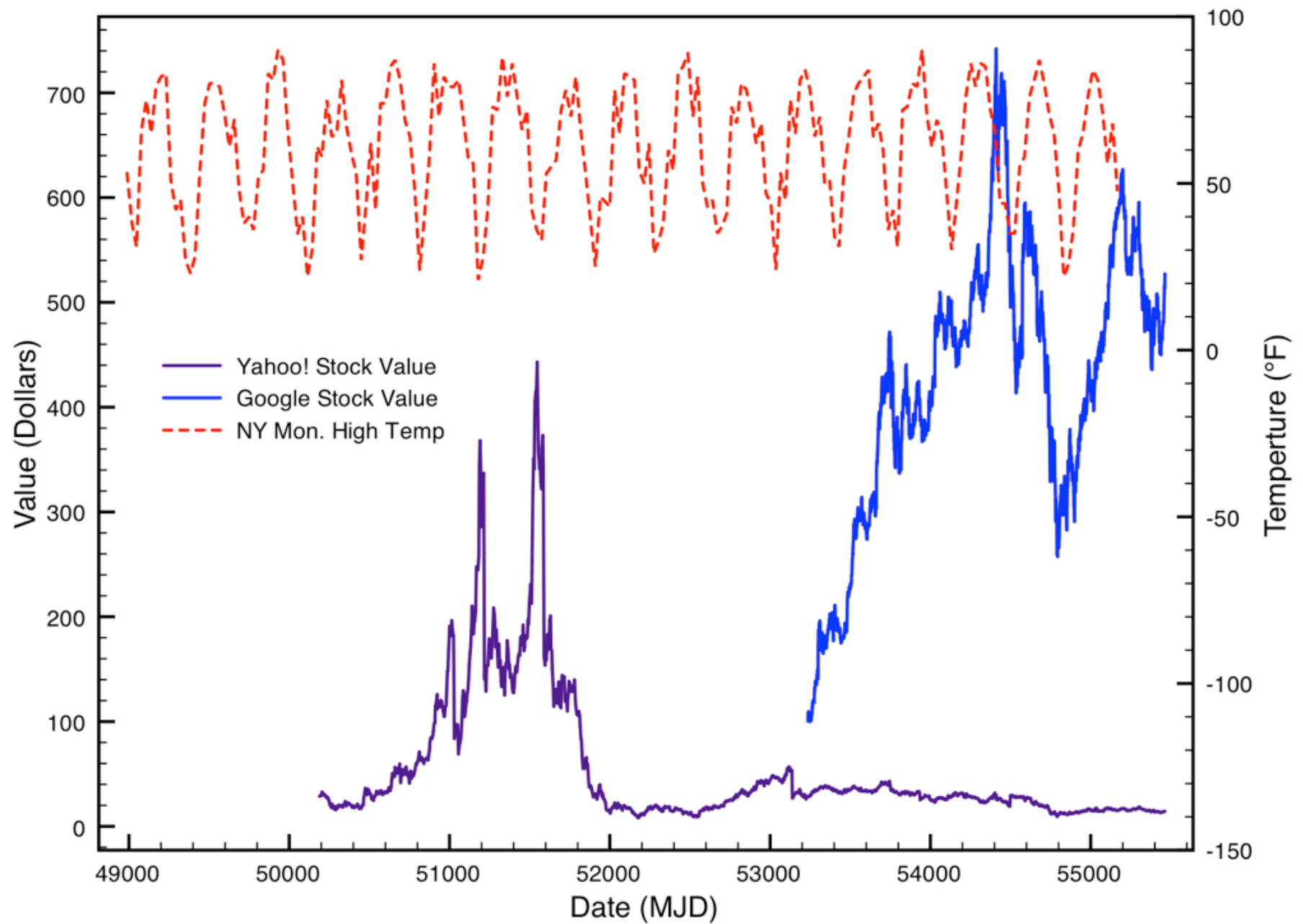


Homework #1

- 1) Reproduce one of your old published-paper quality plots with matplotlib. Provide the original plot, the recreated matplotlib plot, and the Python code used to make the new plot.
- 2) Reproduce in matplotlib the provided plot `stocks.png` using the provided csv datafiles `ny_temps.csv`, `yahoo_data.csv`, and `google_data.csv`. Provide your new plot and the Python code.

New York Temperature, Google, and Yahoo!



3) Make a generic "Brushing" code

It is obviously difficult to visualize data in plots when there is more than 2 dimensions or parameters to explore. Brushing is a technique that allows you to plot many pairs of parameters of a dataset in many subplots: when you highlight some region of data in one plot the associated data points in the other plots are automatically "brushed" (they change color, opacity, etc.). This allows you to highlight a region of interest (or maybe just an outlier) in some parameter space and see where that region lies in other dimensions.

3) Make a generic "Brushing" code

Here, we'll ask you to make a brushing code that can read in a dataset of with many rows and multiple variables/parameters (columns), make subplot of some pairs of parameters, and then let the user interactively draw rectangular brush regions. After the rectangle is drawn, the data not associated with that region has it's opacity reduced in **all** subplots. All the user to remove a brushed region by typing "d" while the mouse is over that brush region.

3) Make a generic "Brushing" code

Some starting ideas:

1. First make sure you can make subplots in matplotlib. Try reading in a dataset as a record array using loadtxt

2. write some class-based code to draw and save rectangular regions

take a look at:

http://matplotlib.sourceforge.net/api/artist_api.html#matplotlib.patches.Rectangle

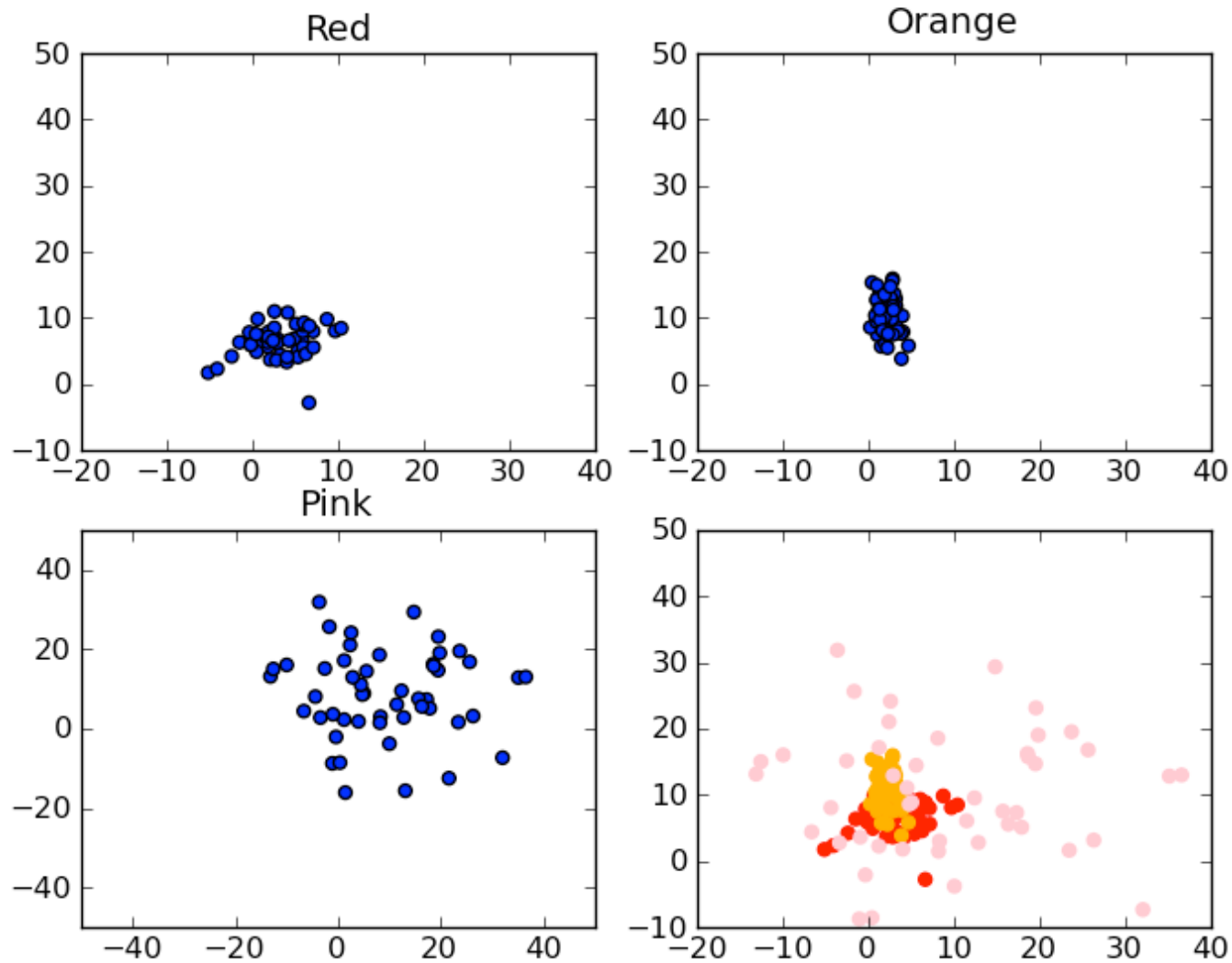
you'll also want to play around with registering events in mpl

3. To get a better idea of what we're looking for, you might want to look at the project "viewpoints"

<http://www.assembla.com/wiki/show/viewpoints/>

Homework #1

brushing
idea



Homework #1

brushing
idea

