**3250 Group 4 - Term Project**

**Team Members**

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**Project Description**

Based on the backgrounds and interests of the group members, we would like to explore trends in the equity investment market by using historical US stock market information as a proxy. The goal is to perform analysis that would answer the following questions

1. How has the composition of stocks by industry changed over time?
2. If we are to select a stock by industry at random, what are the chances that it has positive return? Which industry should we invest in for the most return?
3. What are the daily and monthly price changes at individual stock and industry level?
4. Is there a linear correlation between volatility of prices to overall return?
5. Is there a correlation between days of loss until a day of positive return?

**Analysis Tasks In Scope**

1. Gather data and perform descriptive analysis
2. Merge datasets and resolve mismatches
3. Identify anomalies and outliers
4. Calculate and graph stock composition by industry over time
5. Calculate and compare average stock return by industry
6. Calculate percentage of stocks with positive return by industry over time
7. Calculate daily and monthly price changes by industry and determine distribution of standard deviation
8. Calculate correlation of stock returns to price volatility by industry over time
9. Calculate days of loss until positive return and chi square of dataset to determine if they are dependent

**Other Tasks In Scope**

1. Split administration and other required tasks among team members
2. Split analysis tasks among team members
3. Document analyses and findings
4. Summarize materials to a final report
5. Prepare 3 minutes of presentation for responsible section