Pro/Stat Lecture 2.3
Measures of Central Tendency

Measure of central tendency is a value at the center or middle of a data set.

Mean is an average of a set of scores. $\dfrac{\text{sum of all entrees}}{\text{number of entrees}}$

$\sum$ denotes the summation of a set of values.

x is the variable used to represent the individual values.

n is the number of values in a sample.

N is the number of values in a population.

$\bar{x} = \dfrac{\sum x}{n}$ is the mean of the sample.

$\mu = \dfrac{\sum x}{N}$ is the mean of the population.

Median is the middle score when the scores are arranged from high to low or vice versa.

For an odd number of scores, the median is the number that is located in the exact middle of the list. For an even number of scores, the median is found by computing the mean of the middle two numbers.

Mode is the score that occurs most frequently. If two scores occur with the greatest frequency the data is bimodal. If more than two, the data set is multimodal.

Midrange is the value midway between the highest and the lowest scores. $\dfrac{\text{high score} + \text{low score}}{2}$

Ex #1. 58 67 60 84 93 98 100 93 88

Ex #2. 75 78 78 80 85 85 85 93

Mean from a frequency table = $\frac{\sum(f \bullet x)}{\sum f}$

	frequency (f)	Midpoints	$\sum(f \bullet x)$
18 – 34	1		
35 – 51	2		
52 – 68	5		
69 – 85	15		
86 – 102	12		

Weighted Mean is the mean computed with the different scores assigned different weights. $\frac{\sum(w \bullet x)}{\sum w}$

Each test is 15% of the grade: 85 90 75 80
Final Exam is 40% of the grade: 95

A distribution of data is skewed if it is not symmetric and extends more to one side than the other. (p63)