

- a. The interquartile range. Compare the two interquartile ranges.
- b. Any outliers in either set.

The five number summary for the day and night classes is

|       | Minimum | $Q_1$ | Median | $Q_3$ | Maximum |
|-------|---------|-------|--------|-------|---------|
| Day   | 32      | 56    | 74.5   | 82.5  | 99      |
| Night | 25.5    | 78    | 81     | 89    | 98      |

Day:

$$\begin{aligned} IQR &= Q_3 - Q_1 \\ &= 82.5 - 56 \\ &= 26.5 \end{aligned}$$

$$\begin{aligned} (1.5)(IQR) &= 1.5 * 26.5 \\ &= 39.75 \end{aligned}$$

$$\begin{aligned} Q_1 - (1.5)(IQR) &= 56 - 39.75 \\ &= 16.25 \end{aligned}$$

$$\begin{aligned} Q_3 + (1.5)(IQR) &= 82.5 + 39.75 \\ &= 122.25 \end{aligned}$$

Night:

$$\begin{aligned} \text{IQR} &= Q_3 - Q_1 \\ &= 89 - 78 \\ &= 11 \end{aligned}$$

$$\begin{aligned} (1.5) \text{IQR} &= 1.5 * 11 \\ &= 16.5 \end{aligned}$$

$$\begin{aligned} Q_1 - (1.5) \text{IQR} &= 78 - 16.5 \\ &= 61.5 \end{aligned}$$

$$\begin{aligned} Q_3 + (1.5) \text{IQR} &= 89 + 16.5 \\ &= 105.5 \end{aligned}$$