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.

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

• What can we say about the weight of contents of a can of cola?
  – Variation!
  – Smallest value?
  – Largest value?
  – Middle value?
Stat 101: Lecture 4

Display of Data

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

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.

Histogram

<table>
<thead>
<tr>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Measurement</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Constructing a Histogram

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

Weight of Contents

<table>
<thead>
<tr>
<th>Weight of Contents of Cans of Cola</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (grams)</td>
</tr>
<tr>
<td>340</td>
</tr>
<tr>
<td>330</td>
</tr>
<tr>
<td>320</td>
</tr>
<tr>
<td>310</td>
</tr>
<tr>
<td>300</td>
</tr>
</tbody>
</table>

Frequency

- Weight of Contents
- Frequency
- Weight (grams)