

# Assignment

## Inter Quatile Range - IQR

a. The 5 number summary for the day & night classes is

	min	Q <sub>1</sub>	median	Q <sub>3</sub>	max
Day	32	56	74.5	82.5	99
Night	25.5	78	81	89	98

a. The Intequatible range, Compare the two interequatible range.

b. Any outliers in either set

Day

$$Q_3 - Q_1 = IQR$$

$$\Rightarrow 82.5 - 56$$

$$\Rightarrow 26.5$$

Rule  $\Rightarrow 1.5 \times IQR = 39.75$

Lower Range outlier

$$Q_1 - 1.5 \times IQR$$

$$= 56 - 39.75$$

$$\Rightarrow 16.25 //$$

Greater Range outlier

$$Q_3 + 1.5 \times IQR$$

$$= 82.5 + 39.75$$

$$= 122.25 //$$

There is no outliers in day classes.

Night

$$IQR = Q_3 - Q_1$$

$$= 89 - 78$$

$$= 11$$

Rule

$$1.5 \times IQR = 16.5$$

Lower Range outlier

$$Q_1 - 1.5 \times IQR$$

$$= 78 - 16.5$$

$$= 61.5 //$$

Greater Range outlier

$$Q_3 + 1.5 \times IQR$$

$$= 89 + 16.5$$

$$= 105.5 //$$

There is an outlier during Night classes, So, 25.5 will be replaced by 61.5