Due: Thursday, January 22 at beginning of lecture.
(Late assignments will be subject to a deduction of 10% of the total marks for the assignment for each day late.)

Practice Problems:
Problems from the textbook Chapter 10:
Do by hand: 1, 7, 16, 17, 18, 33, 35
Use R to do the following problems: 6, 26abcf, 37af, 38, 39, 42

Problems from the textbook Chapter 8:
Do by hand: 4a, 5b, 7, 18ab

The problems you should hand in:

1. (a) Chapter 10, Exercise 35
   (b) On page 372 of your textbook, Rice suggests that the IQR can be converted into an estimate of $\sigma$ for a normal distribution by dividing by 1.35. Explain why this works.

   Useful R command: `qnorm(.75)` gives the 75th percentile for a standard normal distribution.

2. Chapter 10, Exercise 38

   Useful R commands: `rnorm(25)` results in a vector of 25 sample values randomly generated from the standard normal distribution. `matrix(rnorm(2500),ncol=100)` will create a matrix of 100 samples of size 25 from a standard normal distribution. `apply(matrixname,2,mean)` will result in a vector whose values are the means of the columns of `matrixname`.

3. Chapter 10, Exercise 42

   To read in the data from the text file ILLRAIN.DAT into a 56 × 5 matrix, use the R command `matrixname <- matrix(scan("ILLRAIN.DAT"),ncol=5,byrow=T)`. You can name the columns with the command `dimnames(matrixname) <- list(NULL,c("1960","1961", etc. ))`. The command `boxplot(data.frame(matrixname))` gives side-by-side boxplots of the columns of `matrixname`. The missing value code in R is `NA`. Note that missing values in the data file are coded `*`.

4. Chapter 8, Exercise 5b