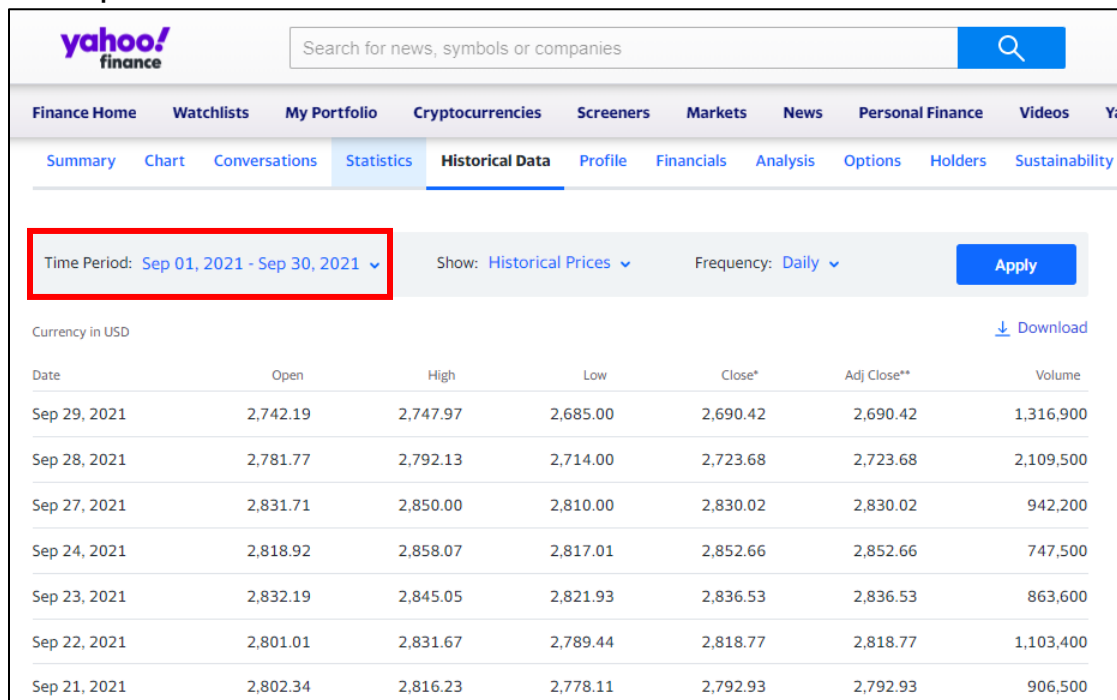Nama   : Hauzan Hisyam
Kelas   : 3KA17
NPM   : 12119776

1. https://github.com/hauzanhisyam/Tugas-PSD/blob/main/UTS%20PSD_Hauzan%20Hisyam_12119776_3KA17.ipynb

2. Ubah dataset dengan rentang waktu dari 1 September 2021 – 30 September 2021.

Date	Open	High	Low	Close*	Adj Close**	Volume
Sep 29, 2021	2,742.19	2,747.97	2,685.00	2,690.42	2,690.42	1,316,900
Sep 28, 2021	2,781.77	2,792.13	2,714.00	2,723.68	2,723.68	2,109,500
Sep 27, 2021	2,831.71	2,850.00	2,810.00	2,830.02	2,830.02	942,200
Sep 24, 2021	2,818.92	2,858.07	2,817.01	2,852.66	2,852.66	747,500
Sep 23, 2021	2,832.19	2,845.05	2,821.93	2,836.53	2,836.53	863,600
Sep 22, 2021	2,801.01	2,831.67	2,789.44	2,818.77	2,818.77	1,103,400
Sep 21, 2021	2,802.34	2,816.23	2,778.11	2,792.93	2,792.93	906,500

3. Tentukan hasil prediksi untuk tanggal 29 September 2021!

```
day = [[29]]
print('The RBF SVR predicted:', rbf_svr.predict(day))
print('The Linear SVR predicted:', lin_svr.predict(day))
print('The Polynomial SVR predicted:', poly_svr.predict(day))

The RBF SVR predicted: [2689.53539967]
The Linear SVR predicted: [2811.80476585]
The Polynomial SVR predicted: [2757.68966763]
```

4. Model terbaik dari grafik adalah RBF yang merupakan model yang menggunakan kernel yang disebut fungsi basis radial.
5. a. Impor Libraries

```
[ ]  #Import the libraries
     from sklearn.svm import SVR
     import numpy as np
     import pandas as pd
     import matplotlib.pyplot as plt
     plt.style.use('seaborn-darkgrid')
```

b. Load data GOOG

```
[4]  #Load the data
     #from google.colab import files # Use to load data on Google Colab
     #uploaded = files.upload() # Use to load data on Google Colab
     df = pd.read_csv('GOOG.csv')
     df
```

c. Tampilkan data row terakhir

```
[5]  actual_price = df.tail(1)
     actual_price
```

d. Tampilkan semua baris kecuali baris terakhir

```
[6]  df = df.head(len(df)-1)
     df
```

e. Buat equal to empty lists

```
[7]  #Create the lists / X and y data set
     days = list()
     adj_close_prices = list()
```

f. Create dependent data set

```
[9]  #Create the independent data set
     for day in df_days:
         days.append( [int(day.split('-')[2])] )
     #Create the dependent data set
     for adj_close_price in df_adj_close:
         adj_close_prices.append( float(adj_close_price) )
```

g. Tampikan model dalam bentuk grafik

```
[12] #Plot the models on a graph to see which has the best fit
     plt.figure(figsize=(16,8))
     plt.scatter(days, adj_close_prices, color = 'black', label='Original Data')
     plt.plot(days, rbf_svr.predict(days), color = 'green', label='RBF Model')
     plt.plot(days, poly_svr.predict(days), color = 'orange', label='Polynomial Model')
     plt.plot(days, lin_svr.predict(days), color = 'purple', label='Linear Model')
     plt.xlabel('Days')
     plt.ylabel('Adj Close Price')
     plt.title('Support Vector Regression')
     plt.legend()
     plt.show()
```

h. Prediksi hari ke 29

```
[13] day = [[29]]
     print('The RBF SVR predicted:', rbf_svr.predict(day))
     print('The Linear SVR predicted:', lin_svr.predict(day))
     print('The Polynomial SVR predicted:', poly_svr.predict(day))

     The RBF SVR predicted: [2689.53539967]
     The Linear SVR predicted: [2811.80476585]
     The Polynomial SVR predicted: [2757.68966763]
```