Revenue Data and Building a Dashboard

January 22, 2026

Extracting and Visualizing Stock Data

Description

Extracting essential data from a dataset and displaying it is a necessary part of data science; therefore individuals can make correct decisions based on the data. In this assignment, you will extract some stock data, you will then display this data in a graph.

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Estimated Time Needed: 30 min

Note:- If you are working Locally using anaconda, please uncomment the following code and execute it. Use the version as per your python version.

[1]:
```
!pip install yfinance
!pip install bs4
!pip install nbformat
!pip install matplotlib
```

```
Collecting yfinance
  Downloading yfinance-1.0-py2.py3-none-any.whl.metadata (6.0 kB)
Collecting pandas>=1.3.0 (from yfinance)
  Downloading pandas-3.0.0-cp312-cp312-
manylinux_2_24_x86_64.manylinux_2_28_x86_64.whl.metadata (79 kB)
Collecting numpy>=1.16.5 (from yfinance)
  Downloading
numpy-2.4.1-cp312-cp312-manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl.metadata
(6.6 kB)
Requirement already satisfied: requests>=2.31 in /opt/conda/lib/python3.12/site-
packages (from yfinance) (2.32.3)
Collecting multitasking>=0.0.7 (from yfinance)
```

```
  Downloading multitasking-0.0.12.tar.gz (19 kB)
  Preparing metadata (setup.py) … done
Requirement already satisfied: platformdirs>=2.0.0 in
/opt/conda/lib/python3.12/site-packages (from yfinance) (4.3.6)
Requirement already satisfied: pytz>=2022.5 in /opt/conda/lib/python3.12/site-
packages (from yfinance) (2024.2)
Requirement already satisfied: frozendict>=2.3.4 in
/opt/conda/lib/python3.12/site-packages (from yfinance) (2.4.6)
Collecting peewee>=3.16.2 (from yfinance)
  Downloading peewee-3.19.0-py3-none-any.whl.metadata (7.0 kB)
Requirement already satisfied: beautifulsoup4>=4.11.1 in
/opt/conda/lib/python3.12/site-packages (from yfinance) (4.12.3)
Collecting curl_cffi<0.14,>=0.7 (from yfinance)
  Downloading curl_cffi-0.13.0-cp39-abi3-
manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (13 kB)
Collecting protobuf>=3.19.0 (from yfinance)
  Downloading protobuf-6.33.4-cp39-abi3-manylinux2014_x86_64.whl.metadata (593
bytes)
Collecting websockets>=13.0 (from yfinance)
  Downloading websockets-16.0-cp312-cp312-
manylinux1_x86_64.manylinux_2_28_x86_64.manylinux_2_5_x86_64.whl.metadata (6.8
kB)
Requirement already satisfied: soupsieve>1.2 in /opt/conda/lib/python3.12/site-
packages (from beautifulsoup4>=4.11.1->yfinance) (2.5)
Requirement already satisfied: cffi>=1.12.0 in /opt/conda/lib/python3.12/site-
packages (from curl_cffi<0.14,>=0.7->yfinance) (1.17.1)
Requirement already satisfied: certifi>=2024.2.2 in
/opt/conda/lib/python3.12/site-packages (from curl_cffi<0.14,>=0.7->yfinance)
(2024.12.14)
Requirement already satisfied: python-dateutil>=2.8.2 in
/opt/conda/lib/python3.12/site-packages (from pandas>=1.3.0->yfinance)
(2.9.0.post0)
Requirement already satisfied: charset_normalizer<4,>=2 in
/opt/conda/lib/python3.12/site-packages (from requests>=2.31->yfinance) (3.4.1)
Requirement already satisfied: idna<4,>=2.5 in /opt/conda/lib/python3.12/site-
packages (from requests>=2.31->yfinance) (3.10)
Requirement already satisfied: urllib3<3,>=1.21.1 in
/opt/conda/lib/python3.12/site-packages (from requests>=2.31->yfinance) (2.3.0)
Requirement already satisfied: pycparser in /opt/conda/lib/python3.12/site-
packages (from cffi>=1.12.0->curl_cffi<0.14,>=0.7->yfinance) (2.22)
Requirement already satisfied: six>=1.5 in /opt/conda/lib/python3.12/site-
packages (from python-dateutil>=2.8.2->pandas>=1.3.0->yfinance) (1.17.0)
Downloading yfinance-1.0-py2.py3-none-any.whl (127 kB)
Downloading
curl_cffi-0.13.0-cp39-abi3-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (8.3
MB)
                         8.3/8.3 MB
82.4 MB/s eta 0:00:00
```

```
Downloading
numpy-2.4.1-cp312-cp312-manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl (16.4
MB)
                           16.4/16.4 MB
173.4 MB/s eta 0:00:00
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pandas-3.0.0-cp312-cp312-manylinux_2_24_x86_64.manylinux_2_28_x86_64.whl (10.9
MB)
                           10.9/10.9 MB
183.3 MB/s eta 0:00:00
Downloading peewee-3.19.0-py3-none-any.whl (411 kB)
Downloading protobuf-6.33.4-cp39-abi3-manylinux2014_x86_64.whl (323 kB)
Downloading websockets-16.0-cp312-cp312-
manylinux1_x86_64.manylinux_2_28_x86_64.manylinux_2_5_x86_64.whl (184 kB)
Building wheels for collected packages: multitasking
  Building wheel for multitasking (setup.py) … one
  Created wheel for multitasking: filename=multitasking-0.0.12-py3-none-
any.whl size=15605
sha256=ebb4a4ce8aebe8a1332c094d5c3df664a16bdf8a88a5ef9e32df44d01d0cc577
  Stored in directory: /home/jupyterlab/.cache/pip/wheels/cc/bd/6f/664d62c99327a
beef7d86489e6631cbf45b56fbf7ef1d6ef00
Successfully built multitasking
Installing collected packages: peewee, multitasking, websockets, protobuf,
numpy, pandas, curl_cffi, yfinance
Successfully installed curl_cffi-0.13.0 multitasking-0.0.12 numpy-2.4.1
pandas-3.0.0 peewee-3.19.0 protobuf-6.33.4 websockets-16.0 yfinance-1.0
Collecting bs4
  Downloading bs4-0.0.2-py2.py3-none-any.whl.metadata (411 bytes)
Requirement already satisfied: beautifulsoup4 in /opt/conda/lib/python3.12/site-
packages (from bs4) (4.12.3)
Requirement already satisfied: soupsieve>1.2 in /opt/conda/lib/python3.12/site-
packages (from beautifulsoup4->bs4) (2.5)
Downloading bs4-0.0.2-py2.py3-none-any.whl (1.2 kB)
Installing collected packages: bs4
Successfully installed bs4-0.0.2
Requirement already satisfied: nbformat in /opt/conda/lib/python3.12/site-
packages (5.10.4)
Requirement already satisfied: fastjsonschema>=2.15 in
/opt/conda/lib/python3.12/site-packages (from nbformat) (2.21.1)
Requirement already satisfied: jsonschema>=2.6 in
/opt/conda/lib/python3.12/site-packages (from nbformat) (4.23.0)
Requirement already satisfied: jupyter-core!=5.0.*,>=4.12 in
/opt/conda/lib/python3.12/site-packages (from nbformat) (5.7.2)
Requirement already satisfied: traitlets>=5.1 in /opt/conda/lib/python3.12/site-
packages (from nbformat) (5.14.3)
Requirement already satisfied: attrs>=22.2.0 in /opt/conda/lib/python3.12/site-
packages (from jsonschema>=2.6->nbformat) (25.1.0)
Requirement already satisfied: jsonschema-specifications>=2023.03.6 in
```

```
/opt/conda/lib/python3.12/site-packages (from jsonschema>=2.6->nbformat)
(2024.10.1)
Requirement already satisfied: referencing>=0.28.4 in
/opt/conda/lib/python3.12/site-packages (from jsonschema>=2.6->nbformat)
(0.36.2)
Requirement already satisfied: rpds-py>=0.7.1 in /opt/conda/lib/python3.12/site-
packages (from jsonschema>=2.6->nbformat) (0.22.3)
Requirement already satisfied: platformdirs>=2.5 in
/opt/conda/lib/python3.12/site-packages (from jupyter-
core!=5.0.*,>=4.12->nbformat) (4.3.6)
Requirement already satisfied: typing-extensions>=4.4.0 in
/opt/conda/lib/python3.12/site-packages (from
referencing>=0.28.4->jsonschema>=2.6->nbformat) (4.12.2)
Collecting matplotlib
  Downloading matplotlib-3.10.8-cp312-cp312-
manylinux2014_x86_64.manylinux_2_17_x86_64.whl.metadata (52 kB)
Collecting contourpy>=1.0.1 (from matplotlib)
  Downloading contourpy-1.3.3-cp312-cp312-
manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl.metadata (5.5 kB)
Collecting cycler>=0.10 (from matplotlib)
  Downloading cycler-0.12.1-py3-none-any.whl.metadata (3.8 kB)
Collecting fonttools>=4.22.0 (from matplotlib)
  Downloading fonttools-4.61.1-cp312-cp312-
manylinux1_x86_64.manylinux2014_x86_64.manylinux_2_17_x86_64.manylinux_2_5_x86_6
4.whl.metadata (114 kB)
Collecting kiwisolver>=1.3.1 (from matplotlib)
  Downloading kiwisolver-1.4.9-cp312-cp312-
manylinux2014_x86_64.manylinux_2_17_x86_64.whl.metadata (6.3 kB)
Requirement already satisfied: numpy>=1.23 in /opt/conda/lib/python3.12/site-
packages (from matplotlib) (2.4.1)
Requirement already satisfied: packaging>=20.0 in
/opt/conda/lib/python3.12/site-packages (from matplotlib) (24.2)
Collecting pillow>=8 (from matplotlib)
  Downloading pillow-12.1.0-cp312-cp312-
manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl.metadata (8.8 kB)
Collecting pyparsing>=3 (from matplotlib)
  Downloading pyparsing-3.3.2-py3-none-any.whl.metadata (5.8 kB)
Requirement already satisfied: python-dateutil>=2.7 in
/opt/conda/lib/python3.12/site-packages (from matplotlib) (2.9.0.post0)
Requirement already satisfied: six>=1.5 in /opt/conda/lib/python3.12/site-
packages (from python-dateutil>=2.7->matplotlib) (1.17.0)
Downloading
matplotlib-3.10.8-cp312-cp312-manylinux2014_x86_64.manylinux_2_17_x86_64.whl
(8.7 MB)
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168.7 MB/s eta 0:00:00
Downloading
contourpy-1.3.3-cp312-cp312-manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl (362
```

```
kB)
Downloading cycler-0.12.1-py3-none-any.whl (8.3 kB)
Downloading fonttools-4.61.1-cp312-cp312-
manylinux1_x86_64.manylinux2014_x86_64.manylinux_2_17_x86_64.manylinux_2_5_x86_6
4.whl (5.0 MB)
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154.6 MB/s eta 0:00:00
Downloading
kiwisolver-1.4.9-cp312-cp312-manylinux2014_x86_64.manylinux_2_17_x86_64.whl (1.5
MB)
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99.7 MB/s eta 0:00:00
Downloading
pillow-12.1.0-cp312-cp312-manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl (7.0
MB)
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162.8 MB/s eta 0:00:00
Downloading pyparsing-3.3.2-py3-none-any.whl (122 kB)
Installing collected packages: pyparsing, pillow, kiwisolver, fonttools, cycler,
contourpy, matplotlib
Successfully installed contourpy-1.3.3 cycler-0.12.1 fonttools-4.61.1
kiwisolver-1.4.9 matplotlib-3.10.8 pillow-12.1.0 pyparsing-3.3.2
```

[14]:
```python
import yfinance as yf
import pandas as pd
import requests
from bs4 import BeautifulSoup
```

In Python, you can ignore warnings using the warnings module. You can use the filterwarnings function to filter or ignore specific warning messages or categories.

[15]:
```python
import warnings
# Ignore all warnings
warnings.filterwarnings("ignore", category=FutureWarning)
```

0.1 Define Graphing Function

In this section, we define the function `make_graph`. **You don't have to know how the function works, you should only care about the inputs. It takes a dataframe with stock data (dataframe must contain Date and Close columns), a dataframe with revenue data (dataframe must contain Date and Revenue columns), and the name of the stock.**

[16]:
```python
# The make_graph function has been modified to use Matplotlib for static graphs.
  ↪ Earlier, it used Plotly to generate interactive dashboards, which caused␣
  ↪issues when uploading the notebook in the MARK assignment submission.
```

```
import matplotlib.pyplot as plt

def make_graph(stock_data, revenue_data, stock):
    stock_data_specific = stock_data[stock_data.Date <= '2021-06-14']
    revenue_data_specific = revenue_data[revenue_data.Date <= '2021-04-30']

    fig, axes = plt.subplots(2, 1, figsize=(12, 8), sharex=True)

    # Stock price
    axes[0].plot(pd.to_datetime(stock_data_specific.Date), stock_data_specific.
 ↪Close.astype("float"), label="Share Price", color="blue")
    axes[0].set_ylabel("Price ($US)")
    axes[0].set_title(f"{stock} - Historical Share Price")

    # Revenue
    axes[1].plot(pd.to_datetime(revenue_data_specific.Date),␣
 ↪revenue_data_specific.Revenue.astype("float"), label="Revenue",␣
 ↪color="green")
    axes[1].set_ylabel("Revenue ($US Millions)")
    axes[1].set_xlabel("Date")
    axes[1].set_title(f"{stock} - Historical Revenue")

    plt.tight_layout()
    plt.show()
```

Use the make_graph function that we've already defined. You'll need to invoke it in questions 5 and 6 to display the graphs and create the dashboard. > **Note: You don't need to redefine the function for plotting graphs anywhere else in this notebook; just use the existing function.**

0.2 Question 1: Use yfinance to Extract Stock Data

Using the `Ticker` function enter the ticker symbol of the stock we want to extract data on to create a ticker object. The stock is Tesla and its ticker symbol is `TSLA`.

[17]:
```
tesla = yf.Ticker("TSLA")
```

[11]:
```

```

```
/opt/conda/lib/python3.12/site-packages/yfinance/scrapers/history.py:201:
Pandas4Warning: Timestamp.utcnow is deprecated and will be removed in a future
version. Use Timestamp.now('UTC') instead.
  dt_now = pd.Timestamp.utcnow()
```

Using the ticker object and the function `history` extract stock information and save it in a dataframe named `tesla_data`. Set the `period` parameter to `"max"` so we get information for the maximum amount of time.

[18]:
```
tesla_data = tesla.history(period="max")
```

```
/opt/conda/lib/python3.12/site-packages/yfinance/scrapers/history.py:201:
Pandas4Warning: Timestamp.utcnow is deprecated and will be removed in a future
version. Use Timestamp.now('UTC') instead.
  dt_now = pd.Timestamp.utcnow()
```

Reset the index using the `reset_index(inplace=True)` function on the tesla_data DataFrame and display the first five rows of the `tesla_data` dataframe using the `head` function. Take a screenshot of the results and code from the beginning of Question 1 to the results below.

[19]:
```
tesla_data.reset_index(inplace=True)
tesla_data.head()
```

[19]:

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2010-06-29 00:00:00-04:00	1.266667	1.666667	1.169333	1.592667	281494500	0.0	0.0
1	2010-06-30 00:00:00-04:00	1.719333	2.028000	1.553333	1.588667	257806500	0.0	0.0
2	2010-07-01 00:00:00-04:00	1.666667	1.728000	1.351333	1.464000	123282000	0.0	0.0
3	2010-07-02 00:00:00-04:00	1.533333	1.540000	1.247333	1.280000	77097000	0.0	0.0
4	2010-07-06 00:00:00-04:00	1.333333	1.333333	1.055333	1.074000	103003500	0.0	0.0

0.3 Question 2: Use Webscraping to Extract Tesla Revenue Data

Use the `requests` library to download the webpage https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0220EN-SkillsNetwork/labs/project/revenue.htm Save the text of the response as a variable named `html_data`.

[20]:
```
url = "https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue"
html_data  = requests.get(url).text
```

Parse the html data using `beautiful_soup` using parser i.e `html5lib` or `html.parser`.

[21]:
```
soup = BeautifulSoup(html_data,"html5lib")
```

```
---------------------------------------------------------------------------
FeatureNotFound                             Traceback (most recent call last)
Cell In[21], line 1
----> 1 soup = BeautifulSoup(html_data,"html5lib")

File /opt/conda/lib/python3.12/site-packages/bs4/__init__.py:250, in␣
 ↪BeautifulSoup.__init__(self, markup, features, builder, parse_only,␣
 ↪from_encoding, exclude_encodings, element_classes, **kwargs)
    248     builder_class = builder_registry.lookup(*features)
```

```
    249     if builder_class is None:
--> 250         raise FeatureNotFound(
    251             "Couldn't find a tree builder with the features you "
    252             "requested: %s. Do you need to install a parser library?"
    253             % ",".join(features))
    255 # At this point either we have a TreeBuilder instance in
    256 # builder, or we have a builder_class that we can instantiate
    257 # with the remaining **kwargs.
    258 if builder is None:

FeatureNotFound: Couldn't find a tree builder with the features you requested:␣
 ↪html5lib. Do you need to install a parser library?
```

Using `BeautifulSoup` or the `read_html` function extract the table with `Tesla Revenue` and store it into a dataframe named `tesla_revenue`. The dataframe should have columns `Date` and `Revenue`.

Step-by-step instructions

Here are the step-by-step instructions:

1. Create an Empty DataFrame
2. Find the Relevant Table
3. Check for the Tesla Quarterly Revenue Table
4. Iterate Through Rows in the Table Body
5. Extract Data from Columns
6. Append Data to the DataFrame

Click here if you need help locating the table

Below is the code to isolate the table, you will now need to loop through the rows and columns

```
soup.find_all("tbody")[1]
```

If you want to use the read_html function the table is located at index 1

We are focusing on quarterly revenue in the lab.

[23]:
```
tesla_revenue = pd.DataFrame(columns=['Date', 'Revenue'])

for table in soup.find_all('table'):

    if ('Tesla Quarterly Revenue' in table.find('th').text):
        rows = table.find_all('tr')

        for row in rows:
            col = row.find_all('td')
```

```
            if col != []:
                date = col[0].text
                revenue = col[1].text.replace(',','').replace('$','')

                tesla_revenue = tesla_revenue.append({"Date":date, "Revenue":
↪revenue}, ignore_index=True)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[23], line 3
      1 tesla_revenue = pd.DataFrame(columns=['Date', 'Revenue'])
----> 3 for table in soup.find_all('table'):
      5     if ('Tesla Quarterly Revenue' in table.find('th').text):
      6         rows = table.find_all('tr')

NameError: name 'soup' is not defined
```

Execute the following line to remove the comma and dollar sign from the `Revenue` column.

[24]:
```
tesla_revenue["Revenue"] = tesla_revenue['Revenue'].str.
↪replace(',|\$',"",regex=True)
```

Execute the following lines to remove an null or empty strings in the Revenue column.

[25]:
```
tesla_revenue.dropna(inplace=True)

tesla_revenue = tesla_revenue[tesla_revenue['Revenue'] != ""]
```

Display the last 5 row of the `tesla_revenue` dataframe using the `tail` function. Take a screenshot of the results.

[27]:
```
tesla_revenue.tail()
```

[27]:
```
Empty DataFrame
Columns: [Date, Revenue]
Index: []
```

0.4 Question 3: Use yfinance to Extract Stock Data

Using the `Ticker` function enter the ticker symbol of the stock we want to extract data on to create a ticker object. The stock is GameStop and its ticker symbol is `GME`.

[28]:
```
GameStop = yf.Ticker("GME")
```

Using the ticker object and the function `history` extract stock information and save it in a dataframe named `gme_data`. Set the `period` parameter to `"max"` so we get information for the maximum amount of time.

[29]:
```
gme_data = GameStop.history(period="max")
```

```
/opt/conda/lib/python3.12/site-packages/yfinance/scrapers/history.py:201:
Pandas4Warning: Timestamp.utcnow is deprecated and will be removed in a future
version. Use Timestamp.now('UTC') instead.
  dt_now = pd.Timestamp.utcnow()
```

Reset the index using the `reset_index(inplace=True)` function on the gme_data DataFrame and display the first five rows of the `gme_data` dataframe using the `head` function. Take a screenshot of the results and code from the beginning of Question 3 to the results below.

[30]:
```
gme_data.reset_index(inplace=True)
gme_data.head()
```

[30]:

	Date	Open	High	Low	Close	Volume	\
0	2002-02-13 00:00:00-05:00	1.620129	1.693350	1.603296	1.691667	76216000	
1	2002-02-14 00:00:00-05:00	1.712707	1.716074	1.670626	1.683250	11021600	
2	2002-02-15 00:00:00-05:00	1.683251	1.687459	1.658002	1.674834	8389600	
3	2002-02-19 00:00:00-05:00	1.666418	1.666418	1.578047	1.607504	7410400	
4	2002-02-20 00:00:00-05:00	1.615920	1.662210	1.603296	1.662210	6892800	

	Dividends	Stock Splits
0	0.0	0.0
1	0.0	0.0
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0

0.5 Question 4: Use Webscraping to Extract GME Revenue Data

Use the `requests` library to download the webpage https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0220EN-SkillsNetwork/labs/project/stock.html. Save the text of the response as a variable named `html_data_2`

[31]:
```
url = "https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/
 ↪IBMDeveloperSkillsNetwork-PY0220EN-SkillsNetwork/labs/project/stock.html"

html_data  = requests.get(url).text
```

Parse the html data using `beautiful_soup` using parser i.e `html5lib` or `html.parser`.

[32]:
```
soup = BeautifulSoup(html_data,"html5lib")
```

```
---------------------------------------------------------------------------
FeatureNotFound                           Traceback (most recent call last)
Cell In[32], line 1
----> 1 soup = BeautifulSoup(html_data,"html5lib")
```

```
File /opt/conda/lib/python3.12/site-packages/bs4/__init__.py:250, in␣
 ↪BeautifulSoup.__init__(self, markup, features, builder, parse_only,␣
 ↪from_encoding, exclude_encodings, element_classes, **kwargs)
    248     builder_class = builder_registry.lookup(*features)
    249     if builder_class is None:
--> 250         raise FeatureNotFound(
    251             "Couldn't find a tree builder with the features you "
    252             "requested: %s. Do you need to install a parser library?"
    253             % ",".join(features))
    255 # At this point either we have a TreeBuilder instance in
    256 # builder, or we have a builder_class that we can instantiate
    257 # with the remaining **kwargs.
    258 if builder is None:

FeatureNotFound: Couldn't find a tree builder with the features you requested:␣
 ↪html5lib. Do you need to install a parser library?
```

Using `BeautifulSoup` or the `read_html` function extract the table with `GameStop Revenue` and store it into a dataframe named `gme_revenue`. The dataframe should have columns `Date` and `Revenue`. Make sure the comma and dollar sign is removed from the `Revenue` column.

Note: Use the method similar to what you did in question 2.

Click here if you need help locating the table

```
Below is the code to isolate the table, you will now need to loop through the rows and columns

soup.find_all("tbody")[1]

If you want to use the read_html function the table is located at index 1
```

[33]:
```
gme_revenue = pd.DataFrame(columns=['Date', 'Revenue'])

for table in soup.find_all('table'):

    if ('GameStop Quarterly Revenue' in table.find('th').text):
        rows = table.find_all('tr')

        for row in rows:
            col = row.find_all('td')

            if col != []:
                date = col[0].text
                revenue = col[1].text.replace(',','').replace('$','')

                gme_revenue = gme_revenue.append({"Date":date, "Revenue":
 ↪revenue}, ignore_index=True)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[33], line 3
      1 gme_revenue = pd.DataFrame(columns=['Date', 'Revenue'])
----> 3 for table in soup.find_all('table'):
      5     if ('GameStop Quarterly Revenue' in table.find('th').text):
      6         rows = table.find_all('tr')

NameError: name 'soup' is not defined
```

Remove the comma and dollar sign, an null or empty strings from the Revenue column.

[34]:
```
gme_revenue.tail()
```

[34]:
```
Empty DataFrame
Columns: [Date, Revenue]
Index: []
```

Display the last five rows of the `gme_revenue` dataframe using the `tail` function. Take a screenshot of the results.

[36]:
```
gme_revenue.tail()
```

[36]:
```
Empty DataFrame
Columns: [Date, Revenue]
Index: []
```

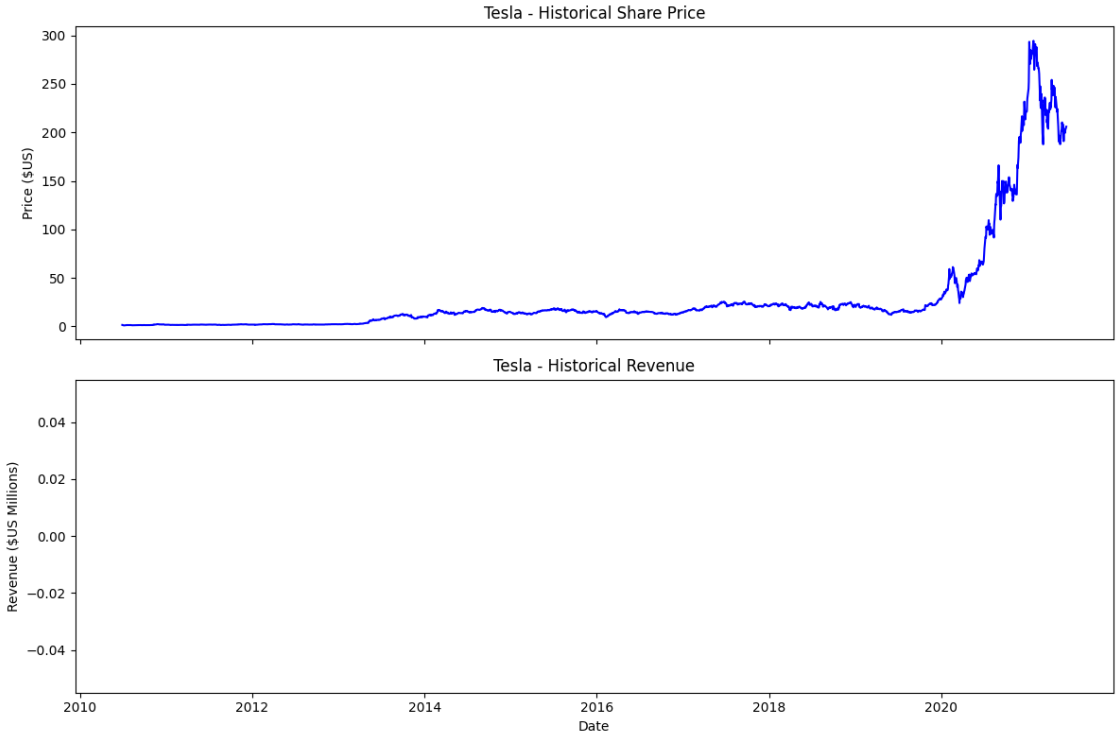
0.6 Question 5: Plot Tesla Stock Graph

Use the `make_graph` function to graph the Tesla Stock Data, also provide a title for the graph. Note the graph will only show data upto June 2021.

Hint

```
You just need to invoke the make_graph function with the required parameter to print the graphs
```

[37]:
```
make_graph(tesla_data, tesla_revenue, "Tesla")
```



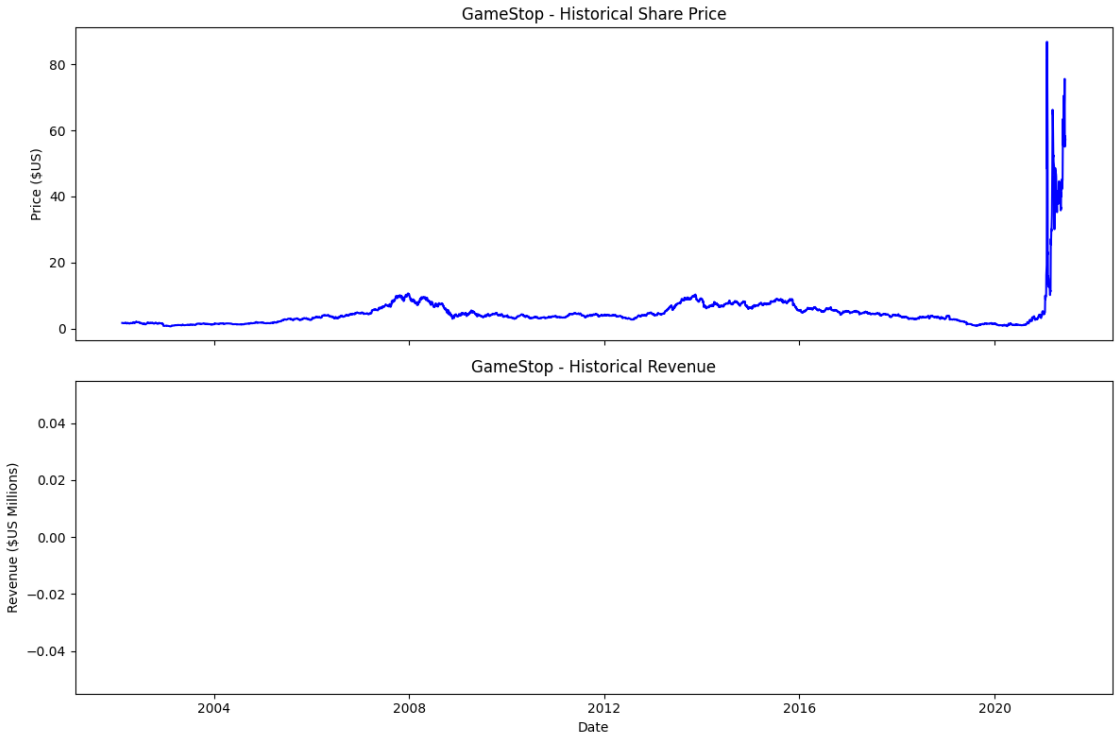
0.7 Question 6: Plot GameStop Stock Graph

Use the `make_graph` function to graph the GameStop Stock Data, also provide a title for the graph. The structure to call the `make_graph` function is `make_graph(gme_data, gme_revenue, 'GameStop')`. Note the graph will only show data upto June 2021.

Hint

`You just need to invoke the make_graph function with the required parameter to print the graphs`

[38]:
```
make_graph(gme_data, gme_revenue, 'GameStop')
```



About the Authors:

Joseph Santarcangelo has a PhD in Electrical Engineering, his research focused on using machine learning, signal processing, and computer vision to determine how videos impact human cognition. Joseph has been working for IBM since he completed his PhD.

Azim Hirjani

0.8 Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2022-02-28	1.2	Lakshmi Holla	Changed the URL of GameStop
2020-11-10	1.1	Malika Singla	Deleted the Optional part
2020-08-27	1.0	Malika Singla	Added lab to GitLab