MacOS setup sequence to run A301 Jupyter notebooks.
Updated 2025/Jan/02

Follow the steps in column 1 exactly as written. This sequence assumes you are running a laptop or computer that uses a Mac OS. NOTE: Commands must be typed EXACTLY as written: copy and pasting doesn't work.

Table 1: One-time setup instructions

	Do this …	… which will accomplish this.
0	Find out what model your Mac cpu is, by tapping on the apple icon in the upper left hand corner of the screen and selecting "About This Mac". Under "processor" you should see either "Core Intel …" (for older macs) or "Apple M1 or M2" (for Macs built after November, 2020 with the ARM cpu)	
1	- Download miniconda from https://docs.conda.io/en/latest/miniconda.html choose the `Miniconda3 MacOSX 64-bit.pkg` version if you are Intel, or the `Miniconda3 macOS Apple M1 64-bit pkg` if you're ARM/M1 - Run the downloaded executable file by opening it, agreeing to the licenses and accepting all defaults. - You should install for "just me".	Install "miniconda", software that both manages packages you will fetch later, and includes basic components of Python.
2	- Open Spotlight search with the icon on your menu bar (it looks like a magnifying glass) OR by holding command-space, then type "terminal" to open a terminal. - at the terminal prompt, type `zsh` - verify that python is installed by typing `which python` You should see something like `/Users/phil/opt/miniconda3/bin/python`	Run the MacOS terminal

3	Make a new folder by typing the following at a new terminal prompt
	
	`mkdir -p ~/repos/a301`
	
	where "~" means "my home folder" and corresponds to the path you see when you type
	
	`echo $HOME`
	
	at the prompt
	
	Change to this directory by typing
	
	`cd ~/repos/a301`
	
	Then type `pwd`
	
	This should show your a301 folder as your current working folder.
	
	This is called a "path", copy and paste it into whatever you use for keeping notes as you will use it anytime you want to use jupyter notebook in future.
		Use a few basic command line instructions, see where you are (which folder), what's there.

4	Download the file named "environment.yml" from the following Dropbox link: environment.yml At a prompt type `open .` (the word open followed by a period) to start Finder in this folder. Use finder to move your `environment.yml` file from your Downloads folder to your a301 folder. You should see the filename listed when you type `ls` at the command prompt	Download the specifications for your conda environment. For more info: see the explanation of "why environments" in Resources below.
	Do this …	**… which will accomplish this.**

5	In the folder `~/repos/a301`
	
	Set conda-forge as your preferred source of python packages. Note that "--add" is two short dashes followed by add
	
	`conda config --add channels conda-forge`
	
	followed by (again, type two short dashes followed by set)
	
	`conda config --set channel_priority strict`
	
	Create the a301 environment by typing (again, note the two short dashers)
	
	`conda env create --name a301 --file environment.yml`
	
	- conda will begin downloading and installing packages.
	
	- Type `conda env list` You should see a list of two environments: "base" and "a301"
		From the "base" environment, build the environment required for running Python and Jupyter notebooks for this course.

| 6 | Activate the a301 environment by typing:

`conda activate a301` | |

Table 2: To use jupyter notebook any time

1.	Open Spotlight search with the icon on your menu bar (it looks like a magnifying glass) OR by holding command-space, then type "terminal" to open a terminal.	
2.	Change into your a301 folder as before a) In the terminal window type: `cd ~/repos/a301`	
3.	- Type `conda activate a301`	Makes the packages specified by the "e211" environment available to Jupyter.
4.	- Type: `jupyter lab.` - You should see your browser open a new window with the Jupyter Notebook interface. If not, get help from the instructor / TA.	Test Jupyter Notebooks.

Resources
Using the command line and "shells" :
- https://eoas-ubc.github.io/tut-commandline.html?highlight=commandline .

Explanation of "why environments":

- https://www.freecodecamp.org/news/why-you-need-python-environments-and-how-to-manage-them-with-conda-85f155f4353c/ .

Jupyter Notebook documentation:

- Jupyter lab -- https://jupyterlab.readthedocs.io/en/stable/