Stat 104 – Homework 2
Due Thursday, September 9, 2010

Reading:
August 26 – September 2  Chapter 2
September 7 – September 16  Chapter 3

Assignment:

1. Complete the following problems from the text: 2.3, 2.4, 2.13, 2.21, 2.23, 2.30, 2.35, 2.48, 2.49, 2.65, and 2.76.

2. A hog producer wants to investigate the carcass weight at slaughter of hogs fed on a diet consisting of 30% distillers’ grains. Below are data on 36 hogs. Carcass weight is in pounds.

   207, 203, 198, 195, 194, 205, 199, 199, 176, 205, 228, 191
   194, 216, 211, 209, 186, 208, 207, 212, 200, 213, 208, 216
   169, 192, 177, 183, 206, 151, 202, 159, 198, 187, 180, 230

Enter the data into a single column, labeled Carcass Weight, 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 of measurement.
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 of measurement.
e) According to the box plot are there any carcass weights that are considered outliers? Explain briefly. If there are outliers, give the carcass weights.
f) Report the values of the sample mean and sample standard deviation. Again, include appropriate units of measurement.
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) The hog producer’s goal is to have carcass weights of 190 pounds or more. Is the hog producer meeting this goal? Support your answer statistically.