1. **THINGS YOU NEED TO DO FIRST**

**So we might as well start with them first. You will need to set up one or several Python environments. To begin, you will need to set up Anaconda and then use Conda to set up a Python environment. You do not have to use the latest Python, but at some point you will want to know what it is.**

Creating a Python Environment

**After selecting the Python version to install, use conda to create and do it.**

**Python has different levels and numerous versions. Currently the latest level is 3.12. But there can be multiple versions. To find out the latest released version, you can actually ask Google:**

**Type in:** *“what is the latest python 3.12”*

**And Google, as of today, would report:**

Python 3.12.3 is the latest stable release of Python, which includes changes to the language and standard library. The library changes focus on usability, correctness, and cleaning up deprecated APIs. The distutils package has also been removed from the standard library.

**Someday soon it could be 3.12.4. Or some newer version. After finding the latest release, you can simply direct conda to go get it and load this Python version. You also give it a name you create – to keep track of it. Like let’s call it py312c:**

**conda create -n "py312c" python=3.12.3**

**Conda can also tell you all the versions you have loaded**

**conda env list**

# conda environments:

#

base \* /opt/anaconda3

Py310 /opt/anaconda3/envs/Py310

airflow /opt/anaconda3/envs/airflow

lf /opt/anaconda3/envs/lf

py310 /opt/anaconda3/envs/py310

py3106 /opt/anaconda3/envs/py3106

py311 /opt/anaconda3/envs/py311

py311a /opt/anaconda3/envs/py311a

py312a /opt/anaconda3/envs/py312a

**py312c /opt/anaconda3/envs/py312c**

py38 /opt/anaconda3/envs/py38

py39 /opt/anaconda3/envs/py39

py39d /opt/anaconda3/envs/py39d

pypy /opt/anaconda3/envs/pypy

(base) richardkatz@Richards-MacBook-Pro ~ %

**This will tell you the list of Python environments you have created. Note - the one we just created is listed (shown in bold above).**

**To ensure the new environment works – just activate it:**

(base) richardkatz@Richards-MacBook-Pro ~ % conda activate py312c

(py312c) richardkatz@Richards-MacBook-Pro ~ %

**Once activated, the name of the environment is shown in the command prompt. To start it just type python**

python

Python 3.12.3 | packaged by conda-forge | (main, Apr 15 2024, 18:50:49) [Clang 16.0.6 ] on darwin

Type "help", "copyright", "credits" or "license" for more information.

>>>

Make the Python Environment available for Jupyter Lab

**You can make these environments available to Jupyter Lab. First we install some parts in the environment using pip. Make sure the environment is selected in conda before starting (**conda activate py312c**)**

**Then:**

pip install notebook

pip install ipykernel

**Finally we use run ipykernel install to tell the environment what its name is.**

% python -m ipykernel install --user --name py312c

/Users/richardkatz/Library/Jupyter/kernels/py312c

**ipykernel reports:**

Installed kernelspec py312c in /Users/richardkatz/Library/Jupyter/kernels/py312c

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**1 Python Native and Minimal Libraries:**

**NumPy and numba: Mathematics Basics for Python**