Machine Learning Introduction Lab
(Note: I used Google Colab. Uploaded the .csv in sample_data)

Supervised Learning Algorithms - Linear Regression

Background: The term *Regression* is used when you try to find the relationship between variables. In Machine Learning which involves statistical modeling, this relationship is used for *prediction*.

1. **Do the following:**
   A. Create two lists
      a. One which has the age of a car in years
      b. Other has the speed the car runs for that age
   B. Plot this data as a Scatter Plot
   C. Find out the Coefficient of Correlation(r)
   D. Check if it is a good correlation for prediction or not
   E. Fit a Regression Line to the Scatter Plot
   F. Predict the speed of the car if the age of the car is 10 years old

   Code Reference: IntroMLLab_1.ipynb

2. **Create a CSV File of this data (Age & Car Speed) and do the above**

   Code Reference: IntroMLLab_2.ipynb

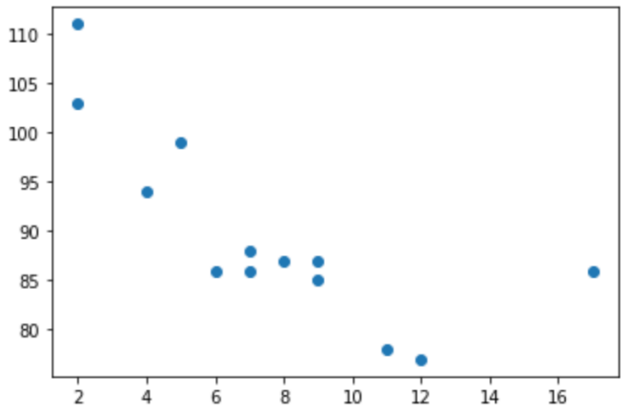
3. **Create any bi-variant dataset and use Linear Regression to predict the values. Examples are:**
   G. Temperature versus Number of Ice-cream sold
   H. Square Feet Area verus Price of House
   I. Student GRE Score versus Rank of University for PG Admission

4. **Create a dataset which results in a bad fit for Linear Regression. Analyze your output. Examples are:**
   J. Student CET Rank versus Salary on Graduation
   K. Number of refrigerators in the shop versus number of ice creams sold

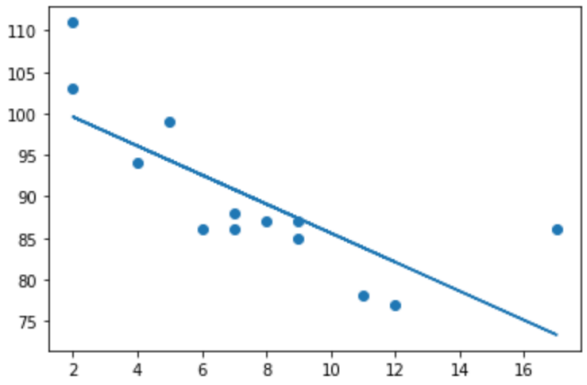
   Code Reference: IntroMLLab_3.ipynb

Output Reference

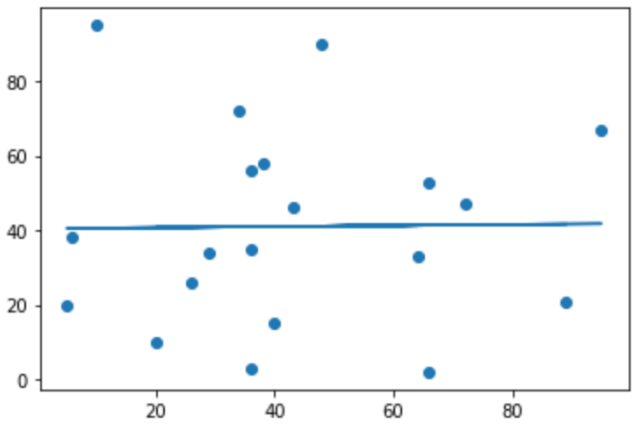
1B - Scatter Plot



1E - Regression Line



4 - Bad Regression



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