Function 1:

Problem Statement: Analyzing the historical performance of Ferrari and Tesla, how have the high and low stock prices of these companies changed over the years? Are there any patterns or trends in the stock prices of these companies? How do the high and low prices of each company compare to each other? Have there been any significant events or changes that have affected the stock prices of these companies?

Description: The plot\_ferrari\_tesla\_high\_low\_prices() function loads stock price data for Ferrari and Tesla from CSV files, and then creates a line chart to visualize and compare the high and low stock prices of both companies over time. This function can help gain insights into the historical performance of these companies and use that information to inform investment decisions or other business strategies.

Function 2:

Problem Statement: How have the highest and lowest volumes of stocks traded for Ferrari and Tesla varied from 2015 to 2022?

Decription: The plot\_ferrari\_tesla\_volume() function loads stock volume data for Ferrari and Tesla from CSV files, filters the data to the years 2015-2022, and then calculates the highest and lowest volumes for each year. The function then creates a line chart to visualize the highest and lowest volumes for both companies over the years. This function can help to identify trends or patterns in the trading volumes of these companies, which may be useful for understanding market sentiment towards these companies.

Function 3:

Problem Statement: Given the CSV file that contains the historical price data, we had to develop a function that returned the opening and closing stock price for the ranges that we set. The data that we extracted would then be able to allow users to compare certain stock prices from Ferrari and Tesla or any other organizations.

Description: The function was able to read the CSV file in the data from and then group it by year and aggregates to obtain the opening and closing prices for each year. The function then filters the data on the ranges of years and returns which were extracted by the yearly opening and closing prices as two panda series objects

Function 4:

Problem Statement: Given the extracted yearly opening and closing stock prices for each company. We developed a function that helps visualize the data, in a clear and easy to interpret manner. The function needed to be able to create a line plot that would create the opening and closing stock prices for each year. Allowing users to visually see stock performances over a given set period.

Description: The function written extracts from the “extarct\_yearly\_open\_close\_columns” function for each CSV file so that it can obtain the yearly opening and closing prices for both companies. After that it uses the matplotlib to create a line plot which displays the extracted data. The plot of the graph is then configured with labels, by utilizing this function the user can track the performance of trends of Ferrari and Tesla over time and gain insight into the company's performance and growth of each stock