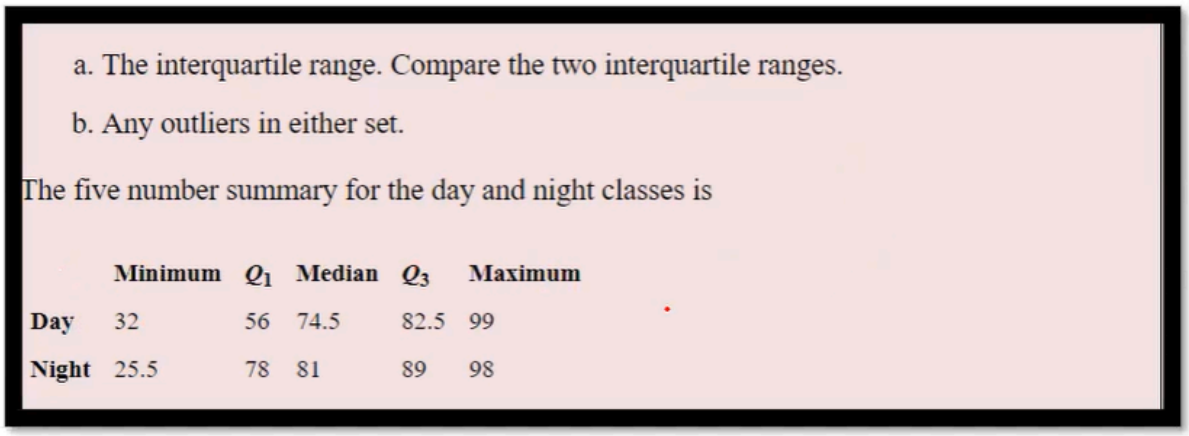
Lesser Outliner = Q1-1.5 * IQR
Why 1.5 time used for IQR calculation: Standard threshold used to detect potential outliers by balancing sensitivity and robustness in data analysis

IQR assignment Day- Night



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

a.

IQR = Q3 - Q1
Day IQR = 82.5 - 56 = 26.5
Night IQR = 89 - 78 = 11

Lesser Outliner = Q1-1.5 * IQR
Day Lesser Outline = 56 - (1.5 * 26.5) = 16.25
Night Lesser Outline = 78 - (1.5 * 11) = 61.5
Greater Outliner = Q3 + 1.5 * IQR
Day Greater Outline = 82.5 + (1.5 * 26.5) = 122.25
Night Greater Outline = 89 + (1.5 * 11) = 105.5

Day data stream: 16.25——————> 122.25
Night data stream: 61.5——————> 105.5

b.

i. **Lesser Outliers:**
- **Day**:
  - Minimum value is **32**, which is higher than the lesser outlier bound (**16.25**).
  - **Conclusion**: No lesser outliers for the day.
- **Night**:
  - Minimum value is **25.5**, which is below the lesser outlier bound (**61.5**).
  - **Conclusion**: 61.5 is replaced by **25.5** as an outlier.

ii. **Greater Outliers:**
- **Day**:
  - Maximum value is **99**, which is less than the greater outlier bound (**122.25**).
  - **Conclusion**: No greater outliers for the day.
- **Night**:
  - Maximum value is **98**, which is less than the greater outlier bound (**105.5**).
  - **Conclusion**: No greater outliers for the night.