

# Intro to Python - Assignment 1

Due October 27, 2025

For this assignment, I would like you to use Jupyter Notebooks to share your findings with me.

This notebook should have Markdown cells to describe the steps that you are doing and code blocks to show your work.

I would like everyone to complete the RNASeq assignment. The focus of this assignment is to:

- get familiar with setting up a project folder with the included data source
- load a dataset with Pandas
- do some exploratory data analysis
- provide some summary statistics on your dataset
- generate some plot(s) to describe your work

For students looking for a more advanced option, I have included a second assignment that looks at totally different data source, MEG brain data.

## RNASeq

For this assignment, we will be looking at RNASeq data. With this dataset, I would like you to do the follow:

- load the data
- create new columns to extract metadata (group, origin)
- provide some summary statistics
- create some plots

## Advanced challenge

We will be looking at some MEG data from an auditory-visual task. The goal of this assignment is to work with a different type of data using a Python package you may be unfamiliar with.

I would like you to focus on using the tutorials to do the following steps:

- Load raw MEG data
- Create an events array
- Add events to raw object as annotations
- Create epochs
- Create evoked
- Create plot of evoked
- Create a dataframe from an evoked
- Provide some summary statistics

## Resources

- [https://mne.tools/stable/auto\\_tutorials/intro/20\\_events\\_from\\_raw.html](https://mne.tools/stable/auto_tutorials/intro/20_events_from_raw.html)
- [https://mne.tools/stable/auto\\_tutorials/evoked/20\\_visualize\\_evoked.html](https://mne.tools/stable/auto_tutorials/evoked/20_visualize_evoked.html)