**Google Stock Price Analysis**

**Google Stock Overview:**

Alphabet Inc. serves as the parent entity for Google, having undergone corporate restructuring in 2015. The company issues two types of stock, namely Class A and Class C, each with distinct voting rights compared to Class B shares. Notably, insiders predominantly hold Class B shares, endowed with higher voting influence. The trading symbols for Alphabet's Class C and Class A shares are "GOOG" and "GOOGL," respectively. Google is a significant constituent in major stock market indices such as the S&P 500 and NASDAQ-100, functioning as benchmarks for overall market performance assessment.

You are a data analyst and you have to gain a comprehensive understanding of Google's stock performance and make informed decisions based on historical trends and current market dynamics.

**Dataset Information:**

The provided dataset encapsulates Google's stock price dynamics from its public debut on 19th August 2004 to 10th November 2023, encompassing details across 4842 trading sessions. Seven distinct elements, each represented by a corresponding column, furnish insights into the trading activity and performance of the stock over this extensive period. A concise overview of these elements is as follows:

|  |  |
| --- | --- |
| **Column** | **Description** |
| **Date** | Records the calendar date when stock-related data is documented. |
| **Open** | Represents the initial recorded price of the stock for a given trading session. |
| **High** | Indicates the highest traded price of the stock during a specific trading session, reflecting its peak value. |
| **Low** | Denotes the lowest traded price of the stock within a specific trading session, signifying the minimum value reached. |
| **Close** | Reflects the closing price, marking the last traded value of the stock at the session's conclusion. |
| **Adj Close** | Adjusted closing price accommodates corporate actions like dividends and stock splits, offering a nuanced evaluation. |
| **Volume** | Represents the total shares traded during a defined time period, serving as an indicator of market activity and liquidity. |

**Objectives:**

1. **Price Trends Over Time**: Visually represent how the Open, High, Low, and Close prices fluctuate over the dataset timeline.
2. **Volatility Analysis:** Showcase the range between High and Low prices, providing insights into stock volatility.
3. **Volume Activity:** Illustrate the variations in trading volume over different periods, aiding in identifying market interest.
4. **Moving Averages:** Implement moving average calculations to smooth out price fluctuations, aiding in trend identification.
5. **Comparative Analysis:** Assess how Google's stock performance aligns with market indices like S&P 500 and NASDAQ-100.

**Dataset:**

<https://drive.google.com/drive/folders/1hDvfAzlOSgaGrtQxcHPRbAnHc8EnVetq>