

Activities Pandas 2

In this set of activities, we first will load and visualize Google Stock Data (from 2014).

- (1) Download the Google Stock Data from the website.
- (2) Create a Pandas dataframe for it. You should notice that you need to write a couple of converters, but some work can be done by Pandas. The first column contains dates, and you can make them indices by using `pd.read_csv(parse_dates=[0], index_col = 0)`. The volume data is numeric, but has separating commas. You want to write a converter for them.
- (3) You can create a graph by using the `plot()` method on the resulting data frame. If you are not using a Jupyter notebook, you should import `matplotlib.pyplot` and use the `matplotlib.pyplot.plot()` function to actually show the graph. To create the graph in the first place, you use the `.Close.plot()` method where `Close` is the name of the column.
- (4) When you compare the figures for the closing (`Close`) and opening (`Open`) values, you see that the figure for the closing price has a large gap. This is because Google did a stock divide where a single stock was split into two. The closing numbers reflect the price of a single share.

There are also two stock market data downloaded from Yahoo.Finance for Alphabet ('GOOG') and Apple ('App').

- (5) Create Pandas dataframes for both alphabet and apple shares.
- (6) Plot the closing stock prices for both
- (7) Find out the maximum volume of Apple stock traded and find out the day it happened.
- (8) In preparation for concatenation, rename the column with the closing stock prices for Apple and Google 'AAPL' and 'GOOG' respectively, Do not forget to set the parameter `inplace` to `True`, because otherwise, you change only a temporary object.
- (9) Concatenate the data for the dataframes for Apple and Alphabet (along axis 1). You should only select the 'AAPL' and the 'GOOG' column each.
- (10) Create a graph of the combined stock price.
- (11) Use the `corr()` method on the combined data frame. The correlation measures — roughly speaking — how much the two graphs follow each other.