Definition: **Population** – the entire collection of individuals or objects about which information is desired. A population may be considered to be finite or infinite.

Definition: **Census** – a collection of data from every member of the population.

Definition: **Sample** – a sub-collection or subset of a population selected for study.

Definition: **Parameter** – a numerical characteristic of a population.

Definition: **Statistic** – a numerical characteristic of a sample.

Definition: **Variable** – the characteristic about which we are interested.

Definition: **Data** – the observations that have been collected.

**Types of Data:**

- **Qualitative data** -- categorical or attribute data.

- **Quantitative data** -- numerical data that is either:
  - **discrete** -- count data
  - **continuous** -- measure data.

**Ex. A.**) Determine the data type for each of the following:
(a) the number of siblings you have.
(b) the state/country in which you were born.
(c) your birth weight.
(d) your home zip code.
**Definition:** **Sampling error** -- the difference between the result of a sample and the result for the entire population. It is caused by random fluctuations of the sample – i.e., by chance.

**Definition:** When we say that a data set is **normal**, we mean that it has a bell-shaped distribution.

**Definition:** When we say that an observation is **statistically significant**, we mean that it is extremely unlikely to happen simply by chance.

**Definition:** **Descriptive statistics** -- the collection, presentation, and description of data.

**Definition:** **Inferential statistics** -- interpreting the data in order to draw conclusions about the population, based on information obtained from a sample.

**Practice Problems for Chapter 1**

1. Identify the following as a **parameter**, a **population**, a **sample**, or a **statistic**.

   a) All grocery story customers.
   b) Twelve customers waiting in a grocery line.
   c) The average waiting time of the twelve customers.
   d) The average amount of time that grocery store customers in general wait to be served.

2. Classify the following as Q--qualitative data, D--discrete data, or C--continuous data.

   a) The number of times an individual has donated blood.
   b) An individual's blood type.
   c) The length of life for a light bulb.
   d) The number of light bulbs in a box.
   e) Thickness of a sheet of metal.
   f) A poll of registered voters as to which candidate they support.

[Answers to practice problems may be found on the Even Answer Sheet.]