* Question/Problem statement:

Predicting the close price of Starbucks, with the historical data from one year 23/11/2020 until 23/11/2021, using time series regression.

* Data Description:

Data was collected from MarketWatch.com by scraping the data using BeautifulSoup.

* + Columns:

|  |  |  |
| --- | --- | --- |
| Name | Date | Close |
| description | Date of the stock value | Closing price of a stock in a particular date |

* + Data size (252 rows \* 2 columns).
* Tools:
  + Programs: Jupyter
  + Libraries: BeautifulSoup, requests, pandas, StringIO, csv, ARIMA, NumPy, adfuller, pyplot, plot\_acf, plot\_pacf, ndiffs.
  + Plots: plot\_predict, plot\_acf, plot\_pacf, hist, plot.
  + Functions:

1. First preprocessing on the data.
2. Check if the data is stationary or not by the dicky fuller test.
3. Find the p of the autoregression using the acf, find the d of the integration using ndiffs, and the q of moving average using the pacf.
4. Divide the data into train and test.
5. Apply the ARIMA model.
6. Predict the price of the closing of Starbucks.

* MVP Goal:

The goal of this project is Predicting the close price of Starbucks in one year from 23/11/2020 until 23/11/2021, using time series regression.