Chapter (1)
What is Statistics
Examples

---

1. **In each statement, tell whether the descriptive or inferential statistic has been used:**
   a) By 2040 at least 3.5 billion people will run short of water (World Future Society). **Inferential**
   b) Nine out of ten of the job fatalities are men. **Descriptive**
   c) Expenditures for the cable industry were 5.66 billion in 1996. **Descriptive**
   d) Allergy therapy makes bees go away. **Inferential**
   e) Drinking decaffeinated coffee can raise cholesterol levels by 7%. **Inferential**
   f) The national average annual medicine expenditure per person is $1052. **Descriptive**
   g) Experts say the mortgage rates may soon hit bottom. **Inferential**

2. **Identify each of the following data sets as either a population or a sample:**
   a) The grade point averages (GPAs) of all students at a college. **Population.**
   b) The GPAs of a randomly selected group of students on a college campus. **Sample.**
   c) The gender of every second customer who enters a movie theater. **Sample.**
   d) The lengths of Atlantic croakers caught on a fishing trip to the beach. **Sample.**

3. **Identify the following variables as either quantitative or qualitative:**
   a) The 30 high-temperature readings of the last 30 days. **Quantitative**

   b) The scores of 40 students on an English test. **Quantitative**
   c) The blood types of 120 teachers in a middle school. **Qualitative**
   d) The last four digits of social security numbers of all students in a class. **Qualitative**

4. Classify each variable using the appropriate terms from the following list: qualitative, quantitative, *continuous, and discrete*.

a) Weight (in grams) of tomatoes at a grocery store.

Quantitative, *continuous*

b) Number of times person checks their e-mail per day.

Quantitative, *discrete*

c) Political party, if any, that a person voted for in the last provincial election. **Qualitative**

d) Voter participation in past federal elections, as a percentage.

Quantitative, *continuous*

e) Daily temperature (in degrees Fahrenheit) for last August.

Quantitative, *continuous*

f) Letter grades (A, B, C, D, or F) that an English 100 class received on their essays. **Qualitative**

5. Identify the data set's level of measurement (nominal, ordinal, interval, and ratio):

a) Hair color of women on a high school tennis team. **Nominal**

b) Numbers on the shirts of a girls' soccer team. **Nominal**

c) Ages of students in a statistics class. **Ratio**

d) Temperatures of 22 selected refrigerators. **Interval**

 e) Number of milligrams of tar in 28 cigarettes. **Ratio**

f) Number of pages in your statistics book. **Ratio**

g) Marriage status of the faculty at the local community college. **Nominal**

h) List of 1247 social security numbers. **Nominal**

i) The ratings of a movie ranging from "poor" to "good" to "excellent". **Ordinal**

j) The final grades (A, B, C, D, and F) for students in a chemistry class. **Ordinal**

k) The annual salaries for all teachers in Utah. **Ratio**

l) List of zip codes for Chicago. **Nominal**

m) The nationalities listed in a recent survey. **Nominal**

n) The amount of fat (in grams) in 44 cookies. **Ratio**