

Assignment to find the Outliers-25.05.2024

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

$$Q1(\text{Day}) - 56, Q3(\text{Day}) - 82.5$$

$$Q1(\text{Night}) - 78, Q3(\text{Night}) - 89$$

$$\text{IQR}(\text{Day}) = Q3(D) - Q1(D)$$

$$= 82.5 - 56, \text{Ans} = 26.5$$

Lesser Outlier:(Day)

$$\text{Outlier Range: } Q1(D) - 1.5 * \text{IQR}(D)$$

$$= 56 - 1.5 * 26.5$$

$$= 56 - 39.75, \text{Ans} = 16.25$$

Lesser Outlier:(Night)

$$\text{Outlier Range: } Q1(N) - 1.5 * \text{IQR}(D)$$

$$= 78 - 1.5 * 11$$

$$= 78 - 16.5, \text{Ans} = 61.5$$

$$\text{IQR}(\text{Day}) = Q3(N) - Q1(N)$$

$$= 89 - 78, \text{Ans} = 11$$

Greater Outlier:(Day)

$$\text{Outlier Range: } Q3(D) + 1.5 * \text{IQR}(D)$$

$$= 82.5 + 1.5 * 26.5$$

$$= 82.5 + 39.75, \text{Ans} = 122.25$$

Greater Outlier:(Night)

$$\text{Outlier Range: } Q3(N) + 1.5 * \text{IQR}(D)$$

$$= 89 + 1.5 * 11$$

$$= 89 + 16.5, \text{Ans} = 105.5$$

Lesser Outlier: (Day)	16.25	Greater Outlier:(Day)	122.5
Lesser Outlier: (Night)	61.5	Greater Outlier:(Night)	105.5

Answer: The Night having lesser outlier is 25.5