

Statistics 101 – Laboratory 2

Due Monday, September 14, 2009

Because there is no class on Monday, this week's laboratory is a take home assignment. Your completed assignment is due on the due date at the end of lecture. You may work individually or in groups of no more than 4 people from your lab section. Be sure to list name(s) and section letter on the first sheet of your completed assignment.

For this assignment, you must find one data set that contains a quantitative variable with at least 40 observations. You may use the internet or reference books to obtain this data set. You may **not** use any data sets from lecture, homework, lab or the textbook.

Once you have found the data set, you should use JMP to help you with the data analysis. Follow the steps in the Guide to Using JMP to enter your data into JMP. Note even if your data set has more than one quantitative variable you should analyze only one variable. Once you have entered the data on the one quantitative variable into JMP, follow the steps in the Guide to Using JMP to obtain JMP output. Print this output and include it with your assignment. Use your output and information from the source of your data set to answer the following questions.

1. Describe the context of your data. Answer the questions: Who? What? When? Where? How? and Why?
2. Where did you find your data (include a full reference to the source: book, journal, magazine, web site URL, etc.)? Your instructor should be able to take this reference and find the data that you found.
3. Both the histogram and the stem-and-leaf display show the distribution of the data. Which display provides a better description of your data? Explain your answer briefly.
4. Using either the histogram or stem-and-leaf display, describe the shape, center, and spread of your data. Make sure to note any outliers or unusual characteristics.
5. What is the mean of your data? What is the median of your data? What do the values of the mean and median tell you about the shape of the distribution of your data?
6. Which is a better indicator of the center of your data, the mean or the median? Explain briefly.
7. Give the values for the five number summary for your data? What are the values of the range and IQR for your data?
8. What is the standard deviation of your data? Which one is a better indicator of the spread of your data, the range, IQR or standard deviation? Explain your choice briefly.
9. Write a one paragraph summary of the analysis of your data. Be sure to include the context of the data and what you have learned about this context from the analysis of the data.