

**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**