**Analysis of Short-Term Stock Price Movement of Apple Inc. (AAPL)**

**Project Name**: Stock Price Movement

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**Introduction**

This report analyzes the short-term stock price movement of Apple Inc. (AAPL) over the period from February 1, 2024, to March 1, 2024. The analysis includes fetching historical stock data, plotting the stock price movement, identifying trends using moving averages, and interpreting the results.

**Methodology**

The methodology for analyzing the stock price movement involves the following steps:

Data Collection: Historical stock data for Apple Inc. (AAPL) is fetched using the yfinance library for the specified period.

Data Extraction: The closing prices of the stock are extracted for analysis.

Data Visualization: The stock price movement is visualized by plotting the closing prices.

Trend Identification: A 5-day moving average is calculated to identify short-term trends in the stock price.

Interpretation: The results are analyzed to understand the stock price behavior and trends.

**Code**

The following code is used to perform the analysis:

python

import yfinance as yf

import matplotlib.pyplot as plt

import pandas as pd

import numpy as np

# Define stock symbol and time period

stock\_symbol = "AAPL" # Apple Inc.

start\_date = "2024-02-01"

end\_date = "2024-03-01"

# Fetch historical stock data

stock\_data = yf.download(stock\_symbol, start=start\_date, end=end\_date)

# Extract closing prices

dates = stock\_data.index

closing\_prices = stock\_data["Close"]

# Plot stock price movement

plt.figure(figsize=(10, 5))

plt.plot(dates, closing\_prices, marker='o', linestyle='-', label=f'{stock\_symbol} Closing Price')

plt.xlabel("Date")

plt.ylabel("Stock Price (USD)")

plt.title(f"{stock\_symbol} Stock Price Movement")

plt.xticks(rotation=45)

plt.legend()

plt.grid()

plt.show()

# Identify short-term trend using moving average

stock\_data["MA\_5"] = closing\_prices.rolling(window=5).mean()

# Plot with moving average

plt.figure(figsize=(10, 5))

plt.plot(dates, closing\_prices, marker='o', linestyle='-', label=f'{stock\_symbol} Closing Price')

plt.plot(dates, stock\_data["MA\_5"], linestyle='--', color='red', label='5-Day Moving Average')

plt.xlabel("Date")

plt.ylabel("Stock Price (USD)")

plt.title(f"{stock\_symbol} Stock Price Movement with 5-Day MA")

plt.xticks(rotation=45)

plt.legend()

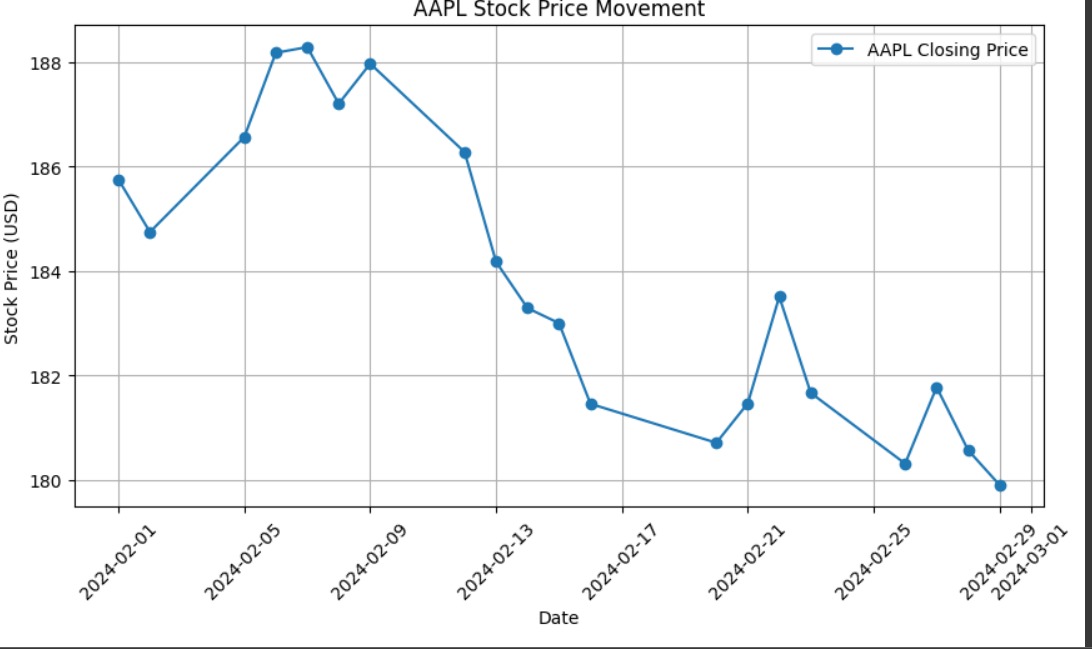
plt.grid()

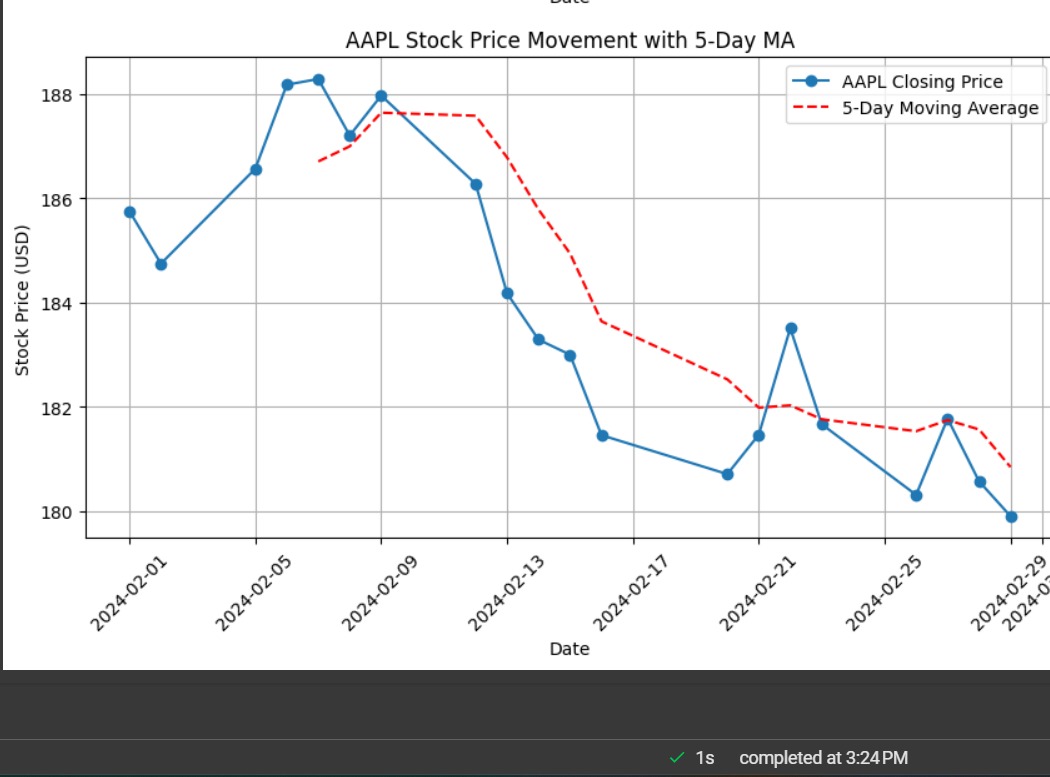
plt.show()

**Conclusion**

The analysis of AAPL's short-term stock price movement provides valuable insights into price behavior and trends. By examining historical data and moving averages, investors and analysts can make more informed investment decisions and better predict future price movements.

**Screenshots**

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