

Google

```
In [19]: import time
import datetime
import pandas as pd

ticker = 'GOOG'
period1 = int(time.mktime(datetime.datetime(2020, 1, 1, 0, 0).timetuple()))
period2 = int(time.mktime(datetime.datetime(2021, 1, 1, 23, 59).timetuple()))
interval = '1d' # 1d, 1m

query_string = f'https://query1.finance.yahoo.com/v7/finance/download/{ticker}?period1={period1}&period2={period2}&interval={interval}&events=history&includeAdjustedClose=true'

df = pd.read_csv(query_string)
print(df)
df.to_csv('GOOGLE.csv')
```

	Date	Open	High	Low	Close	\
0	2020-01-02	1341.550049	1368.140015	1341.550049	1367.369995	
1	2020-01-03	1347.859985	1372.500000	1345.543945	1360.660034	
2	2020-01-06	1350.000000	1396.500000	1350.000000	1394.209961	
3	2020-01-07	1397.939941	1402.989990	1390.380005	1393.339966	
4	2020-01-08	1392.079956	1411.579956	1390.839966	1404.319946	
..	
248	2020-12-24	1735.000000	1746.000000	1729.109985	1738.849976	
249	2020-12-28	1751.635010	1790.728027	1746.334961	1776.089966	
250	2020-12-29	1787.790039	1792.439941	1756.089966	1758.719971	
251	2020-12-30	1762.010010	1765.094971	1725.599976	1739.520020	
252	2020-12-31	1735.420044	1758.930054	1735.420044	1751.880005	

	Adj Close	Volume
0	1367.369995	1406600
1	1360.660034	1186400
2	1394.209961	1732300
3	1393.339966	1502700
4	1404.319946	1528000
..
248	1738.849976	346800
249	1776.089966	1393000
250	1758.719971	1299400
251	1739.520020	1306100
252	1751.880005	1011900

[253 rows x 7 columns]

close price for google versus time

```
In [20]: import matplotlib.pyplot as plt
df_google = pd.read_csv(r'GOOGLE.csv')
df_google.head()
```

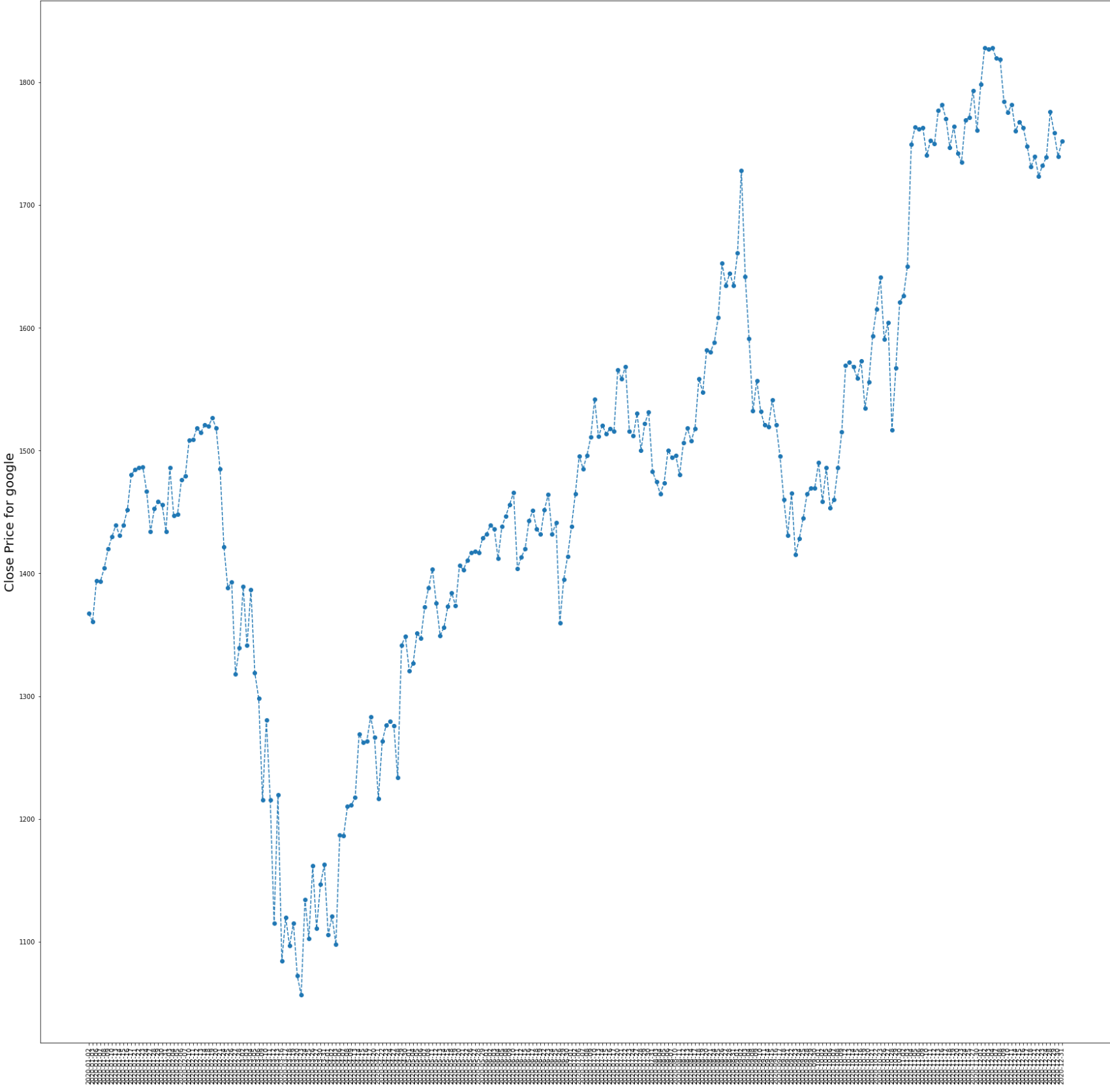
Out[20]:

Unnamed: 0	Date	Open	High	Low	Close	Adj Close	Volume
0	0	2020-01-02	1341.550049	1368.140015	1341.550049	1367.369995	1406600
1	1	2020-01-03	1347.859985	1372.500000	1345.543945	1360.660034	1186400
2	2	2020-01-06	1350.000000	1396.500000	1350.000000	1394.209961	1732300
3	3	2020-01-07	1397.939941	1402.989990	1390.380005	1393.339966	1502700
4	4	2020-01-08	1392.079956	1411.579956	1390.839966	1404.319946	1528000

```
In [21]: import numpy as np
x=np.array(df_google['Close'])
y=np.array(df_google['Date'])
```

```
In [25]: plt.figure(figsize=(30,30))
plt.rc('axes',labelsize=20)
plt.xticks(rotation=90)
plt.ylabel('Close Price for google')
plt.plot_date(y,x,linestyle='dashed')
```

Out[25]: [



Microsoft

```
In [28]: import time
import datetime
import pandas as pd

ticker = 'MSFT'
period1 = int(time.mktime(datetime.datetime(2020, 1, 1, 0, 0).timetuple()))
period2 = int(time.mktime(datetime.datetime(2021, 1, 1, 23, 59).timetuple()))
interval = '1d' # 1d, 1m

query_string = f'https://query1.finance.yahoo.com/v7/finance/download/{ticker}?period1={period1}&period2={period2}&interval={interval}&events=history&includeAdjustedClose=true'

df = pd.read_csv(query_string)
print(df)
df.to_csv('MSFT.csv')
```

	Date	Open	High	Low	Close	Adj Close	\
0	2020-01-02	158.779999	160.729996	158.330002	160.619995	157.289856	
1	2020-01-03	158.320007	159.949997	158.059998	158.619995	155.331345	
2	2020-01-06	157.080002	159.100006	156.509995	159.029999	155.732849	
3	2020-01-07	159.320007	159.669998	157.320007	157.580002	154.312912	
4	2020-01-08	158.929993	160.800003	157.949997	160.089996	156.770874	
..	
248	2020-12-24	221.419998	223.610001	221.199997	222.750000	220.442535	
249	2020-12-28	224.449997	226.029999	223.020004	224.960007	222.629684	
250	2020-12-29	226.309998	227.179993	223.580002	224.149994	221.828033	
251	2020-12-30	225.229996	225.630005	221.470001	221.679993	219.383636	
252	2020-12-31	221.699997	223.000000	219.679993	222.419998	220.115967	

	Volume
0	22622100
1	21116200
2	20813700
3	21634100
4	27746500
..	...
248	10550600
249	17933500
250	17403200
251	20272300
252	20942100

[253 rows x 7 columns]

close price for microsoft

```
In [30]: import matplotlib.pyplot as plt
df_msft = pd.read_csv(r'MSFT.csv')
df_msft.head()
```

Out[30]:

Unnamed: 0	Date	Open	High	Low	Close	Adj Close	Volume
0	0	2020-01-02	158.779999	160.729996	158.330002	160.619995	22622100
1	1	2020-01-03	158.320007	159.949997	158.059998	158.619995	21116200
2	2	2020-01-06	157.080002	159.100006	156.509995	159.029999	20813700
3	3	2020-01-07	159.320007	159.669998	157.320007	157.580002	21634100
4	4	2020-01-08	158.929993	160.800003	157.949997	160.089996	27746500

```
In [31]: import numpy as np
x=np.array(df_msft['Close'])
y=np.array(df_msft['Date'])
```

```
In [32]: plt.figure(figsize=(30,30))
plt.rc('axes',labelsize=20)
plt.xticks(rotation=90)
plt.ylabel('Close Price for Microsoft')
plt.plot_date(y,x,linestyle='dashed')
```

Out[32]: [<matplotlib.lines.Line2D at 0x2c4d5904e20>]

