Chapter_1_Data_and_Statistics

1. Which of the following is an example of quantitative data?

   ○ the player's number on a baseball uniform
   ○ the serial number on a one-dollar bill
   ○ the part number of an inventory item
   ● the number of people in a waiting line

2. Which of the following is <u>not</u> an example of descriptive statistics?

   ○ a histogram depicting the age distribution for 30 randomly selected students
   ● an estimate of the number of Alaska residents who have visited Canada
   ○ a table summarizing the data collected in a sample of new-car buyers
   ○ the proportion of mailed-out questionnaires that were returned

3. Which of the following is an example of categorical data?

   ● social security number
   ○ score on a multiple-choice exam
   ○ height, in meters, of a diving board
   ○ number of square feet of carpet

4. The number observations in a complete data set having 10 elements and 5 variables is

   ○ 5
   ● 10
   ○ 25
   ○ 50

5. Facts and figures that are collected, analyzed and summarized for presentation and interpretation are

   ● data
   ○ variables
   ○ elements
   ○ Both variables and elements are correct.

6. The entities on which data are collected are

- elements
- populations
- sets
- samples

7 The set of measurements collected for a particular element is (are) called

- census
- variables
- ◉ observations
- samples

8 A characteristic of interest for the elements is called a(n)

- sample
- data set
- ◉ variable
- observation

9 All the data collected in a particular study are referred to as the

- census
- inference
- variable
- ◉ data set

10 In a data set, the number of observations will always be the same as the number of

- variables
- ◉ elements
- data sets
- data

11 Which of the following is NOT a scale of measurement?

- nominal
- ordinal
- interval
- ◉ All of these are scales of measurement.

12 When the data are labels or names used to identify an attribute of the elements, the variable has which scale of measurement?

- ◉ nominal
- ordinal
- interval

○ ratio

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13 When the data are labels or names used to identify an attribute of the elements and the rank of the data is meaningful, the variable has which scale of measurement?

○ nominal
◉ ordinal
○ interval
○ ratio

---

14 When the data have the properties of ordinal data and the interval between observations is expressed in terms of a fixed unit of measure, the variable has which scale of measurement?

○ nominal
○ ordinal
◉ interval
○ ratio

---

15 When the data have the properties of interval data and the ratio of two values is meaningful, the variable has which scale of measurement?

○ nominal
○ ordinal
○ interval
◉ ratio

---

16 Which scale of measurement can be either numeric or nonnumeric?

○ nominal
○ ordinal
○ interval
◉ nominal and ordinal

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17 Which of the following variables use the interval scale of measurement?

○ name of stock exchange
○ time
◉ SAT scores
○ Social Security number

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18 Which of the following variables use the ratio scale of measurement?

○ name of stock exchange
◉ time
○ SAT scores
○ Social Security number

19 Quantitative data

- ○ are always nonnumeric
- ○ may be either numeric or nonnumeric
- ● are always numeric
- ○ are always labels

20 Categorical data

- ○ are always nonnumeric
- ● may be either numeric or nonnumeric
- ○ are always numeric
- ○ indicate either how much or how many

21 Categorical data

- ○ indicate either how much or how many
- ○ can not be numeric
- ● are labels used to identify attributes of elements
- ○ must be nonnumeric

22 Ordinary arithmetic operations are meaningful

- ○ only with categorical data
- ● only with quantitative data
- ○ either with quantitative or categorical data
- ○ with rank data

23 Arithmetic operations are inappropriate for

- ● categorical data
- ○ quantitative data
- ○ both categorical and quantitative data
- ○ large data sets

24 In a questionnaire, respondents are asked to mark their gender as male or female. Gender is an example of a

- ● categorical variable
- ○ quantitative variable
- ○ categorical or quantitative variable, depending on how the respondents answered the question
- ○ ratio variable

25 In a questionnaire, respondents are asked to record their age in years. Age is an example of a

- ○ categorical variable
- ◉ quantitative variable
- ○ categorical or quantitative variable, depending on how the respondents answered the question
- ○ ratio variable

26 In an application for a credit card, potential customers are asked for their social security numbers. A social security number is an example of a

- ◉ categorical variable
- ○ quantitative variable
- ○ categorical or quantitative variable, depending on how the respondents answered the question
- ○ ratio variable

27 Temperature is an example of

- ○ a categorical variable
- ◉ a quantitative variable
- ○ either a quantitative or categorical variable
- ○ neither a quantitative nor categorical variable

28 For ease of data entry into a university database, 1 denotes that the student is an undergraduate and 2 indicates that the student is a graduate student. In this case data are

- ◉ categorical
- ○ quantitative
- ○ either categorical or quantitative
- ○ neither categorical nor quantitative

29 Income is an example of

- ○ categorical data
- ○ either categorical or quantitative data
- ○ currency data
- ◉ quantitative data

30 The birth weight of newborns, measured in grams, is an example of

- ○ categorical data
- ○ either categorical or quantitative data
- ○ neither categorical nor quantitative data
- ◉ quantitative data

31 The weight of a ball bearing, measured in milligrams, is an example of

- ○ categorical data

- either categorical or quantitative data
- neither categorical nor quantitative data
- ⦿ quantitative data

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32. The profits earned by a particular Fortune 500 company, measured in millions of dollars, is an example of

- categorical data
- either categorical or quantitative data
- neither categorical nor quantitative data
- ⦿ quantitative data

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33. Data collected at the same, or approximately the same, point in time are

- time series data
- static data
- ⦿ cross-sectional data
- one-dimensional data

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34. Data collected over several time periods are

- ⦿ time series data
- time controlled data
- cross-sectional data
- time dependent data

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35. Statistical studies in which researchers do not control variables of interest are

- experimental studies
- uncontrolled experimental studies
- not of any value
- ⦿ observational studies

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36. Statistical studies in which researchers control variables of interest are

- ⦿ experimental studies
- control observational studies
- non experimental studies
- observational studies

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37. _____ is an example of an existing source of data.

- An experimental study
- An uncontrolled experimental study
- ⦿ U. S. Census Bureau
- An observational study

38 Which of the following is NOT an example of an existing source of data?

○ The Internet
○ Internal company records
○ U. S. Census Bureau
◉ All of these are examples of existing sources of data.

39 Which of the following is NOT an example of a firm that sells or leases business database services to clients?

○ Dun & Bradstreet
○ Bloomberg
◉ U. S. Census Bureau
○ All of these answers are examples of firms that sell or lease business database services to clients.

40 The most common type of observational study is

○ an experiment
◉ a survey
○ a debate
○ a statistical inference

41 The summaries of data, which may be tabular, graphical, or numerical, are referred to as

○ inferential statistics
◉ descriptive statistics
○ statistical inference
○ report generation

42 A Scanner Data User Survey of 50 companies found that the average amount spent on scanner data per category of consumer goods was $387,325 (Mercer Management Consulting, Inc., April 24, 1997). The $387,325 is an example of

○ categorical data
○ quantitative data
○ a descriptive statistic
◉ Both quantitative data and a descriptive statistic are correct.

43 Statistical inference

○ refers to the process of drawing inferences about the sample based on the characteristics of the population
○ is the same as descriptive statistics
◉ is the process of drawing inferences about the population based on the information taken from the

sample
  ○ is the same as a census

44 The collection of all elements of interest in a particular study is

  ● the population
  ○ the sampling
  ○ statistical inference
  ○ descriptive statistics

45 A portion of the population selected to represent the population is called

  ○ statistical inference
  ○ descriptive statistics
  ○ a census
  ● a sample

46 In a sample of 800 students in a university, 360, or 45%, live in the dormitories. The 45% is an example of

  ○ a sample
  ○ a population
  ○ statistical inference
  ● descriptive statistics

47 In a sample of 800 students in a university, 160, or 20%, are Business majors. Based on the above information, the school's paper reported that "20% of all the students at the university are Business majors." This report is an example of

  ○ a sample
  ○ a population
  ● statistical inference
  ○ descriptive statistics

48 Six hundred residents of a city are polled to obtain information on voting intentions in an upcoming city election. The six hundred residents in this study is an example of a(n)

  ○ census
  ● sample
  ○ observation
  ○ population

49 A statistics professor asked students in a class their ages. On the basis of this information, the professor states that the average age of all the students in the university is 21 years. This is an example of

  ○ a census
  ○ descriptive statistics
  ○ an experiment
  ● statistical inference

50 The owner of a factory regularly requests a graphical summary of all employees' salaries. The graphical summary of salaries is an example of

- ○ a sample
- ◉ descriptive statistics
- ○ statistical inference
- ○ an experiment

51 The Department of Transportation of a city has noted that on the average there are 14 accidents per day. The average number of accidents is an example of

- ◉ descriptive statistics
- ○ statistical inference
- ○ a sample
- ○ a population

52 **Exhibit 1-1**
In a recent study based upon an inspection of 200 homes in Daisy City, 120 were found to violate one or more city codes.

Refer to Exhibit 1-1. The city manager released a statement that 60% of Daisy City's 3,000 homes are in violation of city codes. The manager's statement is an example of

- ○ a census
- ○ an experiment
- ○ descriptive statistics
- ◉ statistical inference

53 **Exhibit 1-1**
In a recent study based upon an inspection of 200 homes in Daisy City, 120 were found to violate one or more city codes.

Refer to Exhibit 1-1. The Daisy City study described above is an example of the use of a

- ○ census
- ◉ sample
- ○ probability
- ○ population

54 **Exhibit 1-1**
In a recent study based upon an inspection of 200 homes in Daisy City, 120 were found to violate one or more city codes.

Refer to Exhibit 1-1. The manager's statement that 60% of Daisy City's 3,000 homes are in violation of city codes is

- ○ an exactly correct statement

◉ only an approximation, since it is based upon sample information
○ obviously wrong, since it is based upon a study of only 200 homes
○ None of the other answers are correct.

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55 **Exhibit 1-2**
In a sample of 3,200 registered voters, 1,440, or 45%, approve of the way the President is doing his job.

Refer to Exhibit 1-2. The 45% approval is an example of
○ a sample
◉ descriptive statistics
○ statistical inference
○ a population

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56 **Exhibit 1-2**
In a sample of 3,200 registered voters, 1,440, or 45%, approve of the way the President is doing his job.

Refer to Exhibit 1-2. A political pollster states, "Forty five percent of all voters approve of the President." This statement is an example of
○ a sample
○ descriptive statistics
◉ statistical inference
○ a population

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57 The process of analyzing sample data in order to draw conclusions about the characteristics of a population is called

○ descriptive statistics
◉ statistical inference
○ data analysis
○ data summarization

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58 In a post office, the mailboxes are numbered from 1 to 5,000. These numbers represent

◉ categorical data
○ time series data
○ either categorical or quantitative data
○ quantitative data

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59 The average age in a sample of 90 students at City College is 20. As a result of this sample, it can be concluded that the average age of all the students at City College

○ must be more than 20, since the population is always

larger than the sample
- ○ must be less than 20, since the sample is only a part of the population
- ○ could not be 20
- ◉ could be larger, smaller, or equal to 20

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60 Since a sample is a subset of the population, the sample mean

- ○ is always smaller than the mean of the population
- ○ is always larger than the mean of the population
- ○ must be equal to the mean of the population
- ◉ can be larger, smaller, or equal to the mean of the population

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61 Since a sample is a subset of the population, a percentage that is calculated from the sample data

- ○ is always smaller than the corresponding percentage from the population
- ○ is always larger than the corresponding percentage from the population
- ○ must be equal to the corresponding percentage from the population
- ◉ can be larger, smaller, or equal to the corresponding percentage from the population

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62 A sample of five Fortune 500 companies showed the following revenues ($ millions): 7505.0, 2904.7, 7208.4, 6819.0, and 19500.0. Based on this information, which of the following statements is correct?

- ◉ An estimate of the average revenue for all Fortune 500 companies is 8787.42 ($�millions).
- ○ The average revenue for all Fortune 500 companies is 8787.42 ($ millions).
- ○ Over half of all Fortune 500 companies earn at least 7208.4 ($ millions) in revenues.
- ○ If five other Fortune 500 companies were chosen, the average revenue would be 8787.42 ($ millions).

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63 A sample of five Fortune 500 companies showed the following industry codes: banking, banking, finance, retail, and banking. Based on this information, which of the following statements is correct?

- ◉ Sixty percent of the sample of five companies are banking industries.
- ○ Sixty percent of all Fortune 500 companies are banking industries.
- ○ Banking is the most common type of industry among all Fortune 500 companies.
- ○ If five other Fortune 500 companies were chosen, 60% of them would be banking industries.

64. _____ is a spreadsheet package.

- ○ Statistical inference
- ○ The bar chart
- ○ The New York Stock Exchange
- ● Microsoft Excel

65. Dr. Kurt Thearling, a leading practitioner in the field, defines data mining as "the _____ extraction of _____ information from databases".

- ○ thorough, insightful
- ○ timely, accurate
- ● automated, predictive
- ○ intentional, useful

66. The major applications of data mining have been made by companies with a strong _____ focus.

- ● consumer
- ○ manufacturing
- ○ exporting
- ○ research and development

67. Quantitative data that measure how many are _____; quantitative data that measure how much are _____.

- ○ interval; ratio
- ○ ratio; interval
- ○ continuous; discrete
- ● discrete; continuous

68. ?Flight time from Cincinnati to Atlanta is an example of a _____ variable and _____ measurement.

- ○ ?discrete, interval
- ○ ?discrete, ratio
- ○ ?continuous, interval
- ● ?continuous, ratio

69. Which of the following is not a categorical variable??

- ● ?your age on your last birthday
- ○ ?your cell phone area code
- ○ ?your accounting class start time
- ○ ?your high school graduation year

70. Categorical data use either the _____ or _____ scale of measurement.?

- ⦿ ?nominal, ordinal
- ○ ?nominal, interval
- ○ ?ordinal, interval
- ○ ?interval, ratio

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71 The largest experimental statistical study ever conducted is believed to be for?

- ○ ?Cholera
- ⦿ ?Polio
- ○ ?Diphtheria
- ○ ?Malaria

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72 The term *data warehousing* is used to refer to the process of doing all of the following except?

- ⦿ ?mining the data
- ○ ?capturing the data
- ○ ?storing the data
- ○ ?maintaining the data

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73 The U.S. Census Bureau conducts a census every

- ○ ?4 years
- ○ ?5 years
- ○ ?8 years
- ⦿ ?10 years

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74 After the graduation ceremonies at a university, six graduates were asked whether they were in favor of (identified by 1) or against (identified by 0) abortion. Some information about these graduates is shown below.

Graduate	Sex	Age	Abortion Issue	Class Rank
Nancy	F	22	1	3
Michael	M	21	1	2
Tammy	F	33	0	1
John	M	38	0	20
Marlene	F	25	1	4
David	M	19	0	8

a. How many elements are in the data set?
b. How many variables are in the data set?
c. How many observations are in the data set?
d. Name the scale of measurement for each of the above (Sex, Age, Abortion Issue, Class rank).
e. Which of the above (Sex, Age, Abortion Issue, Class rank) are categorical and which are quantitative variables?
f. Are arithmetic operations appropriate for the variable "abortion issue"?

Answer:

a. 6
b. 4
c. 6
d. Sex: nominal
◆ Age: ratio
◆ Abortion Issue: nominal
◆ Class rank: ordinal
e. Sex: categorical
◆ Age: quantitative
◆ Abortion Issue: categorical
◆ Class Rank: categorical
f. No

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75 An issue of Fortune Magazine reported that the following companies had the lowest sales per employee among the Fortune 500 companies.

Company	Sales per Employee ($1000s)	Sales Rank
Seagate Technology	$42.20	285
SSMC	42.19	414
Russell	41.99	480
Maxxam	40.88	485
Dibrell Brothers	22.56	470

a. How many elements are in the above data set?
b. How many variables are in the above data set?
c. How many observations are in the above data set?
d. Name the scale of measurement for each of the variables.

e. Name the variables and indicate whether they are categorical or quantitative.

Answer:

a. 5
b. 2
c. 5
d. Sales per employee: ratio; Sales rank: ordinal
e. Sales per employee: quantitative; Sales rank: categorical

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76 The following shows the temperatures (high, low) and weather conditions in a given Sunday for some selected world cities. For the weather conditions, the following notations are used: c = clear; cl = cloudy; sh = showers; pc = partly cloudy.

City	Hi	Lo	Condition
Acapulco	99	77	pc
Bangkok	92	78	pc
Mexico City	77	57	sh
Montreal	72	56	pc
Paris	77	58	c
Rome	88	68	cl
Toronto	78	61	c

a. How many elements are in this data set?
b. How many variables are in this data set?
c. How many observations are in this data set?
d. Name the scale of measurement for each of the variables.
e. Name the variables and indicate whether they are categorical or quantitative.
f. For which variables are arithmetic operations appropriate and for which are they not appropriate?

Answer:

a. 7
b. 3
c. 7
d. Hi: interval, Lo: interval, Condition: nominal
e. Hi: quantitative, Lo: quantitative, Condition: categorical
f. Hi: appropriate, Lo: appropriate, Condition: not appropriate

77 A magazine surveyed a sample of its subscribers. Some of the responses from the survey are shown below.

Subscriber ID	Sex	Age	Annual Household Income ($1000)
0006	F	22	45
4798	M	21	53
2291	F	33	82
4988	M	38	30

a. How many elements are in the data set?
b. How many variables are in the data set?
c. How many observations are in the data set?
d. Name the scale of measurement for each of the variables.
e. Which of the above (Sex, Age, Annual Household Income) are categorical and which are quantitative?
f. Are the data time series or cross-sectional?

Answer:

a. 4
b. 3
c. 4
d. Sex: nominal, Age: ratio, Annual Household Income: ratio
e. Sex: categorical, Age: quantitative, Annual Household Income: quantitative
f. cross-sectional

78 A magazine surveys a sample of its subscribers every year. Some of the responses are shown below.

Year	Percent Female	Average Age	Average Annual Household Income ($1000)
1996	5.8	35.2	40
1997	8.6	35.8	42

◆?	1998	7.3	33.9	41
◆?	1999	9.2	35.3	43
◆?	2000	9.8	36.6	46

a. How many variables are in the data set?
b. Name the scale of measurement for each variable.
c. Which of the above (Year, Percent Female, Average Age, Average Annual Household Income) are categorical and which are quantitative?
d. Are the data time series or cross-sectional?

Answer:

a. 4
b. Year: interval, Percent Female: ratio, Average Age: ratio, Average Annual Household Income: ratio
c. all are quantitative
d. time series

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79 ▦ The following data shows the yearly income distribution of a sample of 200 employees at MNM, Inc.

◆?	Yearly Income ($1000s)	Number of Employees	◆?
◆?	20 ? 24	◆◆2	◆?
◆?	25 ? 29	48	◆?
◆?	30 ? 34	60	◆?
◆?	35 ? 39	80	◆?
◆?	40 ? 44	10	◆?

a. What percentage of employees has yearly incomes of more than $35,000?
b. Is the figure (percentage) that you computed in Part a an example of statistical inference? If no, what kind of statistics does it represent?
c. Based on this sample, the president of the company said that "45% of all our employees' yearly incomes are over $35,000." The president's statement represents what kind of statistics?
d. With the statement made in Part c, can we be assured that more than 45% of all employees' yearly incomes are at least $35,000? Explain.

What percentage of employees of the sample has yearly incomes of $29,000

e. or less?

f. How many variables are presented in the above data set?

g. The above data set represents the results of how many observations?

Answer:

a. 45%

b. No, it is descriptive statistics.

c. statistical inference

d. No, this is simply an inference and approximation based on the sample information.

e. 25%

f. 2

g. 200

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80 A recent issue of a national magazine reported that in a national public opinion survey conducted among 2,000 individuals, 56% were in favor of gun control, 40% opposed gun control, and 4% had no opinion on the subject.

a. What is the sample in this survey?

b. Based on the sample, what percentage of the population would you think is in favor of gun control?

c. Based on the sample, what percentage of the population would you think have no opinion on the subject?

Answer:

a. The 2000 individuals who were approached

b. 56%

c. 4%

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81 A pharmaceutical company is performing clinical trials on a new drug that is intended to relieve symptoms for allergy sufferers. Twelve percent of the 300 clinical trial participants experienced the side effect dry mouth.

a. What is the population being studied?

b. What is the sample being studied?

c. Based on the sample, what percentage of the population do you think would suffer from dry mouth?

Answer:

a. All allergy sufferers

b. The 300 participants

c. 12%

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82 A polling organization conducts a telephone poll of 850 registered voters and asks which candidate they will vote for in the upcoming presidential election. Forty-three percent of the respondents prefer candidate A and 45% prefer candidate B.

a. What is the population being studied?

b. What is the sample being studied?

c. Based on the sample, what percentage of the population do you think would vote for candidate B?

Answer:

a. All registered voters

b. The 850 registered voters who were polled
c. 45%

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83 The following table shows the starting salaries of a sample of recent business graduates.

Income (In $1,000s)	Number of Graduates
15 ? 19	40
20 ? 24	60
25 ? 29	80
30 ? 34	18
35 ? 39	2

a. What percentage of graduates in the sample had starting salaries of at least $30,000?

b. Of the graduates in the sample, what percentage had starting salaries of less than $25,000?

c. Based on this sample, what percentage of all business graduates do you estimate to have starting salaries of at least $20,000?

Answer:

a. 10%
b. 50%
c. 80%

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84 Michael, Inc., a manufacturer of electric guitars, is a small firm with 50 employees. The table below shows the hourly wage distribution of the employees.

Hourly Wages (In Dollars)	Number of Employees
10 ? 13	8
14 ? 17	12
18 ? 21	20
22 ? 25	10

a. How many employees receive hourly wages of at least $18?
b. What percentage of the employees has hourly wages of at least $18?
c. What percentage of the employees has hourly wages of less than $14?

Answer:

a. 30
b. 60%
c. 16%

85 Laura Naples, Manager of Heritage Inn, periodically collects and tabulates information about a sample of the hotel's overnight guests. This information aids her in planning and scheduling decisions she must make. The table below lists data on ten randomly selected hotel registrants, collected as the registrants checked out. The data listed for each registrant are: number of people in the group; birth date of person registering; shuttle service used, yes or no; total telephone charges incurred; and reason for stay, business or personal.

Name of Registrant	People In Group	Birth Date (mm/dd/yy)	Shuttle Used	Telephone Charges	Reason For Stay
Adam Norquist	1	05/07/59	yes	$0.00	personal
Mica Pepper	4	11/23/48	no	12.46	business
Claude Shepler	2	04/30/73	no	1.20	business
Amy Rodriquez	2	12/16/71	no	2.90	business
Tony DiMarco	1	05/09/39	yes	0.00	personal
Amy Franklin	3	09/14/69	yes	4.65	business
Tammy Roberts	2	04/22/66	no	9.35	personal
Ed Blackstone	5	10/28/54	yes	2.10	personal
Mary Silverman	1	11/12/49	no	1.85	business
Todd Atherton	2	01/30/62	no	5.80	business

a. How many elements are there in the data set?
b. How many variables are there in the data set?
c. How many observations are there in the data set?
d. What are the observations for the second element listed?
e. What is the total number of measurements in the data set?

f. Which variables are quantitative?
g. Which variables are qualitative?
h. What is the scale of measurement for each of the variables?
i. Does the data set represent cross-sectional or times series data?
j. Does the data set represent an experimental or an observational study?

Answer:

a. 10 elements
b. 5 variables
c. 10 observations

d. 4, 11/23/48, no, 12.46, business

e. 50
f. people in group, telephone charges
g. birth date, shuttle used, reason for stay

h. people in group - ratio scale, birth date - ordinal scale, shuttle use - nominal, telephone charge - ratio scale, reason for stay - nominal scale

i. cross-sectional
j. observational

---

86 Suppose the current weather report for your area contains the following information. Specify the measurement scale for each of the variables.

Temperature	84°
Wind Speed	10 mph
Wind Direction	(from the) South
Sky Description	Sunny
Molds Level	High

Answer:

Temperature - interval
Wind Speed - ratio
Wind Direction - nominal
Sky Description - nominal
Molds Level - ordinal

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87 Molly Porter owns and operates two convenience stores, one on the East side of the city and the other on the South side. She has workforce-planning decisions to

make and has collected some recent sales data that are relevant to her decisions. Listed below are the monthly sales ($000) at her two stores for the past six months.

Store	March	April	May	June	July	August
East	102	100	103	105	109	106
South	72	74	81	86	92	93

a. Is the data set cross-sectional or time series data? Explain.
b. Comment on any apparent patterns you see in the data.

Answer:

a. Time series data for two variables: monthly sales for East store and monthly sales for South store.
b. Both stores have been experiencing an overall rise in sales during the past six months. The South store's increase in sales (as a percentage of sales) has been greater than the East store's increase. The increases might be temporary, due to the seasonal nature of demand. It is also possible that the increases will continue.

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88 Cortland Software, Inc. surveyed a sample of its programmers and recorded the following data on their: age, gender, years of programming experience, whether or not they have a master's degree, and annual salary.

?	?	?	Years of	Master's	?
Programmer	Age	Gender	Experience	Degree	Salary
1	32	Male	8	No	$59,450
2	27	Male	2	Yes	62,750
3	31	Female	6	Yes	65,820
4	37	Males	5	No	54,620
5	29	Female	5	Yes	61,900
6	25	Female	4	No	48,370

?

a. How many elements are in the data set?

b. How many observations are in the data set?

c. How many variables are in the data set?

d. Name the scale of measurement for each variable.

e. Are the data time series or cross-sectional?

?

Answer:

?

a. 6

b. 6

c. 5

d. Age: ratio; MorF: nominal; Exper.: ratio; Degree: nominal; Salary: ratio

e. Cross-sectional

?