

**Using MIS, 9e, Global Edition (Kroenke)**  
**Chapter 5 Database Processing**

1) A database is used instead of a spreadsheet when \_\_\_\_\_.

- A) lists of data involve a single theme
- B) structures of data lists are simple
- C) lists involve data with multiple themes
- D) users do not want to store all data in one place

Answer: C

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.1: What is the purpose of a database?

Classification: Concept

2) A spreadsheet can be used to store data if the structure of a list is simple.

Answer: TRUE

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.1: What is the purpose of a database?

Classification: Concept

3) The purpose of a database is to keep track of lists of data that involve a single theme.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.1: What is the purpose of a database?

Classification: Concept

4) What is the purpose of a database?

Answer: The purpose of a database is to keep track of things. Lists of data involving a single theme can be stored in a spreadsheet; while lists that involve data with multiple themes require a database. Thus, the purpose of a database is to keep track of things that involve more than one theme.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.1: What is the purpose of a database?

Classification: Concept

5) Which of the following is the smallest element in a database?

- A) field
- B) record
- C) byte
- D) metadata

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

6) In a database, \_\_\_\_\_ are grouped into columns.

- A) fields
- B) records
- C) bytes
- D) files

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

7) The columns in a database are called \_\_\_\_\_.

- A) records
- B) tables
- C) files
- D) fields

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

8) The rows in a database are called \_\_\_\_\_.

- A) records
- B) tables
- C) files
- D) fields

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

9) A group of similar rows or records is known as \_\_\_\_\_.

- A) a prototype
- B) a file
- C) a field
- D) an attribute

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

10) Which of the following data elements is placed higher than records in the database hierarchy?

- A) file
- B) field
- C) character
- D) byte

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

11) A primary key in a database is a \_\_\_\_\_.

- A) group of rows that identifies a unique table or file
- B) column or group of columns that identifies a unique row in a table
- C) group of fields or columns that represent metadata
- D) group of tables or files formed to identify a unique field or row

Answer: B

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

12) Albert creates a relational database to store employee performance statistics. He stores each employee's data in independent rows and creates a column named "Employee Number" to assign unique numbers to each employee. The "Employee Number" column is referred to as a \_\_\_\_\_.

- A) primary key
- B) key attribute
- C) foreign key
- D) functionally dependent record

Answer: A

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Application

13) Columns that are keys to different tables than the ones in which they reside are called \_\_\_\_\_.

- A) attributes
- B) foreign keys
- C) primary keys
- D) internal records

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

14) Relational databases represent relationships using \_\_\_\_\_.

- A) foreign keys
- B) file systems
- C) metadata
- D) primary keys

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

- 15) Metadata are \_\_\_\_\_.
- A) codes used for server-side processing
  - B) error logs of databases
  - C) data that describe data
  - D) data that are encrypted

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

- 16) A group of similar rows or records in a table is called a field.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

- 17) Metadata refers to special data that describes the structure of a database.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

- 18) Each table in a database must have two or more primary keys.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

- 19) The format of metadata depends on the software product that processes the database.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

20) Describe a database and its elements.

Answer: A database is a self-describing collection of integrated records. A byte is a character of data. In databases, bytes are grouped into columns, which are also called fields. Columns or fields are grouped into rows, which are also called records. Finally, a group of similar rows or records is called a table or a file. A database is thus a collection of tables, relationships among the rows in those tables, and special data called metadata, that describes the structure of the database.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

21) Define *primary key*, *foreign key*, and *metadata*.

Answer: A primary key is a column or group of columns that identifies a unique row in a table. Columns that are primary keys in a table other than the one in which they reside are called foreign keys. Metadata are data that describe data in the database.

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.2: What is a database?

Classification: Concept

以下均在讲数据库管理任务

22) A(n) \_\_\_\_\_ is a program used to create, process, and administer a database.

A) operating system

B) database management system

C) information system

D) database system

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

23) Which of the following is an example of a database management system?

A) MS Excel

B) BigData

C) NoSQL

D) Access

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

24) Identify an open source DBMS product.

- A) MySQL
- B) DB2
- C) Access
- D) Oracle Database

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

25) Which of the following is true of MySQL?

- A) It is a Microsoft product.
- B) It is license-free for most applications.
- C) It is a paid and proprietary database product.
- D) It uses Static Query Language (SQL) to manage a database.

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

26) The modification or deletion of data in a database is an example of \_\_\_\_\_ operations of a database management system.

- A) statistical
- B) analytical
- C) administrative
- D) processing

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

27) Which of the following is an international standard language for processing a database?

- A) Cassandra
- B) DB2
- C) SQL
- D) MS Access

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

28) Which of the following is a developmental task of database administration?

- A) evaluating an application design
- B) monitoring backup procedures
- C) conducting training for users
- D) managing configuration changes in systems

Answer: A

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

29) Owen, the database administrator for a shipping company, is responsible for checking the data model, which is to be used in the database management system, for accuracy and completeness. This is an example of Owen's \_\_\_\_\_ tasks.

- A) development数据对不对
- B) adaptation
- C) backup and recovery
- D) operation

Answer: A

AACSB: Reflective Thinking

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Application



30) Samuel is the database administrator for Zimline Constructions. He determines the processing rights of employees based on their designation. Team leaders are given greater access to the database than their team members. This procedure of giving selective access is part of Samuel's \_\_\_\_\_ task.

- A) development
- B) recovery
- C) adaptation
- D) operation 谁能用

Answer: D

AACSB: Reflective Thinking

Difficulty: 3: Challenging

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Application

31) Which of the following database administration tasks is related to adaptation?

- A) monitoring backup procedures
- B) conducting training for users
- C) monitoring database performance
- D) managing configuration changes in systems 管理系统更改

Answer: D

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

32) A DBMS and database are synonymous terms that can be used interchangeably.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

33) To modify an existing table, a developer can open the metadata form for that table and add a new row of metadata.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

34) SQL is an international standard language for processing a database.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

35) One of the functions of a DBMS is to provide tools to assist in the administration of a database.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

36) A user does not need user account credentials to access and process a database.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

37) **Managing the impact of database structural changes on applications and users is an operational task for a database administrator.**

Answer: FALSE

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

38) Explain how a database management system processes a database.

Answer: A function of the DBMS is to process the database. Such processing can be quite complex, but, fundamentally, the DBMS provides applications for four processing operations: to read, insert, modify, or delete data. These operations are requested in application calls upon the DBMS. From a form, when a user enters new or changed data, a computer program behind the form calls the DBMS to make the necessary database changes. From a Web application, a program on the client or on the server calls the DBMS to make the change.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

39) **What is database administration?**

**Answer:** Database administration involves a wide variety of activities. For example, the database management system can be used to **set up a security system** involving user accounts, passwords, permissions, and limits for processing the database. To provide database security, a user must sign on using a valid user account before she can process the database. In addition to security, DBMS administrative functions include **backing up database data, adding structures to improve the performance of database applications, removing data** that are no longer wanted or needed, and similar tasks. For important databases, most organizations dedicate one or more employees to the role of database administration.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.3: What is a database management system (DBMS)?

Classification: Concept

40) A \_\_\_\_\_ is a collection of forms, reports, queries, and programs that serves as an intermediary between users and database data.

A) database application

B) database design

C) data field

D) data model

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

41) Heidi, an accountant, completed three mandatory training sessions in the last quarter. She needs to update her training record in the company's database. Which of the following elements will help Heidi modify her data?

A) reports

B) forms

C) queries

D) operations

Answer: B

AACSB: Reflective Thinking

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Application

42) A(n) \_\_\_\_\_ is a request for data from a database.

- A) form
- B) report
- C) query
- D) application

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

43) Brenda, the sales manager of a firm, wants to generate a particular report containing sales analyses of the second and third quarter of the year. She should use a \_\_\_\_\_ to obtain the information that she wants from the database.

- A) report
- B) data model
- C) database administrative function
- D) query

Answer: D

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Application

44) Which of the following is true of single-user databases?

- A) They are displayed and processed using html5, css3, and JavaScript.
- B) They use JavaScript for user-side processing.
- C) The Internet is used to access the DBMS server computer.
- D) The application, the DBMS, and the database all reside on the user's computer.

Answer: D

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

以下为traditional database application programs

45) Which of the following is true of traditional database application programs?

- A) Application forms, reports, and queries are displayed and processed using a browser application.
- B) The application logic is contained in a program on the client-side computer.
- C) They are written in object-oriented languages such as C++ and VisualBasic.
- D) They are thin-client applications that need not be preinstalled on the users' computers.

Answer: C

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

46) Traditional database application programs are \_\_\_\_\_.

- A) browser-based and display dynamic content
- B) written in languages such as html5 and JavaScript
- C) entirely dependent on the database server for application logic
- D) thick applications that need to be installed on users' computers 需要装在互联网上

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

47) Browser applications are thin-client applications that \_\_\_\_\_.与traditional相对

- A) use COBOL as the standard language for user-side processing
- B) are processed using VisualBasic and C++
- C) need not be preinstalled on the users' computers
- D) depend on internal networks and not the Internet to transmit data

Answer: C

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

48) Which of the following is used to process and display **browser database** application forms, reports, and queries?

- A) C++
- B) html
- C) COBOL
- D) VisualBasic

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

49) Browser-based applications \_\_\_\_\_.

- A) are thick-client applications
- B) can display only static content
- C) **support graphical queries**
- D) process queries using C++

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

50) Browser-based applications \_\_\_\_\_.

- A) need to be preinstalled on the users' computers
- B) run within a corporate network that is protected from the Internet
- C) eliminate the need to check for data consistency
- D) are **more vulnerable to security threats** than are traditional applications

Answer: D

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

51) Charles and Irene are editors at a content development firm. Both of them, unknowingly, are working on the same copy of the annual report. Irene finishes editing the report and saves her copy; Charles saves his report an hour after Irene. Charles's report overwrites Irene's, and her changes are lost. This scenario is an example of the \_\_\_\_\_.

- A) **lost-update problem**
- B) crow's-foot paradigm
- C) bullwhip effect
- D) update query problem

Answer: A

AACSB: Reflective Thinking

Difficulty: 3: Challenging

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Application

52) Reports refer to the structured presentation of data using sorting, grouping, filtering, and other operations.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

53) Most **traditional databases** use the Internet to transmit traffic back and forth between the users' computers and the DBMS server.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

54) The lost-update problem can be resolved by implementing single-user database processing.

Answer: FALSE

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

55) Locking must be used to coordinate the activities of users in order to prevent the lost-update problem.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

56) Browser applications are thin-client applications that need to be preinstalled on the users' computers.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

57) What is a database application?

Answer: A database application is a collection of forms, reports, queries, and application programs that serves as an intermediary between users and database data. Database applications reformat database table data to make it more informative and more easily updated. Application programs also have features that provide security, maintain data consistency, and handle special cases.

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

58) State the purposes of the four elements of a database application.

Answer: The specific purposes of the four elements of a database application are as follows:

Forms—View data; insert new, update existing, and delete existing data

Reports—Structured presentation of data using sorting, grouping, filtering, and other operations

Queries—Search based upon data values provided by the user

Application programs—Provide security, data consistency, and special purpose processing, e.g., handle out-of-stock situations

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept



59) What are traditional database applications?

Answer: A traditional database is shared among many users. In that case, the application resides on the users' computers and **the database management system and database reside on a server computer**. A **network, in most cases not the Internet**, is used to transmit traffic back and forth **between the users' computers and the DBMS server computer**. Traditional database application programs are written in **object-oriented languages** such as C++ and VisualBasic (and even in earlier languages like COBOL). They are thick applications that need to be installed on users' computers. In some cases, all of the application logic is contained in a program on users' computers and the server does nothing except run the DBMS and serve up data.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

60) Explain the functioning of browser applications.

Answer: Browser applications are thin-client applications that need not be preinstalled on the users' computers. In most cases, **all of the code for generating and processing** the application elements is shared between the users' computers and the servers. JavaScript is the standard language for user-side processing. **Languages like C# and Java are used for server-side code**. The databases in browser-based **Internet applications are nearly always shared among many users**. The users' browsers connect over the **Internet to a Web server computer**, which **in turn connects to a database server computer**.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

61) What is the disadvantage of multiuser processing?

Answer: Most traditional and browser-based Internet applications involve multiple users processing the same database. While such multiuser processing is common, it does pose unique problems. The **lost-update problem** exemplifies one of the special characteristics of multiuser database processing. To prevent this problem, **some type of locking** must be used to coordinate the activities of users who know nothing about one another. Locking brings its own set of problems, however, and those problems must be addressed as well.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.4: How do database applications make databases more useful?

Classification: Concept

62) A \_\_\_\_\_ describes the data and relationships that will be stored in a database.

- A) data aggregator
- B) query model
- C) **data model**
- D) data application

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

63) Ryan, a database administrator, is in the process of designing his company's database. Which of the following would Ryan have had to create before he began designing?

- A) data aggregator
- B) query model
- C) **data model**
- D) data application

Answer: C

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Application

64) **A data model is a \_\_\_\_\_.**

- A) **logical representation of database data**
- B) repository of unprocessed data
- C) collection of isolated databases
- D) set of programs used to retrieve data

Answer: A

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

65) In a data model, a(n) \_\_\_\_\_ is something that a user wants to track.

- A) record
- B) byte
- C) **entity**
- D) primary key

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

66) Brad, a project manager, wants to build a database to integrate information about employees and tasks that they handle. Brad wants to track information such as task name, productivity of an employee on daily basis, and employee name. These aspects that Brad wants to track are called \_\_\_\_\_.

- A) identifiers
- B) records
- C) primary keys
- D) **entities**

Answer: D

AACSB: Information Technology

Difficulty: 3: Challenging

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Application

67) Entities in a data model have \_\_\_\_\_ that describe the characteristics of the entity.

- A) characters
- B) primary keys
- C) codes
- D) **attributes**

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

68) Each entity in a database has a unique attribute called a(n) \_\_\_\_\_.

- A) public key
- B) identifier
- C) foreign key
- D) index field

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

69) In an E-R diagram, a line between two entities represents a(n) \_\_\_\_\_.

- A) attribute
- B) identifier
- C) cardinality
- D) relationship

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

70) The forked 叉状的 lines on the lines representing relationship between two related entities are referred to as \_\_\_\_\_.

- A) identifiers
- B) foreign keys
- C) crow's feet
- D) entities

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

- 71) Which of the following is true of N:M relationships?
- A) They are the same as N:N relationships.
  - B) They represent minimum cardinalities in a relationship.
  - C) They are also called one-to-many relationships.
  - D) They can have more than one entity on each side of the relationship.

Answer: D

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

- 72) Acelane Inc., unlike its competitors, procures raw material from multiple suppliers. Each supplier in turn supplies raw material to many buyers, including Acelane. This is an example of a(n) \_\_\_\_\_ relationship.

- A) 1:N
- B) 1:1
- C) N:M
- D) M:1

Answer: C

AACSB: Reflective Thinking

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Application

- 73) \_\_\_\_\_ in an E-R diagram refer to the least number of entities required in a relationship.

- A) Minimum candidate keys
- B) Primary keys
- C) Foreign keys
- D) Minimum cardinalities 最小基数

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

74) Constraints on the minimum number of entities in a relationship are called \_\_\_\_\_ cardinalities.

- A) specific
- B) minimum
- C) primary
- D) critical

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

75) In an E-R diagram, a(n) \_\_\_\_\_ on a line means that at least one entity of that type is required.

- A) small oval 0
- B) vertical bar 1
- C) arrow
- D) triangular block M

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

76) Which of the following notations in an E-R diagram means that the entity is optional and a relationship need not have an entity of that type?

- A) vertical bar
- B) arrow
- C) double line
- D) small oval

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

77) A logical representation of database data, called the data model, is constructed by developers **after** building a database.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

78) An identifier is an attribute or a group of attributes whose value is associated with one and only one entity instance.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

79) A line in an entity-relationship (E-R) diagram is used to represent the attributes of an entity.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

80) The crow's-foot notation in an E-R diagram shows the maximum number of entities that can be involved in a relationship.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

81) Describe entities in the context of data models.

Answer: An entity is something that the users want to track. Examples of entities are *Order*, *Customer*, *Salesperson*, and *Item*. Some entities represent a physical object, such as *Item* or *Salesperson*; others represent a logical construct or transaction, such as *Order* or *Contract*.

Entities have attributes that describe characteristics of the entity. Example attributes of *Order* are *OrderNumber*, *OrderDate*, *SubTotal*, *Tax*, *Total*, and so forth. Entities have an identifier, which is an attribute (or group of attributes) whose value is associated with one, and only one, entity instance. For example, *OrderNumber* is an identifier of *Order*, because only one *Order* instance has a given value of *OrderNumber*.

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

82) Define the symbols and terms used in entity-relationship (E-R) diagrams.

Answer: Database designers use diagrams called entity-relationship (E-R) diagrams. In these diagrams, all of the entities of one type are represented by a single rectangle. Little lines, which are referred to as crow's feet, are shorthand for the multiple lines between these entities. 1:N, one-to-many relationships, and N:M, many-to-many relationships, represent the relationship between entities. The crow's-foot notation shows the maximum number of entities that can be involved in a relationship. They are called the relationship's maximum cardinality, and constraints on minimum requirements are called minimum cardinalities.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.5: How are data models used for database development?

Classification: Concept

83) \_\_\_\_\_ is the process of converting a data model into tables, relationships, and data constraints.

A) Database design

B) Database querying

C) Data mining

D) Database aggregation

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

84) \_\_\_\_\_ is the process of converting a poorly-structured table into two or more well-structured tables.

A) Optimization

B) Normalization

C) Refactoring

D) Standardization

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept



85) In a database, when data items are inaccurate and inconsistent with one another, it leads to a(n) \_\_\_\_\_.

- A) **data integrity problem**
- B) crow's-foot paradigm
- C) adaptation conflict
- D) security problem

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

86) A data integrity problem will occur only if \_\_\_\_\_.

- A) a database has multiple administrators
- B) **data are duplicated in a database**
- C) the database is very complex
- D) there are complex relationships between entities in a database

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

87) The process of normalization constructs tables such that every table has a \_\_\_\_\_.

- A) one-to-one relationship between entities
- B) **single theme**
- C) foreign key
- D) specialized graphical query

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

88) Identify the first step in transforming a data model into a relational database design.

- A) representing the entity relationships
- B) normalizing the data and files
- C) creating foreign keys
- D) **creating a table for each entity**

Answer: D

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

89) When using the relational model to represent two tables, one must \_\_\_\_\_.

- A) **add a foreign key to one of the tables**
- B) have more than two primary keys in the model
- C) establish only N:M relationships between the tables
- D) use metadata instead of foreign keys

Answer: A

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

90) Which of the following is true about the database development process?

- A) **The database structure is easy to change during the data modeling stage.在数据库模型设计阶段，结构容易更改**
- B) Changing a relationship from 1:N to N:M in an existing database is a complex and lengthy process.
- C) User review of the data model is avoided as it is not helpful in data modeling.
- D) Databases are easier to develop than spreadsheets.

Answer: A

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

91) \_\_\_\_\_ are the final judges as to what data the database should contain and how the records in that database should be related to one another.

- A) Administrators
- B) Developers
- C) **Users**
- D) Designers

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

92) The data integrity problem occurs only if data are duplicated.

Answer: TRUE

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

93) The accuracy of a database design is not dependent on the corresponding data model.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

94) The easiest time to change the database structure is after the data modeling stage.

Answer: FALSE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

95) How does normalization resolve the data integrity problem?

Answer: Normalization is the process of converting a poorly-structured table into two or more well-structured tables. If an attribute is entered correctly in one row and incorrectly in another, this leads to a problem called a data integrity problem.

The data integrity problem can occur only if data are duplicated. Because of this, one easy way to eliminate the problem is to eliminate the duplication of data. The general goal of normalization is to construct tables such that every table has a single topic or theme. Database practitioners classify tables into various normal forms according to the kinds of problems they have. Transforming a table into a normal form to remove duplicated data and other problems is called normalizing the table.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

96) What are the steps involved in transforming a data model into a relational database design?

Answer: To transform a data model into a relational database design, a database designer **creates a table for each entity**. The identifier of the entity becomes the key of the table. Each attribute of the entity then becomes a column of the table. Next, **the resulting tables are normalized** so that each table has a single theme followed by representing relationships among the tables that are normalized. **This includes adding foreign keys and additional tables** for N:M relationships.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

97) Explain the role of users in the database development process.

Answer: A database is a model of how the **users view their business world**. This means that the **users are the final judges as to what data the database should contain and how the records in that database should be related to one another**. Thus, user review of the data model is crucial. When a database is developed, users must carefully review the data model. If they do not understand any aspect of it, they should ask for clarification until they do. Entities must contain all of the data they need to do their jobs, and relationships must accurately reflect their view of the business. If the data model is wrong, the database will be designed incorrectly, and the applications will be difficult to use, if not worthless. Developers should not proceed with the database design unless the data model is accurate.

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.6: How is a data model transformed into a database design?

Classification: Concept

98) For Falcon Security, the primary purpose of creating a database of video information is to

- A) keep track of a single theme
- B) eliminate concern about the lost update problem
- C) enable querying based on video characteristics
- D) avoid the use of spreadsheets

Answer: C

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.7: How can Falcon Security benefit from a database system?

Classification: Concept

99) A significant difference between using Access versus Mongo DB to store Falcon Security's video information is:

- A) with Mongo DB the video footage and the metadata are stored in separate databases, while in Access the video footage and the metadata are stored in the same database.
- B) with Mongo DB the video footage and the metadata are stored in the same database, while in Access the video footage and the metadata are stored in separate databases.
- C) there is no significant difference in using Access versus Mongo DB for storing Falcon's video information.
- D) Mongo DB cannot be used for querying because it is a NoSQL database.

Answer: B

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.7: How can Falcon Security benefit from a database system?

Classification: Concept

100) Which of the following statements correctly describes the relationship between drones and videos in Falcon Security's database?

- A) A drone takes many videos; a video is taken by one and only one drone.
- B) A video is taken by many drones; a drone takes many videos.
- C) A video is taken by one and only one drone; a drone takes one and only one video.
- D) A drone takes one and only one video; a video is taken by many drones.

Answer: A

AACSB: Application of Knowledge

Difficulty: 3: Challenging

Course LO: Discuss best practices for using and managing databases

LO: 5.7: How can Falcon Security benefit from a database system?

Classification: Application

101) The term \_\_\_\_\_ implies that either all transactions related to a traditional relational DBMS are processed or none of them are processed.

- A) consistent
- B) **atomic**
- C) durable
- D) isolated

Answer: B

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.8: 2026?

Classification: Concept

102) Which of the following is true of in-memory DBMS products?

- A) **They support or extend the relational model.**
- B) They do not provide acid transaction support.
- C) They are a hotbed of development.
- D) MongoDB is an in-memory DBMS product.

Answer: A

AACSB: Information Technology

Difficulty: 2: Moderate

Course LO: Discuss best practices for using and managing databases

LO: 5.8: 2026?

Classification: Concept

103) NoSQL databases refer to nonrelational databases that support very high transaction rates processing relatively simple data structures, replicated on many servers in the cloud.

Answer: TRUE

AACSB: Information Technology

Difficulty: 1: Easy

Course LO: Discuss best practices for using and managing databases

LO: 5.8: 2026?

Classification: Concept