Ch 2.1 Overview of Statistics

What can you do with a set of data?

- <u>Describe it:</u> perform computations with the data ex) look at mean, median, and mode and the spread of the data.
- Explore it: look at notable characteristics ex) individuals that purchase a more expensive car have higher income.
- Comapre it: look at differences ex)look at men and women salaries who hold the same position.

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Important Characteristics of Data

- Center-average or middle
- Variation-values vary from each other
- Distribution-shape of the data in graphed form
- Outliers-value that varies from the majority
- Time- changing characteristics of the data over time.

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<u>Class boundaries</u> - are numbers used to separate classes without the gaps created in class limits.

(lower limit 2nd class - upper limit 1st class)

Then subtract that amount from each lower limit and add that amount on each upper limit.

classes	frequency
0-2	3
3-5	5
6-8	7
9-11	4
12-14	1

Class Midpoints - middle of each class (upper limit + lower limit)

Class Width - difference between the 2 consecutive lower limits

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2 types of Statistics:

- 1. <u>Descriptive</u>: used to summarize or describe the important characteristics of a set of data.
- 2. *Inferential*: used to make generalizations about the population.

examples on document camera

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Ch 2.2 Summarizing Data with Frequency Tables

<u>Frequency Table</u>-is a helpful way to organize a large set of data by dividing it into *classes* (*groups*) and recording the number in each class.

<u>Frequency</u> - is the number of scores that fall into each class

<u>lower class limit</u>- are the smallest numbers that belong to each class.

upper class limit are the largest numbers that belong to each class.

classes	frequency
0-2	3
3-5	5
6-8	7
9-11	4
12-14	1

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Relative frequency - dividing each class frequency by the total number of frequencies. (% represented by each class)

Relative frequency table- similar to a frequency table, but contains relative frequency (%).

Cumulative frequency table - is the sum of all frequencies for that class and all previous classes.

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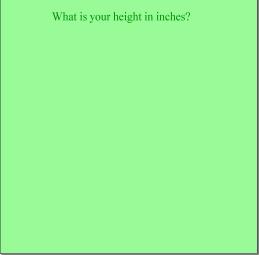
Steps for constructing a frequency table:

- 1. Determine the *number of classes* (groups)
- 2. Determine *class width*: round width up even if whole number.

largest # - smallest in the data set # classes

- 3. Choose a *starting number* (smallest # in data set)
- 4. Add class width to the lower limits to *determine all lower limits* and place them vertically.
- 5. Determine *upper limits* (add class width to previous upper limit)
- 6. Place a *tally column* to the right of each class.
- 7. Then use that to determine the *frequency column*.

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