

***Processes, Systems, and Information (Kroenke/McKinney)***  
**Chapter 4 Database Processing**

1) If the structure of a list is complex, it is better to use a spreadsheet than a database.

Answer: FALSE

Page Ref: 92

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 1

Course LO: Discuss best practices for using and managing databases

2) The database is a self-describing collection of integrated records.

Answer: TRUE

Page Ref: 93

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

3) In a database, records refer to the data in columns.

Answer: FALSE

Page Ref: 93

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

4) A group of similar rows or records is called a field.

Answer: FALSE

Page Ref: 93

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

5) In a relational database, every table must have a key.

Answer: TRUE

Page Ref: 95

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

6) Relationships between tables in a relational database are accomplished by associating a foreign key in one table with a key field in another.

Answer: TRUE

Page Ref: 96

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

7) A database is called self-describing because it reduces data duplication.

Answer: FALSE

Page Ref: 96

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

8) Metadata are data that describe data.

Answer: TRUE

Page Ref: 96

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

9) The format of metadata is consistent across all software products used to process databases.

Answer: FALSE

Page Ref: 96

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

10) The database management system is a program used to create, process, and administer a database.

Answer: TRUE

Page Ref: 97

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

11) Database management systems are mostly developed by the organizations that use them.

Answer: FALSE

Page Ref: 97

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

12) Access and SQL Server are examples of DBMS products.

Answer: TRUE

Page Ref: 97

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

13) A DBMS is a software program; a database is a collection of tables of data, relationships, and metadata.

Answer: TRUE

Page Ref: 98

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

14) Database developers use the DBMS to create tables, relationships, and other structures in the database.

Answer: TRUE

Page Ref: 98

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

15) Structured Query Language is an international standard language for processing a database.

Answer: TRUE

Page Ref: 98

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

16) SQL can be used to create databases and database structures.

Answer: TRUE

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

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

Answer: TRUE

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

18) One of the development tasks of the database administrator is to develop a system to record and manage resolution of problems.

Answer: FALSE

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

19) Adaptation tasks for a database refer to backup and recovery processes.

Answer: FALSE

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

20) To determine processing rights/restrictions on each table and column is an important operational task of the database administrator.

Answer: TRUE

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

21) A database application is a collection of forms, reports, queries, and application programs that use the DBMS to process a database.

Answer: TRUE

Page Ref: 100

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

22) A single database can have only one application and user.

Answer: FALSE

Page Ref: 100

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

23) Pure database data are valuable, but they are not pertinent or useful in raw form.

Answer: TRUE

Page Ref: 100

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

24) Application programs do not allow database processing over the Internet.

Answer: FALSE

Page Ref: 101

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

25) The lost update problem can be solved by locking, which allows coordination of user activities.

Answer: TRUE

Page Ref: 102

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

26) A single-user database cannot be converted to a multi-user database.

Answer: FALSE

Page Ref: 102

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

27) Enterprise DBMS products process large organizational and workgroup databases.

Answer: TRUE

Page Ref: 103

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

28) Access is both a DBMS and an application development product.

Answer: TRUE

Page Ref: 104

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

29) Before building a database, developers construct a logical representation of its data called a data model.

Answer: TRUE

Page Ref: 104

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

30) User requirements from a database are summarized in a data model.

Answer: TRUE

Page Ref: 104

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

31) Both the E-R data model and UML are tools used for constructing data models.

Answer: TRUE

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

32) Unified Modeling Language (UML) is the most commonly used tool for data modeling.

Answer: FALSE

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

33) An entity is something that the users want to track, and attributes are those that describe their characteristics.

Answer: TRUE

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

34) In a data model, entities always represent physical objects.

Answer: FALSE

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

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

Answer: TRUE

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

36) Attributes describe the characteristics of an entity.

Answer: TRUE

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

37) When there are same number of entities on each side of the relationship, an N:M relationship can be referred to as an N:N relationship.

Answer: TRUE

Page Ref: 107

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

38) All entity relationships are represented using crow's foot diagrams.

Answer: FALSE

Page Ref: 107

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

39) The crow's-foot notation can show the maximum cardinality involved in a relationship.

Answer: TRUE

Page Ref: 107

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

40) Normalization is the process of converting a poorly structured table into two or more well-structured tables.

Answer: TRUE

Page Ref: 108

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases



41) The database design team transforms entities into tables and expresses relationships by defining foreign keys.

Answer: TRUE

Page Ref: 108

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

42) A data integrity problem is created due to inconsistent data in the database.

Answer: TRUE

Page Ref: 109

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

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

Answer: TRUE

Page Ref: 109

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

44) Normalized tables cannot eliminate data duplication, but they can be faster to process.

Answer: FALSE

Page Ref: 109

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

45) The general goal of normalization is to construct tables such that every table has a single topic or theme.

Answer: TRUE

Page Ref: 109

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

46) Normalization is the only criterion for evaluating database designs.

Answer: FALSE

Page Ref: 110

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

47) A foreign key must be added to at least one of the tables when using the relational model.

Answer: TRUE

Page Ref: 110

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

48) Database administrators 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.

Answer: FALSE

Page Ref: 112

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 6

Course LO: Discuss best practices for using and managing databases

49) The easiest time to change the database structure is during the data modeling stage.

Answer: TRUE

Page Ref: 112

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 6

Course LO: Discuss best practices for using and managing databases

50) Surrogate keys are unique identifiers assigned by the DBMS.

Answer: TRUE

Page Ref: 113

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 7

Course LO: Discuss best practices for using and managing databases

51) A(n) \_\_\_\_\_ is a self-describing collection of integrated records.

- A) identifier
- B) key
- C) entity
- D) database

Answer: D

Page Ref: 93

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

52) In a database, a \_\_\_\_\_ refers to a character of data.

- A) byte
- B) form
- C) query
- D) key

Answer: A

Page Ref: 93

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

53) Bytes are grouped into columns, which are also called \_\_\_\_\_.

- A) rows
- B) fields
- C) files
- D) bits

Answer: B

Page Ref: 93

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

54) In a database, rows are also known as \_\_\_\_\_.

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

Answer: D

Page Ref: 93

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

55) A \_\_\_\_\_ is a column or group of columns that identifies a unique row in a table.

- A) query
- B) record
- C) form
- D) key

Answer: D

Page Ref: 94-95

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

56) Databases that are organized in the form of tables and represent interconnections using foreign keys are called \_\_\_\_\_.

- A) object databases
- B) network databases
- C) relational databases
- D) hierarchical databases

Answer: C

Page Ref: 96

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

57) In a relational database, every table must have a \_\_\_\_\_.

- A) client
- B) field
- C) key
- D) query

Answer: C

Page Ref: 96

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

58) A database is considered self-describing because \_\_\_\_\_.

- A) all the users' data are in one place
- B) it contains data about the data
- C) it contains a listing of all the programs that use it
- D) it does not allow data duplication

Answer: B

Page Ref: 96

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

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

- A) distributed data store
- B) database model
- C) database transaction
- D) database management system

Answer: D

Page Ref: 97

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

60) Which of the following is a license-free, open-source database management system?

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

Answer: C

Page Ref: 97

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

61) Which of the following is a popular DBMS product from Microsoft?

- A) PowerPoint
- B) Outlook
- C) Silverlight
- D) Access

Answer: D

Page Ref: 97

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

62) A \_\_\_\_\_ is a software program; while a \_\_\_\_\_ is a collection of tables of data, relationships, and metadata.

- A) database; DBMS
- B) DBMS; database
- C) spreadsheet; DBMS
- D) database; spreadsheet

Answer: B

Page Ref: 98

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

63) \_\_\_\_\_ is an international standard language for processing a database and is supported by all major DBMS products.

- A) D4
- B) SQL
- C) MXML
- D) DB2

Answer: B

Page Ref: 98

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

64) Which of the following statements about Structured Query Language is true?

- A) SQL is a product-specific language used only with MySQL applications.
- B) SQL is the industry standard language used in the U.S., but not elsewhere.
- C) SQL is an international standard language for processing a database.
- D) Major DBMS products do not accept and process SQL statements.

Answer: C

Page Ref: 98

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

65) Which of the following database administration tasks is associated with database development?

- A) monitoring database performance
- B) monitoring backup procedures
- C) managing configuration change
- D) validating the data model

Answer: D

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

66) Which of the following database administration tasks is associated with database operation?

- A) evaluating application design
- B) forming a steering committee
- C) tracking and resolving problems
- D) conducting training

Answer: C

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

67) Which of the following database administration tasks is associated with database backup and recovery?

- A) managing security and ensuring that security system works
- B) conducting training for users and operations personnel on various procedures
- C) developing a system to record and prioritize requests for change
- D) ensuring that all appropriate user input is considered when designing a database

Answer: B

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

68) Which of the following is a database adaptation task?

- A) monitoring database performance
- B) managing configuration change
- C) monitoring backup procedures
- D) tracking problems and managing resolution

Answer: B

Page Ref: 99

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

69) A \_\_\_\_\_ is a collection of forms, reports, queries, and application programs that use the DBMS to process a database.

- A) foreign key
- B) surrogate key
- C) database application
- D) data model

Answer: C

Page Ref: 100

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

70) Reports are used to \_\_\_\_\_.

- A) read, insert, modify, and delete data
- B) create and administer a database
- C) show data in a structured context
- D) minimize the use of SQL in a database

Answer: C

Page Ref: 100

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases



71) Joanna wants to find a particular report containing the sales analyses of the company for the second and third quarters of the year. After accessing the DBMS, she should type in the keyword into a \_\_\_\_\_ to locate what she is looking for.

- A) surrogate key
- B) foreign key
- C) query form
- D) data model

Answer: C

Page Ref: 101

Difficulty: Hard

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

72) Which of the following is true of database application programs?

- A) They cannot enable database processing over the Internet.
- B) They are less effective than forms for non-standard functions.
- C) They allow modification, but not deletion, of database data.
- D) They process logic that is specific to a given business need.

Answer: D

Page Ref: 101

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

73) An important use of database application programs is to \_\_\_\_\_.

- A) control a particular computer's resources
- B) enhance the computer's performance
- C) generate data that describe data
- D) enable database processing over the Internet

Answer: D

Page Ref: 101

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

- 74) The lost update problem occurs when \_\_\_\_\_.  
A) multiple users make changes to a database  
B) a single row holds multiple values  
C) a user uses a personal rather than an enterprise database  
D) a multi-user database is converted to a single-user database

Answer: A

Page Ref: 102

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

- 75) A multi-user data base must implement \_\_\_\_\_ to prevent a lost update problem.

- A) encryption
- B) locking
- C) decryption
- D) anti-virus software

Answer: B

Page Ref: 102

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

- 76) Which of the following is a popular enterprise DBMS product?

- A) Access
- B) SQL Server
- C) dBase
- D) FoxPro

Answer: B

Page Ref: 103

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

- 77) Enterprise DBMS products \_\_\_\_\_.  
A) support a maximum of two users  
B) process large organizational and workgroup databases  
C) support only a single database application  
D) support only personal or workgroup applications

Answer: B

Page Ref: 103

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

78) In which of the following cases would the user(s) use a personal rather than an enterprise DBMS?

- A) A startup company needs a database that can accommodate its 150 employees and be expanded to include more users.
- B) A professor needs to maintain a database of his students' attendance and marks for the term.
- C) Gensys needs a DBMS that is accessible across its locations around the world.
- D) A university needs a database that can be accessed by students from all its departments.

Answer: B

Page Ref: 103

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

79) Qtopia Inc. needs a database system which can support approximately 20 trillion bytes of data and 5000 users within the organization. Which of the following DBMS products would be appropriate?

- A) Paradox
- B) FoxPro
- C) Access
- D) SQL Server

Answer: D

Page Ref: 103

Difficulty: Hard

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

80) Before building a database, a developer must construct a logical representation of the database called a(n) \_\_\_\_\_.

- A) flowchart
- B) data model
- C) algorithm
- D) data flow diagram

Answer: B

Page Ref: 104

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

81) Developers use \_\_\_\_\_ to define the entities that will be stored in the database and the relationships among those entities.

- A) the waterfall model
- B) spiral models
- C) incremental models
- D) the E-R data model

Answer: D

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

82) A(n)\_\_\_\_\_ is an attribute (or group of attributes) whose value is associated with one and only one entity instance.

- A) relationship
- B) query
- C) identifier
- D) primary key

Answer: C

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

83) In entity-relationship diagrams, crow's feet indicate \_\_\_\_\_.

- A) relationships between the various items
- B) the number of attributes each entity possesses
- C) whether a database is single-user or multi-user
- D) the number of applications in a database

Answer: A

Page Ref: 107

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

84) Many-to-many relationships are indicated using the \_\_\_\_\_ notation.

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

Answer: D

Page Ref: 107

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

85) In a university, a single student can be associated to many classes and one class can be associated to many students. This is an example of a(n) \_\_\_\_\_.

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

Answer: D

Page Ref: 107

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

86) An N:M relationship cannot be written as N:N, because \_\_\_\_\_.

- A) N:N is similar to 1:N relationship, which is a one-to-many relationship
- B) N:N implies that the relationship is between two of the same kind of entity
- C) N:N implies that there are the same number of entities on each side of the relationship
- D) N:N implies that the relationship is within a single entity

Answer: C

Page Ref: 107

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

87) Which of the following is true of N:M relationships?

- A) The number of entities on each side cannot be different.
- B) More than one entity is allowed on each side of the relationship.
- C) One side must have a greater number of entities than the other.
- D) They are also called one-to-many relationships.

Answer: B

Page Ref: 107

Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

88) \_\_\_\_\_ refers to the number of entities that can be involved in a relationship.

- A) Attribute
- B) Normal form
- C) Identifier
- D) Cardinality

Answer: D

Page Ref: 107

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

89) Constraints on the number of entities that can be in a relationship are called \_\_\_\_\_.

- A) normal forms
- B) minimum cardinalities
- C) queries
- D) primary keys

Answer: B

Page Ref: 107

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

90) The process of converting poorly structured tables into two or more well-structured tables is called \_\_\_\_\_.

- A) conversion
- B) certification
- C) normalization
- D) simplification

Answer: C

Page Ref: 108

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

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

- A) Data acquisition
- B) Database design
- C) Data enrichment
- D) Data warehousing

Answer: B

Page Ref: 105

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

92) The database design team transforms entities into \_\_\_\_\_.

- A) normal forms
- B) foreign keys
- C) tables
- D) bytes

Answer: C

Page Ref: 108

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

93) The database design team expresses relationships by defining \_\_\_\_\_.

- A) normal forms
- B) foreign keys
- C) attributes
- D) queries

Answer: B

Page Ref: 108

Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

94) Bill, a database designer, says that the tables in the manager's database are not normalized. What does he mean by this?

- A) He means that the tables have irregular, not-normal data.
- B) He means that the tables have a format that could cause data integrity problems.
- C) He means that the tables do not have duplicated data.
- D) He means that the tables do not represent entities.

Answer: B

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Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

95) Every normalized table has \_\_\_\_\_.

- A) multiple topics
- B) data integrity problems
- C) a single theme
- D) duplicated data

Answer: C

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases



96) The easiest time to change the database structure is during the \_\_\_\_\_ stage.

- A) data modeling
- B) data warehousing
- C) database design
- D) data entry

Answer: A

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 6

Course LO: Discuss best practices for using and managing databases

97) What is a database? Explain the contents of a database.

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. Columns or fields, in turn, are grouped into rows, which are also called records. The collection of data for all columns is called a row or a record. Finally, a group of similar rows or records is called a table or a file. A database is a collection of tables plus relationships among the rows in those tables, plus special data, called metadata, that describe the structure of the database.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

98) What are metadata? How are metadata used in databases?

Answer: Databases are self-describing because they contain not only data, but also data about the data in the database. Metadata are data that describe data. The presence of metadata makes databases much more useful. Because of metadata, no one needs to guess, remember, or even record what is in the database. To find out what a database contains, a user just looks at the metadata inside the database.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 2

Course LO: Discuss best practices for using and managing databases

99) What are the components of a database application system?

Answer: The three major components of a database application system are the database, the DBMS, and one or more database applications. Database application systems also have three other components: hardware, people and procedures. A database management system (DBMS) is a program used to create, process, and administer a database.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

100) What is a database management system (DBMS)? How does it differ from a database?

Answer: A database management system (DBMS) is a program used to create, process, and administer a database. A DBMS is a software program; a database is a collection of tables of data, relationships, and metadata. The two are very different in nature.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

101) What are the functions of a DBMS?

Answer:

1. Creating the database and its structures

Database developers use the DBMS to create tables, relationships, and other structures in the database. To create a new table, the developer just fills the new table's metadata into the form. To modify an existing table, for example to add a new column, the developer opens the metadata form for that table and adds a new row of metadata.

2. Processing the database

The second function of the DBMS is to process the database. Such processing can be quite complex, but, fundamentally, the DBMS provides four processing operations: read, insert, modify, or delete data.

3. Administering the database

A third DBMS function is to provide tools to assist in the administration of the database.

Database administration involves a wide variety of activities.

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Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

102) What is SQL?

Answer: Structured Query Language (SQL) is an international standard language for processing a database. All major DBMS products accept and process SQL statements. SQL is an international standard for processing a database. SQL can also be used to create databases and database structures.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

103) Explain the database administration tasks associated with the development of databases.  
Answer: For important databases, most organizations dedicate one or more employees to the role of database administration (DBA). Tasks associated with the development of a database include:

1. Create and staff DBA function - The size of a DBA group depends on size and complexity of database. Groups range from one part-time person to small group.
2. Form a steering committee - This consists of representatives of all user groups. It is a forum for community-wide discussions and decisions.
3. Specify requirements - It must be ensured that all appropriate user input is considered.
4. Validate data model - The data model must be checked for accuracy and completeness.
5. Evaluate application design - The employee must verify that all necessary forms, reports, queries, and applications are developed and validate the design and usability of application components.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

104) Explain the different operation database administration tasks.

Answer: For important databases, most organizations dedicate one or more employees to the role of database administration (DBA). Tasks associated with the operation of a database include:

1. Managing processing rights and responsibilities - Determining processing rights/restrictions on each table and column.
2. Managing security - Adding and deleting users and user groups as necessary; ensuring that the security system works.
3. Tracking problems and managing resolution - Developing a system to record and manage resolution of problems.
4. Monitoring database performance - Providing expertise/solutions for performance improvements.
5. Managing the DBMS - Evaluating new features and functions.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

105) Explain the different database administration tasks associated with the backup and recovery of databases.

Answer: For important databases, most organizations dedicate one or more employees to the role of database administration (DBA). Tasks associated with the operation of a database include:

1. Monitoring backup procedures - Verifying that database backup procedures are followed.
2. Conducting training- Ensuring that users and operations personnel know and understand recovery procedures.
3. Managing recovery - Managing the recovery process.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

106) Explain the different database administration tasks associated with the adaptation of databases.

Answer: For important databases, most organizations dedicate one or more employees to the role of database administration (DBA). Tasks associated with the adaptation of a database include:

1. Setting up a request tracking system - Developing a system to record and prioritize requests for change.
2. Managing configuration change - Managing the impact of database structure changes on applications and users.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

107) Why are database application programs needed?

Answer: Forms, reports, and queries work well for standard functions. However, most applications have unique requirements that a simple form, report, or query cannot meet. Application programs process logic that is specific to a given business need. Another important use of application programs is to enable database processing over the Internet. For this use, the application program serves as an intermediary between the Web server and the database. The application program responds to events, such as when a user presses a submit button; it also reads, inserts, modifies, and deletes database data. Users with browsers connect to the Web server via the Internet. The Web server directs user requests to the appropriate application program. Each program then processes the database as necessary.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

108) Explain the differences between Enterprise DBMS and Personal DBMS.

Answer: DBMS products fall into two broad categories. Enterprise DBMS products process large organizational and workgroup databases. These products support many, possibly thousands, of users and many different database applications. Such DBMS products support 24/7 operations and can manage databases that span dozens of different magnetic disks with hundreds of gigabytes or more of data. IBM's DB2, Microsoft's SQL Server, and Oracle's Oracle Database are examples of enterprise DBMS products. Personal DBMS products are designed for smaller, simpler database applications. Such products are used for personal or small workgroup applications that involve fewer than 100 users, and normally fewer than 15. In fact, the great bulk of databases in this category have only a single user.

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Difficulty: Moderate

AACSB: Use of information technology

Chapter LO: 3

Course LO: Discuss best practices for using and managing databases

109) Explain the Entity-Relationship Data Model, using an example.

Answer: The entity-relationship (E-R) data model is a tool for constructing data models. Developers use it to describe the content of a data model by defining the things (entities) that will be stored in the database and the relationships among those entities. 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. Example attributes of Salesperson are SalespersonName, Email, Phone, and so forth. Entities also 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. For the same reason, CustomerNumber is an identifier of Customer. If each member of the sales staff has a unique name, then SalespersonName is an identifier of Salesperson. Entities have relationships to each other. An Order, for example, has a relationship to a Customer entity and also to a Salesperson entity.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

110) With the help of a diagram, explain the difference between one-to-many and many-to-one relationships.

Answer: Consider an entity-relationship diagram for students and advisers in a university. A department can have many advisers, but an adviser has at most one department. Such a relationship is called 1:N, or one-to-many relationship. Again, an adviser can be related to many students and a student can be related to many advisers. Relationships like this one are called N:M, or many-to-many relationships, because one adviser can have many students and one student can have many advisers.

(Students' answers may vary.)

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Difficulty: Easy

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Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

111) Explain the significance of using N:M and not N:N to describe many-to-many entity relationships.

Answer: The N:M (many-to-many) relationship is not written as N:N, because that notation would imply that there are the same number of entities on each side of the relationship, which is not necessarily true. N:M means that more than one entity is allowed on each side of the relationship and that the number of entities on each side can be different.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

112) What are maximum cardinalities and minimum cardinalities?

Answer: The maximum number of entities that can be involved in a relationship are called the relationship's maximum cardinality. Common examples of maximum cardinality are 1:N, N:M, and 1:1. The minimum number of entities required in the relationship or the constraints on minimum requirements are called minimum cardinalities.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 4

Course LO: Discuss best practices for using and managing databases

113) Explain the importance of normalization for a database.

Answer: A data integrity problem is the situation that exists when the database contains inconsistent data. Data integrity problems are serious. A table that has data integrity problems will produce incorrect and inconsistent data. 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 duplicated data. The general goal of normalization is to construct tables such that every table has a single topic or theme. This is true of databases as well; every table should have a single theme. Database practitioners classify tables into various normal forms, which are classifications of tables 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. Normalization is the process of converting a poorly structured table into two or more well-structured tables.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

114) Explain the process of database design.

Answer:

1. Representing each entity with a table
  - Entity identifier becomes table key
  - Entity attributes become table columns
2. Normalizing tables as necessary
3. Representing relationships
  - Use foreign keys
  - Add additional tables for N:M relationships

(Students' answers may vary.)

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 5

Course LO: Discuss best practices for using and managing databases

115) What is the user's role in the development of databases?

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. User review of the data model is crucial. When a database is developed for one's use, the users must carefully review the data model. If they do not understand any aspect of it, they should ask for clarification. Entities must contain all of the data the users need to do their jobs, and relationships must accurately reflect the users' 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.

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Difficulty: Easy

AACSB: Use of information technology

Chapter LO: 6

Course LO: Discuss best practices for using and managing databases