The homework for chapter 2 is

2.23-2.25, 2.32, 2.39, 2.45, 2.52, 2.59, 2.67, 2.70, 2.75, 2.79, 2.95

For those without a book, here is a brief summary.

- **2.23-2.25** In a random sample of students 124 had blue eyes, 150 had brown, 15 had green and 103 hazel.
 - 1. Display the data in a frequency table
 - 2. Draw a bar graph
 - 3. Draw a pie chart of the data
- 2.32 The SAT scores for 900 female and 800 male freshmean are classified as low, medium or high

range	men	women
high	190	250
medium	430	520
low	180	130

- 1. Draw a bar graph illustrating the frequencies for the men
- 2. same for the women
- 3. Can these graphs be compared as drawn?
- 4. If not, how do you draw them so they can be.
- 2.39 The number of defective items is (defectiv.R)

7 6 10 9 8 7 7 6 8 8 10 7 6 8 8 9 10 9 9 8

Make a stem and leaf diagram of the data.

2.45 The weights of 25 soccer players (soccer.R) are given by

```
> f = "http://www.math.csi.cuny.edu/verzani/classes/MTH214/datasets/soccer.R"
> source(url(f))
> SOCCER
$weight
  [1] 144 162 197 173 183 129 209 190 117 160 179 177 154 132 151
[16] 159 175 154 148 166 184 157 162 150 136
```

Make a stem and leaf plot, then a frequency histogram with intervale widths of 10 starting at 110.

2.52 To estimate the number of trees on a tree farm, a farmer divided the farm into 1000 small grids, randomly selected 20 grids and counted the number for each (trees.R).

```
> f = "http://www.math.csi.cuny.edu/verzani/classes/MTH214/datasets/trees.R"
> source(url(f))
> TREES
$number
 [1]
     81
         96 87
                 83
                     99
                         64
                            77 63 93 84 102 68 94 81 70
[16]
     84
         92 109
                 74
                     86
```

Construct a stem and leaf plot and a histogram.

 $\mathbf{2.59} \ \mathrm{Consider}$

 $19 \ 22 \ 34 \ 28 \ 18 \ 24 \ 16 \ 25 \ 37 \ 31$

- 1. Find the mean and 10% trimmed mean
- 2. Change 34 to 54 and repeat. What changed?
- 3. Suppose 16 changes to 10, will mean change? trimmed mean?

2.67 Following are mpg for ten cars in 1995

47 44 44 44 42 40 39 39 36 35

Find mean and median. Is there much difference? Would you expect a trimmed mean to be much different?

- 2.70 For the tree data in 2.52 find the average number of trees per grid in the sample. Can you use this figure to estimate how many trees the farmer has on his farm?
- 2.75 Survival times for 20 rats are given by (rat.R)

```
> f = "http://www.math.csi.cuny.edu/verzani/classes/MTH214/datasets/rat.R"
> source(url(f))
> RAT
$survive
[1] 152 152 115 109 137 88 94 77 160 165 125 40 128 123 136
[16] 101 62 153 83 69
```

Find the mean, median and 10% trimmed mean.

2.79 For the numbers 7, 12, 10, 9, 22

- 1. Calculate the deviations from the mean check that they sum to 0
- 2. Calculate the sum of squares

- 3. Calculate the standard deviation
- 2.95 For the rat dataset in 2.75
 - 1. find the standard deviation
 - 2. What percent of the actual data is within one standard deviation? Two standard deviations?
 - 3. How large a score is 165 relative to the rest of the data?