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Descriptive Statistics:

What is the purpose of descriptive statistics?

The main purpose of descriptive statistics is to provide information about a dataset. It summaries the large amount of data into several useful bits of information.

Can you explain the difference between mean, median and mode?

Mean	**Median**	**Mode**
The average taken of given observations is called mean	The middle number in a given set of observation is called Median	The most frequently occurred number in a given set of observation is called Mode.
Add up all the numbers divide by the total number of terms.	Place all the numbers in ascending or descending order. After arranging, take out the middle number.	The mode is derived when a number has frequency occurred in a series. The mode can be one or more than one
When data is normally distributed, the mean is widely preferred.	When data distribution is skewed, median is the best representative.	When there is a nominal distribution of data, the mode is preferred.
Mean= $\bar{x}$ = ∑x/ N	**Median = (n + 1/2)**th observation or **Median = (n/2)th observation + (n/2+1)th observation /2**	The mode is the most frequently occurring observation or value.

How do you interpret the standard deviation of a dataset?

A standard deviation is a measure of how dispersed the data is in relation to the mean. Low, or small, standard deviation indicates data are clustered tightly around the mean, and high, or large, standard deviation indicates data are more spread out.

Describe the concept of skewness in statistics.

Skewness is a statistical measure that is used to show whether a distribution is distorted or asymmetrical. If the skewness is right-tailed, the skew is positive. In case, the values are more than zero.

Inferential Statistics:

What is the main goal of inferential statistics.

The main goal of inferential statistics is to discover some property or general pattern about a large group by studying a smaller group of people in the hopes that the results will generalize to the larger group.

Explain the difference between a population and a sample.

Population	**Sample**
The measurable characteristic of the population, like the mean or standard deviation, is known as the parameter	The measurable characteristics of the sample is called a statistic.
Population data is a whole and complete set.	The sample is a subset of the population that is derived using sampling.
The parameter of the population is a numerical or measurable element that defines the system of the set	The statistics is the descriptive component of the sample found by using sample mean or sample proportion

What is a confidence interval, and how is it useful in inferential statistics?
A confidence interval displays the probability that a parameter will fall between a pair of values around the mean. Confidence intervals measure the degree of uncertainty in a sampling method. They are also used in hypothesis testing and regression analysis.

Define p-Value.
The p-value is the probability of obtaining results at least as extreme as the observed results of a statistical hypothesis test, assuming that the null hypothesis is correct. The p-value serves as an alternative to rejection points to provide the smallest level of significance at which the null hypothesis would be rejected. A smaller p-value means that there is stronger evidence in favour of the alternative hypothesis.P-Value is often used to promote credibility for studies or reports by government agencies.