

Introduction

- What is Pandas?
- Some resources:
 - Pandas documentation: <https://pandas.pydata.org/pandas-docs/stable/>
 - API Reference: <https://pandas.pydata.org/pandas-docs/stable/reference/index.html>
 - Pandas in 10 minutes:
https://pandas.pydata.org/pandas-docs/stable/getting_started/10min.html
 - A (relatively) simple introduction:
<https://towardsdatascience.com/a-quick-introduction-to-the-pandas-python-library-f1b678f34673>
- Installation/setup

Pandas - The Basics

- What is a Series?
- What is a Dataframe?
- Viewing your data
 - Getting columns
 - Getting rows

Manipulating Dataframes

- Math on dataframes
- Built in Pandas functions
 - Mean, median
 - Check out documentation, there are a lot!
<https://pandas.pydata.org/pandas-docs/stable/reference/frame.html#computations-descriptive-stats>
- Apply:
<https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.DataFrame.apply.html#pandas.DataFrame.apply>

Getting Data from Files

- The data we are going to use:
 - <https://finance.yahoo.com/quote/%5EGSPC/history?period1=-1325617200&period2=1574658000&interval=1d&filter=history&frequency=1d>
- Load CSV
- Calculating Returns
- Turning Daily Data Into Monthly/Annual
- DropNA
- Save CSV

Merging Data

- Great Article:
 - <https://datacarpentry.org/python-ecology-lesson/05-merging-data/#:~:targetText=Pandas%20merge%20and%20concat%20can,be%20in%20the%20final%20DataFrame>
- The data we are going to use:
 - <https://finance.yahoo.com/quote/AAPL/history?period1=-1325617200&period2=1574658000&interval=1d&filter=history&frequency=1d>
 - <https://finance.yahoo.com/quote/IBM/history?period1=-1325617200&period2=1574658000&interval=1d&filter=history&frequency=1d>
 - <https://finance.yahoo.com/quote/AMZN/history?period1=-1325617200&period2=1574658000&interval=1d&filter=history&frequency=1d>

Visualization

- `Dataframe.plot()`
 - <https://pandas.pydata.org/pandas-docs/stable/reference/frame.html#plotting>
 - <https://pandas.pydata.org/pandas-docs/version/0.23.4/generated/pandas.DataFrame.plot.html>
 - https://pandas.pydata.org/pandas-docs/stable/user_guide/visualization.html
- What is Matplotlib?