```
#Import libraries
import os
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
```

dataset_train=pd.read_csv("/content/Google_Stock_Price_Train.csv")
dataset_train.head()

	Date	0pen	High	Low	Close	Volume
0	1/3/2012	325.25	332.83	324.97	663.59	7,380,500
1	1/4/2012	331.27	333.87	329.08	666.45	5,749,400
2	1/5/2012	329.83	330.75	326.89	657.21	6,590,300
3	1/6/2012	328.34	328.77	323.68	648.24	5,405,900
4	1/9/2012	322.04	322.29	309.46	620.76	11,688,800

```
training_set=dataset_train.iloc[:,1:2].values
print(training_set)
print(training_set.shape)
```

```
[325.25]

[331.27]

[329.83]

...

[793.7]

[783.33]

[782.75]]

(1258, 1)
```

```
from sklearn.preprocessing import MinMaxScaler
scaler=MinMaxScaler(feature_range=(0,1))
scaled_training_set=scaler.fit_transform(training_set)
```

scaled_training_set

```
X_train =[]
y_train=[]
for i in range(60,1258):
```

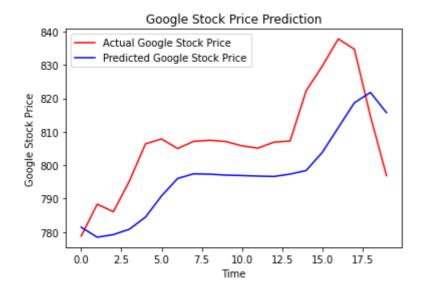
```
X train.append(scaled training set[i-60:i,0])
    y train.append(scaled training set[i,0])
    x train,Y train=np.array(X train),np.array(y train)
print(x train.shape)
print(Y_train.shape)
     (1198, 60)
     (1198,)
x_train=np.reshape(x_train,(x_train.shape[0],x_train.shape[1],1))
x train.shape
     (1198, 60, 1)
!pip install tensorflow
```

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!pip install keras
    Requirement already satisfied: keras in /usr/local/lib/python3.7/dist-packages (2.8.6
from keras.models import Sequential
from keras.layers import LSTM
from keras.layers import Dense
from keras.layers import Dropout
from tensorflow.keras.layers import Dropout
regressor = Sequential()
regressor.add(LSTM(units = 50, return_sequences = True, input_shape = (x_train.shape[1], 1
regressor.add(Dropout(0.2))
regressor.add(LSTM(units = 50, return sequences = True))
regressor.add(Dropout(0.2))
regressor.add(LSTM(units = 50, return_sequences = True))
regressor.add(Dropout(0.2))
regressor.add(LSTM(units = 50))
regressor.add(Dropout(0.2))
regressor.add(Dense(units = 1))
regressor.compile(optimizer ='adam',loss='mean_squared_error')
regressor.fit(x_train,Y_train,epochs=100,batch_size=32)
    Epoch 1/100
    38/38 [================ ] - 18s 210ms/step - loss: 0.0393
    Epoch 2/100
    Epoch 3/100
    Epoch 4/100
    38/38 [============= ] - 5s 119ms/step - loss: 0.0052
    Epoch 5/100
    38/38 [============= ] - 5s 119ms/step - loss: 0.0053
    Epoch 6/100
    38/38 [=========== - 4s 118ms/step - loss: 0.0055
    Epoch 7/100
    38/38 [============= ] - 4s 118ms/step - loss: 0.0048
    Epoch 8/100
    Epoch 9/100
    38/38 [=============== ] - 4s 117ms/step - loss: 0.0048
    Epoch 10/100
    Epoch 11/100
```

```
38/38 [============= ] - 5s 119ms/step - loss: 0.0044
   Epoch 12/100
   Epoch 13/100
   38/38 [============ ] - 5s 121ms/step - loss: 0.0040
   Epoch 14/100
   38/38 [============ ] - 5s 119ms/step - loss: 0.0040
   Epoch 15/100
   38/38 [============= ] - 5s 120ms/step - loss: 0.0042
   Epoch 16/100
   38/38 [============= ] - 5s 120ms/step - loss: 0.0040
   Epoch 17/100
   Epoch 18/100
   Epoch 19/100
   Epoch 20/100
   38/38 [============ ] - 5s 118ms/step - loss: 0.0036
   Epoch 21/100
   38/38 [============= ] - 5s 134ms/step - loss: 0.0038
   Epoch 22/100
   Epoch 23/100
   38/38 [============ ] - 5s 120ms/step - loss: 0.0030
   Epoch 24/100
   Epoch 25/100
   38/38 [=========== ] - 5s 122ms/step - loss: 0.0032
   Epoch 26/100
   Epoch 27/100
   38/38 [============ ] - 5s 119ms/step - loss: 0.0033
   Epoch 28/100
   Epoch 29/100
   dataset test=pd.read csv("/content/Google Stock Price Test.csv")
actual_stock_price=dataset_test.iloc[:,1:2].values
dataset_total = pd.concat((dataset_train['Open'], dataset_test['Open']), axis = 0)
inputs = dataset_total[len(dataset_total) - len(dataset_test) - 60:].values
inputs = inputs.reshape(-1,1)
inputs = scaler.transform(inputs)
X test = []
for i in range(60, 80):
  X_test.append(inputs[i-60:i, 0])
X test = np.array(X test)
X_test = np.reshape(X_test, (X_test.shape[0], X_test.shape[1], 1))
predicted_stock_price = regressor.predict(X_test)
predicted stock price = scaler.inverse transform(predicted stock price)
plt.plot(actual_stock_price, color = 'red', label = 'Actual Google Stock Price')
plt.plot(predicted_stock_price, color = 'blue', label = 'Predicted Google Stock Price')
plt.title('Google Stock Price Prediction')
```

```
plt.xlabel('Time')
plt.ylabel('Google Stock Price')
plt.legend()
plt.show()
```



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