Stat 104 – Homework 2  
Due Tuesday September 16, 2008

Reading:  
September 4 – September 11  Chapter 2  
September 16 – September 25  Chapter 3

Assignment:

1. Complete the following problems from the text: 2.12, 2.23, 2.44, 2.56, 2.70, 2.82, 2.94, 2.110 and 2.122.

2. Problem 2.44 has data on the hemoglobin $A_{1C}$ blood test given to 40 different diabetic patients. $A_{1C}$ values are percentages and are directly proportional to the concentration of glucose in the blood over the full life span of the red blood cells and are not subject to the fluctuations that are seen with daily blood glucose monitoring. An $A_{1C}$ value of 7% is considered the target value for diabetes that is in control.

Enter the data from problem 2.44 into a single column, labeled A1C, 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) Describe the shape of the histogram produced by JMP.
b) How does the histogram produced by JMP differ from the one you constructed in part c of 2.44? Be sure to comment on differences in the shape.
c) Report the values for a five number summary. Be sure to include appropriate units.
d) Report the values of the sample mean and sample standard deviation. Again, include appropriate units.
e) Does JMP use a split stem when producing the stem-and-leaf display?
f) The American Diabetes Association suggests action be taken when $A_{1C}$ values get too high. How many individuals have an $A_{1C}$ value of 7.5% and above?

Extra Credit: Get JMP to produce the histogram with classes specified in problem 2.44. Turn in the JMP output with this histogram.