**Assignment -1**

In this assignment, we examine classification using logistic regression.  In R console, type *mtcars*.  The dataset *mtcars* is a generic dataset in R.  This dataset comprises of fuel consumption and 10 aspects of automobile design and performance for 32 automobiles.  Using only the variables *am* (0 = automatic, 1 = manual) and *mpg*, your task is to fit a logistic regression model.  Complete the following steps using R.

1. Create a scatter plot of am vs. mpg. Describe the relationship and explain why a simple linear regression model may not be suitable.
2. Using the variables *am* and *mpg*, fit a logistic regression model. Use the function glm().
3. Write the estimated logistic regression model from part #2 results.
4. Suppose a car has 16 mpg. How would you classify the transmission: automatic or manual?  Explain and show how you classified the transmission.

Copy and paste the appropriate R graph and output into a Word document. If you take a screen shot make sure that it shows the current date.  Additionally, ensure you have answered all of the questions. Your well-written paper should be between 2-4 pages in length. Follow APA format

**Assignment-2**

The dataset house.training.csv contains 25 quantitative explanatory variables describing many aspects of residential homes in Ames, IA.  The response variable is the sale price.

Using R, calculate the summary statistics (minimum, maximum, mean, median, and standard deviation) and create a histogram of sale price for this dataset.  Describe the summary and shape of the distribution of sale price.

Copy and paste all the R output for summary statistics and histogram into a Word document.  If you take a screenshot, make sure that it shows the current date.

