Test Bank for Concepts of Database Management 9th Starks

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Chapter 02: The Relational Model 1: Introduction, QBE, and Relational Algebra

1. A relational database handles entities, attributes, and relationships by storing each entity in its own row.
    a. True
    b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Databases

2. The attributes of an entity become the fields or columns in a table.
    a. True
    b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Databases

3. In relational database shorthand, the structure of a relational database is written with the name of the table followed by the columns in the table listed within parentheses.
    a. True
    b. False

ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Database Shorthand

4. To select data from more than one table at the same time, you need to perform a make-table query.
    a. True
    b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Joining Tables

5. In a relation, the order of rows is important.
    a. True
    b. False

ANSWER: False
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Relational Databases

6. A relational database is a collection of tables.
    a. True
    b. False

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ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Databases

7. The primary key of a table is the row or rows that uniquely identify a given column in that table.
   a. True
   b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Database Shorthand

8. A column whose value uniquely identifies a given row in the table is the secondary key.
   a. True
   b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Database Shorthand

9. A query is a question represented in a way that the DBMS can recognize and process.
   a. True
   b. False
ANSWER: True
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Query-By-Example

10. In the Access Query window, the upper portion of the window contains the design grid.
   a. True
   b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Simple Queries

11. In Access, a parameter query allows you to enter criterion when you run the query.
   a. True
   b. False
ANSWER: True
POINTS: 1
DIFFICULTY: Easy

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REFERENCES: Parameter Queries

12. The relational operators are +, *, %, and /.
    a. True
    b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Operators

13. The field on which records are sorted is called the composite primary key.
    a. True
    b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Sorting

14. In an AND criterion, the overall criterion is true if either of the individual criteria is true.
    a. True
    b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Compound Criteria

15. The concept of grouping means that statistics will be calculated for individual records.
    a. True
    b. False
ANSWER: False
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Grouping

16. What uniquely identifies a row in a table?
    a. attribute
    b. column
    c. primary key
    d. field
ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Database Shorthand

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17. Which term is another word for a row in a table?
    a. tuple
    b. field
    c. group
    d. relation

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Databases

18. Which of the following is NOT true about a relation in a two-dimensional table?
    a. The entries in the table are single-valued.
    b. All values in a column are values of the same attribute.
    c. Two or more columns can share the same name.
    d. The order of rows is immaterial.

ANSWER: c
POINTS: 1
DIFFICULTY: Difficult
REFERENCES: Relational Databases

19. How do you refer to a column named State in a table named Client?
    a. State.Client
    b. State(Client)
    c. Client.State
    d. Client(State)

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Database Shorthand

20. Which of the following is the column or collection of columns that uniquely identifies a given row in that table?
    a. primary key
    b. secondary key
    c. foreign key
    d. minor key

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Database Shorthand

21. The compound criteria (conditions) are created by using which of the following two keywords?
    a. AND, OR

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b. AND, NOR
c. OR, NOT
d. NOT, ONLY

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Compound Criteria

22. What type of functions are Count, Sum, Avg, Max, and Min?
a. accumulation
b. allowed
c. primary
d. aggregate

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Functions

23. If you are sorting records by more than one field, which field is the more important field?
a. primary sort key
b. secondary sort key
c. maximum sort key
d. minor sort key

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Sorting

24. What type of query changes data?
a. addition
b. update
c. update
d. select

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Using an Update Query

25. What type of query creates a new table using the query results?
a. new-table
b. make-table
c. create-table

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d. merge-table

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Using a Make-Table Query

26. In relational algebra, what command causes only certain columns to be included in the new table?
a. SELECT
b. DELETE
c. PROGRAM
d. PROJECT

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Projection

27. Based on the table below, which command lists all information from the table concerning the customer with CustomerNum 260?
Customer (CustomerNum, CustomerName, Street, City, State, PostalCode)
a. SELECT Customer 260 RESULTS Answer
b. SELECT Customer WHERE CustomerNum=260 GIVING Answer
c. SELECT Customer GIVING Answer WHERE CustomerNum='260'
d. SELECT Customer WHERE CustomerNum='260' RESULTS Answer

ANSWER: b
POINTS: 1
DIFFICULTY: Difficult
REFERENCES: Selection

28. Based on the table below, which command creates a new table named CustState containing the fields CustomerNum and State?
Customer (CustomerNum, CustomerName, Street, City, State, PostalCode)
a. JOIN Customer WITH (CustomerNum, State) GIVING CustState
b. PROJECT Customer OVER (CustomerNum, State) GIVING CustState
c. SELECT Customer OVER (CustomerNum, State) GIVING CustState
d. MAKE-TABLE CustState FROM Customer WITH (CustomerNum, State)

ANSWER: b
POINTS: 1
DIFFICULTY: Difficult
REFERENCES: Projection

29. Which operation will allow you to extract data from more than one table?
a. Select
b. Merge

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c. Project
d. Join

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Joining

30. Based on the tables below, which command creates a new table named CustSales that combines the Customer and SalesPerson tables based on SalesPersonNum?
Customer (CustomerNum, CustomerName, Street, City, State, PostalCode, SalesPersonNum)
SalesPerson (SalesPersonNum, LastName, FirstName)

a. PROJECT Customer SalesPerson WHERE Customer.SalesPersonNum=SalesPerson.SalesPersonNum MAKING CustSales
b. UNION Customer SalesPerson WHERE Customer.SalesPersonNum=SalesPerson.SalesPersonNum MAKING CustSales
c. SELECT Customer SalesPerson JOIN Customer.SalesPersonNum=SalesPerson.SalesPersonNum GIVING CustSales
d. JOIN Customer SalesPerson WHERE Customer.SalesPersonNum=SalesPerson.SalesPersonNum GIVING CustSales

ANSWER: d
POINTS: 1
DIFFICULTY: Difficult
REFERENCES: Joining

31. Which of the following is true if two tables have the same number of columns and their corresponding columns represent the same type of data?

a. They are union compatible.
b. They are intersection compatible.
c. They are difference compatible.
d. They are product compatible.

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Union

32. Which operation is performed by the SUBTRACT command in relational algebra?

a. union
b. difference
c. product
d. intersection

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Difference

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33. Which operator is used to concatenate every row in the first table with every row in the second table?
    a. union
    b. difference
    c. product
    d. intersection

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Product

34. Which command contains all rows that are common in two tables?
    a. UNION
    b. SUBTRACT
    c. JOIN
    d. INTERSECT

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Intersection

35. Which command creates a table containing all rows that are in either or both of two tables?
    a. UNION
    b. SUBTRACT
    c. JOIN
    d. INTERSECT

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Union

36. A(n) _____ database is a collection of tables.

ANSWER: relational
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Databases

37. The relationships between tables are implemented through common _____.

ANSWER: columns
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Relational Databases

38. Multiple entries in tables are often called _____.

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ANSWER: repeating groups
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Relational Databases

39. When some of the entries in a structure contain repeating groups and thus are not single-valued, the structure is called a(n) _____.
ANSWER: unnormalized relation
POINTS: 1
DIFFICULTY: Difficult
REFERENCES: Relational Databases

40. A _____ primary key is composed of more than one column so that the row is unique.
ANSWER: composite
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Relational Database Shorthand

41. A _____ query in Access allows you to enter criterion when you run the query, as opposed to placing it in the design grid.
ANSWER: parameter
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Parameter Queries

42. When both criteria must be true for the compound criterion to be true, the _____ operator is being used.
ANSWER: AND
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Compound Criteria

43. To list the records in a query's results in a particular order, you need to _____ the records.
ANSWER: sort
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Sorting

44. A(n) _____ query makes a specified change to all records satisfying the criteria in the query.
ANSWER: update
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Using an Update Query

45. A query _____ is a DBMS component that analyzes queries and attempts to determine the

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most efficient way to execute a given query.

ANSWER: optimizer

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Query Optimization

46. List the six properties that define a relation in a two-dimensional table.

ANSWER: A relation is a two-dimensional table in which:
1. The entries in the table are single-valued; that is, each location in the table contains a single entry.
2. Each column has a distinct name
3. All values in a column are values of the same attributes
4. The order of columns is immaterial
5. Each row is distinct
6. The order of rows is immaterial

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Relational Databases

47. What is the difference between an AND criterion and an OR criterion?

ANSWER: In an AND criterion, both criteria must be true for the compound criterion to be true. In an OR criterion, the overall criterion is true if either of the individual criteria is true.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Compound Criteria

48. List at least six of the aggregate functions available in Access.

ANSWER: All products that support QBE, including Access, support the following built-in functions (called aggregate functions in Access): Count, Sum, Avg (average), Max (largest value), Min (smallest value), StDev (standard deviation), Var (variance), First, and Last.

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Functions

49. Discuss the difference between the major sort key and the minor sort key.

ANSWER: To list the records in query results in a particular way, you need to sort the records. The field on which records are sorted is called the sort key; you can sort records using more than one field when necessary. When you are sorting records by more than one field (such as sorting by rep number and then by customer name), the first sort field (RepNum) is called the major sort key (also called the primary sort key) and the second sort field (CustomerName) is called the minor sort key (also called the secondary sort key).

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Sorting

50. Explain what relational algebra is and how it is used.

ANSWER: Relational algebra is a theoretical way of manipulating a relational database. Relational algebra includes operations that act on existing tables to produce new tables, similar to the way the operations of addition

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and subtraction act on numbers to produce new numbers in the mathematical algebra with which you are familiar. Retrieving data from a relational database through the use of relational algebra involves issuing relational algebra commands to operate on existing tables to form a new table containing the desired information. Sometimes you might need to execute a series of commands to obtain the desired result.

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Relational Algebra

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