Project

Neural network - graded project

# Problem

Predict the closing price of a stock based on parameters - open, low and high.

# Dataset

## Stock prices dataset

The data is of the stock exchange's stock listings for each trading day of 2010 to 2016.

## Description

A brief description of columns.

open: The opening market price of the equity symbol on the date

high: The highest market price of the equity symbol on the date

low: The lowest recorded market price of the equity symbol on the date

close: The closing recorded price of the equity symbol on the date

symbol: Symbol of the listed company

volume: Total traded volume of the equity symbol on the date

date: Date of record

# Steps to do

The objective of the project is to learn how to implement a simple neural network for the regression problem.

* Read the file named “prices.csv” (2 Marks)
* Drop all the rows with null values (2 Marks)
* Drop columns: “date”, “volume” and “symbol” (2 Marks)
* Get “close” as the target column and rest of the columns as features (2 Marks)
* Split the data into training and testing (2 Marks)
* Scale the data (features only) (5 Marks)
* Convert features and labels to numpy array (2 Marks)
* Reshape the features to make it suitable for input in the model (2 Marks)
* Define the sequential model (10 Marks)
  + Add a flatten layer
  + Add Dense layer with linear activation function and one neuron
* Compile the model (5 Marks)
  + Use loss as “mean squared error”
  + Use optimizer as “sgd”
* Print summary of the model (5 Marks)
* Fit the model (5 Marks)
  + Use 50 epochs
  + Use batch size as 128 for fast training
* Do predictions on test data and evaluate the result (5 Marks)
* Do some custom predictions on your own manual inputs (1 Mark)