

1 – Chapter 1.1 Data	2 - Chapter 1.1 Statistics
3 - Chapter 1.1 Population	4 - Chapter 1.1 Sample
5 - Chapter 1.1 Parameter	6 - Chapter 1.1 Statistic
7 - Chapter 1.1 Descriptive statistics	8 - Chapter 1.1 Inferential statistics

<p>Statistics is the science of collecting, organizing, analyzing, and interpreting data in order to make decisions.</p>	<p>Data consists of information coming from observations, counts, measurements, or responses.</p>
<p>A sample is a subset of a population.</p> <p>Sample → Statistic</p>	<p>A population is the collection of all outcomes, responses, measurement, or counts that are of interest.</p> <p>Parameter → Population</p>
<p>A statistic is a numerical description of a sample characteristic.</p> <p>Sample → Statistic</p>	<p>A parameter is a numerical description of a population characteristic.</p> <p>Parameter → Population</p>
<p>Involves using a sample to draw conclusions about a population.</p>	<p>Involves the organization, summarization, and display of data.</p>

1 - Chapter 1.2 Qualitative Data	2 - Chapter 1.2 Quantitative Data
3 - Chapter 1.2 Levels of measurement	4 - Chapter 1.2 Nominal (level of measurement)
5 - Chapter 1.2 Ordinal (level of measurement)	6 - Chapter 1.2 Interval (level of measurement)
7 - Chapter 1.2 Ratio (level of measurement)	8 - Chapter 1.2

<p>Consists of numerical measurements or counts.</p>	<p>Consists of attributes, labels, or nonnumerical entries</p>
<p>A nominal (level of measurement) is calculated using names, labels or qualities. No mathematical computations can be made at this level.</p>	<p>Levels of measurement (lowest to highest):</p> <ul style="list-style-type: none">• Nominal• Ordinal• Interval• Ratio
<p>An interval (level of measurement) is arranged in order, the differences between data entries can be calculated.</p>	<p>A ordinal (level of measurement) is arranged in order, but differences between data entries are not meaningful.</p>
	<p>A ratio (level of measurement) of two data values can be formed so one data value can be expressed as a ratio.</p>

1 - Chapter 1.3 Guidelines for Designing a Statistical Study	2 - Chapter 1.3 Observational study
3 - Chapter 1.3 Experiment	4 - Chapter 1.3 Simulation
5 - Chapter 1.3 Survey	6 - Chapter 1.3 Census
7 - Chapter 1.3 Sampling	8 - Chapter 1.3 Stratified sample

<p>In an observational study, a researcher observes and measures characteristics of interest of part of a population.</p>	<ol style="list-style-type: none">1. Identify the variable(s) of interest (the focus) and the population of the study.2. Develop a detailed plan for collecting data. If you use a sample, make sure the sample is representative of the population.3. Collect the data.4. Describe the data.5. Interpret the data and make decisions about the population using inferential statistics.6. Identify any possible errors.
<p>A simulation is the use of a mathematical or physical model to reproduce the conditions of a situation or process.</p>	<p>In an experiment, a treatment is applied to part of a population, and responses are observed.</p>
<p>A census is a measurement of an <i>entire</i> population.</p>	<p>A survey is an investigation of one or more characteristics of a population.</p>
<p>A stratified sample has members from each segment of a population. This ensures that each segment from the population is represented.</p>	<p>A sampling is a measurement of <i>part</i> of a population.</p>

9 - Chapter 1.3

Cluster sample

10 - Chapter 1.3

Systematic sample

11 - Chapter 1.3

Convenience sample

12 - Chapter 1.3

13 - Chapter 1.3

14 - Chapter 1.3

15 - Chapter 1.3

16 - Chapter 1.3

A **systematic sample** is a sample in which each member of the population is assigned a number. A starting number is randomly selected and sample members are selected at regular intervals.

A **cluster sample** has all members from randomly selected segments of a population. This is used when the population falls into naturally occurring subgroups.

A **convenience sample** consists only of available members of the population.