

Business Statistics - Communicating with Numbers
5th edition Jaggia Test Bank

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Chapter 01 Test Bank - Algorithmic and Static

CORRECT ANSWERS ARE LOCATED IN THE 2ND HALF OF THIS DOC.

TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.

- 1) Statistics is the science of transforming data into useful information.
 - ☐ true
 - ☐ false

- 2) Statistics is the methodology of extracting unnecessary information from a data set.
 - ☐ true
 - ☐ false

- 3) The branch of statistical studies called *descriptive statistics* summarizes important aspects of a data set.
 - ☐ true
 - ☐ false

- 4) The branch of statistical studies called *inferential statistics* refers to drawing conclusions about sample data by analyzing the corresponding population.
 - ☐ true
 - ☐ false

- 5) A population is a larger data set than its corresponding sample.
 - ☐ true
 - ☐ false

- 6) Population parameters are used to estimate corresponding sample statistics.
 - ☐ true
 - ☐ false

- 7) Typically, it is possible to examine every member of the population.
 - ☐ true
 - ☐ false

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- 8) Cross-sectional data contain values of a characteristic of one subject collected over time.
- ☐ true
 - ☐ false
- 9) Time series data contain values of a characteristic of a subject over time.
- ☐ true
 - ☐ false
- 10) Structured data tend to include numbers, dates, and groups of words and numbers called strings.
- ☐ true
 - ☐ false
- 11) Unstructured data conform to a predefined row-column format.
- ☐ true
 - ☐ false
- 12) Big data is a catchphrase that implies a complete set of population data.
- ☐ true
 - ☐ false
- 13) A categorical variable assumes meaningful numerical values.
- ☐ true
 - ☐ false
- 14) Both discrete and continuous variables may assume an uncountable number of values.
- ☐ true
 - ☐ false
- 15) A discrete variable cannot assume an infinite number of values.
- ☐ true
 - ☐ false

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- 16) A continuous variable assumes any value from an interval (or collection of intervals).
- ☐ true
 - ☐ false
- 17) A professor's gender (male, female) as well as academic rank (assistant, associate, full) both represent ordinal data.
- ☐ true
 - ☐ false
- 18) A professor's rank (assistant, associate, and full), as well as salary, both represent ordinal data.
- ☐ true
 - ☐ false
- 19) Many people believe that statistics has no use in real life.
- ☐ true
 - ☐ false
- 20) The weather forecast cannot be based on only the weather for the last three days.
- ☐ true
 - ☐ false
- 21) Data and data interpretation do not show up in every facet of life.
- ☐ true
 - ☐ false
- 22) A population is defined as all possible subjects of a specific group.
- ☐ true
 - ☐ false

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23) Researchers use sample results in an attempt to estimate an unknown population statistic.

- ☐ true
- ☐ false

24) The recorded body temperature of patients in the group of patients under research study is an example of time series data.

- ☐ true
- ☐ false

25) Body weight is an example of a discrete variable.

- ☐ true
- ☐ false

26) The mathematical operation of addition can be performed on nominal data.

- ☐ true
- ☐ false

27) A ZIP code is an example of numerical data.

- ☐ true
- ☐ false

28) Ordinal scale reflects a stronger level of measurement than the nominal scale.

- ☐ true
- ☐ false

29) All mathematical operations can be performed on ratio-scaled data.

- ☐ true
- ☐ false

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- 30) A respondent to a survey indicates that she drives a Nissan Pathfinder. This is an example of categorical data.
- ☐ true
 - ☐ false
- 31) The zero point of an interval scale reflects a complete absence of what is being measured.
- ☐ true
 - ☐ false
- 32) Nominal and interval scales are used for categorical variables.
- ☐ true
 - ☐ false
- 33) Statistical analysis begins with counting and sorting data.
- ☐ true
 - ☐ false
- 34) Data subsetting can be used to remove observations that contain missing values.
- ☐ true
 - ☐ false
- 35) Data and statistics refer to the same thing.
- ☐ true
 - ☐ false
- 36) Data privacy and data ethics are different branches of statistics.
- ☐ true
 - ☐ false
- 37) The key principles of data ethics include confidentiality, transparency, and accountability.
- ☐ true
 - ☐ false

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MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

- 38) The study of statistics is NOT about
- A) the language of data.
 - B) the art and science of getting information from data.
 - C) the study of collecting, analyzing, presenting, and interpreting data.
 - D) the study of mind and consciousness.
- 39) When reading published statistics (numerical facts), you should
- A) never believe what you read, because all statistics are lies.
 - B) only believe those statistics that are adequately supported.
 - C) believe what you read, because they wouldn't be published if they weren't correct.
 - D) only believe those statistics that are presented in so-called quality publications.
- 40) The two branches of the study of statistics are generally referred to as
- A) descriptive and inferential statistics.
 - B) inferential and differential statistics.
 - C) descriptive and referential statistics.
 - D) differential and descriptive statistics.
- 41) Population parameters are difficult to calculate due to
- A) cost prohibitions on data collection.
 - B) the infeasibility of collecting data on the entire population.
 - C) the fact that samples are difficult to draw due to the nature of the data.
 - D) both cost prohibitions on data collection and the infeasibility of collecting data on the entire population.
- 42) The teachers' union in California wants to know the average salary for high school teachers throughout the country. What is the teachers' union presumably planning to calculate?
- A) Sample statistic
 - B) Sample parameter
 - C) Population statistic
 - D) Population parameter

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- 43) A population consists of
- A) all items of interest in a sample.
 - B) a subject of interest in a sample.
 - C) all items of interest in a statistical problem.
 - D) a subject of interest in a statistical problem.
- 44) In inferential statistics, we calculate statistics of sample data to
- A) estimate unknown population parameters.
 - B) conduct tests about unknown population parameters.
 - C) Both of these choices are correct.
 - D) Neither of these choices is correct.
- 45) Which of the following represents a population and a sample from that population?
- A) Residents of Albany, New York, and registered voters in Albany, New York
 - B) Teachers of a high school and members of the parent-teacher group
 - C) Fans at a concert who purchase T-shirts, and fans at a concert who purchase soda
 - D) Freshmen at St. Joseph's University and basketball players at St. Joseph's University
- 46) Which of the following represents a population and a sample from that population?
- A) Attendees at a sporting event, and those who purchased popcorn at said sporting event
 - B) Full-time employees at a marketing firm, and temporary summer interns at the marketing firm
 - C) Seniors at Boston College and students in a first-semester business statistics course
 - D) Stocks available on the NYSE and stocks on the NASDAQ
- 47) Which of the following is an example of cross-sectional data?
- A) GDP of the United States from 1990–2010
 - B) Daily price of DuPont stock during the first quarter
 - C) Quarterly housing starts collected over the last 60 years
 - D) Results of market research testing consumer preferences for soda

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- 48) Which of the following is an example of time series data?
- A) The sale prices of town houses sold last year
 - B) Quarterly housing stats collected over the last 60 years
 - C) Results of market research testing consumer preferences for soda
 - D) Starting salaries of recent business graduates at Penn State University
- 49) The estimation of which of the following requires sampling?
- A) U.S. unemployment rate
 - B) Total rainfall in Phoenix, Arizona, in 2010
 - C) The Cleveland Indians' hitting percentage in 2010
 - D) The average SAT score of incoming freshmen at a university
- 50) Costco Wholesale wants to estimate the mean price of oil over the past 15 years. What kind of data does Costco need?
- A) Time series data
 - B) Inferential statistics
 - C) Cross-sectional data
 - D) Descriptive statistics
- 51) For which of the following population parameters is sampling not necessary?
- A) The average height of NBA players
 - B) The average life of light bulbs produced by a manufacturer
 - C) The average content of cereal boxes produced by a manufacturer
 - D) The percentage of the U.S. public school teachers who support Democrats
- 52) Sampling is used heavily in manufacturing and service settings to ensure high-quality products. In which of the following areas would sampling be inappropriate?
- A) Computer assembly
 - B) Custom cabinet making
 - C) Cell phone manufacturing
 - D) Technical support by phone

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- 53) Which of the following is NOT an example of cross-sectional data?
- A) The test scores of students in a class
 - B) The current average prices of regular gasoline in different states
 - C) The sales prices of single-family homes sold last month in California
 - D) The sales prices of single-family homes in Arizona collected since 2008
- 54) An analyst studies a data set of the year-end book value per share for all companies listed on the New York Stock Exchange. This data set is *best* described as
- A) time series data.
 - B) cross-sectional data.
 - C) neither time series nor cross-sectional data.
 - D) a combination of time series and cross-sectional data.
- 55) Which type of data, cross-sectional versus time series, is more important to research?
- A) Neither type of data is important.
 - B) Cross-sectional data is more important than time series data.
 - C) Time series data is more important than cross-sectional data.
 - D) Time series data and cross-sectional data are equally as valuable in different types of research.
- 56) Which of the following variables is categorical?
- A) Height
 - B) Gender
 - C) Weight
 - D) Temperature
- 57) Which of the following variables is numerical?
- A) Gender
 - B) Temperature
 - C) Marital status
 - D) Religious affiliation

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- 58) Which of the following is a categorical variable?
- A) House age
 - B) House size
 - C) House price
 - D) House district
- 59) San Francisco 49ers' linebacker Patrick Willis won the Defensive Rookie of the Year Award in 2007 with a total of 235 tackles. Tackles are measured on what kind of a scale? Is a variable measuring the number of tackles considered continuous or discrete?
- A) Interval scale continuous
 - B) Interval scale discrete
 - C) Ratio scale discrete
 - D) Ratio scale continuous
- 60) San Francisco 49ers' linebacker Patrick Willis won the Defensive Rookie of the Year Award in 2007 with a total of 174 tackles. Tackles are measured on what kind of a scale? Is a variable measuring the number of tackles considered continuous or discrete?
- A) Ratio scale; discrete
 - B) Interval scale; discrete
 - C) Ratio scale; continuous
 - D) Interval scale; continuous
- 61) Which of the following variables is not continuous?
- A) Height of NBA players
 - B) Time of a flight between Atlanta and Chicago
 - C) Average temperature in the month of July in Orlando
 - D) The number of obtained heads when a fair coin is tossed 20 times
- 62) The ordinal scale of data measurement is
- A) less sophisticated than the nominal scale.
 - B) more sophisticated than the interval scale.
 - C) more sophisticated than the nominal scale.
 - D) as equally sophisticated as the nominal scale.

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- 63) The interval scale of data measurement is
- A) less sophisticated than the ratio scale.
 - B) more sophisticated than the ratio scale.
 - C) less sophisticated than the ordinal scale.
 - D) equally sophisticated as the ratio scale because both are appropriate for numerical data.
- 64) A recent survey of 280 small firms (annual revenue less than \$12 million) asked whether an increase in the minimum wage would cause the firm to decrease capital spending. Possible responses to the survey question were: "Yes," "No," or "Don't Know." This data is *best* classified as
- A) nominal scale.
 - B) interval scale.
 - C) ordinal scale.
 - D) ratio scale.
- 65) A recent survey of 200 small firms (annual revenue less than \$10 million) asked whether an increase in the minimum wage would cause the firm to decrease capital spending. Possible responses to the survey question were: "Yes," "No," or "Don't Know." This data is *best* classified as
- A) ratio scale.
 - B) ordinal scale.
 - C) interval scale.
 - D) nominal scale.
- 66) Which scale of data measurement is appropriate for the names of companies listed on the Dow Jones Industrial Average?
- A) Ratio scale
 - B) Ordinal scale
 - C) Interval scale
 - D) Nominal scale

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- 67) An analyst collects data on the weekly closing price of gold throughout a year. The scale of this data is
- A) ratio scale.
 - B) ordinal scale.
 - C) interval scale.
 - D) nominal scale.
- 68) An undergraduate student's status (freshman, sophomore, junior, or senior) is an example of which scale of measurement?
- A) Ratio scale
 - B) Ordinal scale
 - C) Interval scale
 - D) Nominal scale
- 69) The Fahrenheit scale for measuring temperature would be classified as a(n)
- A) ratio scale.
 - B) ordinal scale.
 - C) interval scale.
 - D) nominal scale.
- 70) At the end of a semester college students evaluate their instructors by assigning them to one of the following categories: Excellent, Good, Average, Below Average, and Poor. The measurement scale is a(n)
- A) ratio scale.
 - B) ordinal scale.
 - C) interval scale.
 - D) nominal scale.
- 71) What is the scale of measurement of the distance between any two locations?
- A) Ratio scale
 - B) Ordinal scale
 - C) Interval scale
 - D) Nominal scale

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- 72) Which scales of data measurement are associated with numerical data?
- A) Interval and ratio
 - B) Ratio and nominal
 - C) Ordinal and interval
 - D) Nominal and ordinal
- 73) Which data scales of measurement are associated with categorical data?
- A) Interval and ratio
 - B) Ratio and nominal
 - C) Ordinal and interval
 - D) Nominal and ordinal
- 74) The data represents the stock price for Google at the end of the past four quarters. Which of the following types of data best describe these values?
- A) Cross-sectional
 - B) Nominal
 - C) Time series
 - D) Ordinal
- 75) Your business statistics class had a test last week. The average score for the class is an example of
- A) secondary data
 - B) categorical data
 - C) descriptive statistics
 - D) inferential statistics
- 76) A sample statistic is an estimate of
- A) population parameter.
 - B) population statistic.
 - C) sample parameter.
 - D) descriptive statistic.

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- 77) A _____ represents all possible subjects of interest.
- A) sample
 - B) population
 - C) statistic
 - D) parameter
- 78) A major portion of _____ is concerned with the problem of estimating population parameters or testing hypothesis about such parameters.
- A) descriptive statistics
 - B) population statistics
 - C) inferential statistics
 - D) business statistics
- 79) A sample result that describe a characteristic about a sample is known as a
- A) population.
 - B) survey.
 - C) parameter.
 - D) statistic.
- 80) When a characteristic of interest differs among various observations, then it can be termed a
- A) parameter.
 - B) variable.
 - C) data.
 - D) information.
- 81) A(n) _____ variable is characterized by infinitely uncountable values and can take any value within interval.
- A) discrete
 - B) infinite
 - C) continuous
 - D) numerical

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- 82) Differences between categories are meaningless with _____ data.
- A) ordinal
 - B) interval
 - C) ratio
 - D) continuous
- 83) Which of the following scales represents the strongest level of measurement?
- A) Ordinal
 - B) Nominal
 - C) Ratio
 - D) Interval
- 84) Which of the following scales represents the least sophisticated level of measurement?
- A) Ordinal
 - B) Nominal
 - C) Ratio
 - D) Interval
- 85) The values of data on a(n) _____ scale can be categorized and ranked.
- A) ordinal
 - B) nominal
 - C) ratio
 - D) interval
- 86) Which of the following characteristics does the interval scale not have?
- A) Values can be categorized.
 - B) Values can be ranked.
 - C) There is a true zero point.
 - D) The differences between values are valid.

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- 87) Which of the following is an example of numerical data?
- A) The ZIP code of your home address
 - B) Google's closing stock price today
 - C) Your gender
 - D) Your Social Security number
- 88) Which of the following is an example of categorical data?
- A) Today's high temperature
 - B) The class average of last test
 - C) The amount of time you spent for your homework
 - D) Your last name
- 89) A respondent of a survey is asked whether the Philadelphia Flyers' performance in the last game was excellent, good, fair, or poor. The person indicates that the performance was "good." This is an example of
- A) nominal data
 - B) ordinal data
 - C) interval data
 - D) ratio data
- 90) Which of the following is a data preparation task?
- A) Collecting relevant data
 - B) Conducting a survey
 - C) Counting relevant variables
 - D) Communicating insights from analysis
- 91) You have a point-of-sale data set that provides information on time of sale, products bought, and payment methods customers used to complete their purchases. You want to compare purchases made by cash versus those made by credit card. How should the data be *best* prepared to make comparisons between the two types of purchases?
- A) Exclude cash and credit card purchases from the data set
 - B) Impute cash and credit card purchases from the data set
 - C) Count the data by method of payment
 - D) Subset the data by method of payment

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- 92) Which of the following is an example of a data privacy risk?
- A) Storing sensitive customer information on an unsecured server.
 - B) Sharing public announcements on social media.
 - C) Updating software and applications on regular basis.
 - D) Using strong passwords for accounts.
- 93) An auto insurance company offers personalized discounts to policyholders who install a mobile app that tracks their driving habits, such as speed and braking. Which ethical concern does this scenario raise?
- A) Equitable treatment of policyholders.
 - B) Balancing privacy of policyholders and surveillance.
 - C) Encouraging safe driving behaviors.
 - D) Ensuring data accuracy in premium calculation.
- 94) In a research study, a statistician collected data from a diverse group of participants at a single point in time to analyze their income levels. What type of data is being used in this scenario?
- A) Time-series data.
 - B) Big data
 - C) Cross-sectional data
 - D) Biased data
- 95) What term refers to data that lacks a predefined structure and is not organized in a row-column format?
- A) Structured data
 - B) Semi-structured data
 - C) Unstructured data
 - D) Hierarchical data
- 96) Which of the following exemplifies data measured on an interval scale?
- A) Ages of participants in a race
 - B) Rankings of tennis players in a tournament
 - C) pH levels of different solutions
 - D) Number of students in a class

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SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 97) Philadelphia experienced a record amount of rainfall in August. During the last week of the month, the city received additional rain from a hurricane. Because global warming is thought to cause extreme weather patterns, one conclusion that could be drawn is that these patterns are evidence of global warming. What is wrong with this conclusion?
- 98) Administrators have concluded that the SAT exam results for 2011 show a distinct change in student capabilities when compared with the year 1991. In 1991 the SAT exam included only multiple choice sections and was later redesigned. What is wrong with this conclusion?
- 99) A university is interested in tracking the success of its graduates by measuring the length of each graduate's job search before getting a position in his or her chosen field. How would you define the appropriate population?
- 100) We would like to determine whether there is a difference between the height of a college team of basketball players at the Ohio State University and the height of the overall student body. Identify the two populations in this study.

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- 101) In each of the following statements, determine whether the branch of statistics is best classified as descriptive statistics or inferential statistics.
- A. The average of a data set is equal to 35.7.
 - B. The minimum value of a data set is 78, and the maximum value is 146.
 - C. Because the average age in a sample is 23, it is likely that the average age in the population is about 23.
 - D. Because the values in the sample are so widely dispersed, the spread of the population must be high.
- 102) A car company wants to know the average age of cars of their brand that are still on the road. How would you define the appropriate population? Will the car company calculate a population parameter or a sample statistic? Why?
- 103) What are the primary reasons that sampling is necessary?
- 104) An investor wants to know today's average closing price of the stocks listed on the Standard and Poor's 500 Index. Will the investor calculate a population parameter or sample statistic? Why?

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- 105) We would like to determine the average height of a college team of basketball players at Ohio State University. Is it necessary to take a sample of basketball players? Explain.
- 106) We would like to determine the average height of the overall student body at Ohio State University. Does it seem necessary to take a sample from the overall student body?
- 107) Researchers are interested in completing a study examining trends in the sale of foods in the U.S. They have decided to examine the quantity of organic vegetables sold by supermarkets. Will researchers be able to gather population data?
- 108) Every 10 years, a census is taken in the U.S. by the Census Bureau. Despite the intent of gathering data on the population of the United States, issues exist that make true population data impossible to gather. Identify at least two issues in collecting these data.

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- 109) Social networking sites support themselves in large part by selling advertising space. The hit rate on these ads is a critical measure when trying to solicit advertising. The hit rate is used as a measure of success for ads. How would you recommend a social networking site use sampling to evaluate its existing ads?

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- 110) The following table includes the number of white women over the age of 20 in the civilian labor force. Because it is time series data, what would the entries of the first column refer to?

?	Number in Civilian Labor Force
	43216
	43479
	44663
	45409
	45543
	46613
	47051
	47833
	48611
	49128
	48562

Source: <https://data.bls.gov>

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- 111) A study of teen smoking is planned. Researchers are interested in collecting cross-sectional data, which allow them to draw conclusions about the likelihood, frequency, and longevity of teen smoking. You have been asked to design this study and will collect no more than five pieces of data. What information will you collect?
- 112) Define the measurement scale of a car's fuel efficiency (measured in miles per gallon). Is a car's fuel efficiency discrete or continuous?
- 113) A study of teen smoking is planned. Researchers are interested in collecting data which allow them to draw conclusions about the likelihood, frequency, and longevity of teen smoking. The questions asked include: "What is your gender?" "What is your age?" "Do you smoke (yes or no)?" "How many cigarettes per day do you smoke?" "For how long have you smoked (in years)?" What is the measurement scale for each variable?

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- 114) The following data represent a sample of property sales in Cape May County during the year 2000. Identify the categorical and numerical variables. What are the natural categories for Town and Class? Identify the measurement scales for all variables.

Town	Class	Date	Price	Assessment
Avalon	Residential	12/28/2000	\$ 500,000	\$ 288,600
Avalon	Residential	04/14/2000	\$ 500,000	\$ 325,900
Wildwood	Commercial	05/01/2000	\$ 500,000	\$ 250,000
Avalon	Residential	05/22/2000	\$ 500,000	\$ 332,500
North Wildwood	Commercial	06/02/2000	\$ 500,000	\$ 607,700
Avalon	Residential	09/16/2000	\$ 518,000	\$ 269,900
North Wildwood	Residential	04/07/2000	\$ 520,000	\$ 373,100
Avalon	Commercial	01/15/2000	\$ 520,000	\$ 414,600
Avalon	Residential	01/15/2000	\$ 525,000	\$ 373,500
Wildwood	Residential	06/14/2000	\$ 525,000	\$ 379,600

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ESSAY. Write your answer in the space provided or on a separate sheet of paper.

- 115) The following data represent a sample of non-elementary mathematics teachers in Bergen County, New Jersey. Identify the categorical and numerical variables, the categories associated with each categorical variable, and the measurement scales for all variables.

School	Degree	Years Experience	Salary	Classes Taught
Brookside E.S.	Masters	8	\$ 67,945	6
Program 3-Emotionally Disturbed.	Masters	25	\$ 82,910	4
Program 3-Emotionally Disturbed.	Bachelors	25	\$ 86,030	7
Program 3-Emotionally Disturbed.	Bachelors	3	\$ 62,690	5
Program 3-Emotionally Disturbed.	Masters	21	\$ 82,620	5
Program 5-Life Skills	Masters	11	\$ 82,330	5
Program 5-Life Skills	Masters	41	\$ 79,790	4
Bergen Academies- Hackensack	Masters	31	\$ 82,626	5
Bergen Academies- Hackensack	Masters	10	\$ 82,626	4
Bergen Academies- Hackensack	Masters	3	\$ 98,291	4

Source:

<http://php.app.com/edstaff/results2.php?county=BERGEN&district=%25&school=%25&lname=&fname=&job1=Math+Non-Elementary&Submit=Submit>

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- 116) The following data concern a sample of employees of the U.S. Marshals in the state of New York. Identify the categorical and numerical variables, the categories associated with each categorical variable, and the measurement scales for all variables.

Country	Station	Title	Grade	Salary
New York Country	NEW YORK-NY	MISCELLANEOUS CLERK AND ASSISTANT	GS 07	\$ 51,030
New York Country	NEW YORK-NY	MISCELLANEOUS CLERK AND ASSISTANT	GS 07	\$ 55,405
Kings Country	NEW YORK-KINGS	ACCOUNTING TECHNICIAN	GS 07	\$ 45,196
Erie Country	BUFFALO	ADMINISTRATIVE OFFICER	GS 13	\$ 95,023
Onondaga Country	SYRACUSE	BUDGET ANALYSIS	GS 09	\$ 53,773
New York Country	NEW YORK-NY	GENERAL BUSINESS AND INDUSTRY	GS 11	\$ 66,887
Onondaga Country	SYRACUSE	GENERAL BUSINESS AND INDUSTRY	GS 11	\$ 74,628
Erie Country	BUFFALO	MISCELLANEOUS ADMINISTRATION AND PROGRAM	GS 09	\$ 59,962
New York Country	NEW YORK-NY	MISCELLANEOUS ADMINISTRATION AND PROGRAM	GS 09	\$ 57,065
Kings Country	NEW YORK-KINGS	GENERAL BUSINESS AND INDUSTRY	GS 11	\$ 66,887

Source:

http://php.app.com/fed_employees10/results.php?fullname=&agency_name=U.S.+MARSHALS+SERVICE&statename=New+York&countyname=%25&Submit=Search

- 117) Why do we spend time on inspecting and preparing the data before performing statistical analysis?

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118) The following data represent a sample of information on our customers.

Name	Gender	Date of Birth	Phone Number	Income
Al Brooks	Male	09/17/1986	205-228-5876	\$ 19,000
Beth Gloria	Female	05/27/1983	760-301-3657	\$ 125,025
Mary King	Female	08/01/1981	708-326-7311	\$ 100,700
Bob Julissa	Male	07/08/1962		\$ 164,032
Ed Taylor	Male	04/07/1977	413-212-4506	\$ 76,048

What data preparation task is most appropriate to answer the following questions?

- A. Are there missing values in the data?
- B. How many customers do we have?
- C. How many of our customers are female?
- D. Who is our youngest customer?
- E. How do our male customers compare to our female customers?

119) Give an example of the data privacy risks that may be encountered using data in a business context.

120) Give an example that raises ethical questions in higher education.

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Answer Key

Test name: Chapter 01 Test Bank - Algorithmic and Static

- 1) TRUE
- 2) FALSE
- 3) TRUE
- 4) FALSE
- 5) TRUE
- 6) FALSE
- 7) FALSE
- 8) FALSE
- 9) TRUE
- 10) TRUE
- 11) FALSE
- 12) FALSE
- 13) FALSE
- 14) FALSE
- 15) FALSE
- 16) TRUE
- 17) FALSE
- 18) FALSE
- 19) FALSE
- 20) TRUE
- 21) FALSE
- 22) TRUE
- 23) FALSE
- 24) FALSE
- 25) FALSE
- 26) FALSE
- 27) FALSE
- 28) TRUE
- 29) TRUE
- 30) TRUE
- 31) FALSE
- 32) FALSE
- 33) FALSE
- 34) TRUE
- 35) FALSE
- 36) TRUE
- 37) FALSE

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- 38) D
- 39) B
- 40) A
- 41) D
- 42) A
- 43) C
- 44) C
- 45) A
- 46) A
- 47) D
- 48) B
- 49) A
- 50) A
- 51) A
- 52) B
- 53) D
- 54) B
- 55) D
- 56) B
- 57) B
- 58) D
- 59) C
- 60) A
- 61) D
- 62) C
- 63) A
- 64) A
- 65) D
- 66) D
- 67) A
- 68) B
- 69) C
- 70) B
- 71) A
- 72) A
- 73) D
- 74) C
- 75) C
- 76) A
- 77) B

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78) C

79) D

80) B

81) C

82) A

83) C

84) B

85) A

86) C

87) B

88) D

89) B

90) C

91) D

92) A

93) A

94) C

95) C

96) C

97) Short Answer

The existence or nonexistence of climate change cannot be based on one month's worth of data. We must instead look at long-term trends.

98) Short Answer

The redesign of the exam makes any conclusions comparing 1991 to 2011 invalid.

99) Short Answer

The population should include all graduates of the university within a specified time period.

100) Short Answer

Varsity basketball players at OSU, all students at OSU

101) Short Answer

Descriptive Statistics: The average of a data set is equal to 35.7 and the minimum value of a data set is 78, and the maximum value is 146. Inferential Statistics: Because the average age in a sample is 23, it is likely that the average age in the population is about 23, and because the values in the sample are so widely dispersed, the spread of the population must be high.

102) Short Answer

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The population includes all cars of their brand still on the road. The car company will calculate a sample statistic. It would be very costly to find the age of every car of their brand on the road.

103) Short Answer

104) Short Answer

The investor will calculate a population parameter. It is easy to gather all the prices for the firms on the Standard and Poor's 500 Index.

105) Short Answer

No, it is a small population and it is very easy to get the heights of the entire basketball team.

106) Short Answer

Yes, it would be very difficult and expensive to collect the heights of so many students.

107) Short Answer

No, population data would be very impractical and expensive to gather.

108) Short Answer

Homeless population not surveyed, people providing intentionally false responses, illegal immigrants not wanting to be counted, no enforcement on returning completed survey, new homes being missed or demolished homes being counted, etc.

109) Short Answer

The existing ads should be split into categories of like products. Then some number of ads from each category could be selected for the sample to determine the average number of hits for the relevant category. Any other logical sampling methods are acceptable.

110) Short Answer

Time measured in years, quarters, months, etc.

111) Short Answer

"What is your gender?" "What is your age?" "Do you smoke?" "How many cigarettes per day do you smoke?" "For how long have you smoked?" (Other reasonable answers are acceptable.)

112) Short Answer

Fuel efficiency is measured on a ratio scale. The number zero is meaningful. Fuel efficiency is a continuous variable.

113) Short Answer

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Gender: nominal; Age: ratio; Smoking: nominal; Number of cigarettes per day: ratio; Time of smoking: ratio

114) Short Answer

Qualitative variables: Town, Class; Quantitative variables: Date, Price, Assessment
Town categories: Avalon, Wildwood, and North Wildwood; Class categories: Residential and Commercial
Nominal: Town and Class; Interval: Date; Ratio: Price and Assessment

115) Essay

Qualitative: School, Degree; Quantitative: Years Experience, Salary, Classes Taught
Categories for School: Brookside E.S., Program 3-Emotionally Distur., Program 5-Life Skills, and Berger Academies-Hackensack; Categories for Degree: Bachelors and Masters
Nominal: School; Ordinal: Degree; Ratio: Years Experience, Classes Taught, and Salary

116) Essay

Qualitative: County, Station, Title, and Grade; Quantitative: Salary
Categories for County: New York County, Kings County, Erie County, and Onondaga County; Categories for Station: NEW YORK - NY, NEW YORK - KINGS, BUFFALO, and SYRACUSE; Categories for Title: MISCELLANEOUS CLERK AND ASSISTANT, ACCOUNTING TECHNICIAN, ADMINISTRATIVE OFFICER, BUDGET ANALYSIS, GENERAL BUSINESS AND INDUSTRY, MISCELLANEOUS ADMINISTRATION AND PROGRAM
Categories for Grade: GS 07, GS 13, GS 09, GS 11
Nominal: County, Station, and Title; Ordinal: Grade; Ratio: Salary

117) Essay

We want to ensure that the data is complete so that there are no missing values for important variables. We also want to review the range of values for each variable so that there are no outliers.

118) Essay

- A. Counting the number of blanks in Phone Number;
- B. Counting the number of observations in the data;
- C. Counting the number of observations having Female as the value of value of Gender.
- D. Sorting the data by Date of Birth in ascending order;
- E. Subsetting the data by Gender.

119) Essay

120) Essay