

Stat 101: Lecture 4

Quantitative Data

- For a Statistics project, students weighed the contents of cans of cola.
- In 2000, 24 cans of cola were weighed (full and empty). The difference in weight is the weight of the contents. The units are grams.

1

Weight of Contents

368, 351, 355, 367, 352, 369, 370, 369
370, 355, 354, 357, 366, 353, 373, 365
355, 356, 362, 354, 353, 378, 368, 349

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Weight of Contents

- What can we say about the weight of contents of a can of cola?
 - Variation!
 - Smallest value?
 - Largest value?
 - Middle value?

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Display of Data

- Stem-and-Leaf Display or Stem Plot
 - Orders the data and creates a display of the distribution of values.

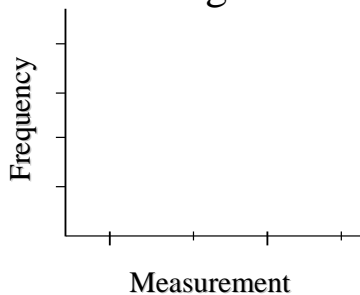
4

Display of Data

- Histogram
 - A picture of the distribution of the data.
 - Collects values into bins.
 - Bins should be of equal width.
 - Different bin choices can yield different pictures.

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Histogram



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Constructing a Histogram

- Order data from smallest to largest using a stem and leaf display.
- Determine bins.
 - equal width
 - more data → more bins

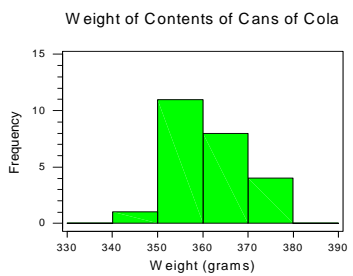
7

Stem and Leaf

34		9
35		12334455567
36		25678899
37		0038

8

Weight of Contents



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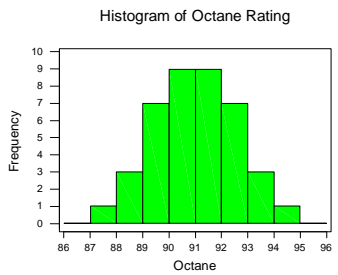
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Shape

- Symmetry
 - Mounded, flat
- Skew
 - Right, left
- Other
 - Multiple peaks, outliers

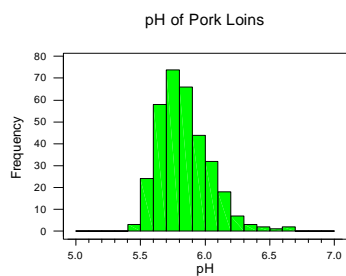
10

Symmetric Mounded in the Middle



11

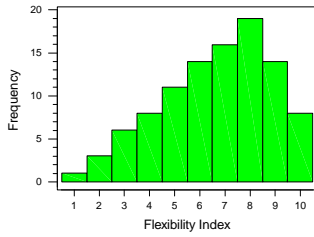
Skew - Right



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Skew - Left

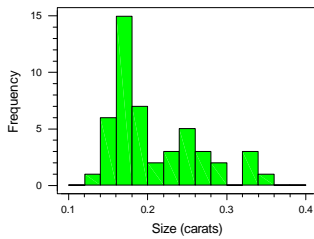
Flexibility Index of Young Adult Men



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Multiple Peaks

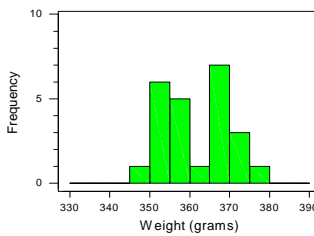
Size of Diamonds (carats)



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Weight of Contents

Weight of Contents of Cans of Cola



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