**DSI -06 Homework 1:**

Introduction with Statistical Learning with Applications in R (ISLR2) pg. 123

8. This question involves the use of simple linear regression on the Auto data set.

1. Use the lm() function to perform a simple linear regression with mpg as the response and horsepower as the predictor. Use the summary() function to print the results. Comment on the output.

For example:

* 1. Is there a relationship between the predictor and the response?
  2. How strong is the relationship between the predictor and the response?
  3. Is the relationship between the predictor and the response positive or negative?
  4. What is the predicted mpg associated with a horsepower of 98? What are the associated 95% confidence and prediction intervals?

1. Plot the response and the predictor. Use the abline() function to display the least squares regression line.
2. Use the plot() function to produce diagnostic plots of the least squares