

Data / Series

03/08/2020

1. Raw data or Simple Series
2. Grouped data or Discrete Series
3. Ungrouped data or Continuous Series

2.1) exercise 1.1 (2.1) (P.no-7)

Ans: 10.5, 10.6, 10.7, 10.9, 11.1, 11.5,
11.8, 12, 12.6, 13, 13.5, 14,
14.5, 14.9, 16

$$n = 15$$

$$Q_1 = \frac{(n+1)}{4} \text{th value.}$$

$$= \frac{(15+1)}{4} \text{th value.}$$

$$= 4 \text{th value.}$$

$$Q_1 = 10.9$$

$$Q_2 = \left[\frac{2(n+1)}{4} \right] \text{th value.}$$

$$= \left[\frac{2(15+1)}{4} \right] \text{th value.}$$

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$$Q_2 = 8 \text{th value.}$$

$$= 12.$$

$$Q_3 = \left[\frac{3(n+1)}{4} \right] \text{th value.}$$

$$= \left[\frac{3(15+1)}{4} \right] \text{th value.}$$

$$= 12 \text{th value.}$$

$$Q_3 = 12.14$$

2.2) ex-2 Solved example (P.no-4)

Ans. Ascending order :

170, 180, 190, 200, 210, 220
280, 310, 320, 330, 380, 400

$$n = 12$$

$$Q_1 = \frac{(n+1)}{4} \text{th value}$$

$$= \frac{(12+1)}{4} \text{th value.}$$

$$= \frac{(13)}{4} \text{th value}$$

$$= 3.25 \text{th value.}$$

$$= 3^{\text{rd}} \text{ value} + 0.25 \left[\frac{4^{\text{th}} \text{ value} - 3^{\text{rd}} \text{ value}}{3^{\text{rd}} \text{ value}} \right]$$

$$= 190 + 0.25 [200 - 190]$$

$$= 190 + 0.25 [10]$$

$$= 190 + 2.5$$

$$Q_1 = 192.5$$

$$Q_2 = \left[\frac{2(n+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= \left[\frac{2(12+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= 6.5^{\text{th}} \text{ value}$$

$$= 6^{\text{th}} \text{ value} + 0.5 \left[\frac{7^{\text{th}} \text{ value} - 6^{\text{th}} \text{ value}}{6^{\text{th}} \text{ value}} \right]$$

$$= 220 + 0.5 [280 - 220]$$

$$= 220 + 0.5 [60]$$

$$= 220 + 30$$

$$Q_2 = 250$$

$$Q_3 = \left[\frac{3(n+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= \left[\frac{3(12+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= 9.75^{\text{th}} \text{ value}$$

$$= 9^{\text{th}} \text{ value} + 0.75 [10^{\text{th}} \text{ value} - 9^{\text{th}} \text{ value}]$$

$$= 320 + 0.75 (330 - 320)$$

$$= 320 + 0.75 (10)$$

$$= 320 + 7.5$$

$$Q_3 = 327.5$$

Ans. 191

2.3) Exercise - 1.1 (2.3) (p. no - 7)

Ans. Ascending order :

172, 188, 190, 195, 201, 205, 210,
215, 225, 230, 232, 260

$$n = 12$$

$$Q_1 = \left[\frac{(n+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= \left[\frac{(12+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= 3.25^{\text{th}} \text{ value}$$

$$= 3^{\text{rd}} \text{ value} + 0.25 [4^{\text{th}} \text{ value} - 3^{\text{rd}} \text{ value}]$$

$$= 190 + 0.25 [194 - 190]$$

$$= 190 + 0.25 [4]$$

$$= 190 + 1$$

$$Q_1 = 191$$

2. u) exercise - 101 2.2-2 (p. no - 11)

Ans. Ascending order :

145, 148, 151, 152, 154,
158, 159, 163, 171, 171

$$n = 10$$

$$Q_1 = \frac{(n+1)}{4}^{\text{th}} \text{ value}$$

$$= \frac{(10+1)}{4}^{\text{th}} \text{ value}$$

$$= 2.75^{\text{th}} \text{ value}$$

$$= 2^{\text{nd}} \text{ value} + 0.75 [3^{\text{rd}} \text{ value} - 2^{\text{nd}} \text{ value}]$$

$$= 148 + 0.75 [151 - 148]$$

$$= 148 + 0.75 [3]$$

$$= 148 + 2.25$$

$$Q_1 = 150.25$$

$$Q_3 = \left[\frac{3(n+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= \left[\frac{3(10+1)}{4} \right]^{\text{th}} \text{ value}$$

$$= 8.25^{\text{th}} \text{ value}$$

$$= 8^{\text{th}} \text{ value} + 0.25 [9^{\text{th}} \text{ value} - 8^{\text{th}} \text{ value}]$$

$$= 163 + 0.25 [171 - 163]$$

$$= 163 + 0.25 \times 8$$

$$= 163 + 2$$

$$Q_3 = 165$$