Stock Market Projects

In [1]:
```
import pandas as pd
```

Reading all CSV Files

In [2]:
```
apple=pd.read_csv('AAPL.csv')
facebook=pd.read_csv('FB.csv')
google=pd.read_csv('GOOGL.csv')
nvdia=pd.read_csv('NVDA.csv')
tesla=pd.read_csv('TSLA.csv')
twitter=pd.read_csv('TWTR.csv')
```

In [3]:
```
apple.head()
```

Out[3]:

	Date	Open	High	Low	Close	Adj Close	Volume
0	1980-12-12	0.513393	0.515625	0.513393	0.513393	0.406782	117258400
1	1980-12-15	0.488839	0.488839	0.486607	0.486607	0.385558	43971200
2	1980-12-16	0.453125	0.453125	0.450893	0.450893	0.357260	26432000
3	1980-12-17	0.462054	0.464286	0.462054	0.462054	0.366103	21610400
4	1980-12-18	0.475446	0.477679	0.475446	0.475446	0.376715	18362400

In [4]:
```
twitter.head()
```

Out[4]:

	Date	Open	High	Low	Close	Adj Close	Volume
0	2013-11-07	45.099998	50.090000	44.000000	44.900002	44.900002	117701600
1	2013-11-08	45.930000	46.939999	40.689999	41.650002	41.650002	27925300
2	2013-11-11	40.500000	43.000000	39.400002	42.900002	42.900002	16113900
3	2013-11-12	43.660000	43.779999	41.830002	41.900002	41.900002	6316700
4	2013-11-13	41.029999	42.869999	40.759998	42.599998	42.599998	8688300

In [5]:
```
dfs=[apple, facebook, google, nvdia, tesla, twitter]
```

Reason to create list:- Better than applying same functions six times, I will use for loop and apply function to our list.

In [6]:
```
for df in dfs:
    df['MA50']=df.Close.rolling(50).mean()
    df['MA200']=df.Close.rolling(200).mean()
```

In [7]:
```
apple.sample(5)
```

Out[7]:

	Date	Open	High	Low	Close	Adj Close	Volume	MA50	
6674	2007-05-29	16.350000	16.408571	16.098572	16.335714	14.180067	161423500	14.180086	12.
9661	2019-04-09	200.320007	202.850006	199.229996	199.500000	196.922470	35768200	179.425400	190.
3820	1996-01-24	1.147321	1.151786	1.133929	1.151786	0.999797	163973600	1.277277	1.
2917	1992-06-29	1.633929	1.683036	1.616071	1.669643	1.389076	47107200	1.987768	2.
997	1984-11-21	0.412946	0.415179	0.412946	0.412946	0.327194	44682400	0.447589	0.

Previous Day Close

In [8]:
```
for df in dfs:
    df['Previous Day Close']=df.Close.shift(1)
```

In [9]:
```
apple.head()
```

Out[9]:

	Date	Open	High	Low	Close	Adj Close	Volume	MA50	MA200	Previous Day Close
0	1980-12-12	0.513393	0.515625	0.513393	0.513393	0.406782	117258400	NaN	NaN	NaN
1	1980-12-15	0.488839	0.488839	0.486607	0.486607	0.385558	43971200	NaN	NaN	0.513393
2	1980-12-16	0.453125	0.453125	0.450893	0.450893	0.357260	26432000	NaN	NaN	0.486607
3	1980-12-17	0.462054	0.464286	0.462054	0.462054	0.366103	21610400	NaN	NaN	0.450893
4	1980-12-18	0.475446	0.477679	0.475446	0.475446	0.376715	18362400	NaN	NaN	0.462054

Change in Price

In [10]:
```
for df in dfs:
    df['Change in Price']= df['Close']-df['Previous Day Close']
```

In [11]:
```
apple.head()
```

Out[11]:

	Date	Open	High	Low	Close	Adj Close	Volume	MA50	MA200	Previous Day Close	Ch in
0	1980-12-12	0.513393	0.515625	0.513393	0.513393	0.406782	117258400	NaN	NaN	NaN	
1	1980-12-15	0.488839	0.488839	0.486607	0.486607	0.385558	43971200	NaN	NaN	0.513393	-0.02
2	1980-12-16	0.453125	0.453125	0.450893	0.450893	0.357260	26432000	NaN	NaN	0.486607	-0.03
3	1980-12-17	0.462054	0.464286	0.462054	0.462054	0.366103	21610400	NaN	NaN	0.450893	0.01
4	1980-12-18	0.475446	0.477679	0.475446	0.475446	0.376715	18362400	NaN	NaN	0.462054	0.01

Percent change in price

In [12]:
```
for df in dfs:
    df['Percent change in price']=df.Close.pct_change()
```

In [13]:
```
apple.head()
```

Out[13]:

	Date	Open	High	Low	Close	Adj Close	Volume	MA50	MA200	Previous Day Close	Ch in
0	1980-12-12	0.513393	0.515625	0.513393	0.513393	0.406782	117258400	NaN	NaN	NaN	
1	1980-12-15	0.488839	0.488839	0.486607	0.486607	0.385558	43971200	NaN	NaN	0.513393	-0.02
2	1980-12-16	0.453125	0.453125	0.450893	0.450893	0.357260	26432000	NaN	NaN	0.486607	-0.03
3	1980-12-17	0.462054	0.464286	0.462054	0.462054	0.366103	21610400	NaN	NaN	0.450893	0.01
4	1980-12-18	0.475446	0.477679	0.475446	0.475446	0.376715	18362400	NaN	NaN	0.462054	0.01

Previous Day Volume

In [14]:
```
for df in dfs:
    df['Previous Day Volume']=df.Volume.shift(1)
```

In [15]:
```
apple.head()
```

Out[15]:

	Date	Open	High	Low	Close	Adj Close	Volume	MA50	MA200	Previous Day Close	Ch in
0	1980-12-12	0.513393	0.515625	0.513393	0.513393	0.406782	117258400	NaN	NaN	NaN	
1	1980-12-15	0.488839	0.488839	0.486607	0.486607	0.385558	43971200	NaN	NaN	0.513393	-0.02
2	1980-12-16	0.453125	0.453125	0.450893	0.450893	0.357260	26432000	NaN	NaN	0.486607	-0.03
3	1980-12-17	0.462054	0.464286	0.462054	0.462054	0.366103	21610400	NaN	NaN	0.450893	0.01
4	1980-12-18	0.475446	0.477679	0.475446	0.475446	0.376715	18362400	NaN	NaN	0.462054	0.01

Change in Volume

In [16]:
```
for df in dfs:
    df['Change in Volume']=df['Volume']-df['Previous Day Volume']
```

In [17]:
```
apple.head()
```

Out[17]:

	Date	Open	High	Low	Close	Adj Close	Volume	MA50	MA200	Previous Day Close	Ch in
0	1980-12-12	0.513393	0.515625	0.513393	0.513393	0.406782	117258400	NaN	NaN	NaN	
1	1980-12-15	0.488839	0.488839	0.486607	0.486607	0.385558	43971200	NaN	NaN	0.513393	-0.02
2	1980-12-16	0.453125	0.453125	0.450893	0.450893	0.357260	26432000	NaN	NaN	0.486607	-0.03
3	1980-12-17	0.462054	0.464286	0.462054	0.462054	0.366103	21610400	NaN	NaN	0.450893	0.01
4	1980-12-18	0.475446	0.477679	0.475446	0.475446	0.376715	18362400	NaN	NaN	0.462054	0.01

Percent Change in Volume

In [18]:
```
for df in dfs:
    df['Percent Change in Volume']=df.Volume.pct_change()
```

In [19]:
```
apple.sample(5)
```

Out[19]:

	Date	Open	High	Low	Close	Adj Close	Volume	MA50	MA200	Previou Da Clos
4253	1997-10-09	0.758929	0.803571	0.756696	0.776786	0.674282	46832800	0.801183	0.653951	0.76785
3554	1995-01-05	1.401786	1.406250	1.383929	1.388393	1.191560	18410000	1.402768	1.213513	1.40625
6246	2005-09-13	7.288571	7.327143	7.188571	7.260000	6.301977	123221000	6.318543	5.615014	7.34285
3320	1994-01-31	1.196429	1.205357	1.169643	1.169643	0.989858	59595200	1.110357	1.237009	1.21428
5290	2001-11-26	1.424286	1.539286	1.420000	1.526429	1.325002	115172400	1.268071	1.445788	1.41714

Save it to csv file

In [20]:
```
apple.to_csv('APPLE.csv')
google.to_csv('GOOGLE.csv')
facebook.to_csv('FACEBOOK.csv')
nvdia.to_csv('NVDIA.csv')
tesla.to_csv('TESLA.csv')
twitter.to_csv('TWITTER.csv')
```

In [ ]:

In [ ]: