MEAN, MEDIAN and MODE

MEAN

Mean = Sum of all observations/Number of observations

Eg-12, 34, 45, 50, 24

Sol-Mean =165/5=33Mean

Mean is denoted by $\bar{x}$(pronounced as x bar)

Median

The value of the **middlemost observation**, obtained after arranging the data in ascending order, is called the **median** of the data.

For example, consider the data: 4, 4, 6, 3, 2.

Let's arrange this data in ascending order: 2, 3, 4, 4, 6.

There are 5 observations.

Thus, median = middle value i.e. 4

Case 1: Ungrouped Data

Step 1: Arrange the data in ascending or descending order.

Step 2: Let the total number of observations be n.

To find the median, we need to consider if n is even or odd.

If nn **is odd**, then use the formula:

$$\text{Median} = (n+1)/2^{th}\text{observation}$$

If nn **is even**, then use the formula:

$$\text{Median} = \{n/2^{th}\text{obs.} + (n+1)/2^{th}\text{obs}\}/2 \text{ obs}$$

MEAN, MEDIAN and MODE

MODE-

It is nothing but the value repeated most of time.

Eg- 6,3,1,2,9,5,7,5,2,9,2,1,5

Sol- 5 will be mode(most repeated value)

Relation Between Mean, Median and Mode

The three measures of central values i.e. mean, median and mode are closely connected by the following relations (called an **empirical relationship**).

$$2\text{Mean} + \text{Mode} = 3\text{Median}$$