1. All assignments are turned in on ELMs. ALL late assignments will have a 30 point penalty. NO EXCEPTIONS!!
2. Make sure you save the file with the filename: your\_last\_name\_first\_Initial\_assignment\_name in a word document. For Example: Mazzullo\_S\_HW3 or Mazzullo\_S\_Project\_2
3. Your homework should include the following **when applicable**:
   1. your name at top of document
   2. name of Assignment at the top of document (e.g., Homework 1, Write-Up project, etc.)
   3. answers to any question asked
   4. all results in the output window, if applicable (copy and paste all results)
   5. code you used, if applicable (copy and paste what is in your editor)
   6. CLEARLY mark your answer. DO NOT EXPECT THE GRADER TO FIND YOUR ANSWERS!!
4. Read instructions to homework, projects and write-up thoroughly and do exactly as directed. Order of what you turn in will matter!

**Homework 3:**

The file you will be using today is called OldClassData. It has 18 variables. It came from the following questionnaire:

Questionaire:

1. What is your gender (F for Female, M for Male)?
2. What type of smart phone do you have (An for Android, Ap for Apple), n for if you do not own a smart phone?
3. Do you live on Campus (Y for yes, N for No)?
4. What grade do you expect in this class?
5. Do you own or have access to use a car (Y for yes you regularly have a car to drive, or N for no you do not regularly have a car to drive)?
6. Do you consider yourself an Optimist?
   * 1 I am always an optimist
   * 2 Most of the time I am optimistic
   * 3. I can sometimes be an optimistic
   * 4. I am rarely optimistic
   * 5. I am never an optimistic
7. Do you like math?
   * 1. I really like math.
   * 2. I somewhat like math.
   * 3. I could take math or leave it.
   * 4. I really do not like math.
   * 5. I would rather have a root canal
8. How many siblings do you have? (Please give a number, 1,2,3,...)
9. How many pets do you have? (Please give a number, 1,2,3,...)
10. How many credit hours are you taking this semester? (Please give a number, 1,2,3,...)
11. How many different social media(s) are you involved in or are a part of (Please give a number, 1,2,3,...)?
12. How many extra-curricular activities are you involved in? (Please give a number, 1,2,3,...)
13. What is your height in inches? (Please give a number without any symbols, and remember to give it in inches. So if you are 5’3” you would input 63)
14. What was your high school GPA?
15. How many times a week do you exercise?
16. Estimate the average time it take you to get ready in the morning on a regular day in minutes. (Please only give numbers. So if you take about an hour and a half, that would input 90)
17. What is the approximate distance you travel on your commute (in miles)? . (Please only give numbers.)

Here are the variables that came from it:

Subject, Gender, Phone, Campus, Grade, Car, Optimist, Math, Siblings, Pets, Credit\_Hours, Social\_Media, Extra\_Curricular, Height, HS\_GPA, Exercise, Time\_To\_Get\_Ready, Distance

Do a PROC PRINT to see the data, this will be very helpful to you.

1. Do a PROC FORMAT to change the following (answer to parts a and c put IN CODE.):
   1. Gender: F to Female and M to Male
   2. Math: 1 to I really like math.

2 to I somewhat like math.

3 to I could take math or leave it.

4 to I really don't like math.

5 to I'd rather have a root canal

* 1. Print the data with the formats.

1. Create a new variable for the letter grade (LETTER\_GRADE) for the HS\_GPA

HS\_GPA >4.0 A

3.0 <= HS\_GPA < 4.0 B

2.0<= HS\_GPA <3.0 C

1.0<= HS\_GPA <2.0 D

HS\_GPA <1.0 F

1. Make a frequency chart for Letter\_Grade.
2. Do a hypothesis test: At a 0.05 significance level, test if there is a difference in the between the Male and Female High School GPA? State your conclusion based on your SAS results in the context of the question. (if you say the null was rejected or not rejected you will receive no points).
3. Do a hypothesis test: A sociologist believes that students are paying more attention to their health. He thinks that students have increased their exercise from 3.5 times a week. Test the sociologist claim at a 0.05 significance level. State your conclusion based on your SAS results in the context of the question. (if you say the null was rejected or not rejected you will receive no points)
4. Confidence Interval: What is the 95% confidence interval for the average time it takes to get ready. Interpret your results in the context of the problem.