

# INTERQUANTILE REPORT

10/04/2024

## Interquartile Range(IQR)

- The interquartile range. Compare the two interquartile ranges.
- 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

$$IQR = Q_3 - Q_1$$

$$Q_1 = 56 \quad \quad \quad = 82.5 - 56$$

$$Q_3 = 82.5 \quad \quad \quad = 26.5$$

Day:

$$\begin{aligned} (1.5)(IQR) &= 1.5 \times 26.5 & Q_1 - (1.5)(IQR) &= 56 - 39.75 & Q_3 + (1.5)(IQR) &= 82.5 + 39.75 \\ &= 39.75 & \text{Lesser} &= 16.25 & \text{greater} &= 122.22 \end{aligned}$$

**SUMMARY:**

In Day Class **Not less** than 16.25. In Maximum **not greater** than 122.22

So no Potential Outlier

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Night:

$$Q_1 = 78 \quad \quad \quad IQR = Q_3 - Q_1$$

$$Q_3 = 89 \quad \quad \quad = 89 - 78$$

$$= 11$$

$$\begin{array}{lll}
 (1.5)(IQR)=1.5 \times 11 & Q1-(1.5)(IQR)=78-16.5 & Q3+(1.5)(IQR)=89+16.5 \\
 =16.5 & \text{Lesser} =61.5 & \text{greater} =105.5
 \end{array}$$

**SUMMARY:**

In Day Class **Not less** than 61.5. In Maximum **not greater** than 122.22

**So no Potential Outlier**