In [34]:
```
#q1

import pandas as pd

pokemon=pd.read_csv('pokemon.csv')
war=pd.read_csv('revolutionary_war.csv')
google=pd.read_csv('google.csv')

pokemon.tail(5)
```

Out[34]:

	#	Name	Type 1	Type 2	Total	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generat
795	719	Diancie	Rock	Fairy	600	50	100	150	100	150	50	
796	719	DiancieMega Diancie	Rock	Fairy	700	50	160	110	160	110	110	
797	720	HoopaHoopa Confined	Psychic	Ghost	600	80	110	60	150	130	70	
798	720	HoopaHoopa Unbound	Psychic	Dark	680	80	160	60	170	130	80	
799	721	Volcanion	Fire	Water	600	80	110	120	130	90	70	

In [35]:
```
#q2

print(war.head())

war=pd.read_csv('revolutionary_war.csv',usecols=["Start Date","State"])

print("-"*100)

print(war.head())
```

```
                            Battle  Start Date          State
0                      Powder Alarm    9/1/1774  Massachusetts
1  Storming of Fort William and Mary  12/14/1774  New Hampshire
2   Battles of Lexington and Concord   4/19/1775  Massachusetts
3                    Siege of Boston   4/19/1775  Massachusetts
4                 Gunpowder Incident   4/20/1775       Virginia
----------------------------------------------------------------------------------------------------
   Start Date          State
0    9/1/1774  Massachusetts
1  12/14/1774  New Hampshire
2   4/19/1775  Massachusetts
3   4/19/1775  Massachusetts
4   4/20/1775       Virginia
```

In [37]:
```
#q3

sorted_google=google.sort_values(by=["High","Low","Open","Close","Volume","A
sorted_google.head()
```

Out[37]:

	Date	High	Low	Open	Close	Volume	Adj Close
11	2004/9/3	50.680038	49.474556	50.286514	49.818268	5176932.0	49.818268
12	2004/9/7	50.809551	49.619015	50.316402	50.600338	5875340.0	50.600338
10	2004/9/2	50.993862	49.285267	49.409801	50.565468	15190525.0	50.565468
14	2004/9/9	51.163227	50.311420	51.073563	50.963974	4081040.0	50.963974
9	2004/9/1	51.292744	49.648903	51.158245	49.937820	9181687.0	49.937820

In [38]:
```
#q4

sorted_pokemon=pokemon.sort_values(by="#")

sorted_pokemon.head()
```

Out[38]:

	#	Name	Type 1	Type 2	Total	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Generation
0	1	Bulbasaur	Grass	Poison	318	45	49	49	65	65	45	1
1	2	Ivysaur	Grass	Poison	405	60	62	63	80	80	60	1
2	3	Venusaur	Grass	Poison	525	80	82	83	100	100	80	1
3	3	VenusaurMega Venusaur	Grass	Poison	625	80	100	123	122	120	80	1
4	4	Charmander	Fire	NaN	309	39	52	43	60	50	65	1

In [48]:
```
#q5

pokeType_counts = pokemon.groupby(['Type 1', 'Type 2']).size()

pokeType_normalized = pokeType_counts / pokeType_counts.sum()
print("-"*100)
print(pokeType_normalized.head(20))
```

```
----------------------------------------------------------------------------------------------------
Type 1  Type 2
Bug     Electric    0.004831
        Fighting    0.004831
        Fire        0.004831
        Flying      0.033816
        Ghost       0.002415
        Grass       0.014493
        Ground      0.004831
        Poison      0.028986
        Rock        0.007246
        Steel       0.016908
        Water       0.002415
Dark    Dragon      0.007246
        Fighting    0.004831
        Fire        0.007246
        Flying      0.012077
        Ghost       0.004831
        Ice         0.004831
        Psychic     0.004831
        Steel       0.004831
Dragon  Electric    0.002415
dtype: float64
```

In [51]:
```
#q6
google['High_r'] = google['High'].round()
google['Low_r'] = google['Low'].round()
google['Open_r'] = google['Open'].round()
google['Close_r'] = google['Close'].round()
google['Volume_r'] = google['Volume'].round()
google['AdjClose_r'] = google['Adj Close'].round()

# Sort by the rounded columns
sorted_google = google.sort_values(by=['High_r', 'Low_r', 'Open_r', 'Close_r

sorted_google.head()
```

Out[51]:

	Date	High	Low	Open	Close	Volume	Adj Close	High_r	Low
10	2004/9/2	50.993862	49.285267	49.409801	50.565468	15190525.0	50.565468	51.0	49
11	2004/9/3	50.680038	49.474556	50.286514	49.818268	5176932.0	49.818268	51.0	49
13	2004/9/8	51.322632	50.062355	50.181908	50.958992	5009306.0	50.958992	51.0	50
12	2004/9/7	50.809551	49.619015	50.316402	50.600338	5875340.0	50.600338	51.0	50
9	2004/9/1	51.292744	49.648903	51.158245	49.937820	9181687.0	49.937820	51.0	50

In [52]:
```
#q7
google['Avg_High_Low'] = (google['High'] + google['Low']) / 2

# Sort the DataFrame by the new column
google_sorted = google.sort_values(by='Avg_High_Low')

google_sorted.head()
```

Out[52]:

	Date	High	Low	Open	Close	Volume	Adj Close	High_r	Lo
0	2004/8/19	51.835709	47.800831	49.813290	49.982655	44871361.0	49.982655	52.0	4
11	2004/9/3	50.680038	49.474556	50.286514	49.818268	5176932.0	49.818268	51.0	4
10	2004/9/2	50.993862	49.285267	49.409801	50.565468	15190525.0	50.565468	51.0	4
12	2004/9/7	50.809551	49.619015	50.316402	50.600338	5875340.0	50.600338	51.0	5
9	2004/9/1	51.292744	49.648903	51.158245	49.937820	9181687.0	49.937820	51.0	5

In [ ]: