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Unit 01 - Univariate Data
Homework \#2

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23. Americans are much more likely to choose white/pearl and red, while Europeans are much more likely to choose silver, black, or gray. Preferences for blue, beige/brown, green, and yellow/gold are about the same for both groups.
24. 

a. A side-by-side bar graph is shown below.

b. Luxury car owners are more likely to choose black, white pearl, and yellow/gold. SUV, truck and van owners are more likely to choose white, blue, red, and beige/brown. Preferences for silver, gray, and green are about the same for both groups.

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37.
a. The graph is shown below.

b. The distribution is roughly symmetric with a midpoint of 6 hours. The hours of sleep vary from 3 to 11 . There do not appear to be any outliers.
45.
a. Otherwise, most of the data would appear on just a few stems, making it hard to identify the shape of the distribution.
b. Key $12 \mid 1$ means that $12.1 \%$ of that state's residents are aged 25 to 34 .
c. The distribution of percent of residents aged $25-34$ is roughly symmetric with a possible outlier at $16.0 \%$. The center is around $13 \%$. Other than the outlier at $16.0 \%$, the values vary from $11.4 \%$ to $15.1 \%$.
50.
a. The stemplots are given below.

| Division I-AAA |  | Division V-AA |  |
| :---: | :---: | :---: | :---: |
| 8 | 3 | 677 |  |
| 7761 | 4 | 4456 |  |
| 8654321 | 5 | 48 | Key: 316 |
| 87554443322 | 6 | 0266779 | $=36$ |
| 876411 | 7 | 24 | points |
| 7 | 8 | 6 | scored |
| 1 | 9 | 23688 |  |
| 6 | 10 |  |  |

b. Both distributions are roughly symmetric, although the distribution in Division 1-AAA is unimodal and the distribution in V-AA has more than one peak. While the Division V-AA center is slightly larger than the Division 1-AAA center, the scores in both divisions are about equally variable. The team that scored 106 points in Division 1-AAA might be an outlier.
58.
a. The histogram is given below.

b. The distribution of chest sizes is roughly symmetric with center around 40 inches and values that vary from 33 to 48 inches. This information is important so that the military can order the correct distribution of uniform sizes.
62. A histogram should be used because die roll is a quantitative variable. A possible histogram is given below.

63.
a. The percents for women sum to $100.1 \%$ due to rounding errors.
b. Relative frequency histograms are shown below because they are considerably more men than women.
c. Both histograms are skewed to the right. The center of the women's distribution of salaries is less than men's. The distributions of salaries are about equally variable, and the table shows that there are some outliers in each distribution who make between $\$ 65,000$ and $\$ 70,000$.



