In [32]:
```
!pip install yfinance
```

```
Requirement already satisfied: yfinance in c:\users\user\anaconda3\lib\site-packages
(0.1.63)
Requirement already satisfied: multitasking>=0.0.7 in c:\users\user\anaconda3\lib\site
-packages (from yfinance) (0.0.9)
Requirement already satisfied: lxml>=4.5.1 in c:\users\user\anaconda3\lib\site-package
s (from yfinance) (4.6.3)
Requirement already satisfied: requests>=2.20 in c:\users\user\anaconda3\lib\site-pack
ages (from yfinance) (2.25.1)
Requirement already satisfied: pandas>=0.24 in c:\users\user\anaconda3\lib\site-packag
es (from yfinance) (1.2.4)
Requirement already satisfied: numpy>=1.15 in c:\users\user\anaconda3\lib\site-package
s (from yfinance) (1.20.1)
Requirement already satisfied: python-dateutil>=2.7.3 in c:\users\user\anaconda3\lib\s
ite-packages (from pandas>=0.24->yfinance) (2.8.1)
Requirement already satisfied: pytz>=2017.3 in c:\users\user\anaconda3\lib\site-packag
es (from pandas>=0.24->yfinance) (2021.1)
Requirement already satisfied: six>=1.5 in c:\users\user\anaconda3\lib\site-packages
(from python-dateutil>=2.7.3->pandas>=0.24->yfinance) (1.15.0)
Requirement already satisfied: chardet<5,>=3.0.2 in c:\users\user\anaconda3\lib\site-p
ackages (from requests>=2.20->yfinance) (4.0.0)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\user\anaconda3\lib\site-
packages (from requests>=2.20->yfinance) (2020.12.5)
Requirement already satisfied: idna<3,>=2.5 in c:\users\user\anaconda3\lib\site-packag
es (from requests>=2.20->yfinance) (2.10)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\user\anaconda3\lib\si
te-packages (from requests>=2.20->yfinance) (1.26.4)
```

In [33]:
```
import yfinance as yf
import pandas as pd
```

Question 1: Use yfinance to Extract Stock Data

using 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

In [34]:
```
tesla = yf.Ticker("TSLA")
```

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

In [35]:
```
tesla_data= tesla.history(period="max")
```

Reset the index, save, and display the first five rows of the tesla_data dataframe using the head function.

In [36]:
```
tesla_data.reset_index(inplace=True)
```

In [37]:
```
tesla_data.head()
```

Out[37]:

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2010-06-29	3.800	5.000	3.508	4.778	93831500	0	0.0
1	2010-06-30	5.158	6.084	4.660	4.766	85935500	0	0.0
2	2010-07-01	5.000	5.184	4.054	4.392	41094000	0	0.0
3	2010-07-02	4.600	4.620	3.742	3.840	25699000	0	0.0
4	2010-07-06	4.000	4.000	3.166	3.222	34334500	0	0.0

In [38]:
```
#!pip install pandas
!pip install requests
!pip install bs4
!pip install plotly
```

```
Requirement already satisfied: requests in c:\users\user\anaconda3\lib\site-packages
(2.25.1)
Requirement already satisfied: idna<3,>=2.5 in c:\users\user\anaconda3\lib\site-packag
es (from requests) (2.10)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\user\anaconda3\lib\si
te-packages (from requests) (1.26.4)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\user\anaconda3\lib\site-
packages (from requests) (2020.12.5)
Requirement already satisfied: chardet<5,>=3.0.2 in c:\users\user\anaconda3\lib\site-p
ackages (from requests) (4.0.0)
Requirement already satisfied: bs4 in c:\users\user\anaconda3\lib\site-packages (0.0.
1)
Requirement already satisfied: beautifulsoup4 in c:\users\user\anaconda3\lib\site-pack
ages (from bs4) (4.9.3)
Requirement already satisfied: soupsieve>1.2 in c:\users\user\anaconda3\lib\site-packa
ges (from beautifulsoup4->bs4) (2.2.1)
Requirement already satisfied: plotly in c:\users\user\anaconda3\lib\site-packages (5.
1.0)
Requirement already satisfied: tenacity>=6.2.0 in c:\users\user\anaconda3\lib\site-pac
kages (from plotly) (8.0.1)
Requirement already satisfied: six in c:\users\user\anaconda3\lib\site-packages (from
plotly) (1.15.0)
```

##Question 2: Use Webscraping to Extract Tesla Revenue Data

Display the last five rows of the tesla_revenue dataframe using the tail function

In [39]:
```
import pandas as pd
import requests
from bs4 import BeautifulSoup
```

In [40]:
```
url = "https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue?utm_medium=Exinfl
html_data = requests.get(url).text
```

In [41]:
```
soup = BeautifulSoup(html_data, "html5lib")
```

In [42]:
```
tesla_revenue= pd.DataFrame(columns=["Date", "Revenue"])
for table in soup.find_all('table'):
    if table.find('th').getText().startswith("Tesla Quarterly Revenue"):
        for row in table.find('tbody').find_all("tr"):
            col = row.find_all("td")
            date = col[0].text
            revenue = col[1].text

            tesla_revenue = tesla_revenue.append({"Date":date, "Revenue":revenue}, ig
```

In [43]:
```
tesla_revenue["Revenue"] = tesla_revenue['Revenue'].str.replace(',|\$',"")
tesla_revenue.dropna(inplace=True)

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

```
<ipython-input-43-11f2b746d7c0>:1: FutureWarning:

The default value of regex will change from True to False in a future version.
```

In [44]:
```
tesla_revenue.tail()
```

Out[44]:

	Date	Revenue
43	2010-09-30	31
44	2010-06-30	28
45	2010-03-31	21
47	2009-09-30	46
48	2009-06-30	27

q.3Use yfinance to Extract Stock Data

Reset the index, save, and display the first five rows of the gme_data dataframe using the head function.

using 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.

In [45]:
```
gme = yf.Ticker("GME")
```

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

In [46]:
```
gme_data=gme.history(period='max')
```

reset the index,save and display the first 5 rows of the gme_data dataframe using the head function.

In [47]:
```
gme_data.reset_index(inplace=True)
gme_data.head()
```

Out[47]:

	Date	Open	High	Low	Close	Volume	Dividends	Stock Splits
0	2002-02-13	6.480513	6.773399	6.413183	6.766666	19054000	0.0	0.0
1	2002-02-14	6.850831	6.864296	6.682506	6.733003	2755400	0.0	0.0
2	2002-02-15	6.733001	6.749833	6.632096	6.699136	2097400	0.0	0.0
3	2002-02-19	6.665671	6.665671	6.312189	6.400017	1852600	0.0	0.0
4	2002-02-20	6.463681	6.648838	6.413183	6.648838	1723200	0.0	0.0

Question 4: Use Webscraping to Extract GME Revenue Data

In [48]:
```
url = "https://www.macrotrends.net/stocks/charts/GME/gamestop/revenue"
html_data= requests.get(url).text
```

In [49]:
```
soup1 = BeautifulSoup(html_data, "html5lib")
```

In [50]:
```
gme_revenue= pd.DataFrame(columns=["Date", "Revenue"])
for table in soup.find_all('table'):
    if table.find('th').getText().startswith("GameStop Quarterly Revenue"):
        for row in table.find('tbody').find_all("tr"):
            col = row.find_all("td")
            date = col[0].text
            revenue = col[1].text

            gme_revenue = gme_revenue.append({"Date":date, "Revenue":revenue}, ignore
```

In [51]:
```
gme_revenue["Revenue"] = gme_revenue['Revenue'].str.replace(',|\$',"")
gme_revenue.dropna(inplace=True)

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

```
<ipython-input-51-1c31e4ecf793>:1: FutureWarning:

The default value of regex will change from True to False in a future version.
```

In [52]:
```
gme_revenue.tail()
```

Out[52]:

	Date	Revenue
62	2006-01-31	1667
63	2005-10-31	534
64	2005-07-31	416
65	2005-04-30	475
66	2005-01-31	709

Question 5: Plot Tesla Stock Graph

Use the make_graph function to graph the Tesla Stock Data, also provide a title for the graph.

In [73]:
```
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 [74]:
```
def make_graph(stock_data, revenue_data, stock):
    fig = make_subplots(rows=2, cols=1, shared_xaxes=True, subplot_titles=("Historical
    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, infer_datetime
    fig.add_trace(go.Scatter(x=pd.to_datetime(revenue_data_specific.Date, infer_datet
    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()
```

In [75]:
```
make_graph(tesla_data, tesla_revenue, 'Tesla')
```

Question 6: Plot GameStop Stock Graph

Use the make_graph function to graph the GameStop Stock Data, also provide a title for the graph.

In [76]:
```
make_graph(gme_data, gme_revenue, 'GameStop')
```

In [ ]:
```

```