

```
In [27]: stock_price = pd.read_csv('stock_price.csv')
In [28]: companies = pd.read_csv('companies_name.csv')
```

```
In [29]: company_list = list(companies['name'])
symbol_list = list(companies['symbol'])
```

```
In [30]: StockPrice=pd.merge(stock_price, companies, left_on='Symbol', right_on = 'symbol')
```

```
In [31]: StockPrice = round(StockPrice, 2)
StockPrice = StockPrice[['Symbol', 'name', 'Date', 'Open', 'High', 'Low', 'Close', 'Volume']]
```

```
In [32]: StockPrice = pd.DataFrame(StockPrice)
Stock_Price.head()
```

Symbol	name	Date	Open	High	Low	Close	Volume
0	MMM	3M	2022-03-21	148.69	149.74	147.40	148.58 45149000
1	MMM	3M	2022-03-22	149.45	150.84	148.50	149.48 42500000
2	MMM	3M	2022-03-23	149.69	149.78	147.56	147.68 26372000
3	MMM	3M	2022-03-24	148.12	149.23	147.40	148.98 20281000
4	MMM	3M	2022-03-25	149.27	151.18	148.91	150.46 22478000

Postgresql

```
In [7]: from sqlalchemy import create_engine
conn_url = 'postgresql://postgres:pwd4FAPAN54008localhost/5400_Projec'
engine = create_engine(conn_url)
connection = engine.connect()
```

```
In [8]: createCmd1 = """ DROP TABLE IF EXISTS stock_price CASCADE;

CREATE TABLE stock_price (
    Symbol VARCHAR(10),
    Company_name VARCHAR(50),
    Date DATE,
    Open NUMERIC(10, 2),
    High NUMERIC(10, 2),
    Low NUMERIC(10, 2),
    Close NUMERIC(10, 2),
    Volume NUMERIC(15, 2),
    PRIMARY KEY(Symbol, Date)
);
"""
connection.execute(createCmd1)
```

```
Out [8]: <sqlalchemy.engine.cursor.LegacyCursorResult at 0x7fab30da7f0>
```

```
In [9]: StockPrice['date'] = pd.to_datetime(StockPrice['Date'], format = '%Y-%m-%d')
Stock_Price.rename(columns={'name': 'Company name'}, inplace=True)
Stock_Price.columns=Stock_Price.columns.str.lower()
```

```
Out [9]: Stock_Price.head()
```

symbol	company_name	date	open	high	low	close	volume
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```
In [10]: Stock_Price.to_sql('stock_price', con = engine, if_exists = 'append', index = False)
```

```
In [11]: #SET
query = "SELECT * FROM stock_price"
result = connection.execute(query)
row = result.fetchall()
engine = pd.DataFrame(row, columns = ['symbol', 'company_name', 'date', 'open', 'high', 'low', 'close', 'v
olume'])
stockprice
```

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10506 rows x 8 columns

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In [12]: stockprice.to_csv('stockprice.csv', index=False)
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In [13]: import pandas as pd
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Out [13]: stockprice.head()
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Out[130]: **import matplotlib.pyplot as plt**

```
xAxis = [{"date"} for i in result]
yAxis = [float(i["close"])] for i in result]
yAxis1 = [float(i["volume"])] for i in result]

# Create figure and axis #1
fig, ax1 = plt.subplots()
# plot line chart on axis #1
ax1.plot(xAxis,yAxis)
ax1.set_ylabel('close')
ax1.set_ylim(min(yAxis)-2, max(yAxis)+2)
ax1.legend(['close Price($)', loc="upper left")
ax1.set_xlabel('Date')
# set up the 2nd axis
ax2 = ax1.twinx()
# plot bar chart on axis #2
ax2.bar(xAxis,yAxis1, width=0.5, alpha=0.5, color='orange')
ax2.grid(False) # turn off grid #2
ax2.set_ylabel('Volume')
ax2.set_ylim(0, max(yAxis1)+1000000)
ax2.legend(['Volume'], loc="upper right")
```

Out[130]: <matplotlib.legend.Legend at 0x7fab21e18130>



In [123]: yAxis1

Out[123]: [78699800.0, 103049300.0, 92633200.0, 100589400.0, 90371900.0, 80546200.0]