

2.1 Frequency Distributions, Histograms, Etc.

1. Describe how frequency tables organize data into classes and then lists the numbers of data points in each class
2. Describe the procedure to finding class limits/widths for **integer** valued data

(a)
$$\text{class width} = \frac{\text{largest data value} - \text{smallest data value}}{\text{number of class limits}}$$

- (b) Then **increase** this to the next integer, even if the above computation yields an integer. For example, $= 4.4 \rightarrow 5$ and $= 7 \rightarrow 8$.

3. How to compute limits, boundaries/midpoints of classes.
4. Do an example of this, probably with a dozen data points and 3 classes.
5. If the data is decimals, then multiply by an appropriate power of 10 to convert all data points to integers. Proceed as above. Then divide class limits, boundaries and midpoints by said power of 10.
6. Histograms
7. Relative frequency in tables and histograms
8. Shapes of distributions
 - Left-skewed data means the long-tail is on the **left side** of the histogram.
 - Right-skewed data means the long-tail is on the **right side** of the histogram.
9. Cumulative frequency tables
10. Ogive (pronounced oh-jive and rhymes with hive)

2.2 Types of Graphs

1. Bar Graphs
 - (a) Bars represent frequencies of classes
 - (b) Bars are evenly spaced, even width.
2. Circle Graphs (commonly known as Pie Charts)
 - Only used for parts of a whole
3. Time series data/graphs

4. Pareto graphs

- A special type of bar graph where height represents frequency of an event.
- The rectangles are arranged from most frequent to least frequent.
- Not necessarily left-to-right; can be arranged vertically.

2.3 Stem and Leaf Displays

1. Pay attention to the **key**.
2. Note the leaves need not be ordered
3. Can also be back-to-back to show data tables for two different groups.