Stock Data

Calling Python libraries

In [216…
```
import yfinance as yf
import pandas as pd
import requests
from bs4 import BeautifulSoup
import plotly.graph_objects as go
from plotly.subplots import make_subplots
```

In [217…
```
import plotly.io as pio
pio.renderers.default = "iframe"
```

In [218…
```
import warnings
# Ignore all warnings
warnings.filterwarnings("ignore", category=FutureWarning)
```

Definition of the graph function

In [378…
```
def make_graph(stock_data, revenue_data, stock):
    fig = make_subplots(rows=2, cols=1, shared_xaxes=True, subplot_titles=("Histori
    stock_data_specific = stock_data[stock_data.Date <= '2021-06-14']
    revenue_data_specific = revenue_data[revenue_data.Date <= '2021-04-30']
    fig.add_trace(go.Scatter(x=pd.to_datetime(stock_data_specific.Date), y=stock_da
    fig.add_trace(go.Scatter(x=pd.to_datetime(revenue_data_specific.Date), y=revenu
    fig.update_xaxes(title_text="Date", row=1, col=1)
    fig.update_xaxes(title_text="Date", row=2, col=1)
    fig.update_yaxes(title_text="Price ($US)", row=1, col=1)
    fig.update_yaxes(title_text="Revenue ($US Millions)", row=2, col=1)
    fig.update_layout(showlegend=False,
    height=900,
    title=stock,
    xaxis_rangeslider_visible=True)
    fig.show()
    from IPython.display import display, HTML
    fig_html = fig.to_html()
    display(HTML(fig_html))
```

Questions

Question 1: Use yfinance to Extract Stock Data

In [271…
```
Tesla=yf.Ticker("TSLA")
```

In [272…
```
tesla_data=Tesla.history(period="max")
```

In [273…
```
tesla_data.reset_index(inplace=True)
tesla_data.head()
```

Out[273…

	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

Question 2: Use Webscraping to Extract Tesla Revenue Data

In [449…
```
URL=' https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDevelop
response=requests.get(URL)
html_data=response.text
```

In [450…
```
soup=BeautifulSoup(html_data,'html.parser')
```

In [451…
```
tables = soup.find_all("table")
tesla_table = None

for table in tables:
    if "Tesla Quarterly Revenue" in table.text:
        tesla_table=table
```

In [452…
```
tesla_revenue=pd.DataFrame(columns=["Date","Revenue"])
```

In [453…
```
for row in tesla_table.find("tbody").find_all("tr"):
    cols = row.find_all("td")


    if len(cols) >= 2:
        Date = cols[0].text.strip()
        Revenue = cols[1].text.replace("$", "").replace(",", "").strip()
```

```
        if Revenue and Revenue != '':

            try:
                Revenue = float(Revenue)
            except ValueError:
                Revenue = None

            tesla_revenue = pd.concat([tesla_revenue, pd.DataFrame({"Date": [Date],
```

In [454…
```
tesla_revenue.head()
```

Out[454…

	Date	Revenue
0	2022-09-30	21454.0
1	2022-06-30	16934.0
2	2022-03-31	18756.0
3	2021-12-31	17719.0
4	2021-09-30	13757.0

Question 3: Use yfinance to Extract Stock Data

In [229…
```
GameStop=yf.Ticker("GME")
```

In [230…
```
gme_data=GameStop.history(period="max")
```

In [231…
```
gme_data.reset_index(inplace=True)

gme_data.head()
```

Out[231…

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2002-02-13 00:00:00-05:00	1.620129	1.693350	1.603296	1.691667	76216000	0.0	0.0
1	2002-02-14 00:00:00-05:00	1.712707	1.716074	1.670626	1.683250	11021600	0.0	0.0
2	2002-02-15 00:00:00-05:00	1.683250	1.687458	1.658002	1.674834	8389600	0.0	0.0
3	2002-02-19 00:00:00-05:00	1.666418	1.666418	1.578047	1.607504	7410400	0.0	0.0
4	2002-02-20 00:00:00-05:00	1.615920	1.662210	1.603296	1.662210	6892800	0.0	0.0

Question 4: Use Webscraping to Extract GME Revenue Data

In [442…
```
URL= 'https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDevelop

response =requests.get(URL)

html_data_2=response.text
```

In [443…
```
soup=BeautifulSoup(html_data_2,'html.parser')
```

In [444…
```
gme_table =soup.find_all("tbody")[1]
```

In [445…
```
gme_revenue=pd.DataFrame(columns=["Date","Revenue"])
```

In [446…
```
for row in gme_table.find_all("tr"):
    cols=row.find_all("td")
    Date=cols[0].text
    Revenue=cols[1].text.replace("$","").replace(",","")
    gme_revenue=pd.concat([gme_revenue,pd.DataFrame({"Date":[Date],"Revenue":[Reven
```

In [447…
```
gme_revenue.head()
```

Out[447…

	Date	Revenue
0	2020-04-30	1021
1	2020-01-31	2194
2	2019-10-31	1439
3	2019-07-31	1286
4	2019-04-30	1548

Question 5: Plot Tesla Stock Graph

In [455…
```
make_graph(tesla_data,tesla_revenue, 'Tesla')
```

In [269…

```
make_graph(gme_data, gme_revenue, 'GameStop')
```

In [ ]: