Imports

```
!apt-get install -qq -y -t /
!apt-get update -qq -y -t /
!apt-get install -qq -y -t /
!apt-get install -qq -y -t /usr/local/bin/dotnet
!apt-get install -qq -y -t /usr/local/share/dotnet*
!apt-get install -qq -y -t /usr/local/share/nuget*
!apt-get install -qq -y -t /usr/local/share/msbuild*
!apt-get install -qq -y -t /usr/local/share/powershell*
!apt-get install -qq -y -t /usr/local/share/boost*
!apt-get install -qq -y -t /usr/local/share/gradle*
!apt-get install -qq -y -t /usr/local/share/maven*
!apt-get install -qq -y -t /usr/local/share/pipx*
```

Dataset

```
df = pd.read_csv('/content/Dataset.csv')
df['Date'] = pd.to_datetime(df['Date'])
df = df.set_index('Date')
df = df.drop(['Volume', 'Adj Close'], axis=1)
df.head(5), df.tail(5), df.shape, df.info()
```

```
                  Open  High   Low  Close
Date
2017-01-03-00:00:00  27.5  28.625  27.5  28.25
2017-01-04-00:00:00  28.5  29.125  28.5  29.125
2017-01-05-00:00:00  29.5  30.625  29.5  30.25
2017-01-06-00:00:00  30.5  30.625  29.5  30.25
2017-01-09-00:00:00  29.5  30.625  29.5  30.25
<class>
DatetimeIndex: 1258 entries, 2017-01-03-00:00:00 to 2021-12-31-00:00:00
Data columns (total 4 columns):
 #   Open   1258 non-null   float64
 #   High   1258 non-null   float64
 #   Low    1258 non-null   float64
 #   Close  1258 non-null   float64
dtypes: float64(4)
memory usage: 49.1 KB
```

Partie I

Question 1

```
df.plot.line(subplots=True)
plt.tight_layout();
df.describe().round(2)
df.corr().round(2)
df.cov().round(2)
```

```
```

```
[1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0]
0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
[0.9999999 0.9999999 0.9999999 0.9999999 0.9999999 0.9999999 0.9999999 0.9999999 0.9999999 0.9999999]
```