Ch 2.1 Overview of Statistics

What can you do with a set of data?

- ***Describe it:*** 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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2 types of Statistics:

1. ***Descriptive***: 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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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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Ch 2.2 Summarizing Data with ***Frequency Tables***

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

Frequency - is the number of scores that fall into each class.

lower class limit- 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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Class boundaries - are numbers used to separate classes without the gaps created in class limits.

$$\frac{(\text{lower limit 2nd class} - \text{upper limit 1st class})}{2}$$

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

$$\frac{(\text{upper limit} + \text{lower limit})}{2}$$

Class Width - difference between the 2 consecutive lower limits

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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.

$$\frac{\text{largest \# - smallest in the data set}}{\text{\# classes}}$$

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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What is your height in inches?

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