

***Data Analytics for Accounting 3rd edition Richardson
Test Bank***

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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) Mastering the data requires a firm understanding of what data is available to you and where it is stored, as well as being skilled in the process of extracting, transforming, and loading (ETL).
 - ☐ true
 - ☐ false
- 2) A flat file is a means of storing data in one place, such as in an Excel spreadsheet, as opposed to storing the data in multiple tables, such as in a relational database.
 - ☐ true
 - ☐ false
- 3) A foreign key is an attribute that is required to exist in each table of a relational database and serves as the unique identifier for each record in a table.
 - ☐ true
 - ☐ false
- 4) A primary key is an attribute that is required to exist in each table of a relational database and serves as the unique identifier for each record in a table.
 - ☐ true
 - ☐ false
- 5) A foreign key is an attribute that exists in relational databases in order to carry out the relationship between two tables.
 - ☐ true
 - ☐ false
- 6) A composite primary key is made up of the three or more primary keys in the tables that it is linking.
 - ☐ true
 - ☐ false
- 7) Descriptive attributes are attributes that exist in relational databases that are neither primary nor foreign keys.
 - ☐ true
 - ☐ false

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- 8) Once you have extracted the data of interest, it will need to be validated for completeness and existence.
- ☐ true
 - ☐ false
- 9) The M in IMPACT Cycle represents Manipulating the Data.
- ☐ true
 - ☐ false
- 10) In order to obtain the right data, it is important to have a firm grasp of what data is available and how it is stored.
- ☐ true
 - ☐ false
- 11) Data normalization can reduce data redundancy and improve data integrity.
- ☐ true
 - ☐ false
- 12) Much like the IMPACT cycle, requesting data is often an iterative process.
- ☐ true
 - ☐ false
- 13) Unlike the IMPACT cycle, requesting data is not an iterative process.
- ☐ true
 - ☐ false
- 14) If the extraction and transformation steps have been done correctly, the loading part of the ETL process should be the simplest step.
- ☐ true
 - ☐ false
- 15) After obtaining the data and determining the purpose and scope of the data request, the next step is to validate the data.
- ☐ true
 - ☐ false
- 16) Formatting negative numbers is an example of cleaning the data.
- ☐ true
 - ☐ false

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17) A template can make communication easier between data requestor and provider.

- ☐ true
- ☐ false

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

18) Mastering the data can also be described via the ETL process. The ETL process stands for:

- A) Extract, total, and load data.
- B) Extract, transform, and load data.
- C) Enter, transform, and load data.
- D) Enter, total, and load data.

19) All of the following are Audit Data Standards (ADS) developed by the American Institute of Certified Public Accountants *except*:

- A) Investments subledger standards
- B) General Ledger standards
- C) Procure-to-Pay subledger standards
- D) Order-to-Cash subledger standards

20) When using [EmployeeID] as the unique identifier of the Employee table, [EmployeeID] is an example of which of the following: [TBEXAM.COM](https://www.tbexam.com)

- A) Foreign key
- B) Composite key
- C) Primary key
- D) Key attribute

21) What would be the best primary key for the LendingClub rejected loan dataset?

- A) Loan application number
- B) Zip code
- C) Customer number
- D) Loan number

22) The objective of data extraction is:

- A) To validate the data for completeness and integrity
- B) To load the data into the appropriate tool for analysis
- C) To identify and obtain the data from the appropriate source
- D) To identify which approach to data analytics should be used

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- 23) The objective of data transformation is:
- A) To validate the data for completeness and integrity
 - B) To load the data into the appropriate tool for analysis
 - C) To identify and obtain the data from the appropriate source
 - D) To identify which approach to data analytics should be used
- 24) The objective of loading data is:
- A) To validate the data for completeness and integrity
 - B) To load the data into the appropriate tool for analysis
 - C) To identify and obtain the data from the appropriate source
 - D) To identify which approach to data analytics should be used
- 25) All of the following are included in the five steps of the ETL process *except*:
- A) Determine the purpose and scope of the data request
 - B) Obtain the data
 - C) Validate the data for completeness and integrity
 - D) Scrub the data
- 26) Which of the following best exemplifies a way that data will need to be cleaned after extraction and validation?
- A) Remove headings and subtotals
 - B) Validate date/time fields
 - C) Remove trailing zeroes
 - D) Compare string limits for text fields
- 27) Removing headings or subtotals from data is an example of which of the following?
- A) Validating the data for completeness
 - B) Validating the data for integrity
 - C) Cleaning the data
 - D) Obtaining the data
- 28) Correcting inconsistencies across data is an example of which of the following?
- A) Validating the data for completeness
 - B) Validating the data for integrity
 - C) Cleaning the data
 - D) Obtaining the data

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- 29) Formatting negative numbers in the data is an example of which of the following?
- A) Validating the Data for Completeness
 - B) Validating the Data for Integrity
 - C) Cleaning the Data
 - D) Obtaining the Data
- 30) Removing leading zeroes and non-printable characters from the data is an example of which of the following?
- A) Validating the data for completeness
 - B) Validating the data for integrity
 - C) Cleaning the data
 - D) Obtaining the data
- 31) Comparing descriptive statistics for numeric fields within the data is an example of which of the following?
- A) Validating the data for completeness
 - B) Validating the data for integrity
 - C) Cleaning the data
 - D) Obtaining the data
- 32) Comparing the number of records within the data is an example of which of the following?
- A) Validating the data for completeness
 - B) Validating the data for integrity
 - C) Cleaning the data
 - D) Obtaining the data
- 33) Which of the following questions are NOT suggested by the Institute of Business Ethics to allow a business to create value from data use and analysis, and still protect the privacy of stakeholders?
- A) How does the company use data, and to what extent is it integrated into firm strategy?
 - B) Does the company send a privacy notice to individuals when their personal data is collected?
 - C) Is the data kept in a secure location preventing access from unauthorized users?
 - D) Does the company have the appropriate tools to mitigate the risks of data misuse?

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- 34) Which of the following questions are NOT suggested by the Institute of Business Ethics to allow a business to create value from data use and analysis, and still protect the privacy of stakeholders?
- A) Does our company conduct appropriate due diligence when sharing with or acquiring data from third parties?
 - B) How does the company use data, and to what extent is it integrated into firm strategy?
 - C) Does the company send a privacy notice to individuals when their personal data is collected?
 - D) Does the company require analysts to sign a confidentiality agreement the information found in the data?
- 35) Which of the following best describes the purpose of a primary key?
- A) To uniquely identify each row in a table.
 - B) To create the relationship between two tables.
 - C) To provide business information, but are not required to build a database.
 - D) To support business processes across the organization.
- 36) Which of the following best describes the purpose of a non-key attribute?
- A) To ensure that each row in the table is unique
 - B) To create the relationship between two tables
 - C) To provide business information
 - D) To support business processes across the organization
- 37) Which of the following best describes the purpose of relational databases?
- A) To ensure that business rules are enforced
 - B) To increase information redundancy in the organization
 - C) To provide business information to data analysts
 - D) To support business processes across the organization
- 38) Which of the following best describes the purpose of a foreign key?
- A) To ensure that each row in the table is unique
 - B) To create the relationship between two tables
 - C) To provide business information
 - D) To support business processes across the organization
- 39) A data dictionary is paramount in helping data analysts do which of the following?
- A) Maintain databases.
 - B) Identify the data they need to use.
 - C) Communicating insights.
 - D) Track outcomes.

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- 40) A data dictionary is paramount in helping database administrators do which of the following?
- A) Maintain databases.
 - B) Identify the data they need to use.
 - C) Communicating insights.
 - D) Track outcomes.
- 41) At which step of the ETL process should you try to answer the question "What tools will be used to perform data analytic tests or procedures and why?"
- A) Step 1: Determine the purpose and scope of the data request.
 - B) Step 2: Obtain the data.
 - C) Step 3 or 4: Transformation.
 - D) Step 5: Loading the data for data analysis.
- 42) At which step of the ETL process should you try to answer the question "What other information will impact the nature, timing and extent of the data analysis?"
- A) Step 1: Determine the purpose and scope of the data request.
 - B) Step 2: Obtain the data.
 - C) Step 3 or 4: Transformation.
 - D) Step 5: Loading the data for data analysis.
- 43) At which step of the ETL process should you try to answer the question "What business problem will the data address?"
- A) Step 1: Determine the purpose and scope of the data request.
 - B) Step 2: Obtain the data.
 - C) Step 3 or 4: Transformation.
 - D) Step 5: Loading the data for data analysis.
- 44) At which step of the ETL process should you try to answer the question "Where are the data located in the financial or other related systems?"
- A) Step 1: Determine the purpose and scope of the data request.
 - B) Step 2: Obtain the data.
 - C) Step 3 or 4: Transformation.
 - D) Step 5: Loading the data for data analysis.
- 45) When obtaining the data yourself, you should do all of the following before you begin *except*:
- A) Identify the tables that contain the information you need.
 - B) Identify which attributes specifically hold the information you need in each table.
 - C) Identify how those tables are related to each other.
 - D) Identify any errors or issues from the extraction.

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- 46) There are a variety of methods that you could take to retrieve the data, including SQL. What does SQL stand for?
- A) Systems Query Language.
 - B) Systems Question Language.
 - C) Structured Question Language.
 - D) Structured Query Language.
- 47) All of the following are benefits of using a normalized relational database *except*:
- A) Completeness.
 - B) No redundancy.
 - C) Business rules are enforced.
 - D) Data is stored in one place.
- 48) Which of the following is most likely to be the primary key in an Employee table?
- A) Employee ID
 - B) Employee Social Security Number
 - C) Employee Name
 - D) Employee Type
- 49) Comparing the number of records that were extracted to the number of records in the source database is an example of which ETL step.
- A) Validating the Data
 - B) Obtaining the Data
 - C) Cleaning the Data
 - D) Loading the Data for Analysis
- 50) Which of the following describes a means of maintaining all of your data in one place, instead of across different related tables?
- A) Flat File
 - B) Microsoft Access
 - C) SQL lite
 - D) Microsoft SQL Server
- 51) Which of the following is NOT true regarding Primary Keys?
- A) The purpose of the primary key is to uniquely identify each column in a table.
 - B) A primary key is typically a sequential number instead of something truly descriptive about each record.
 - C) Primary keys are required in each table in a relational database.
 - D) Primary keys do not provide meaningful business information.

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- 52) Relational databases help to reduce redundant data. Which of the following is NOT a reason to reduce redundant data?
- A) It takes up unnecessary space
 - B) It is expensive
 - C) It increases the risk of data-entry errors
 - D) It is easier to perform analysis in spreadsheets
- 53) What is the purpose of the Audit Data Standards?
- A) To provide a guide to standardize audit data requests
 - B) To increase the cost of audits
 - C) To help auditors learn SQL code
 - D) To create standardized data storage systems
- 54) There are many times when using SQL is the best option for extracting data, but sometimes it is not preferred. Which of the following is an example of when SQL would NOT be a preferred method of data extraction?
- A) When the data is already stored in Excel
 - B) When the data is stored across different tables in a relational database
 - C) When the data in the table you wish to analyze is too large for Excel's resources
 - D) When you wish to extract precise attributes and records that fit your criteria
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- 55) What is one of Excel's tools for joining data from two separate spreadsheets?
- A) SUMIF
 - B) VLOOKUP
 - C) SQL
 - D) DATAREQUEST
- 56) What is one of Excel's tools is roughly equivalent to the VLOOKUP function?
- A) INDEX/MATCH
 - B) SELECT
 - C) LINK
 - D) LINKUP
- 57) What follows the ETL process of "Validating the Data"?
- A) Loading the Data for Analysis
 - B) Obtain the data
 - C) Determining the scope of the data request
 - D) Cleaning the data

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58) What follows the ETL process of "Obtaining the Data"?

- A) Loading the Data for Analysis
- B) Obtain the data
- C) Validating the data for completeness and integrity
- D) Cleaning the data

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

59) Chapter 2 describes the various ways in which data can be stored for differing purposes.

Describe the two ways data can be organized and the purpose for each organizational structure.

60) Taylor is a new staff accountant for a fortune 100 company. After hearing that she just successfully completed an Accounting Data Analytics course, her boss said, "Get me a listing of all our deadbeat customer, so I can cut off their credit." After asking clarifying questions, Taylor was able to determine that root request was "Which customer, with a credit limit over \$10,000, have more than \$5,000 outstanding for more than 90 days at the prior quarter's end?" Using the ETL Techniques, briefly describe the process Taylor will have to complete to answer her boss' question. (Assume that Taylor does not have direct access to the data, rather the data will be exported into an Excel file, and she will complete the analysis with an Excel Pivot Table.)

61) Define and give 1 example of a primary key, a foreign key, and non-key attribute.

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- 62) Assume that you will be up for a promotion next month and you'd like to analyze a database that was recently assigned to you to show off your data analytic skills. After identifying the goal of your data analysis, using the first step of the IMPACT cycle, what steps would you take if you have direct access to the database?
- 63) Assume that you have just completed the extraction process on a data set. As you begin validating the data for completeness and integrity, you notice an error. Describe the steps you might take to determine the source of an error.

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Answer Key

Test name: Chapter 02

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

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38) B

39) B

40) A

41) B

42) A

43) A

44) B

45) D

46) D

47) D

48) A

49) A

50) A

51) A

52) D

53) A

54) A

55) B

56) A

57) D

58) C

59) Essay

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Answers may vary slightly!

A **relational database**, is the type of database you are most likely to come across when extracting and using accounting and financial data. While it is often preferred to analyze data from a **flat file** (e.g., in an Excel spreadsheet, in which all the data are stored in one place), when it comes to storing data and maintaining data integrity, a relational database is preferred because of its ability to maintain "one version of the truth" across multiple data elements.

60) Essay

Answers will vary but should include some of these items.

- ☐ **EXTRACTION:** Taylor completed step 1 by asking her boss clarifying question to determine purpose and scope of the data request. To complete step 2 she should complete a template to request the data from the system administrator.
- ☐ **TRANSFORMATION:** For step 3, Taylor will need to validate the data for completeness and integrity. She can compare the total AR balance of the data extracted to the gross AR amount on the financial statement from the prior quarter's end. For step 4, Taylor should clean the data by removing headings or subtotals, ensuring formatting is consistent, etc.
- ☐ **LOADING:** No additional loading is necessary as the analysis will be run in Excel.

61) Essay

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Answers will vary!

- a. Each table must have a primary key. The primary key is typically made up of one column, but it can occasionally be made up of a combination of columns. It is rarely truly descriptive; instead, a collection of letters or simply sequential numbers are often used. The purpose of a primary key is to uniquely identify each row in the table.
- b. Whenever two tables are related, one of those tables must contain a foreign key to create the relationship. The foreign key is special type of attribute as it must be the primary key in a related table.
- c. Primary and foreign keys facilitate the structure of a relational database, and the descriptive attributes provide actual business information.

62) Essay

Answers may vary!

1. Identify the tables that contain the information you need. You can do this by looking through the data dictionary or the relationship model.
2. Identify which attributes, specifically, hold the information you need in each table.
3. Identify how those tables are related to each other.

63) Essay

Answers will vary! A potential answer might include:

If an error is found, depending on the size of the dataset, you may be able to easily find the missing or erroneous data by scanning it with your eyes. However, if the dataset is large, or if the error is difficult to find, it may be easiest to go back to the extraction and examine how the data was extracted, fix any errors in the SQL code, and re-run the extraction.