

Basic Stats

? What is Statistics?

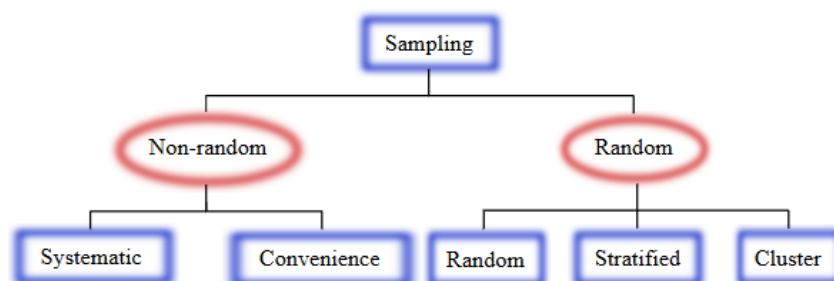
Statistics is **the study of data collection, analysis, interpretation, presentation, and organization.**

There are 2 types of statistics

1. Descriptive - Descriptive statistics is **a set of brief descriptive coefficients that summarize a given data set** representative of an entire or sample population. (mean, median, mode)
2. Inferential - Inferential statistics is **a branch of statistics that uses various analytical tools** to draw inferences about the population data from sample data.

descriptive statistics (collection, description, and summarization of data) and inferential statistics (drawing conclusions from data)

Types of sampling techniques



Random Sampling

Random sampling can also be thought of as a 'pick a name out of the hat' technique. Samples are chosen from a population either by using a random

number table or a random number generator. Each member of the population has an equal, independent, and known chance of being selected.

Advantages

- Easy to implement.
- Each member of the population has an equal chance of being chosen.
- Free from bias.

Disadvantages

- If the sampling frame is large, random sampling may be impractical.
 - A complete list of the population may not be available.
 - Minority subgroups within the population may not be present in the sample.
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Stratified Sampling

The population is divided into subgroups (strata) based on specific characteristics, such as age, gender, or race. Within the strata, random sampling is used to choose the sample

Advantages

- Strata can be proportionally represented in the final sample.
- It is easy to compare subgroups.

Disadvantages

- Information must be gathered before being able to divide the population into subgroups.
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