

Statistics :Statistics is the science of collecting, analyzing, presenting, and interpreting data as well as of making decisions based on such analyses

Descriptive Statistics :Descriptive statistics consists of methods for organizing, displaying, and describing data by using tables, graphs, and summary measures
(the collection of all elements of interest is called a population. The selection of a portion of the elements from this population is called a sample.)

Inferential Statistics Inferential statistics consists of methods that use sample results to help make decisions or predictions about a population.

Element or Member An element or member of a sample or population is a specific subject or object (for example, a person, firm, item, state, or country) about which the information is collected

Variable A variable is a characteristic under study that assumes different values for different elements. In contrast to a variable, the value of a constant is fixed

Observation or Measurement The value of a variable for an element is called an observation or measurement.

Data Set A data set is a collection of observations on one or more variables.

Quantitative Variable A variable that can be measured numerically is called a quantitative variable. The data collected on a quantitative variable are called quantitative data.

Discrete Variable A variable whose values are countable is called a discrete variable. In other words, a discrete variable can assume only certain values with no intermediate values.

Continuous Variable A variable that can assume any numerical value over a certain interval or intervals is called a continuous variable.

Qualitative or Categorical Variable A variable that cannot assume a numerical value but can be classified into two or more nonnumeric categories is called a qualitative or categorical variable. The data collected on such a variable are called qualitative data.

Cross-Section Data Data collected on different elements at the same point in time or for the same period of time are called cross-section data.

Population or Target Population A population consists of all elements—individuals, items, or objects—whose characteristics are being studied. The population that is being studied is also called the target population

Raw Data Data recorded in the sequence in which they are collected and before they are processed or ranked are called raw data.

Frequency Distribution of a Qualitative Variable A frequency distribution of a qualitative variable lists all categories and the number of elements that belong to each of the categories.