Project 1 (Advanced)

Using numpy and pandas to build trading algorithms (backtesting)
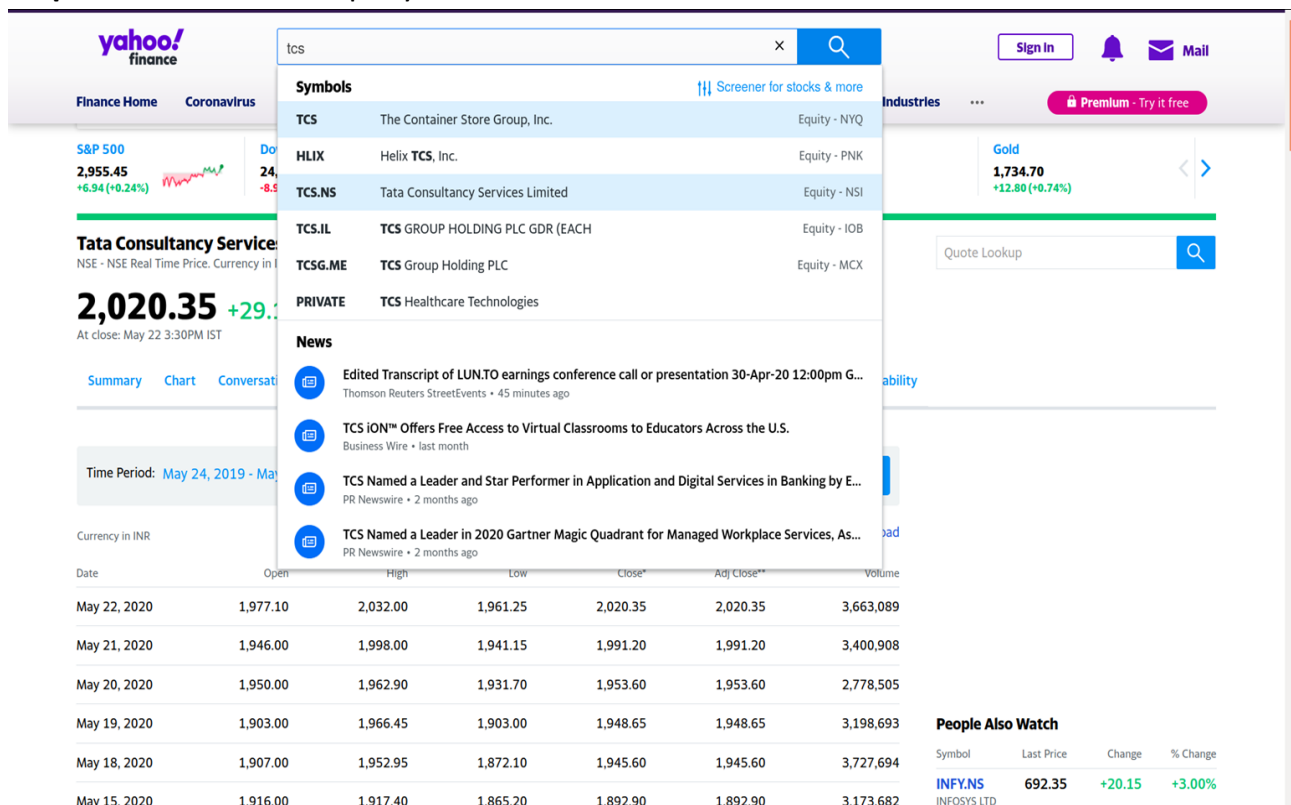
Data Sources:

Gold prices: https://datahub.io/core/gold-prices#data

Stock prices (Ex. TCS): https://finance.yahoo.com/quote/TCS.NS/history?p=TCS.NS

Steps to download stock prices:

Step 1: Search for a company

Step 2: Select "Historical Prices"

Step 3: Select the timeframe

Step 4: Click on apply and then click on download

Understanding the downloaded dataset

Date: The day the data was collected
Volume: The number of stocks sold that day
Open: Stock price when the stock market opened
High: The highest price the stock was sold for that day
Low: The lowest price the stock was sold for that day
Close: The stock price when the stock market closed

What you are expected to do:

Using the downloaded dataset, come up with algorithms that determine when to buy or sell a stock and calculate the profit/loss your trading algorithm achieves for the past year. Remember that you cannot use the high or low data for today while buying stock today as you will not know if the price might increase today or decrease. You can, however, use the high or low data from yesterday. At the end plot the profit or loss of your algorithm for a whole year.

Some sample algorithms:
https://www.pythonforfinance.net/2017/02/20/intraday-stock-mean-reversion-trading-backtest-in-python/
https://www.pythonforfinance.net/2017/07/31/bollinger-band-trading-strategy-backtest-in-python/

Some other advanced algos:
https://www.pythonforfinance.net/category/trading-strategy-backtest/