

Statistics Assignment 1

1. What exactly is the difference between descriptive and inferential statistics?

**Answer:**

Descriptive Statistics: - Descriptive statistics is a branch of study in statistic which describing, summarizing population data under study. This statistics use to visualize and present data in form of Chart, Graphs to describe the situation.

Inferential Statistics: - This type of statistics more focus on analyses the sample data drawn from population and made conclusion about population. It attempts to reach conclusion to learn about the population that extends beyond the data available to explain the chances of occurrence of events.

1. I'm not sure what is the difference between a sample and a population?

**Answer:**

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| --- | --- |
| **Population** | **Sample** |
| Population means aggregate of all elements under study having one or more common characteristic. | The sample mean a part of population chosen at random for participation in the study. The sample so selected should be such that it represent the population in all its characteristics. |
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| Population measurable quality called Parameter | Sample measurable quality called statistics |
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| Population is complete set, Denoted by “N” | Sample is sub set of population, Denoted By “n” |
|  |  |
| Example: Total Schools in India | Example: Schools only of CBSE Boards |

1. What distinguishes descriptive statistics from other types of statistics?

**Answer:**

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| --- | --- |
| **Descriptive Statistics** | **Inferential statistics** |
| Descriptive Statistics refers to a discipline that quantitatively describes the important characteristics of the dataset. | Inferential Statistics is all about generalizing from the sample to the population, i.e. the results of the analysis of the sample can be deduced to the larger population, from which the sample is taken. |
| For the purpose of describing properties, it uses measures of central tendency, i.e. mean, median, mode and the measures of dispersion i.e. range, standard deviation, quartile deviation and variance, etc. | The major inferential statistics are based on the statistical models such as Analysis of Variance, chi-square test, student’s t distribution, regression analysis, etc. Estimation of Parameter & Testing of hypothesis |
|  |  |
| Organize, analyze and present data in a meaningful way | Compares, test and Predicts data |

1. What is the difference between quantitative and qualitative data?

**Answer:**

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| **Qualitative Data** | **Quantitative Data** |
| Qualitative data is the data in which the classification of objects is based on attributes and properties. | Quantitative Data is the type of data which can be measured and expressed numerically. |
|  |  |
| Qualitative Data can be observed but cannot computed. Its Un-statistical Data | Quantitative data is numerical so it can be computed mathematically. Its statistical data |
|  |  |
| This data has subjective approach | This data has objective approach |
|  |  |
| Example: Gender, Nationality, etc | Example: Weight, Height, Time, Length |

1. What is the definition of a percentile?

**Answer:** Percentile is method to calculate and describe how score compares to other scores from the same set of data. It is commonly expressed as the how much percentage of values in a set of data scores that fall below a given value.

Example: If your value in data set say X is falls at 75th Percentile, it means the value of X falls in your data set below 75% of total data set.

Formula :

To find percentile position of any value falls below formula can be used.

Percentile of Value x = # of values below x

N x 100

To find value at xyz percentile position in data set. Below formula can be used.

Value = Percentile

100 x (n+1)