexts. We will be installing Jupyter Notebooks through the Anaconda distribution . Follow these steps to get your Jupyter notebooks running!

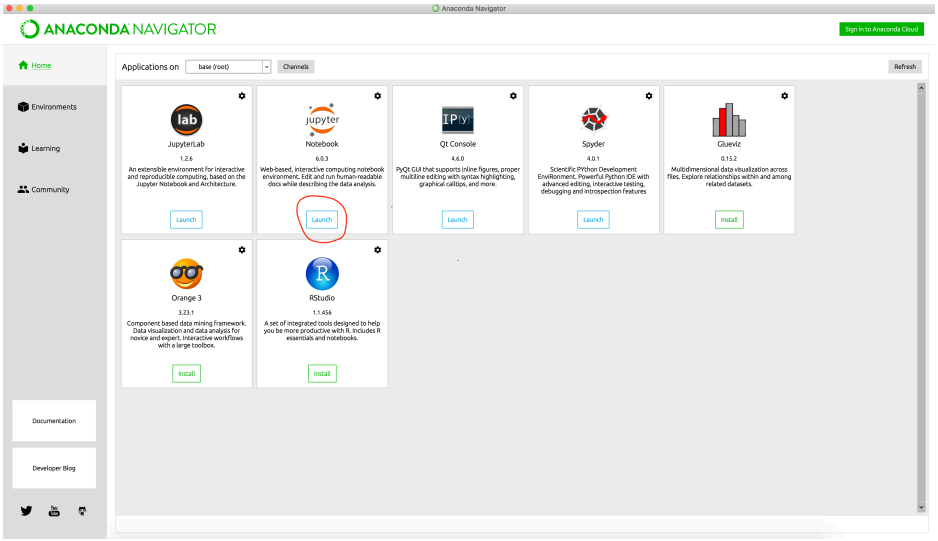
1. Go to this link. Click on the "Download" button. Then choose the appropriate option: if you have a Mac, click on the MacOS option ... if you have a Windows machine, click on the Windows option. You will also notice that under each of these options, there are 2 more options: 64-bit and 32-bit. Choose the 64-bit option.

2. Once that is done, click on the downloaded file and follow through all the steps. If you are prompted to an "Advanced Options" tab, make sure both "Anaconda to my PATH environment variable" and "Register Anaconda as my default Python" options are enabled. For purposes of this workshop, the "add to my PATH environment variable" is not essential, however, it will be useful. It basically allows one to open Jupyter Notebooks through the command-prompt / terminal.

3. Once the Installation is complete, it might prompt you to install PyCharm, however, note that it is optional and not at all required for the workshop. PyCharm is just another environment (like Jupyter Notebook) to code in Python.

4. Once it is all done, let us now open "Anaconda Navigator". Depending on what machine you are using, you can search for it and open it. This is what the name of the installed software is. The icon is a green ring. Eg. If you are on Windows, you can search for Anaconda-Navigator through the Search bar. If you are on a Mac, you can see it in your Launchpad where all the other apps are.

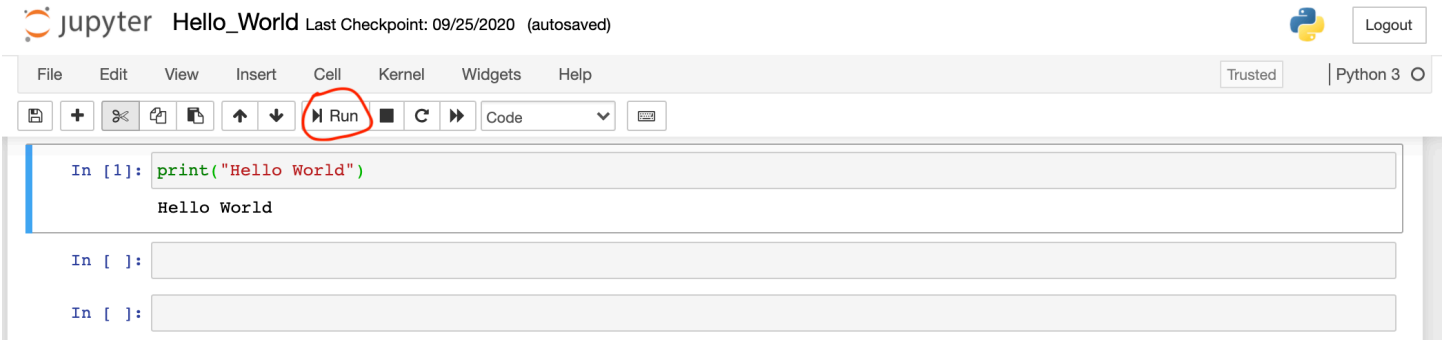
5. Once you open the Anaconda-Navigator, it will show a tab with a bunch of different applications, one of which is Jupyter Notebook. Launch Jupyter Notebook by clicking on the Launch button for Jupyter Notebook.



6. Launching Jupyter Notebook should open a window that looks similar to this (image shown below). Click onto Desktop and press New and then Python 3 to open a new notebook.

7. This (above) video is an excellent source to familiarize yourself with Jupyter Notebooks and the interface. You can click on the above image. It will redirect you to the video.

8. Once you open the notebook, type print("Hello World") and then Run the cell by clicking on 'run'.



9. You have now officially entered the realm of Python!

Future Hackerman

We **highly recommend** installing Anaconda (which installs Python and Jupyter notebooks with it) before we meet next Monday. Once you finish installing Anaconda, make sure that you can launch Jupyter Notebook through the steps described above. Also, remember that the internet is going to be your best friend when it comes to learning how to code. Therefore, looking up different installation guides or youtube videos if things that are unclear is a great idea! Also, if there are any questions or concerns regarding the workshop, feel free to message us on the SPS Slack or emailing me at virajmanwadkar@gmail.com.

Also, remember that we are all here to learn Python in the most chill and relaxed way possible! So in case something goes south or you don't understand something about the installation or anything later in the workshop or just want to talk, please reach out to us. We want to help as many people as we can and so please don't hesitate to ask for help.

We are very excited and hope you are too!