

Stat 104 – Homework 2
Due Thursday, September 10, 2009

Reading: August 27 – September 3 Chapter 2
 September 8 – September 17 Chapter 3

Assignment:

1. Complete the following problems from the text: 2.3, 2.4, 2.13, 2.15, 2.21, 2.23, 2.30, 2.35, 2.48, 2.49, 2.65, and 2.76.
2. A hog producer wishes to see how much weight hogs gain when they are fed their normal feed for a period of 30 days. Below are data on 35 hogs. Weight gain is in pounds.

41, 43, 47, 57, 47, 48, 48, 49, 52, 52, 53, 53, 55, 56, 62,
42, 64, 66, 36, 46, 46, 48, 50, 50, 52, 53, 52, 54, 54, 55,
56, 57, 58, 59, 64

Enter the data into a single column, labeled Weight Gain, in a JMP data table. Use Analyze – Distribution to produce graphical and numerical summaries. These summaries should include: a properly oriented and labeled histogram, an outlier box plot, stem-and-leaf display, five number summary values, sample mean and sample standard deviation. Turn in your JMP output with this homework and use it to answer the following questions.

- a) Answer the question Who? for these data.
- b) Answer the question What? for these data. What kind of variable is this? If it is a categorical variable give the categories, if it is a quantitative variable give the units.
- c) Describe the shape of the histogram produced by JMP.
- d) Report the values for a five number summary. Be sure to include appropriate units.
- e) According to the box plot are there any weight gains that are considered outliers? Explain briefly.
- f) Report the values of the sample mean and sample standard deviation. Again, include appropriate units.
- g) Which summary is more appropriate for these data the five number summary or the sample mean and sample standard deviation? Support your choice statistically.
- h) Does JMP use a split stem when producing the stem-and-leaf display?
- i) A healthy hog should gain at least 1.5 pounds a day. Using this information and the analysis of the weight gain data what can you say about the health of the producers' hogs?