More on Histogram:

- **Lower class limit**
- **Upper class limit**
- **Class width:** **difference between consecutive lower class limits.**

Stem-and-Leaf Plot

Advantage: It preserves the raw data!!!!
(whereas once frequency tables or histograms are created, in general the raw data will have been lost.)

Dot Plots

Time-Series Graphs

Graphical Misrepresentation of Data

- **Axis scale and positioning**
- **Three dimensions**

Chapter 3 Numerically Summarizing Data
Section 3.1 Measures of Central Tendancy

We will discuss

- **Mean**
- **Median**
- **Mode**
- **How do mean and median together tell us about the shape of a distribution.**

(Arithmetic) Mean

Correct the following in the book:

Page 107, in the "Definition" near the bottom of the page, change the symbol for the population arithmetic mean from "m" to "μ"
(μ, pronounced "mew", is the counterpart of "m" in Greek alphabet.)

Recall:

Parameters: Descriptive measures of a population.
(Usually represented by Greek letters)

Statistic: Descriptive measures of a sample.
(Usually represented by Roman letters.)

Population Arithmetic Mean: μ (This is a parameter!)

$$\mu = \frac{x_1 + x_2 + \cdots + x_N}{N} = \frac{\sum x_i}{N}$$

where $N = Population\ Size$

("Σ" (pronounced "Sigma")is the Greek counter part of "S". In math it means "Sum".)

Sample Arithmetic Mean: $\bar{x}$ (This is a statistic!!)

$$\bar{x} = \frac{x_1 + x_2 + \cdots + x_n}{n} = \frac{\sum x_i}{n}$$

where $n = Sample\ Size$

Median

23, 34, 35, 40, 67, 68, 68, 70, 70, 81, 99

62, 68, 71, 74, 77, 82, 84, 88, 90, 94