

P Discovery Project

Your manager asked you to look at your company performance versus other similar companies in your field. You feel that your company has had a successful year. To show this you decide to compare your company's performance with other successful companies. Choose a company that is traded on the United States New York Stock Exchange. This stock will then be considered "your company" for this project. The stock that your company will be compared against is the S&P 500 Information Technology Index or S&P 500 for short.

1. Download Data

- a. Download, copy and paste or transcribe the stock data for your company and S&P 500 for the prior year. For example, if it is 2021 then download 1/1/2020 to 12/31/2020 stock performance. Hint: use the internet and search how to download stock data.
 - When downloading your year of data, use the frequency of one week or one data point per week for approximately 52 data points.
 - Only use the Close of market (Close for short) data for this project.

2. Plotting Time Domain Data

- a. Create separate plots for your company's stock and the S&P 500 for the year. Remember to label the figure and don't forget to include units such as dollars for the y axis (two graphs).
- b. Create a time series plot including both companies' stocks (one graph).

3. Hypothetical Investment

- a. The stock prices of your company and the S&P 500 may vary greatly. To avoid this problem, you decide to make a hypothetical investment of \$1,000 at the first of the year. Before doing that, normalize your data by dividing each value by the largest value in your dataset. All your values should be less than or equal to 1. Repeat Part 2 steps A and B plots using the hypothetical investment data (three graphs).
- b. Compare and contrast the plots from Parts 2 and 3.

4. Report Findings to the Manager

After looking at the performance of your company and the S&P 500 write a 1-2 paragraph summary of your findings such as what was learned from the different plots, or how they stocks performed during different time frames. Include other suggestions to further benchmark performance.