In this problem, you will develop a model to predict whether a given car gets high or low gas mileage based on the **Auto** data set. This data set is available in **ISLR** library. You should be familiar with importing libraries by now.

1- Import the Auto Dataset

2- Create a binary variable, mpg01 , that contains a 1 if mpg contains a value above its median, and a 0 if mpg contains a value below its median. Note you may find it helpful to use the data.frame() function to create a single data set containing both mpg01 and the other Auto variables.

3- Explore the data graphically in order to investigate the association between mpg01 and the other features. Which of the other features seem most likely to be useful in predicting mpg01 ? Scatter Plots and boxplots may be useful tools to answer this question. Describe your findings.

4 - Split the data into a training set and a test set.

5- Perform KNN on the training data, with several values of K, in order to predict mpg01 . Use only the variables that seemed most associated with mpg01 in part 3. What test errors do you obtain? Which value of K seems to perform the best on this data set?