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Project Report

**Section One: “Overview and Summary or Project”**

The program I have created gives the user a graph of three stocks cumulative returns that the user chooses over a certain time period. The user is asked which stock tickers they want to compare, then the user individually enters the tickers. After the user has entered all three of their tickers, they are then asked to give a date in which they want the data of the stocks to be taken from. After they give the date, the program then gives the user a list of the adjusted close for each day the company has been traded in the given time period. After the program gives the adjusted closes, it than produces a graph with the three different stocks’ cumulative return from the given time period. The stocks are presented as a line graph and there is a legend in the top right corner that shows the user what stock is what. The graph has the dimensions of 15,8 which will fill the user’s screen. The user can repeat the process as easy as they originally ran it by doing the same thing.

The user interface is very simple. It is just the user’s keyboard. The user is asked to type the tickers into the terminal as well as the date they select. After the user types the tickers and the date, the program does the rest. It prints the adjusted closes and composes the graph.

Input:

Text

Description automatically generated

Output:

Graphical user interface, text

Description automatically generated­

­­Chart, line chart

Description automatically generated

**Section Two: “Target Audience”**

The target audience for this program is investors of any level. They could be inexperienced investors that invest on their spare time, or they can be experienced investors that may invest for a living. Basically, anyone who has an interest in the stock market, this program is for them. This is because it is a quick and easy way to compare the cumulative returns of any company, regardless of which industry or sector the stocks are in.

**Section Three: “Specific Programming Techniques Used”**

For my program, I had to install and import multiple different packages. These include; yfinance, NumPy, pandas, pandas\_datareader, matplotlib.pyplot, and datetime. These packages were necessary in order to be able to import live data from yahoo finance. I had the user input a string that than gets added to a list, then I ask the user to input a date. The list of ticker symbols as well as the date then gets used in a download of data from yfinance. The data that gets downloaded is the adjusted close prices of each stock from that date until present time. Then the data is added onto a plot that graphs the data out for the user to see.

**Section Four: “Challenge(s)”**

The biggest challenge I faced was figuring out how to import the different necessary packages I needed in order to import yfinance and take live data from the internet. To solve this issue, I looked up tutorials online that went over it. I then realized that I needed to use the ‘pip install’ command in the terminal to install the packages. I did this with NumPy, datetime, pandas, requests, pandas\_datareader, -U matplotlib, and yfinance. After doing this, yfinance and the other commands with the other packages were able to be used and worked smoothly. Another challenge I faced was figuring out the commands and how to use them. In order to fix this, I familiarized myself with what the different commands did by visiting the websites for the respective packages.

**Section Five: “Future Extensions”**

I can definitely find ways to improve my program. Say the user wants to get the price of a stock rather than the cumulative return, I can ask the user what data they want to see in the output. I can also make it so the user can select an end date if they do not want to see up to present day. There is a lot of room for improvement with my project and I look forward to continuously developing it more in the future.