

DATA 200

Lab 2

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Project Overview

This project is a console-based stock analysis tool. It allows users to save and retrieve stock data. Users can create charts according to stock price history.

File List

This project includes the following files:

- stock_class.py
- stock_data.py
- stock_console.py
- utilities.py
- stocks.py
- stocks.db
- AAPL.csv
- V.csv
- chromedriver

How to Run

Run the stock_console.py file

1 - Manage Stocks (Add, Update, Delete, List)

```
✓ TERMINAL
Stock Analyzer ---
1 - Manage Stocks (Add, Update, Delete, List)
2 - Add Daily Stock Data (Date, Price, Volume)
3 - Show Report
4 - Show Chart
5 - Manage Data (Save, Load, Retrieve)
0 - Exit Program
Enter Menu Option: 1
```

1-1 – Add Stock

```
✓ TERMINAL
Manage Stocks ---
1 - Add Stock
2 - Update Shares
3 - Delete Stock
4 - List Stocks
0 - Exit Manage Stocks
Enter Menu Option: 1
```

Add stock you want, here I add TSLA for example. When you enter the correct stock symbol, its corresponding company name will appear automatically. Then enter the number of shares.

```

✓ TERMINAL
Add Stock ---
Enter Stock Symbol: TSLA
Company Name Found: Tesla, Inc.
Enter Number of Shares: 300
Stock TSLA (Tesla, Inc.) with 300.0 added to list.
Press Enter to add another stock or 0 to exit: 0

```

Let's check if add the stock successfully, enter option 4

```

✓ TERMINAL
Manage Stocks ---
1 - Add Stock
2 - Update Shares
3 - Delete Stock
4 - List Stocks
0 - Exit Manage Stocks
Enter Menu Option: 4

```

```

✓ TERMINAL
List Stocks ---
V      Visa Inc.      100.0shares
TSLA   Tesla, Inc.   300.0shares
Press Enter to continue...

```

The stock of visa are stocks that I've stored in my database before.

1-2 - Update Shares

```

✓ TERMINAL
Manage Stocks ---
1 - Add Stock
2 - Update Shares
3 - Delete Stock
4 - List Stocks
0 - Exit Manage Stocks
Enter Menu Option: 2

```

1-2-1 - Buy Shares

```

✓ TERMINAL
Update Shares ---
1 - Buy Shares
2 - Sell Shares
0 - Exit Update Shares
Enter Menu Option: 1

✓ TERMINAL
Buy Shares ---
Stock List: [V, TSLA]
Enter Stock Symbol: TSLA
Enter number of shares to buy for TSLA: 100
Bought 100.0 shares of TSLA.
Total shares of TSLA: 400.0
Press Enter to continue...

```

```

✓ TERMINAL
List Stocks ---
V      Visa Inc.      100.0shares
TSLA   Tesla, Inc.   400.0shares
Press Enter to continue...

```

1-2-2 - Sell Shares

```
✓ TERMINAL
Update Shares ---
1 - Buy Shares
2 - Sell Shares
0 - Exit Update Shares
Enter Menu Option: 2

✓ TERMINAL
Sell Shares ---
Stock List: [V, TSLA]
Enter Stock Symbol: TSLA
Enter number of shares to sell for TSLA: 30
Sold 30.0 shares of TSLA.
Total shares of TSLA: 370.0
Press Enter to continue...

✓ TERMINAL
Sell Shares ---
Stock List: [V, TSLA]
Enter Stock Symbol: TSLA
Enter number of shares to sell for TSLA: 30
Sold 30.0 shares of TSLA.
Total shares of TSLA: 370.0
Press Enter to continue...
```

1-3 - Delete Stock

```
✓ TERMINAL
Manage Stocks ---
1 - Add Stock
2 - Update Shares
3 - Delete Stock
4 - List Stocks
0 - Exit Manage Stocks
Enter Menu Option: 3

✓ TERMINAL
Delete Stock ---
Stock List: [V, TSLA]
Enter Stock Symbol to delete: V
Are you sure you want to delete Visa Inc. (V)? (y/n): y
Deleted Visa Inc. (V) from list.
Press Enter to continue...
```

When a stock is deleted through the console, a success message is displayed. However, this action only removes the stock from memory during the current session—the data remains stored in the database and is not permanently deleted

1-4 - List Stocks

```
✓ TERMINAL
List Stocks ---
TSLA    Tesla, Inc.    370.0shares
Press Enter to continue...
```

2 - Add Daily Stock Data (Date, Price, Volume)

```
✓ TERMINAL
Stock Analyzer ---
1 - Manage Stocks (Add, Update, Delete, List)
2 - Add Daily Stock Data (Date, Price, Volume)
3 - Show Report
4 - Show Chart
5 - Manage Data (Save, Load, Retrieve)
0 - Exit Program
Enter Menu Option: 2
```

2-1 - Fetch from Web (Recommended)

```
✓ TERMINAL
Add Daily Stock Data ---
1 - Fetch from Web (Recommended)
2 - Manual Enter Daily Data
0 - Back to Main Menu
Enter Menu Option: 1
```

```

▼ TERMINAL
Retrieve Data from Web ----
Stock List: [V]
Enter stock symbol to retrieve data for (or 'ALL' for all stocks): V

Enter date range for stock data:
Enter start date (mm/dd/yy): 04/11/25
Enter end date (mm/dd/yy): 04/30/25

Retrieving data from Yahoo Finance...
This may take a few moments...

Successfully retrieved 12 records.

Press Enter to continue...

```

2-2 - Manual Enter Daily Data

```

▼ TERMINAL
Add Daily Stock Data ----
1 - Fetch from Web (Recommended)
2 - Manual Enter Daily Data
0 - Back to Main Menu
Enter Menu Option: 2

```

```

▼ TERMINAL
Manual Add Daily Stock Data ---
Stock List: [V, FTAI]
Enter Stock Symbol: FTAI
Enter Date (MM/DD/YYYY): 04/20/2025
Enter Closing Price: 100
Enter Trading Volume: 100000
Data added for FTAI on 04/20/2025.
Press Enter to continue...

```

3 - Show Report

```

▼ TERMINAL
Stock Analyzer ----
1 - Manage Stocks (Add, Update, Delete, List)
2 - Add Daily Stock Data (Date, Price, Volume)
3 - Show Report
4 - Show Chart
5 - Manage Data (Save, Load, Retrieve)
0 - Exit Program
Enter Menu Option: 3

```

```

▼ TERMINAL
Stock Report ----
SYMBOL  NAME          SHARES  CURRENT MKT VALUE
=====
V      Visa Inc.           100.0   329.61  32961.00
      Previous Close: $331.33
      Change: $-1.72 (-0.52%)

      Date           Close           Volume
      -----
      2025-04-17      $329.61         5655900
      2025-04-16      $331.33         5850600
      2025-04-15      $335.81         4386200
      2025-04-14      $335.18         5011800
      2025-04-11      $333.40         6804500
      2025-04-10      $324.61         8709800
      2025-04-09      $332.43         11361800
      2025-04-08      $308.27         9569300
      2025-04-07      $312.32         12163400
      2025-04-04      $313.13         13201700
=====
FTAI    FTAI Aviation Ltd.  100.0   100.00  10000.00

      Date           Close           Volume
      -----
      2025-04-20      $100.00         100000
=====
Press Enter to continue...

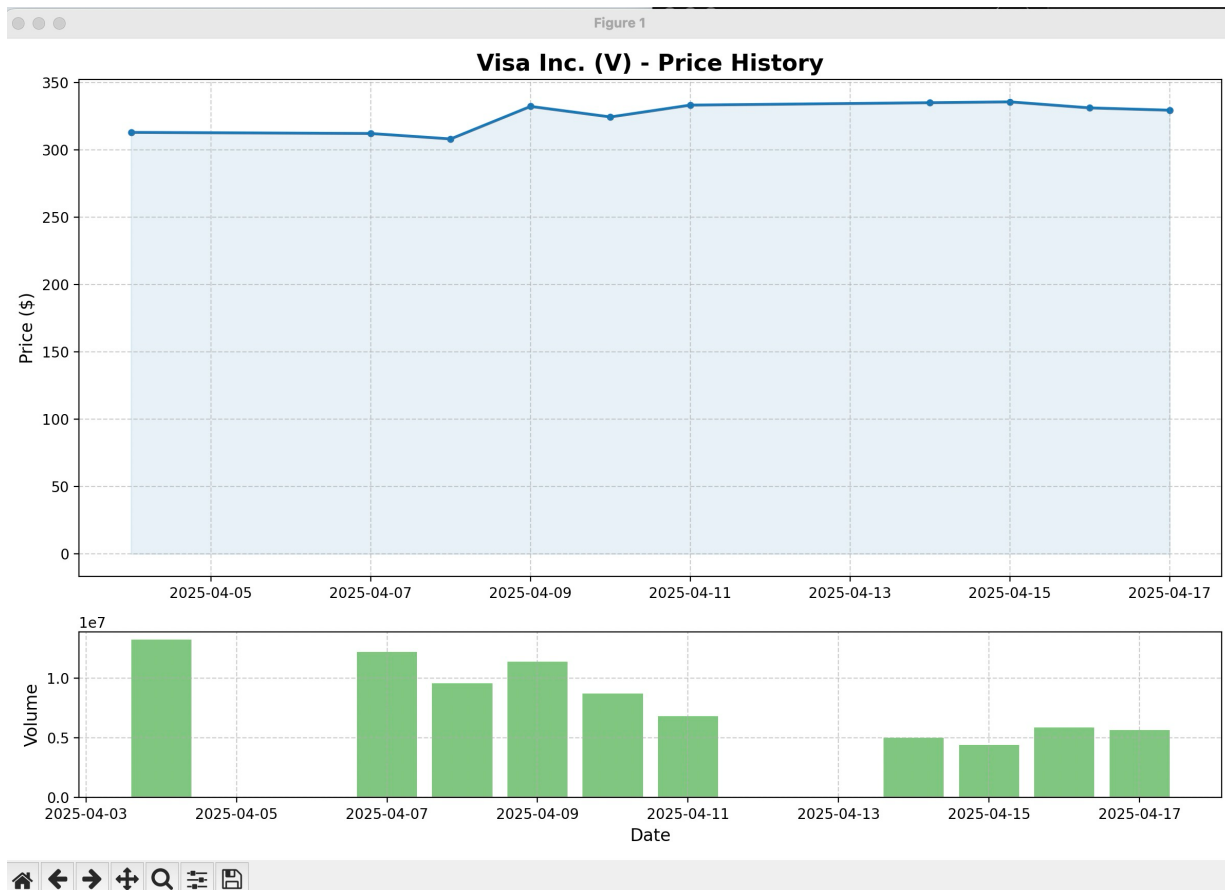
```

4 - Show Chart

```

▼ TERMINAL
Stock Analyzer ----
1 - Manage Stocks (Add, Update, Delete, List)
2 - Add Daily Stock Data (Date, Price, Volume)
3 - Show Report
4 - Show Chart
5 - Manage Data (Save, Load, Retrieve)
0 - Exit Program
Enter Menu Option: 4
Display Chart ----
Stock List: [V, FTAI]
Enter Stock Symbol: V

```



5 - Manage Data (Save, Load, Retrieve)

5-1 - Save Data to Database

```
▼ TERMINAL
Manage Data ---
1 - Save Data to Database
2 - Load Data from Database
3 - Retrieve Data from Web
4 - Import Data from CSV
0 - Exit Manage Data
Enter Menu Option: 1
Do you want to overwrite the Database using local data? (y/n): y
Data saved to database.
Press Enter to continue...[]
```

5-2 - Load Data from Database

```
▼ TERMINAL
Manage Data ---
1 - Save Data to Database
2 - Load Data from Database
3 - Retrieve Data from Web
4 - Import Data from CSV
0 - Exit Manage Data
Enter Menu Option: 2
Data loaded from database.
Press Enter to continue...[]
```

```
List Stocks ---
V      Visa Inc.      100.0shares
FTAI   FTAI Aviation Ltd. 100.0shares
Press Enter to continue...[]
```

5-3 - Retrieve Data from Web

```
✓ TERMINAL
Retrieve Data from Web ---
Stock List: [V, FTAI]
Enter stock symbol to retrieve data for: FTAI

Enter date range for stock data:
Enter start date (mm/dd/yy): 03/20/25
Enter end date (mm/dd/yy): 04/10/25

Retrieving data from Yahoo Finance...
This may take a few moments...

Successfully retrieved 15 records.

Press Enter to continue...[]
```

5-4 - Import Data from CSV

```
✓ TERMINAL
List Stocks ---
V      Visa Inc.      100.0shares
FTAI   FTAI Aviation Ltd. 100.0shares
AAPL   Apple Inc.    100.0shares
Press Enter to continue...[]
```

```
✓ TERMINAL
Manage Data ---
1 - Save Data to Database
2 - Load Data from Database
3 - Retrieve Data from Web
4 - Import Data from CSV
0 - Exit Manage Data
Enter Menu Option: 4[]
```

```
✓ TERMINAL
Import Data from CSV ---
Stock List: [V, FTAI]
Enter stock symbol to import data for: V

Please select the CSV file to import.
Note: The file should be in Yahoo Finance CSV format.
Enter the full path to the CSV file: /Users/dingyuyao/Documents/SJSU/Spring2
025/DATA200/Lab2/sample/AAPL.csv
Dividend or other non-standard data found. Skipping row.
Dividend or other non-standard data found. Skipping row.
Dividend or other non-standard data found. Skipping row.
Dividend or other non-standard data found. Skipping row.

Successfully imported data for V.

Press Enter to continue...[]
```

| AAPL | Apple Inc. | 100.0 | 205.35 | 20535.00 |
|------|-----------------|------------------|-----------|----------|
| | Previous Close: | \$213.32 | | |
| | Change: | \$-7.97 (-3.74%) | | |
| | Date | Close | Volume | |
| | 2025-05-02 | \$205.35 | 100912500 | |
| | 2025-05-01 | \$213.32 | 57365700 | |
| | 2025-04-30 | \$212.50 | 52286500 | |
| | 2025-04-29 | \$211.21 | 36827600 | |
| | 2025-04-28 | \$210.14 | 38743100 | |
| | 2025-04-25 | \$209.28 | 38222300 | |
| | 2025-04-24 | \$208.37 | 47311000 | |
| | 2025-04-23 | \$204.60 | 52929200 | |
| | 2025-04-22 | \$199.74 | 52976400 | |
| | 2025-04-21 | \$193.16 | 46742500 | |
| | 2025-04-17 | \$196.98 | 51334300 | |
| | 2025-04-16 | \$194.27 | 59732400 | |
| | 2025-04-15 | \$202.14 | 51343900 | |
| | 2025-04-14 | \$202.52 | 101352900 | |
| | 2025-04-11 | \$198.15 | 87435900 | |
| | 2025-04-10 | \$190.42 | 121880000 | |
| | 2025-04-09 | \$198.85 | 184395900 | |
| | 2025-04-08 | \$172.42 | 120859500 | |
| | 2025-04-07 | \$181.46 | 160466300 | |

