

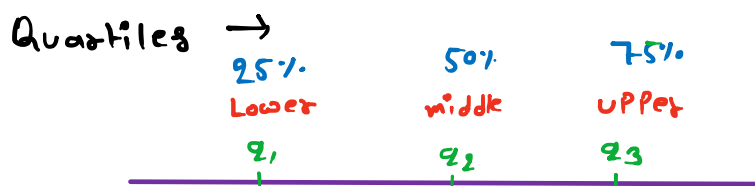
## Range and IQR and Outliers

Saturday, 26 July 2025 9:22 PM

$$\text{Range} = \text{max value} - \text{min value}$$

Ex → Data = [1, 1, 2, 3, 4, 5]

$$\begin{aligned}\text{Range} &= 5 - 1 \\ &= 4\end{aligned}$$



Data = 62, 18, 22, 11, 40, 41, 70

Sort(Data) = 11, 18, 22, 40, 41, 62, 70

$$Q_1 = \left(\frac{8}{4}\right)^{\text{th}} = 18$$

$$Q_2 = 40$$

$$Q_3 = 62$$



### Quartile Formula

$$\text{Lower Quartile (Q1)} = (N+1) \times \frac{1}{4}$$

$$\text{Middle Quartile (Q2)} = (N+1) \times \frac{2}{4}$$

$$\text{Upper Quartile (Q3)} = (N+1) \times \frac{3}{4}$$

EDUCBA

$$\text{IQR} = Q_3 - Q_1$$

$$= 62 - 18$$

$$= 44$$

$$\text{Upper Fence} = Q_3 + 1.5 \times \text{IQR}$$

$$\text{Lower Fence} = Q_1 - 1.5 \times \text{IQR}$$

