

## 3.1 Measures of Central Tendency

( $\bar{x}$ ) mean - average

median - central value of an ordered set.

- With an odd set of values, the median is the middle value

- with an even set, the median is the average of the middle two values

mode - value that occurs most frequently.

There could be more than one mode

$\sum x \Rightarrow$  sum of all values

Sample mean  $\bar{x} = \frac{\sum x}{n}$

population mean  $\mu = \frac{\sum x}{N}$

$n \Rightarrow$  # of values

Mean - most commonly used but highly susceptible to outliers or skewed data

median - resistant to outliers but is not sensitive to the size of the data value

Trimmed mean - mean of the data after trimming a specified percentage of the smallest and largest values of the data set  
5% is a typical trim  
If 5% does not produce a whole number of values, round to nearest integer.

Perfectly normal distribution occurs when the mean and median are identical

mean  
interval  
ratio

median  
ordinal  
interval  
ratio

mode  
nominal  
ordinal  
interval  
ratio

- ⑧ a) Balance on each account: mean, median, mode
- b) Name of credit card: mode
- c) Dollar amount due on next payment: mean, median, mode

Calculator: Stat Calc  $\rightarrow$  1 Var Stat

$\bar{x}$ ,  $\Sigma x$ ,  $n$ , min, med, max  
Q1, Q3