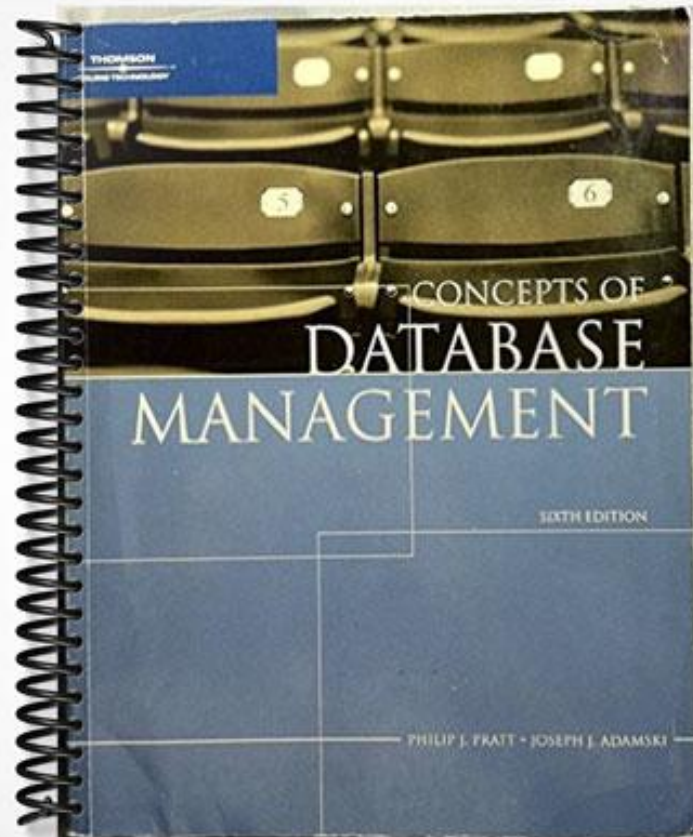


TEST BANK



Ch02

True/False

Indicate whether the statement is true or false.

- ___ 1. A relational database handles entities, attributes, and relationships by storing each entity in its own table.
- ___ 2. The attributes of an entity become the fields or columns in a table.
- ___ 3. Each column in a table should have a unique name, and entries in each column should all “match” this column name.
- ___ 4. In a relation, the order of the columns is important.
- ___ 5. In a relation, the order of rows is important.
- ___ 6. A relational database is a collection of relations.
- ___ 7. An unnormalized relation is a table that has more than one row.
- ___ 8. A column whose value uniquely identifies a given row in the table is the secondary key.
- ___ 9. A query is a question represented in a way that the DBMS can recognize and process.
- ___ 10. QBE is a visual approach to writing queries.
- ___ 11. Access automatically adds double quotation marks around values in the design grid that are formatted as Text fields when you run the query or move the insertion point to another cell in the design grid.
- ___ 12. The comparison operators are +, *, %, and /.
- ___ 13. The comparison operators are also known as relational operators.
- ___ 14. In an AND criterion, the overall criterion is true if either of the individual criteria is true.
- ___ 15. The concept of grouping means that statistics will be calculated for individual records.

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ___ 16. A relation is a(n) _____.
 - a. attribute
 - b. column
 - c. field
 - d. table
- ___ 17. Based on the statement below, which of the following is the primary key?
Rep (RepNum, LastName, FirstName, Street, City, State, Zip, Commission, Rate)
 - a. RepNum
 - b. LastName
 - c. FirstName
 - d. State

- ___ 18. When duplicate column names exist in a database and you need to indicate the column to which you are referring, ____.
- do not use these two tables together
 - do not use the column names in the same statement
 - write both the table name and the column name, separated by a period
 - write the table name only
- ___ 19. Rows are also called ____.
- fields
 - columns
 - tuples
 - attributes
- ___ 20. The ____ key of a table is the column or collection of columns that uniquely identifies a given row in that table.
- primary
 - secondary
 - foreign
 - minor
- ___ 21. The compound criteria (conditions) are created by using ____.
- AND, OR
 - AND, NOR
 - OR, NOT
 - NOT, ONLY
- ___ 22. Count, Sum, Avg, Max, and Min are a few of the built-in statistics or ____ functions that can be used in a query.
- accumulated
 - allowed
 - primary
 - aggregate
- ___ 23. If you are sorting records by more than one field, the more important field is called the ____.
- primary sort key
 - secondary sort key
 - maximum sort key
 - minor sort key
- ___ 24. A query that changes data is a(n) ____ query.
- addition
 - update
 - update
 - select
- ___ 25. A ____ query creates a new table using the query results.
- new-table
 - make-table
 - create-table
 - merge-table
- ___ 26. The ____ command within relational algebra takes a vertical subset of a table.
- SELECT
 - DELETE
 - PROGRAM
 - PROJECT
- ___ 27. Based on the *Customer* table below, which command lists all information from the table concerning customer 282?
- | <u>CustomerNum</u> | <u>CustomerName</u> | <u>Street</u> | <u>City</u> | <u>State</u> | <u>Zip</u> |
|--------------------|-----------------------|--------------------|----------------|--------------|--------------|
| 148 | <i>Al's Appliance</i> | <i>28 Greenway</i> | <i>Filmore</i> | <i>FL</i> | <i>33336</i> |
| 282 | <i>Brookings</i> | <i>3827 Devon</i> | <i>Grove</i> | <i>FL</i> | <i>33321</i> |
- SELECT Customer 282 GIVING Answer
 - SELECT Customer WHERE CustomerNum=282 GIVING Answer
 - SELECT Customer WHERE Customernum='282' GIVING Answer
 - SELECT Customer WHERE CustomerName='282' GIVING Answer
- ___ 28. The ____ command within relational algebra includes the word OVER followed by a list of the columns to be included.

- a. DELETE
- b. PROJECT
- c. INTERSECT
- d. UNION

- ___ 29. Which operation will allow you to extract data from more than one table?
- a. Select
 - b. Merge
 - c. Project
 - d. Join
- ___ 30. You can restrict the output from a join to include only certain columns by using the ___ command.
- a. DELETE
 - b. UNION
 - c. PROJECT
 - d. INTERSECT
- ___ 31. Two tables are considered to be ___ compatible if they have the same number of columns and their corresponding columns represent the same type of data.
- a. union
 - b. intersection
 - c. difference
 - d. product
- ___ 32. The ___ operator is performed by the SUBTRACT command in relational algebra.
- a. union
 - b. difference
 - c. product
 - d. intersection
- ___ 33. The ___ 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
- ___ 34. The product of two tables is also called the ___ product.
- a. Cartesian
 - b. aggregate
 - c. Cathode
 - d. exponential
- ___ 35. Using the product operator, if table A has 4 rows and table B has 4 rows, the number of rows in the product of these two tables is ___.
- a. 4
 - b. 8
 - c. 16
 - d. 256

Completion

Complete each statement.

36. A(n) _____ database is a collection of tables.
37. The relationships between tables are handled through _____ columns.
38. Multiple entries in tables are often called _____.
39. When a structure satisfies all the properties of a relation except for the first item—in other words, some entries contain repeating groups and thus are not single-valued—it is referred to as a(n) _____.
40. Columns in a table are often called _____.
41. Conditions that data must satisfy are called _____.

42. A(n) _____ field is a field that is the result of a calculation using one or more existing fields.
43. To list the records in a query's results in a particular order, you need to _____ the records.
44. The field on which records are sorted is called the _____.
45. _____ is a theoretical way of manipulating a relational database.

Essay

46. Provide a definition for the term relation.
47. What is the difference between an AND criterion and an OR criterion? How is each criterion created in QBE?
48. List at least six of the aggregate functions available in Access. Explain how to use any of these functions in a query.
49. Discuss the difference between the major sort key and the minor sort key.
50. Explain what relational algebra is and how it is used.

Ch02

Answer Section

TRUE/FALSE

1. ANS: T	PTS: 1	REF: 31
2. ANS: T	PTS: 1	REF: 31
3. ANS: T	PTS: 1	REF: 31
4. ANS: F	PTS: 1	REF: 31
5. ANS: F	PTS: 1	REF: 31
6. ANS: T	PTS: 1	REF: 31
7. ANS: F	PTS: 1	REF: 31
8. ANS: F	PTS: 1	REF: 32
9. ANS: T	PTS: 1	REF: 32
10. ANS: T	PTS: 1	REF: 32
11. ANS: T	PTS: 1	REF: 36
12. ANS: F	PTS: 1	REF: 37
13. ANS: T	PTS: 1	REF: 37
14. ANS: F	PTS: 1	REF: 37
15. ANS: F	PTS: 1	REF: 44

MULTIPLE CHOICE

16. ANS: D	PTS: 1	REF: 31
17. ANS: A	PTS: 1	REF: 32
18. ANS: C	PTS: 1	REF: 32
19. ANS: C	PTS: 1	REF: 32
20. ANS: A	PTS: 1	REF: 32
21. ANS: A	PTS: 1	REF: 37
22. ANS: D	PTS: 1	REF: 42
23. ANS: A	PTS: 1	REF: 45
24. ANS: C	PTS: 1	REF: 53
25. ANS: B	PTS: 1	REF: 54
26. ANS: D	PTS: 1	REF: 57
27. ANS: B	PTS: 1	REF: 57
28. ANS: B	PTS: 1	REF: 57
29. ANS: D	PTS: 1	REF: 58
30. ANS: C	PTS: 1	REF: 59
31. ANS: A	PTS: 1	REF: 61
32. ANS: B	PTS: 1	REF: 61
33. ANS: C	PTS: 1	REF: 62
34. ANS: A	PTS: 1	REF: 62
35. ANS: C	PTS: 1	REF: 62

COMPLETION

36. ANS: relational
PTS: 1 REF: 29
37. ANS: common
PTS: 1 REF: 31
38. ANS: repeating groups
PTS: 1 REF: 31
39. ANS: unnormalized relation
PTS: 1 REF: 31
40. ANS:
fields
attributes
PTS: 1 REF: 32
41. ANS: criteria
PTS: 1 REF: 35
42. ANS:
computed
calculated
PTS: 1 REF: 40
43. ANS: sort
PTS: 1 REF: 45
44. ANS: sort key
PTS: 1 REF: 45
45. ANS: Relational algebra
PTS: 1 REF: 56

ESSAY

46. ANS:
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
- PTS: 1 REF: 31

47. ANS:

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. In QBE, to create an AND criterion, place the criteria for multiple fields on the same Criteria row in the design grid; to create an OR criterion, place the criteria for multiple fields on different Criteria rows in the design grid.

PTS: 1 REF: 37

48. ANS:

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. To use any of these functions in a query, you include them in the Total row for the desired column in the design grid. By default, the Total row does not appear automatically in the design grid. To include it, you must click the Totals button in the Show/Hide group on the Query Tools Design tab.

PTS: 1 REF: 42

49. ANS:

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**).

PTS: 1 REF: 45

50. ANS:

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 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.

PTS: 1 REF: 56|57