

# **Chapter I**

## **Introduction (Exercises)**

### **1. 1.**

For the following types of values, designate discrete variables (D) and continuous variables (C):

1. Number of persons per household,
2. Weight of the contents of package of cereal,
3. The units of an item in inventory,
4. Number of defective items produced,
5. Number of assembled components that are found to be defective,
6. Diameter of a bearing,
7. Weight of a shipment,
8. Number of individuals in a geographic area who are collecting unemployment benefits,
9. Length of time before the first failure of a device,
10. Average number of prospective customers contacted per sales representative during the past month,
11. Average number of persons per household in a large community,
12. Euro amount of sales.

### **1. 2.**

The current records of 10 patients visiting the outpatient clinic of a hospital gave the following information:

Year of birth	Blood type	Religion	Blood pressure
1964	A	Protestant	low
1948	B	Catholic	normal
1982	A	unrecorded	normal
1951	A	Muslim	high
1952	A	Protestant	normal
1933	AB	Jew	normal
1967	O	Jew	normal
1954	B	unrecorded	high
1976	A	Protestant	low
1928	O	Muslim	normal

Classify the four characteristics according to their scale of measurement. nominal, ordinal, interval or ratio.

### **1. 3.**

Indicate which of the following variates are quantitative and which are qualitative:

1. Number of typographical errors in newspapers.

2. Monthly TV cable bills.
3. Summer break locations favoured by university students.
4. Number of cars owned by families.
5. Lottery revenues of states.

#### **1. 4.**

Classify the quantitative variables in Exercise 1.3. as discrete or continuous.

#### **1. 5.**

The following table shows a sample of nine European hotels. The price of a standard double room during the hotel's high season ranges from \$ (lowest price) to \$\$\$\$ (highest price). The overall score includes subscribers' evaluations of each hotel's room, service, restaurants, location/atmosphere, and public areas; a high overall score corresponds to a higher level of satisfaction:

Name	Country	Room Rate	No. of Rooms	Overall Score
Graveteye Manor	England	\$\$	18	83.6
Villa d'Este	Italy	\$\$\$\$	166	86.3
Hotel Prem	Germany	\$	54	77.8
Hotel d'Europe	France	\$\$	47	76.8
Palace Luzern	Switzerland	\$\$	326	80.9
Royal Crescent Hotel	England	\$\$\$	45	73.7
Hotel Sacher	Austria	\$\$\$	120	85.5
Duc de Bourgogne	Belgium	\$	10	76.9
Villa Gallici	Francs	\$\$	22	90.6

*Source:*Condé Nast Traveler, January 2000

1. Which variables are qualitative and which variables are quantitative?
2. Which type of measurement scale is used for each of the variables?

*(Last updated: 26.03.09)*