Project Workflow Summary Week 2

Monday (4 hours) – Volume Analysis Introduction & Dataset Preparation

This week, I focused on analyzing the **trading volume** of Apple, Microsoft, Nvidia, and Google. I began by explaining what volume means in the stock market—it's the number of shares traded in a given period, which reflects market activity and investor interest. I modified the existing cleaned dataset from Week 1 by including the Volume column in my R code to prepare for deeper volume-based analysis.

Tuesday (4.5 hours) – Volume Trend Visualization in R

I created individual **line charts** in R for the 2022 trading volume of each company. This helped visualize volume fluctuations and identify any visible peaks or patterns. I also generated a **bar chart** comparing the average daily volume among the four companies. Apple had the highest average daily volume, followed by Nvidia, Microsoft, and then Google. This visualization supported insights into which companies were the most actively traded.

Wednesday (3 hours) – Top Volume Days Analysis

I wrote R code to identify the **top 10 highest volume days** for each company and compiled the results into tables. Apple and Microsoft frequently had volume days exceeding 70–90 million shares, often associated with major earnings announcements or industry events. Nvidia also showed significant volume spikes tied to GPU-related news. Google had consistently lower top volume days, rarely exceeding 10 million shares. I summarized the importance of analyzing these spikes to understand investor behavior and market sentiment.

Thursday (3 hours) – Lowest Volume Days Analysis

I continued with code to detect the **lowest 10 volume days** for each company. These days typically reflect calm or disinterest in the market, often occurring around holidays or when there's little news. For example, all four companies showed low volume on **24 November 2023**, which was Black Friday—a shortened trading day in the U.S. I explained that recognizing such patterns helps predict periods of low market activity.

Friday (4 hours) – Event-Based Volume Interpretation

I researched and documented the **real-world events** linked to both high and low volume days. For example, Apple peaked on **23 January 2008**, during the 2008 financial crisis. Google's highest volume day occurred during its 2006 legal dispute with the DOJ. Microsoft's top volume came after missing earnings expectations in April 2006. Nvidia's spike was related to Q2 earnings and GPU demand. I also discussed the shared low-volume event on **24 November 2023** across all companies due to the early market close on Black Friday.

Saturday (4 hours) - Tableau Visualizations & Dashboard

I created **line charts** in Tableau showing volume changes by year for each company. The visualizations reinforced insights drawn earlier, especially the 2008 volume spikes linked to the financial crisis. Each chart was tailored to show trends clearly, supporting interpretation for stakeholders or future presentations.

Sunday (3.5 hours) – Final Write-up & Reflection

I compiled my findings into the **Week 2 Analysis Report**, including all charts, tables, and key insights. I uploaded the report and visual assets to my GitHub repository, committed the "Week 2 Volume Analysis" with detailed notes, and reflected on the value of analyzing trading volume to understand investor sentiment. I also submitted the final version through Canvas.