Statistics

- **Mean($\bar{x}$):**
- $\bar{x} = \frac{\sum x_i}{n}$
- Example: For the data 12,11,14,13,15 mean is …
- Solution: $\bar{x} = \frac{\sum x_i}{n} = \frac{12+11+14+13+15}{5} = \frac{65}{5} = 13$
- **Median(M):**
- Arrange all observation on ascending order
- If n is odd then $M = \left(\frac{n+1}{2}\right)^{th}$ observation
- If n is even then $M = \frac{\left(\frac{n}{2}\right)^{th}\text{observation} + \left(\frac{n}{2}+1\right)^{th}\text{observation}}{2}$

- Example: For the data $13,11,15,23,34,32,12,23,33$ median is …
- Solution: Ascending order is $11,12,13,15,23,32,33,34$

Here $n = 9$,which is odd

$$\therefore M = \left(\frac{n+1}{2}\right)^{th} \text{observation}$$

$$= \left(\frac{9+1}{2}\right)^{th} \text{observation}$$

$$= (5)^{th} \text{observation}$$

$$= 23$$

- **Mode(Z):**
- Mode is the observation that occur most frequently in the distribution.
- Example: For the data $52,54,53,52,52,54,52$ mode is ….
- Solution: In the data the observation 52 occurs maximum number of times.

$\therefore$ Mode $Z = 52$