

Project Title

**MAANG Stock Prices Analysis**

Milestone 5

Cloud Problem Definition

Group 8

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### **Problem Setting:**

The volatile nature of stock prices and the various factors that affect the market behavior create a confounding environment for analysts, traders, scientists, and investors. The challenge lies in maneuvering the intricacies of the stock market, especially the technology sector like the SV companies, including MAANG (Meta, Amazon, Apple, Netflix, Google) hold great importance. The technology sector is known for its rapid growth and vulnerability to external factors like the advancements in technology, global economy, geopolitical events, etc. and understanding the impact on dynamic stock price is essential to analyze the investment decisions, set and assess investor expectation and risk involved.

### **Problem definition:**

In rapidly evolving financial market, staying ahead of the trend analysis is highly essential for making informed investment decisions. Uncover and analyzing the long-term and short-term trends in stock prices of each MAANG company is highly essential for trend analysis and help greatly influence the investment decisions. We also aim to explore the external factors that impact the stock price and the level of risk associated with their securities.

### **Objective:**

This project seeks to develop a data driven solution to address the complexities of analyzing the historical stock prices of MAANG companies and identify the market conditions and external factors that could help make informed investment decisions. With this, the project aims to contribute to a broader understanding of MAANG stock prices, providing investors with niche perspectives of market dynamics and risks involved.

### **End-Goal:**

The ultimate end goal of this project is to ensure we get valuable insights to empower and help investors, analysts and traders make informed decisions. The project aims to predict the effectiveness of trading strategies by back tracing with historical data insights and provide actionable insights to make data driven decisions about the trends, opportunities, and volatility. Furthermore, by developing an efficient cloud-based data engineering solution which can handle large volumes of data for real time analysis.

### **Data source:**

This dataset includes the historical data of stock prices for MAANG companies. It contains the daily, weekly, and monthly stock prices for each company, and they automatically updated. Source is Yahoo finance. This dataset has 15 datasets, and each file has around 7 columns. Here we have daily, monthly, and weekly data for each of the companies from year 2000 -2023. We aim to create

a combined analysis of stock prices on the daily, weekly, monthly, and quarterly basis which will help predict the trends. The features for each company include:

- Date of the stock price
- Opening prices of the company stock
- Highest trading price
- Lowest trading price
- Closing price
- Adjusted closing price
- Total number shares

<https://www.kaggle.com/datasets/nikhil1e9/netflix-stock-price/>