

```
# -*- coding: utf-8 -*-
```

```
"""LinR_hw.ipynb
```

Automatically generated by Colaboratory.

Original file is located at

<https://colab.research.google.com/drive/11C0mxkd1JSffQpkRE1EvAlqKTJmOWrfN>

```
"""
```

```
import time
```

```
import pandas as pd
```

```
from sklearn.linear_model import LinearRegression
```

```
from sklearn import model_selection
```

```
from sklearn import metrics
```

```
import numpy as np
```

```
df = pd.read_excel("/content/drive/MyDrive/Colab_Notebook/finalDataset.xlsx")
```

```
x = df[['Date', 'Volume', 'unemp_rate', 'T5YIE', 'Close', 'Open', 'High', 'Low', 'GDP']]
```

```
y = df['targetPrice']
```

```
df.describe()
```

```
from sklearn.preprocessing import MinMaxScaler
```

```
from sklearn.model_selection import train_test_split
```

```
scaler = MinMaxScaler()
```

```
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.3,
```

```
train_size=0.7, random_state=22222)
```

```
scaler.fit(x_train)
```

```
x_train = scaler.transform(x_train)
```

```
x_test = scaler.transform(x_test)
```

```
y_train = y_train.to_frame()
```

```
y_test = y_test.to_frame()
```

```
scaler1 = MinMaxScaler()
```

```
scaler1.fit(y_train)
```

```
y_train = scaler1.transform(y_train)
```

```
y_test = scaler1.transform(y_test)
```

```
t1 = time.time()
```

```
reg = LinearRegression().fit(x_train, y_train)
```

```
print(time.time() - t1)
```

```
y_pred = reg.predict(x_test)
```

```
y1_pred = reg.predict(x_train)
```

```
print("MSE test score: ", metrics.mean_squared_error(y_test, y_pred))
```

```
print("R2 test score: ", reg.score(x_test, y_test))
```

```
print("R2 Train Score: ", reg.score(x_train, y_train))
```

```
print("MSE test score: ", metrics.mean_squared_error(y_train, y1_pred))
```