**BADM FALL 2016 FIRST HW ASSIGNMENT DUE WEDNESDAY, OCT 4 AT 7 P.M**. (70 points total)

Instructions: The homework can be either type-written or hand-written (however, if hand-written, make sure your writing is legible). If a problem requires computation, you must either 1) show your work using the formula OR 2) provide a hard copy of computer output that has provided the computation. If using the computer, block, copy, paste and print the output to the assignments. Answers only are not acceptable and they do not provide any means for partial credit or feedback if the answer is incorrect. Remember that late HW assignments are not accepted.

Problem 1. Exercise 2.30 on page 50 of the text. First answer whether the variable is qualitative or quantitative and then provide the more detailed measurement level.

Problem 2. Exercise 2.34 on page 50 and 51 of the text.

Problem 3. Refer to exercise 4.38 found on page 135 of your text. ANSWER ONLY THE FOLLOWING (skip parts a, b and c, listed in the text).

a. Develop an appropriate tabular and graphical presentation that shows the percent frequency distribution of the number of customers using the downtown ATM during the noon hour. Briefly describe what the presentations tell the bank about customer usage.

b. Provide summary measures for the mean, median and standard deviation for number of customers.

C. Are there any statistical outliers in the sample? Use the method as outlined in class to answer.

d. Which measure of central tendency should be reported first as the best measure of central tendency? Why?

Problem 4. Exercise 4.24 found on page 129 of the text. Provide the necessary calculation to support your answer.

Problem 5. Access the database County Data for HW 1 found on the Kdrive in the HW folder. Observations were taken on several variables for selected counties in Alabama and Mississippi. Answer the questions below using this dataset. The variables you will use for the questions are described as follows:

College Graduation Rate: The percent of the county adult population with at least a Bachelor’s degree.

Household Income: The county’s median household income.

Unemployment Rate: The percent of the county population (in the labor force) who are unemployed.

a. Develop the appropriate graphical presentation that shows the distribution of average college graduation rate. Briefly describe what you learn about college graduation rates from your graph.

b. Compute the mean, median and standard deviation for the sample of college graduation rates. Which measure of central tendency best describes graduation rate? Support your answer with the appropriate statistical reasoning.

c. Are any of the observations for college graduation rate statistical outliers? Support your answer with the appropriate calculation (use the definition of “outlier” as defined/computed in class).

d. Develop the appropriate graphical presentation that shows the relationship between percent of residents with a college degree and household income. Compute the descriptive measure that assesses the strength of the relationship between college graduation rate and household income.

e. Develop the appropriate graphical presentation that shows the relationship between percent of residents with a college degree and unemployment rate. Compute the descriptive measures that assesses the strength of the relationship between college graduation rate and unemployment rate.

e. Which explanatory variable provides a stronger prediction of college graduation rate? Support your answer by citing what you discover in parts d and e above.

Problem 6. Refer to Exercise 3.39 on page 100 of the text. Skip the questions in the problem and answer the following instead: Total advertising dollars for the data displayed equaled $2 million. Convert the graph to a frequency distribution table. Hint: Think carefully about the classes in this problem and remember that any graph starts with a tabular frequency distribution