PYTHON PROJECT

Stock Analyzing Dashboard using Python

Library use.

1. Yfinance
2. Pandas
3. Requests
4. BeautifulSoup
5. Matplotlib.pyplot

Compiler: python 3.11
Code editor: VS Code.

JUNE 19

Project developed and,
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1) Phase: Extract stock data for Tesla using yfinance.

Install yfinance python library if not already installed
Pip install yfinance

Copy past this python code.

Import yfinance as yf
Import pandas as pd

Tesla_data = yf.download('TSLA')
Tesla_data.reset_index(inplace=True)

Tesla_data.to_csv('tesla_stock_data.csv', index=False)

print(tesla_data.head()) #print first 5 stock data.

Output:-

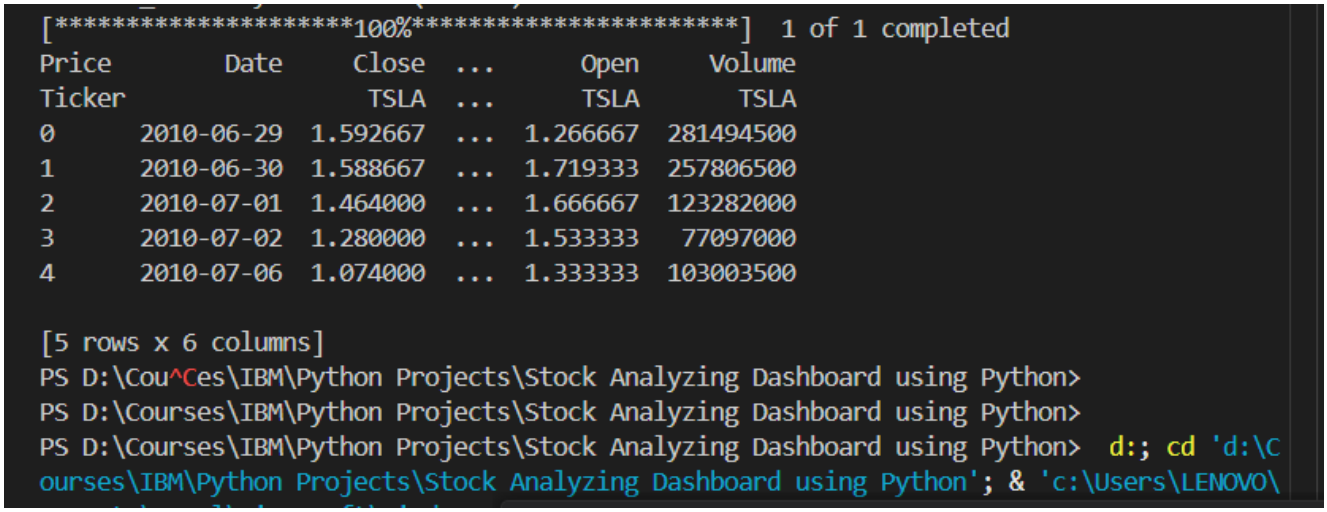
```
  tesla_data = yf.download('TSLA')
[**********************100%**********************]  1 of 1 completed
Price        Date     Close  ...      Open     Volume
Ticker                 TSLA  ...      TSLA       TSLA
0      2010-06-29  1.592667  ...  1.266667  281494500
1      2010-06-30  1.588667  ...  1.719333  257806500
2      2010-07-01  1.464000  ...  1.666667  123282000
3      2010-07-02  1.280000  ...  1.533333   77097000
4      2010-07-06  1.074000  ...  1.333333  103003500

[5 rows x 6 columns]
PS D:\Courses\IBM\Python Projects\Stock Analyzing Dashboard using Python>
```

2) Phase: Request Tesla’s revenue page from Macrotreds

```
url = "https://www.macrotrends.net/stocks/charts/TSLA/tesla/revenue"
response = requests.get(url)
soup = BeautifulSoup(response.text, "lxml")

# Step 2: Find all tables in the page
tables = soup.find_all("table")

# Step 3: Search for the "Tesla Quarterly Revenue" table
tesla_revenue = pd.DataFrame()
for table in tables:
    if "Tesla Quarterly Revenue" in table.text:
        tesla_revenue = pd.read_html(str(table))[0]
        break
# Step 4: Clean the DataFrame
# Check column names
print("Original columns:", tesla_revenue.columns)

# Keep only rows with valid dates and revenues
tesla_revenue = tesla_revenue.rename(columns={tesla_revenue.columns[0]: "Date",
tesla_revenue.columns[1]: "Revenue"})
tesla_revenue.dropna(inplace=True)
tesla_revenue = tesla_revenue[tesla_revenue["Revenue"] != ""]
```

```
# Remove $ and commas, convert to float
tesla_revenue["Revenue"] = tesla_revenue["Revenue"].str.replace("$", "",
regex=False).str.replace(",", "", regex=False)
tesla_revenue["Revenue"] = pd.to_numeric(tesla_revenue["Revenue"],
errors='coerce')

# Drop rows with invalid revenue values
tesla_revenue.dropna(inplace=True)

# Step 5: Display the last 5 rows
print(tesla_revenue.tail())
```

Output:-



```
[**********100%**********]  1 of 1 completed
Price        Date     Close  ...      Open     Volume
Ticker                 TSLA  ...      TSLA       TSLA
0      2010-06-29  1.592667  ...  1.266667  281494500
1      2010-06-30  1.588667  ...  1.719333  257806500
2      2010-07-01  1.464000  ...  1.666667  123282000
3      2010-07-02  1.280000  ...  1.533333   77097000
4      2010-07-06  1.074000  ...  1.333333  103003500

[5 rows x 6 columns]
PS D:\Cou^Ces\IBM\Python Projects\Stock Analyzing Dashboard using Python>
PS D:\Courses\IBM\Python Projects\Stock Analyzing Dashboard using Python>
PS D:\Courses\IBM\Python Projects\Stock Analyzing Dashboard using Python>  d:; cd 'd:\C
ourses\IBM\Python Projects\Stock Analyzing Dashboard using Python'; & 'c:\Users\LENOVO\
```

3) Phase: Extract stock data for GameStop using yfinance.

Install yfinance if not already installed.
pip install yfinance

```
import yfinance as yf
import pandas as pd

gme_data = yf.download('GME')

gme_data.reset_index(inplace=True)

gme_data.to_csv('gme.stock_data.csv', index=False)

print(gme_data.head())
```

Output:-

```
D:\Courses\IBM\Python Projects\Stock Analyzing Dashboard using Python\main3.py:
reWarning: YF.download() has changed argument auto_adjust default to True
  gme_data = yf.download('GME')
[**********************100%**********************]  1 of 1 completed
Price        Date     Close      High       Low      Open    Volume
Ticker                  GME       GME       GME       GME       GME
0      2002-02-13  1.691667  1.693350  1.603296  1.620129  76216000
1      2002-02-14  1.683250  1.716074  1.670626  1.712707  11021600
2      2002-02-15  1.674833  1.687458  1.658001  1.683250   8389600
3      2002-02-19  1.607504  1.666418  1.578047  1.666418   7410400
4      2002-02-20  1.662210  1.662210  1.603296  1.615920   6892800
PS D:\Courses\IBM\Python Projects\Stock Analyzing Dashboard using Python>
```

4) Phase: Tesla Stock and Revenue Dashboard.

```
Import yfinance as yf
Import pandas as pd
Import matplotlib.pyplot as plt

#Download tesla stock data.

tesla_data = yf.download('TSLA')
tesla_data.reset_index(inplace=True)

#define the graph function

def make_graph(data, title):
    plt.figure(figsize=(10, 5))
    plt.plot(data['Date'], data['Close'], label='Close Price' )
    plt.title(title)
    plt.xlabel('Date')
    plt.ylabel('Price (USD)')
    plt.grid(True)
    plt.legend()
    plt.tight_layout()
    plt.show()

#call the graph making function.

make_graph(tesla_data, "Tesla Stock Closing Prices Over Time")
```

Output:-

Notes:-

Dashboard Analytics Displayed

A dashboard often provides a view of key performance indicators in a clear way. Analyzing a data set and extracting key performance indicators will be practiced. Prompts will be used to support learning in accessing and displaying data in dashboards. Learning how to display key performance indicators on a dashboard will be included in this assignment. That will be using Plotly in this data visualization.

5) Phase: GameStop Stock and Revenue Dashboard.

```
    Import yfinance as yf
    Import pandas for ad
    Import matplotlib.pyplot as plt

    #Download GameStop stock data

    gme_data = yf.download('GME')
    gme_data.reset_index(inplace=True)

    #Define the make_garph function

def make_graph(data, title):
    plt.figure(figsize=(10, 5))
    plt.plot(data['Date'], data['Close'], label='Close Price', color='purple')
    plt.title(title)
    plt.xlabel('Date')
    plt.ylabel('Price (USD)')
    plt.grid(True)
    plt.legend()
    plt.tight_layout()
    plt.show()

#call the function:
Make_graph(gme_data, 'GameStop Stock Closing Prices Over Time').
```

Output:-

Best of luck.....

Developed By: Rathod Vismay H.
(Computer Engineering pursuing student.....)