Example data frame: `bballgames03`. Data on all 2,430 major league baseball games played in the year 2003.

1. Working with dataframes.
   ```r
   > names(bballgames03)           # variable names of dataframe
   > bballgames03[3,]             # third case, all variables
   > bballgames03[,c(1,4)]        # first and fourth variable, all cases
   > bballgames03[1:3,1:3]        # first three cases of first three variables
   > bballgames03$day             # just the variable named day
   > attach(bballgames03)         # makes the variables available as individual vectors
   ``

   Assume in what follows that we have attached the dataframe.

2. One categorical variable. (Example: `bballgames03$home`)
   ```r
   > table(home)                  # counts number of cases in each level
   > barplot(table(home))         # a barplot of a table
   > pie(table(home))             # pie chart from a table, pie charts are evil
   ``

3. One quantitative variable. (Example: `bballgames03$attendance`)
   ```r
   > hist(attendance)            # histogram of variable
   > hist(attendance,freq=F)      # density histogram
   > stem(attendance)            # stem and leaf plot
   > boxplot(attendance)         # boxplot
   > summary(attendance)         # some summary statistics of variable
   > mean(attendance,na.rm=T)     # mean of variable, remove missing values
   > sd(attendance)              # standard deviation of variable
   ``

4. Two categorical variables. (Example: `bballgames03$day` and `bballgames03$nightday`)
   ```r
   > table(day,nightday)         # contingency table, rows day
   > barplot(table(day,nightday)) # stacked barplot of a table
   > barplot(table(day,nightday),beside=T) # side-by-side barplot of table
   > plot(nightday~day)          # an alternate stacked barplot (mosaic plot)
   > plot(day,nightday)          # same as previous
   > prop.table(table(day,nightday),1) # proportions by row (rows sum to 100%)
   > prop.table(table(day,nightday),2) # proportions by column
   > prop.table(table(day,nightday)) # proportions over whole table
   ``

5. One categorical and one quantitative variable. (Example `bballgames03$timemin` and `bballgames03$day`)
   ```r
   > boxplot(timemin~day)        # side-by-side boxplot (plot for each category of day)
   > by(timemin,day,summary)     # apply function summary to timemin by group
   ``

6. Two quantitative variables. (Example: `bballgames03$vish` and `bballgames03$visscore`)
   ```r
   > plot(vish,visscore)         # scatterplot, first variable x
   > plot(visscore~vish)         # scatterplot, y~x
   > cor(vish,visscore)          # correlation coefficient
   > l=lm(visscore~vish)         # computes the least-squares model line
   > summary(l)                 # summarizes properties of regression object
   > residuals(l)               # residuals of regression model
   > abline(l)                   # adds regression line to scatterplot
   > predict(l)                 # predicted y given by model
   > anova(l)                   # ANOVA table for regression
   ```