Stat 101: Lecture 5

Shape

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

Histogram of Octane

Skew - Right
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Skew - Left

Flexibility Index of Young Adult Men

<table>
<thead>
<tr>
<th>Flexibility Index</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
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<td>3</td>
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<td>8</td>
<td>16</td>
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<tr>
<td>9</td>
<td>18</td>
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</tbody>
</table>

Multiple Peaks

Size of Diamonds (carats)

<table>
<thead>
<tr>
<th>Size (carats)</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
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<td>0.1</td>
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</tr>
<tr>
<td>0.2</td>
<td>15</td>
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<tr>
<td>0.3</td>
<td>10</td>
</tr>
<tr>
<td>0.4</td>
<td>5</td>
</tr>
</tbody>
</table>

Center

- A typical value.
- Summary of the whole batch of numbers.
- For symmetric distributions – easy.
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Histogram of Octane Rating

Spread

• Variation matters.
  – Tightly clustered?
  – Spread out?
  – Low and high values?

Comparing Distributions

• How do the distributions compare in terms of
  – Shape?
  – Center?
  – Spread?
Workout Times

- Who? ISU students.
- What? Time spent working out (minutes), Gender
- Where? Second floor of Leid Recreation facility.
- How? The time was noted when a student arrived at the 2nd floor workout area and when that student left.

Workout Times: Men

![Histogram of Workout Times for Men]

Workout Times: Women

![Histogram of Workout Times for Women]