

Importance of stastics



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The field of **statistics** is the science of learning from data. Statistical knowledge helps you use the proper methods to collect the data, employ the correct analyses, and effectively present the results. **Statistics** is a crucial process behind how we make discoveries in science, make decisions based on data, and make predictions. Statistics allows you to understand a subject much more deeply.



(1) Statistics helps in providing a better understanding and accurate description of nature's phenomena. (2) Statistics helps in the proper and efficient planning of a statistical inquiry in any field of study. (3) Statistics helps in collecting appropriate quantitative data.



What is the importance of statistics in students?

We all know that statistics refers to the presentation analysis, collection, and interpretation of data or massive information. Statistics is considered very important in education because it allows for collecting, analyzing, and interpreting the data. Moreover, it also allows drawing a general conclusion.

What jobs use statistics?

The major jobs in statistics are:

Financial analyst.

Software engineer.

Business analyst.

Database administrator.

Market researcher.

Cost estimator.

Statistician.

Economist.



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Types of Statistics

There are two kinds of Statistics, which are descriptive Statistics and inferential Statistics. In descriptive Statistics, the Data or Collection Data are described in a summarized way, whereas in inferential Statistics, we make use of it in order to explain the descriptive kind. Both of them are used on a large scale. Also, there is another kind of Statistics where descriptive transitions into inferential Statistics.

Statistics is mainly divided into the following two categories.

1. Descriptive Statistics
2. Inferential Statistics



Inferential Statistics

In the Inferential Statistics, we try to interpret the Meaning of descriptive Statistics. After the Data has been collected, analyzed, and summarised we use Inferential Statistics to describe the Meaning of the collected Data.

- Inferential Statistics use the probability principle to assess whether trends contained in the research sample can be generalized to the larger population from which the sample originally comes.
- Inferential Statistics are intended to test hypotheses and investigate relationships between variables and  can be used to make population predictions.

Descriptive Statistics

In the descriptive Statistics, the Data is described in a summarized way. The summarization is done from the sample of the population using different parameters like Mean or standard deviation. Descriptive Statistics are a way of using charts, graphs, and summary measures to organize, represent, and explain a set of Data.

- Data is typically arranged and displayed in tables or graphs summarizing details such as histograms, pie charts, bars or scatter plots.
- Descriptive Statistics are just descriptive and thus do not require normalization beyond the Data

Any raw Data, when collected and organized in the form of numerical or tables, is known as Statistics. Statistics is also the mathematical study of the probability of events occurring based on known quantitative Data or a Collection of Data.

Statistics attempts to infer the properties of a large Collection of Data from inspection of a sample of the Collection thereby allowing educated guesses to be made with a minimum of expense. There are generally 3 kinds of averages commonly used in Statistics. They are: (i) Mean, (ii) Median, and (iii) Mode.

Mean, Median and Mode in Statistics

Mean: Mean is considered the arithmetic average of a Data set that is found by adding the numbers in a set and dividing by the number of observations in the Data set.

Median: The middle number in the Data set while listed in either ascending or descending order is the Median.

Mode: The number that occurs the most in a Data set and ranges between the highest and lowest value is the Mode.

For n number of observations, we have

$$\text{Mean} = \bar{x} = \frac{\sum x}{n} = \frac{\sum x}{n}$$



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$\left[\frac{n}{2} + 1\right]^{th} term$