

Milestone One

Names: Owen Suelflow, Jacob Posner, Sam Anthony

Topic: [link](#)

Looking at historical price data on individual tickers to glean insight into how prices change.

Broad Questions:

1. What indicators predict price the best?
2. When a stock has earnings (e.g. reports how they did in the previous quarter), how does that affect stock price?
3. How can we best predict when a stock will change trends (e.g. go from an up trend to a down trend)

Reading in data

Setup

```
library(tidyverse)
library(ggplot2)
```

We have historical price data on all stocks in the Nasdaq. Each stock has its own ticker (e.g. 'AAPL'), and each has its own csv file with price data.

```
# Reading in price data for 'AAPL'
aapl <- read_csv("../data/nasdaq_prices/stocks/AAPL.csv")
```

```
tail(aapl)
```

```
# A tibble: 6 × 7
  Date       Open  High  Low Close `Adj Close` Volume
<date>   <dbl> <dbl> <dbl> <dbl>      <dbl>   <dbl>
1 2020-03-25  251.  258.  244.  246.      246.  75900500
2 2020-03-26  247.  259.  246.  258.      258.  63021800
3 2020-03-27  253.  256.  247.  248.      248.  51054200
4 2020-03-30  251.  256.  249.  255.      255.  41994100
5 2020-03-31  256.  262.  252.  254.      254.  49250500
6 2020-04-01  246.  249.  239.  241.      241.  43956200
```

Codebook

1. Date

- A `date` object that lists the date in "YYYY-MM-DD" format

2. Open

- A double that gives the opening price of the stock each day

3. High

- A double that gives the high price of the stock each day

4. Low

- A double that gives the low price of the stock each day

5. Close

- A double that gives the closing price of the stock each day

6. Adj Close

- A double that gives the adjusted closing price of the stock each day (we will not be using this)

7. Volume

- A double that gives the amount of shares traded of the stock each day.

Next Steps

We can try to answer the first question: Which indicators predict price the best? An indicator is a technical analysis tool that uses price data to produce a numerical value that tells us some information about the price. Most indicators can be calculated from the data we have.

This seems reasonable. It seems that the data would be very clean, so perhaps you will not need to spend a lot of time on data wrangling right now. You should be able to experiment with a variety of indicators. I would also encourage you to start brainstorming an idea for a second dataset that you could combine with your stock data or one that relates to the overall topic of stocks. (You need to use at least 2 datasets for this