Mathematics

Data Handling

Modern society is information oriented. Every person wants numeric information of different fields of the society like the marks obtained in a particular subject by the students, five year plans etc. Statistics is a branch of mathematics which deals with the process, analyzing and interpreting the data.

Terms Related to Data

Data: It is defined as the particular information in numeric form.

Olympiad

Book

Comprehensive

- > **Primary data:** Primary data means the data that have been collected by collector for some purpose.
- Secondary data: Secondary data is data that have been collected by others and used by other observer.
- **Raw data:** It is the original form of the data.
- > Frequency: The number of times a particular observation occurs in a data is called frequency.
- > **Range:** The difference between maximum and minimum value of the observation is called range.
- > Class Interval: The interval in which variates lies is called class interval.
- > **Class Mark.** = $\frac{1}{2}$ (lower limit + upper limit)

Example:

The runs scored by 11 members of a cricket team are as follows.

34, 0, 25, 34, 67, 73, 67, 1, 0, 34, 71.

Arrange the above data using tally marks.

Solution:

Scores	Tally Mark	Frequency	
0	II	2	
1	Ι	1	
25	Ι	1	
34	III	3	
67	II	2	
71	Ι	1	
73	Ι	1	

Example: The total sales of a company (in crores) in different years are as follows.

Years	2005	2006	2007	2008	2009
Sales (in Crores)	40	60	70	50	30

Present the above data in the form of a bar graph.

Solution:



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Mean

Mean is defined as the ratio of sum of observations to total number of observations.

 $Mean = \frac{Sum of observations}{Total number of observations}$

Example:

Find the mean of first five even natural numbers.

Solution: First five even natural numbers are 2, 4, 6, 8,10 From the above formula, we get

 $Mean = \frac{2+4+6+8+10}{5} = \frac{30}{5} = 6$