

SDS Base Camp – W3D1 Exercises¹

Before beginning the exercises meet your group members! If any of your group members are participating online, coordinate with them about how you will include them in your group. We recommend including them on Zoom while you work together. You can create a UCPH Zoom account and Zoom meetings through the following link: <https://ucph-ku.zoom.us/>.

3.1.1. Install Python and Jupyter Notebook via Anaconda

[Python](#) is a free programming language. We will use the distribution called [Anaconda](#) as it comes with the most essential for working with data, statistical computing and visualizations, as well as Jupyter Notebook.

Install Anaconda for Windows by [following these steps](#) or [watch this video](#)

Install Anaconda for Mac by [following these steps](#) or [watch this video](#)

3.1.2 Open and run Jupyter Notebook

Since our coding will be in the Python language, we will use an integrated development environment ([IDE](#)). IDEs integrate text editing and syntax highlighting, simplifying the coding process. These packages are automatically included in Anaconda. We will use [Jupyter Notebook](#) - it's free and modern, and if you're new to Python this will make it much easier to get started. All Python coding in this course will be done in Jupyter Notebook.

The [Jupyter Notebook App](#) can be launched in a couple of ways:

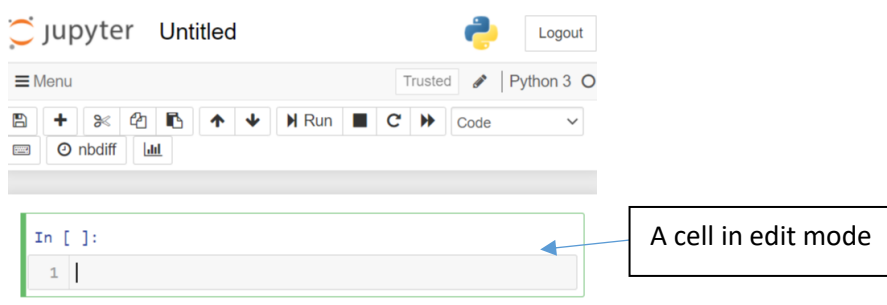
- a) Open Anaconda and then Jupyter Notebook
- a) Open Anaconda Prompt (you can search for it in the Start Menu, Windows) or a terminal (Mac) then type `jupyter notebook`

This will launch a new browser window (or a new tab) showing the Notebook Dashboard, a sort of control panel that allows (among other things) to select which notebook to open.

3.1.3 Create a new notebook

Figure out where you want to store your files for the course. You can navigate through the different folders within the browser window opened by Jupyter Notebook. Once you're in folder you want, click New ▾ and then choose "Python 3."

A new browser window should open looking like this:



3.1.4 Write a "Hello Base Camp!" Program

¹ These exercises have been adapted in part from <https://abjer.github.io/sds2019/post/install/>.

Jupyter works with cells where you can put code. A cell with a **green** bar to the left is in edit mode (like in the picture above). A cell with a **blue** bar to the left is in command mode. If you're in edit mode you can press ESC to switch to command mode.

To add code, click on a cell or press Enter, to go into edit mode. In your cell add the following code:


```
print("Hello Base Camp!")
```

To run your code, Click the ► button or press SHIFT + ENTER

You've now participated in the [computing tradition of "Hello World" programs!](#)

3.1.5 Practice working in Jupyter Notebook

- a) To add cells:
 - Click the + symbol, or
 - In command mode, type "a" to add a cell above, or
 - In command mode, type "b" to add a cell below
- b) To delete cells:
 - In command mode, type "dd"

(Note: this command and many others likely stem from "classic" code editing programs, for example [Vim](#))
- c) To rename your notebook:
 - click on "Untitled" and name your notebook.
- d) To save your notebook:
 - Click the  symbol, or
 - Press CTRL+s

For more resources on Jupyter Notebook see:

- This blogpost from Social Data Science 2019: <https://abjer.github.io/sds2019/post/jupyter/>
- General resources and documentation here: <https://jupyter.readthedocs.io/en/latest/>

3.1.6 Download today's exercise notebook from Absalon

Save the notebook where you want to store your exercises.

In the Jupyter file navigation window, the new file should appear in the list. Click on it to open the notebook.

Complete the remaining exercises in the notebook.