MATH 1342

Section 1.1

Types of data:

- Population Data –

  This is the entire group you are interested in. It usually is not the group that interview or have contact with.

- Sample Data –

  A sample is subset of your population. It is the group that you actually gathering information on (speaking with or observing). This collected data will then be used to draw conclusions about the population.

Variable of Interest:
Whatever you are collecting data about.

Example: Identify the population and the sample for each of the following:

1. University of Houston in interested in how many students buy used books as opposed to new ones. They randomly choose 100 students at the student center to interview.

2. An elementary school is creating a new lunch menu. They send questionnaires to students with last names that begin with the letters M through R.

Example 1:
Sample: 100 students at the student center that were interviewed.
Population: The entire student body of the UH.

Example 2:
Sample: Students with last names beginning with M through R
Population: All the students at the elementary school.

A **variable** is a characteristic of an individual that can assume more than one value. Variables can be classified as **categorical** (qualitative) or **quantitative** (numeric).

- Categorical variables –

  Non-numeric data.
  Examples: hair color, preference of car, political opinion

- Quantitative variables –

  Numeric data:
  Examples: Height, weight, salary, number of siblings

Quantitative variables can be classified as either **discrete** or **continuous**.

- Discrete quantitative variables – Whole number variables. (No halfway points, no in-betweens)
  Examples: Number of cars owned, number of children
- Continuous quantitative variables –

  Ranges of values are accepted. Exact values typically are not used.
  Examples: height, weight, wait time, commute distance

Example: Classify the following variables as categorical or quantitative. If quantitative, state whether the variable is discrete or continuous.

3. Political preference. Categorical data

4. Number of siblings. Quantitative. Discrete.

5. Blood type. Categorical

6. Height of men on a professional basketball team. Quantitative. Continuous.

7. Time it takes to be on hold when calling the IRS at tax time. Quantitative. Continuous.