

Chapter – 3

Data Handling

- The collection, recording and presentation of data help us organise our experiences and draw inferences from them.
- Before collecting data we need to know what we would use it for.
- The data that is collected needs to be organised in a proper table, so that it becomes easy to understand and interpret.
- Average is a number that represents or shows the central tendency of a group of observations or data.
- Arithmetic mean is one of the representative values of data. $\text{Mean} = \frac{\text{sum of all observatory}}{\text{Number of observatory}}$
- Mode is another form of central tendency or representative value. The mode of a set of observations is the observation that occurs most often. If each of the value ina data is occurring one time, then all are mode. Sometimes we also say that this data has no mode since none of them is occurring frequently.
- Median is also a form of representative value. It refers to the value which lies in the middle of the data with half of the observations above it and the other half below it.
$$\text{Median} = \frac{1}{2} \left[\frac{n}{2} \text{th observation} + \left(\frac{n}{2} + 1 \right) \text{th observation} \right].$$
- A bar graph is a representation of numbers using bars of uniform widths. Double bar graphs help to compare two collections of data at a glance.
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- There are situations in our life, that are certain to happen, some that are impossible and some that may or may not happen. The situation that may or may not happen has a chance of happening.
- **Probability:** A branch of mathematics that is capable of calculating the chance or likelihood of an event taking place (in percentage terms). If you have 10 likelihoods and you want to calculate the probability of 1 event taking place, it is said that its probability is $\frac{1}{10}$ or event has a 10% probability of taking place.
- Events that have many possibilities can have probability between 0 and 1.