Stock Price Analysis using R

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GitHub Repository Link: [https://github.com/Garvit7878/R-Programming-Projects/tree/main]

Introduction

Stock price analysis is crucial for investors to understand market trends and make informed decisions. In this project, we use R to analyze stock price data of Apple Inc. (AAPL) by calculating and plotting moving averages, which are commonly used indicators in technical analysis.

Prerequisites

The following R packages are required:
- quantmod: for financial modeling and data retrieval
- TTR: for calculating technical trading rules like Simple Moving Averages (SMA)

Step 1: Fetch Stock Data

We retrieve historical stock data for Apple Inc. using the quantmod package. The data is fetched from Yahoo Finance and includes daily prices, volume, and other indicators.

Step 2: Calculate Moving Averages

We compute the 50-day and 200-day Simple Moving Averages (SMA50 and SMA200). These help to smooth out short-term fluctuations and highlight longer-term trends.

Step 3: Visualizing Stock Prices with Moving Averages

A plot is created to visualize Apple's stock prices along with the SMA50 and SMA200 lines. A crossover of SMA50 above SMA200 is typically considered a bullish signal, while the opposite indicates a bearish trend.

Conclusion

This project demonstrates how to use R for stock price analysis. We successfully fetched data, calculated moving averages, and visualized trends. The analysis can be expanded using forecasting models like ARIMA for better predictions.