

STATISTICS

MEASURE OF CENTRAL TENDENCY

- **Mode**

It is the value which occurs most frequently in a set of observation and around which the other items of the set cluster densely.

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- **Mean**

For ungrouped data : $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$

For grouped data : $\bar{x} = \frac{\sum_{i=1}^n f_i x_i}{\sum_{i=1}^n f_i = N}$

IMPORTANT TERMS

- **Primary data** : A data collected by an investigation or a group of investigation for a definite purpose is called primary data.
- **Secondary data** : When a data is collected from a source which already had the information stored, the data is called a secondary data.
- **Raw data/ungrouped data** : The data obtained in the original form are called raw/ ungrouped data.
- **Range** : The difference between the maximum value and the minimum value of the variable is known as range.
- **Frequency** : The count of tally marks or the number of observations in a particular class is its frequency.

GRAPHICAL REPRESENTATION OF DATA

- **Bar graph** : A bar graph is a pictorial representation of data in which usually bar of uniform width are drawn with equal spacing between them on one axis and values of variable are shown on other axis.
- **Histogram** : This is a form of representation like the bar graph, but it is used for continuous class intervals.
- **Frequency polygon** : It is another representation in which we join upper mid pt. of all the rectangles. The polygon so formed is called Frequency polygon.

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- **Median** : If x_1, x_2, \dots, x_n are n values of a variable arranged in descending or ascending order, then

Median = value of $\left(\frac{n+1}{2}\right)$ th observation, if n is odd

Median = $\frac{\text{value of } \left(\frac{n}{2}\right)\text{th observation} + \text{value of } \left(\frac{n}{2}+1\right)\text{th observation}}{2}$, if n is even