Q5.Write down 10 differences between Descriptive statistics and inferential Statistics ?

Answer :

The differences between Descriptive statistics and inferential Statistics are as follows :

- **1.Descriptive Statistics:** Summarizes and describes the characteristics of a dataset.

  Inferential Statistics: Makes predictions or generalizations about a population based on a sample of data.

- **2.Descriptive Statistics:** Aims to present the data in a meaningful way through summaries and visualizations.

  Inferential Statistics: Aims to draw conclusions and make inferences about a larger population beyond the sample data.

- **3.Descriptive Statistics:** Deals with the entire dataset and does not involve sampling.

  Inferential Statistics: Involves sampling from a population to make inferences.

- **4.Descriptive Statistics:** Results are presented in the form of charts, graphs, and tables.

  Inferential Statistics: Results are often presented in terms of probabilities and confidence intervals.

- **5.Descriptive Statistics:** Uses measures such as mean, median, mode, range, variance, and standard deviation.

  Inferential Statistics: Uses hypothesis testing, regression analysis, and estimation techniques.

- **6.Descriptive Statistics:** Limited to the data at hand; does not extend beyond the dataset.

  Inferential Statistics: Extends conclusions from the sample to the broader population.

- **7.Descriptive Statistics:** Used for data summarization and exploration.

  Inferential Statistics: Used for making predictions and testing hypotheses Complexity.

- **8.Descriptive Statistics:** Generally simpler and more straightforward.

  Inferential Statistics: More complex as it involves statistical models and theories.

- **9.Descriptive Statistics:** Reporting average test scores of a class.

  Inferential Statistics: Predicting the average test scores of all students in a school based on a sample of classes.

- **10.Descriptive Statistics:** Often requires basic statistical tools and software for summarization.

  Inferential Statistics: Requires advanced statistical software and methods for analysis, such as SPSS, R, or Python.