**Homework 10**

Are you interested in investments? Let us predict the Google stock price. We have two datasets: training data which are the Google stock prices in 2012 and 2016, and test data which are the Google stock prices for the first 20 business days in 2017. What we are interested in is to construct an LSTM model to use 45 consecutive business day market close prices (column name: Close) to predict the next business day market close price.

1. Please construct appropriately shaped training and test dataset for the stock price prediction
2. Construct an LSTM model with three hidden layers, each layer having 30 units. The dropout rate is 0.1 for each hidden layer.
3. Implement the LSTM with the batch size 32 for 100 epochs.
4. Predict the 20 market close prices in the test data. Print out these 20 predictions.
5. Plot the predicted vs. real close price each day in the test dataset.