Title: Algorithmic trading using Fourier analysis

Abstract:
This project uses Fourier analysis to test the effectiveness of mathematics in stock market trading. Fourier transform is applied on the days vs stock price graph to find the cycles which have the most effect and analysis is done on those days to find out upcoming trends. This could be very useful to remind traders to keep a look at those time intervals so that they do not miss out on trends.

Introduction:
Stock trading is a process where the trader tries to buy a share(part) of a company at a lower price to sell it at a higher price expecting to make profits out of it. However, this is not that simple as the price of a stock generally is volatile in nature. It is difficult to predict if the price goes up or down. There are chances that the trader makes a loss if the stock price decreases due to market conditions.
Due to the above-said reasons, the trader has to keep a look at the stock prices always. However, that may not be possible to monitor each stock in the portfolio always.
This project aims to reduce those efforts by predicting when the stock movement might occur and alerting the trader to check out the stock. This could significantly reduce the time required by the trader to monitor the stock price and make the trader more efficient.

Methods:
I am accessing the data from Yahoo finance. Yahoo Finance is a very popular and trusted repository where many investors and analysts carry out their analyses. All the data provided is real, accurate and monitored by the stock exchanges.
I will select the stock data over a minimum of 2 years. I will try to avoid black swan-affected data. There are no legal restrictions to using this data.

Results and analysis:

Conclusion:
Through this project, we aim to extract cyclic movements in a stock price. And later, provide buy and sell suggestions to the trader

Acknowledgements:

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