Chapter 01: Introduction to Database Management

1. Redundancy wastes space because you are storing multiple copies of the same data.
   a. True
   b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: BITS Company Background

2. Redundancy makes changing data more cumbersome and time-consuming.
   a. True
   b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: BITS Company Background

3. An entity is a person, place, object, event, or idea for which you want to store and process data.
   a. True
   b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Terminology

4. A client is an example of an attribute.
   a. True
   b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Terminology

5. An attribute is known as a row in most databases.
   a. True
   b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Terminology

6. A database will not only hold information about multiple types of entities, but also information about the relationships among these multiple entities.
   a. True
   b. False

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ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Storing Data

7. Each table in a database represents two or more entities.
   a. True
   b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Storing Data

8. The relationship between different entities (in different tables) is handled by their common columns.
   a. True
   b. False
ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Storing Data

9. Users never interact with a database directly; database interaction is always through the DBMS.
   a. True
   b. False
ANSWER: True
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Database Management Systems

10. Programs created with Visual Basic, Java, Perl, PHP, or C++ can interact with the database directly.
   a. True
   b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Management Systems

11. A spreadsheet is a screen object used to maintain and view data from a database.
   a. True
   b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy

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REFERENCES: Database Management Systems

12. Increased complexity is one advantage of database processing.
    a. True
    b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Advantages of Database Processing

13. An advantage of using the database approach to processing is that it facilitates consistency.
    a. True
    b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Advantages of Database Processing

14. If a user is authorized to access database data, the user will always be able to make changes to the data.
    a. True
    b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Advantages of Database Processing

15. There is a greater impact of failure in a nondatabase, file-oriented system.
    a. True
    b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Disadvantages of Database Processing

16. Which term can be described as the duplication of data and storing it in multiple locations?
    a. data independence
    b. redundancy
    c. data integrity
    d. security

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: BITS Company Background

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17. Which of the following is called a field or column in many database systems?
    a. attribute
    b. entity
    c. data file
    d. relationship

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Terminology

18. Which database term is a person, place, object, event, or idea for which you want to store and process data?
    a. attribute
    b. DBMS
    c. entity
    d. DBA

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Terminology

19. In database terms, what is the analogy to an ordinary paper file you might keep in a file cabinet or an accounting ledger?
    a. database
    b. spreadsheet
    c. data file
    d. attribute

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Storing Data

20. Which aspect of an entity becomes the columns in the database table?
    a. attributes
    b. relationships
    c. data files
    d. E-R diagrams

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Storing Data

21. How are multiple entities stored in a database?
    a. each entity is stored as a row

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b. each entity is stored as an attribute
c. each entity is stored as a table
d. each entity is stored as a column

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Storing Data

22. What tool can you use to visually represent and analyze a database?
a. multi-sheet workbook
b. DBMS table identifier
c. entity-relationship diagram
d. DBA column analyzer

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Storing Data

23. What type of software programs are Access, Oracle, DB2, MySQL, and SQL Server?
a. E-R diagrams
b. DBAs
c. data files
d. DBMSs

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Management Systems

24. During which process does a database expert determine the structure of the required database?
a. data security
b. database integrity
c. database design
d. database selection

ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Database Management Systems

25. Which of the following are screen objects used to maintain, view, and print data from a database?
a. Fields
b. Forms
c. Data files

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d. Entities

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Management Systems

26. Which of the following statements is correct?
    a. In a nondatabase, file-oriented environment, data is often partitioned into several disjointed systems with each system having its own collection of files.
    b. User data cannot be combined and shared among authorized users.
    c. Database users should not have access to the same information.
    d. Controlling redundancy is easier with the nondatabase approach.

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Advantages of Database Processing

27. Which type of rule ensures that changes made to the database do not result in a loss of data consistency?
    a. redundancy constraint
    b. integrity constraint
    c. conflict requirement
    d. security requirement

ANSWER: b
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Advantages of Database Processing

28. How does the use of a database facilitate data consistency?
    a. by controlling redundancy
    b. by reducing security
    c. by eliminating integrity constraints
    d. by providing data independence

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Advantages of Database Processing

29. Which advantage of database processing makes it easier to make a change in the database structure?
    a. data independence
    b. integrity constraints
    c. redundancy control
    d. security controls

ANSWER: a

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POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Advantages of Database Processing

30. Which advantage of using a DBMS frees programmers who write database access programs from having to engage in mundane data manipulation activities, such as adding new data and deleting existing data?
    a. controlling redundancy
    b. referential integrity
    c. data independence
    d. increased productivity
ANSWER: d
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Advantages of Database Processing

31. Which factor can mitigate the problems of increased complexity that come with using a DBMS?
    a. writing complex access rules
    b. using large file sizes
    c. sound database design
    d. using no integrity constraints
ANSWER: c
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Disadvantages of Database Processing

32. Which of the following is true about big data?
    a. unstructured big data doesn't contain metadata
    b. a Twitter tweet is an example of structured big data
    c. all big data can be handled with traditional DBMS tools
    d. big data may be structured or unstructured
ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Big Data

33. What should an administrator use to more easily assign database access permissions to multiple users?
    a. groups
    b. classes
    c. attributes
    d. clusters
ANSWER: a
POINTS: 1
DIFFICULTY: Moderate

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REFERENCES: Advantages of Database Processing

34. Which database property lets you change the structure of the database without requiring you to change the programs that access the database?

a. database design
b. data independence
c. integrity constraint
d. data dependence

ANSWER: b
POINTS: 1
DIFFICULTY: Difficult
REFERENCES: Advantages of Database Processing

35. Which of the following is considered a disadvantage of a database system?

a. a larger file size
b. data dependence
c. reduced integrity
d. reduced productivity

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Disadvantages of Database Processing

36. In a(n) _____ relationship between two entities, an entity is associated with multiple other entities such as when a consultant is associated with multiple clients.

ANSWER: one-to-many
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Database Terminology

37. A program, or collection of programs, through which users interact with a database is known as a(n)_____ management system.

ANSWER: database
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Database Management Systems

38. In an E-R diagram rectangles represent _____.

ANSWER: entities
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Storing Data

39. In an E-R diagram, lines represent _____ between connected entities.

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ANSWER: relationships
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Storing Data

40. _____ describes the large volume of data produced by every digital process, system, sensor, mobile device, and even social media exchange.
ANSWER: Big data
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Big Data

41. A good DBMS provides data _____, which is a property that lets you change the structure of a database without requiring you to change the programs that access the database.
ANSWER: independence
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Advantages of Database Processing

42. The problem of inconsistency in data is a direct result of _____.
ANSWER: redundancy
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Advantages of Database Processing

43. _____ integrity is a relational database concept stating that table relationships must be consistent and follow integrity constraints.
ANSWER: Referential
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Advantages of Database Processing

44. _____ data is not organized or easily interpreted by traditional databases or data models.
ANSWER: Unstructured
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Big Data

45. A database file requires a large amount of disk space and internal _____.
ANSWER: memory
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Advantages of Database Processing

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46. List the advantages of database processing.

ANSWER: Getting more information from the same amount of data
Sharing data
Balancing conflicting requirements
Controlling redundancy
Facilitating consistency
Improving integrity
Expanding security
Increasing productivity
Providing data independence

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Advantages of Database Processing

47. Explain why it is better to try to control redundancy rather than eliminate it.

ANSWER: Although eliminating redundancy is the ideal, it is not always possible. Sometimes, for reasons having to do with performance, you might choose to introduce a limited amount of redundancy into a database. However, even in these cases, you would be able to keep the redundancy under tight control, thus obtaining the same advantages. This is why it is better to say that you control redundancy rather than eliminate it.

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Advantages of Database Processing

48. Discuss how the database approach and the nondatabase approach differ in terms of ensuring the security of the database.

ANSWER: A DBMS has many features that help ensure the enforcement of security measures. For example, a DBA can assign passwords to authorized users; then only those users who enter an acceptable password can gain access to the data in the database. Further, a DBMS lets you assign users to groups, with some groups permitted to view and update data in the database and other groups permitted only to view certain data in the database. With the nondatabase approach, you have limited security features and are more vulnerable to intentional and accidental access and changes to data.

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Advantages of Database Processing

49. List the disadvantages of database processing.

ANSWER: Larger file size
Increased complexity
Greater impact of failure
More difficult recovery

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Disadvantages of Database Processing

50. Explain why the impact of failure is greater in database processing, compared with the nondatabase approach.

ANSWER: In a nondatabase, file-oriented system, each user has a completely separate system; the failure of any

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single user's system does not necessarily affect any other user. On the other hand, if several users are sharing the same database, a failure on the part of any one user that damages the database in some way might affect all the other users.

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Disadvantages of Database Processing

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