**Assignment: Data Analysis and Hypothesis Testing**

**Please use Excel to do the exercises listed below. Create the Excel outputs into a single Excel file. Also, create a tab separately for each (sub). Clearly name each tab, for instance “Q1\_a” or “Q2b”.**

**Please access the “Carrier Dome Data” do the following.**

1. **Basic Data Analysis** (in the Excel tab, **procedures and results** should all be included and easily observable)

(a) Create Cross-tabulation table of the following, (**Use Pivot table function**)

- Gender(X1) vs. Year in School (X2) vs. Commute method (X5)

- Gender(X1) vs. Interest in Exercise (X8a)

(b) Find the Means and Standard deviations of the variables X8a, X8c, X8g, and X8l.

(c) Find the Correlations of X8a, X8c, X8g, and X8l.

2. **Hypothesis Testing** (in the Excel tab, **the variables used, procedure of testing, and the results** should all be included and clearly observable)

(a) Test the null hypothesis that the mean of X8c is same for men and women. Using the P value, can you reject H0 at a 95% level of confidence?

(b) Test the null hypothesis that the mean of X8l does not exceed the mean of X8g. Using the P value, can you reject H0 at a 95% level of confidence?

(c) Test the null hypothesis that the mean of X8l does not exceed the mean of X8g by more than 0.8. Using the P value, can you reject H0 at a 95% level of confidence?

**3. Create Two New Hypothesis (on your own) and Test at the 95% level of confidence, using the given data. The hypothesis should be about gender difference. For example, see Question 2 (a).**

(In the Excel tab, **exact hypothesis, the variables used, and the results** should all be included and clearly observable)

(a) Hypothesis #1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(b) Hypothesis #2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_