

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

True / False

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: Examining Relational Databases

LEARNING OBJECTIVES: CDBM.PRAT.21.02.01 - Describe the relational database model

KEYWORDS: Bloom's: Understand

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: Examining Relational Databases

LEARNING OBJECTIVES: CDBM.PRAT.21.02.01 - Describe the relational database model

KEYWORDS: Bloom's: Understand

3. Microsoft Access uses Query Design View as a QBE.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Creating Simple Queries and Using Query-by-Example

LEARNING OBJECTIVES: CDBM.PRAT.21.02.02 - Explain Query-By-Example (QBE)

KEYWORDS: Bloom's: Remember

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

LEARNING OBJECTIVES: CDBM.PRAT.21.02.07 - Join tables in QBE

KEYWORDS: Bloom's: Understand

5. In Access, you can display the results of a select query using the Run button or the View button.

- a. True
- b. False

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

ANSWER: True
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Creating Simple Queries and Using Query-by-Example
LEARNING OBJECTIVES: CDBM.PRAT.21.02.02 - Explain Query-By-Example (QBE)
KEYWORDS: Bloom's: Remember

Multiple Choice

6. What happens when you run a select query in Access?
- Access creates a unique copy of the data.
 - Access selects current data from underlying tables.
 - Access creates a table with the specified fields and records.
 - Access locks the underlying tables so they cannot be changed.

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Creating Simple Queries and Using Query-by-Example
LEARNING OBJECTIVES: CDBM.PRAT.21.02.02 - Explain Query-By-Example (QBE)
KEYWORDS: Bloom's: Remember

7. If you want to select records containing the text Consulting in the ProjectType field, how does Access save the criterion in the query grid of Query Design View?
- "Consulting"
 - #Consulting#
 - [Consulting]
 - (Consulting)

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Using Simple Criteria
LEARNING OBJECTIVES: CDBM.PRAT.21.02.03 - Use criteria in QBE
KEYWORDS: Bloom's: Remember

8. When you can determine the value of a field using information from existing fields in a record in a query, you should create a(n) ____.
- argument
 - compound condition
 - grouping field
 - computed field

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Creating Computed Fields
LEARNING OBJECTIVES: CDBM.PRAT.21.02.04 - Create calculated fields in QBE

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

KEYWORDS: Bloom's: Understand

9. If you are creating a computed field that adds 10 percent to the UnitPrice field, how do you enter the UnitPrice field name in the expression?

- a. "UnitPrice"
- b. Unit Price
- c. [UnitPrice]
- d. (UnitPrice)

ANSWER: c

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Creating Computed Fields

LEARNING OBJECTIVES: CDBM.PRAT.21.02.04 - Create calculated fields in QBE

KEYWORDS: Bloom's: Remember

10. In Access a(n) _____ query permanently removes all the records from the selected table(s) that satisfy the criteria entered in the query.

- a. update
- b. delete
- c. make-table
- d. parameter

ANSWER: b

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Using an Update Query

LEARNING OBJECTIVES: CDBM.PRAT.21.02.08 - Update data using action queries in QBE

KEYWORDS: Bloom's: Remember

11. In Access, if you want to be able to enter different criteria each time you run a query, create a(n) _____ query.

- a. update
- b. parameter
- c. run-time
- d. aggregate

ANSWER: b

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Using Simple Criteria

LEARNING OBJECTIVES: CDBM.PRAT.21.02.03 - Use criteria in QBE

KEYWORDS: Bloom's: Remember

12. In relational algebra, which command retrieves rows from a table based on specified criteria?

- a. SELECT
- b. JOIN
- c. CREATE
- d. UNION

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Examining Relational Algebra
LEARNING OBJECTIVES: CDBM.PRAT.21.02.09 - Apply relational algebra
KEYWORDS: Bloom's: Remember

13. In Access, if you want a query to list the ProductID, Category, and Description field values and sort the records by description within each category, how should you arrange the fields from left to right in the query design grid?

- a. ProductID, Description, Category
- b. Description, Category, ProductID
- c. Description, ProductID, Category
- d. ProductID, Category, Description

ANSWER: d
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Sorting Records
LEARNING OBJECTIVES: CDBM.PRAT.21.02.06 - Sort data in QBE
KEYWORDS: Bloom's: Apply

14. The field you use to sort records is called the _____.

- a. sort key
- b. sort argument
- c. parent key
- d. foreign key

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Sorting Records
LEARNING OBJECTIVES: CDBM.PRAT.21.02.06 - Sort data in QBE
KEYWORDS: Bloom's: Remember

15. Which aggregate function do you use to total the values in a numeric field in a group of records?

- a. Sum
- b. Total
- c. Count
- d. Max

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Summarizing with Aggregate Functions and Grouping
LEARNING OBJECTIVES: CDBM.PRAT.21.02.05 - Summarize data by applying aggregate functions in QBE
KEYWORDS: Bloom's: Understand

16. In Access, what uniquely identifies a row in a table?

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

- a. attribute
- b. column
- c. primary key
- d. field

ANSWER: c

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Examining Relational Databases

LEARNING OBJECTIVES: CDBM.PRAT.21.02.01 - Describe the relational database model

KEYWORDS: Bloom's: Remember

17. Which database term refers to a row in a table?

- a. tuple
- b. field
- c. group
- d. relation

ANSWER: a

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Examining Relational Databases

LEARNING OBJECTIVES: CDBM.PRAT.21.02.01 - Describe the relational database model

KEYWORDS: Bloom's: Remember

18. Which of the following is NOT true about a relation, otherwise known as a two-dimensional table?

- a. The entries in the table should be single-valued.
- b. All values in a column should be values of the same attribute.
- c. Two or more columns can share the same name.
- d. The order of rows is not important.

ANSWER: c

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Examining Relational Databases

LEARNING OBJECTIVES: CDBM.PRAT.21.02.01 - Describe the relational database model

KEYWORDS: Bloom's: Understand

19. The Access query design grid contains the ProductID, ProductName, and Rating fields. How can you omit the Rating field from the query results but use it to set a criterion for the query?

- a. Delete the Rating field from the query design grid.
- b. Add a second copy of the Rating field to the query design grid.
- c. Clear the checkmark from the Rating field's Show check box.
- d. Change the query to an update query.

ANSWER: c

POINTS: 1

DIFFICULTY: Easy

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

REFERENCES: Creating Simple Queries and Using Query-By-Example

LEARNING OBJECTIVES: CDBM.PRAT.21.02.02 - Explain Query-By-Example (QBE)

KEYWORDS: Bloom's: Remember

20. A _____ is a question about the data structured in a way that the DBMS can recognize and process.

- a. query
- b. product
- c. relationship
- d. tuple

ANSWER: a

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Creating Simple Queries and Using Query-By-Example

LEARNING OBJECTIVES: CDBM.PRAT.21.02.02 - Explain Query-By-Example (QBE)

KEYWORDS: Bloom's: Remember

21. You can create compound criteria (conditions) in a query by using which of the following two keywords?

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

ANSWER: a

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Using Compound Criteria

LEARNING OBJECTIVES: CDBM.PRAT.21.02.03 - Use criteria in QBE

KEYWORDS: Bloom's: Remember

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: Summarizing with Aggregate Functions and Grouping

LEARNING OBJECTIVES: CDBM.PRAT.21.02.05 - Summarize data by applying aggregate functions in QBE

KEYWORDS: Bloom's: Remember

23. If you are sorting records by more than one field, which field is the first field that is evaluated for sorting purposes?

- a. primary sort key
- b. secondary sort key
- c. maximum sort key

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

d. minor sort key

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Sorting Records
LEARNING OBJECTIVES: CDBM.PRAT.21.02.06 - Sort data in QBE
KEYWORDS: Bloom's: Remember

24. What type of Access query changes data?

- a. addition
- b. projection
- c. update
- d. select

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Using an Update Query
LEARNING OBJECTIVES: CDBM.PRAT.21.02.08 - Update data using action queries in QBE
KEYWORDS: Bloom's: Remember

25. What type of Access query creates a new table using the query results?

- a. new-table
- b. make-table
- c. create-table
- d. merge-table

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Using a Make-Table Query
LEARNING OBJECTIVES: CDBM.PRAT.21.02.08 - Update data using action queries in QBE
KEYWORDS: Bloom's: Remember

26. In relational algebra, what command is used to identify certain columns?

- a. SELECT
- b. DELETE
- c. PROGRAM
- d. PROJECT

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Examining Relational Algebra
LEARNING OBJECTIVES: CDBM.PRAT.21.02.09 - Apply relational algebra
KEYWORDS: Bloom's: Remember

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

27. Based on the following notation, which relational algebra command would list all information from the table concerning the customer with numeric CustomerNum 260?

Customer (CustomerNum, CustomerName, Street, City, State, PostalCode)

- SELECT Customer 260 RESULTS Answer
- SELECT Customer WHERE CustomerNum=260 GIVING Answer
- SELECT Customer GIVING Answer WHERE CustomerNum='260'
- SELECT Customer WHERE CustomerNum='260' RESULTS Answer

ANSWER: b

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Examining Relational Algebra

LEARNING OBJECTIVES: CDBM.PRAT.21.02.09 - Apply relational algebra

KEYWORDS: Bloom's: Apply

28. Based on the following table, which relational algebra command creates a new table named CustState containing the fields CustomerNum and State?

Customer (CustomerNum, CustomerName, Street, City, State, PostalCode)

- JOIN Customer WITH (CustomerNum, State) GIVING CustState
- PROJECT Customer OVER (CustomerNum, State) GIVING CustState
- SELECT Customer OVER (CustomerNum, State) GIVING CustState
- MAKE-TABLE CustState FROM Customer WITH (CustomerNum, State)

ANSWER: b

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: Examining Relational Algebra

LEARNING OBJECTIVES: CDBM.PRAT.21.02.09 - Apply relational algebra

KEYWORDS: Bloom's: Apply

29. In general, what should be in place before you select fields from more than one table in Access Query Design View?

- The tables should not contain fields with the same field name.
- The tables should be merged into one table.
- The join line between the tables should be deleted.
- The tables should be related in a proper one-to-many relationships.

ANSWER: d

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Joining Tables

LEARNING OBJECTIVES: CDBM.PRAT.21.02.07 - Join tables in QBE

KEYWORDS: Bloom's: Understand

30. For a one-to-many relationship in the Access Relationships window, how can you tell which table is the "many" table?

- The one symbol identifies the "many" table.
- The "many" table always appears to the left of the "one" table.
- The "many" table always appears below the "one" table.
- An infinity symbol identifies the "many" table.

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Joining Tables
LEARNING OBJECTIVES: CDBM.PRAT.21.02.07 - Join tables in QBE
KEYWORDS: Bloom's: Remember

31. What do you call the field used to join two tables on the “many” side of a one-to-many relationship?

- a. foreign key field
- b. primary key field
- c. secondary sort field
- d. calculated field

ANSWER: a
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Joining Tables
LEARNING OBJECTIVES: CDBM.PRAT.21.02.07 - Join tables in QBE
KEYWORDS: Bloom's: Remember

32. Which of the following fields would be the best candidate for a primary key field in a table of employee data?

- a. LastName
- b. EmployeeID
- c. Email
- d. BirthDate

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Joining Tables
LEARNING OBJECTIVES: CDBM.PRAT.21.02.07 - Join tables in QBE
KEYWORDS: Bloom's: Understand

33. What type of query could you run to remove records with a product ID of 702 from the Products table?

- a. update query
- b. difference query
- c. delete query
- d. parameter query

ANSWER: c
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Using a Delete Query
LEARNING OBJECTIVES: CDBM.PRAT.21.02.08 - Update data using action queries in QBE
KEYWORDS: Bloom's: Understand

34. Which of the following is a technique for increasing the speed of Access queries?

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

- a. Use Query Design View to join tables.
- b. Type field names directly into the query design grid.
- c. Include fields considered optional for the query.
- d. Delete field lists that are not needed for the query.

ANSWER: d

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Optimizing Queries

LEARNING OBJECTIVES: CDBM.PRAT.21.02.08 - Update data using action queries in QBE

KEYWORDS: Bloom's: Remember

35. In an Access query, how can you list records in A-Z order by last name?

- a. Set an ascending sort order on the LastName field.
- b. Group the LastName field.
- c. Set a descending sort order in the LastName field.
- d. Remove the checkmark from the Show box in the LastName field.

ANSWER: a

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Sorting Tables

LEARNING OBJECTIVES: CDBM.PRAT.21.02.06 - Sort data in QBE

KEYWORDS: Bloom's: Remember

36. In the Access QBE, where do you specify criteria for a query?

- a. in the upper pane of Query Design View
- b. in the Criteria row of the query design grid
- c. in Datasheet view of the query
- d. in the Navigation Pane

ANSWER: b

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Creating Simple Queries and Using Query-by-Example

LEARNING OBJECTIVES: CDBM.PRAT.21.02.02 - Explain Query-By-Example (QBE)

KEYWORDS: Bloom's: Remember

37. Which of the following criteria selects all records containing a value greater than 250?

- a. ="250"
- b. 250
- c. <>250
- d. >250

ANSWER: d

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Using Simple Criteria

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

LEARNING OBJECTIVES: CDBM.PRAT.21.02.03 - Use criteria in QBE

KEYWORDS: Bloom's: Remember

38. If you use _____ criteria, each criterion must be true for a record to be selected.
- a. OR
 - b. aggregate
 - c. AND
 - d. BOTH

ANSWER: c

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Using Compound Criteria

LEARNING OBJECTIVES: CDBM.PRAT.21.02.03 - Use criteria in QBE

KEYWORDS: Bloom's: Remember

39. A _____ in a record is the result of a calculation using data from the rest of the record.
- a. foreign key field
 - b. composite field
 - c. grouping field
 - d. computed field

ANSWER: d

POINTS: 1

DIFFICULTY: Easy

REFERENCES: Creating Computed Fields

LEARNING OBJECTIVES: CDBM.PRAT.21.02.04 - Create calculated fields in QBE

KEYWORDS: Bloom's: Remember

40. Which of the following expressions in Access Query Design View creates a computed field named MonthlySalary using a value from the Salary field?

- a. $\text{MonthlySalary} = [\text{Salary} / 12]$
- b. $\text{MonthlySalary: } [\text{Salary}] / 12$
- c. $\text{Salary} / 12 = [\text{MonthlySalary}]$
- d. $\text{MonthlySalary: "Salary"} / 12$

ANSWER: b

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Creating Computed Fields

LEARNING OBJECTIVES: CDBM.PRAT.21.02.04 - Create calculated fields in QBE

KEYWORDS: Bloom's: Apply

41. Which of the following Access functions can you use to return the number of records in a group of records?
- a. Group
 - b. Count
 - c. Total
 - d. Number

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

ANSWER: b
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Creating Computed Fields
LEARNING OBJECTIVES: CDBM.PRAT.21.02.04 - Create calculated fields in QBE
KEYWORDS: Bloom's: Remember

42. In Access Query Design View, which of the following expressions calculates the number of days between today's date and a field named DueDate?

- a. Date – DueDate
- b. Today – [DueDate]
- c. Day() – [DueDate]
- d. Date() – [DueDate]

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Creating Computed Fields
LEARNING OBJECTIVES: CDBM.PRAT.21.02.04 - Create calculated fields in QBE
KEYWORDS: Bloom's: Apply

43. In Access Query Design View, how do you add the Total row to the query design grid?

- a. Click the Totals button on the Query Tools Design tab.
- b. Click the Group by arrow in the Criteria row, and then click Total.
- c. Click the Grouping button on the Query Tools Design tab.
- d. Drag the Total field to the query design grid.

ANSWER: a
POINTS: 1
DIFFICULTY: Easy
REFERENCES: Summarizing with Aggregate Functions and Grouping
LEARNING OBJECTIVES: CDBM.PRAT.21.02.05 - Summarize data by applying aggregate functions in QBE
KEYWORDS: Bloom's: Remember

44. If you use an aggregate function in a query to determine the average values in a Bonus field, what default field name does Access use for the column with the calculations?

- a. Bonus
- b. Average Bonus
- c. BonusAvg
- d. AvgOfBonus

ANSWER: d
POINTS: 1
DIFFICULTY: Moderate
REFERENCES: Summarizing with Aggregate Functions and Grouping
LEARNING OBJECTIVES: CDBM.PRAT.21.02.05 - Summarize data by applying aggregate functions in QBE
KEYWORDS: Bloom's: Remember

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

45. How are aggregate functions different from other types of functions?
- Aggregate functions make calculations on groups of records.
 - Aggregate functions return yes/no or true/false values.
 - Aggregate functions work only with numeric data.
 - Aggregate functions do not work with date values.

ANSWER: a

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: Summarizing with Aggregate Functions and Grouping

LEARNING OBJECTIVES: CDBM.PRAT.21.02.05 - Summarize data by applying aggregate functions in QBE

KEYWORDS: Bloom's: Understand

Essay

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

ANSWER: A relation is a two-dimensional table in which:

- The entries in the table are single-valued; that is, each intersection of a row and column in the table contains only one value.
- Each column has a distinct name.
- All values in a column are values of the same attributes.
- The order of columns is not important.
- Each row is distinct.
- The order of rows is immaterial.

POINTS: 1

RUBRIC:

Criteria	15	0
	Pts	Your Score
The answer includes six properties.	3	
One property is similar to "The entries in the table are single-valued; that is, each intersection of a row and column in the table contains only one value"	2	
One property is similar to "Each column has a distinct name."	2	
One property is similar to "All values in a column are values of the same attributes."	2	
One property is similar to "The order of columns is not important."	2	
One property is similar to "Each row is distinct."	2	
One property is similar to "The order of rows is immaterial."	2	

DIFFICULTY: Difficult

REFERENCES: Examining Relational Databases

LEARNING OBJECTIVES: CDBM.PRAT.21.02.01 - Describe the relational database model

KEYWORDS: Bloom's: Remember

47. What is the difference between the records that are selected when AND criteria versus OR criteria in a query?

ANSWER: In AND criteria, each criterion must be true for a record to be selected. In OR criteria, only

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

one of the criterion must be true for a record to be selected.

POINTS: 1

RUBRIC:

Criteria	10	0
	Pts	Your Score
One part of the answer explains that in AND criteria, each criterion must be true for a record to be selected.	5	
One part of the answer explains that in OR criteria, only one of the criterion must be true for a record to be selected.	5	

DIFFICULTY: Moderate

REFERENCES: Using Compound Criteria

LEARNING OBJECTIVES: CDBM.PRAT.21.02.03 - Use criteria in QBE

KEYWORDS: Bloom's: Remember

48. List five aggregate functions available in Access.

ANSWER: The aggregate functions discussed in Module 2 include Count, Sum, Avg (average), Max (largest value), and Min (smallest value).

POINTS: 1

RUBRIC:

Criteria	10	0
	Pts	Your Score
The answer includes five aggregate functions.	5	
The aggregate functions can be any of the following: Count, Sum, Avg, Max, Min, StDev, Var, First, Last	5	

DIFFICULTY: Difficult

REFERENCES: Summarizing with Aggregate Functions and Grouping

LEARNING OBJECTIVES: CDBM.PRAT.21.02.05 - Summarize data by applying aggregate functions in QBE

KEYWORDS: Bloom's: Remember

49. Discuss the difference between the major sort key and the minor sort key using an example.

ANSWER: 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). In Access, you list the major sort key to the left of the minor sort key.

POINTS: 1

RUBRIC:

Criteria	10	0
	Pts	Your Score
The answer addresses the major sort key and the minor sort key using an example.	2	
The answer focuses on the differences between the two keys.	2	
The answer explains when you need to specify a major and minor sort key (i.e., when you are sorting	2	

Module 02 - The Relational Model: Introduction, QBE, and Relational Algebra

records by more than one field).		
The first sort field is identified as the major sort key.	2	
The second sort field is identified as the minor sort key.	2	

DIFFICULTY: Difficult
REFERENCES: Sorting Records
LEARNING OBJECTIVES: CDBM.PRAT.21.02.06 - Sort data in QBE
KEYWORDS: Bloom's: Understand

50. Explain what relational algebra is and provide an example showing how it is used.

ANSWER: Relational algebra is a query language that takes instances of relations as input and produces instances of relations as output. Relational algebra provides the foundation for Structured Query Language (SQL), which programmers use to select, enter, update, and delete data stored in relational databases. The SELECT command in relational algebra chooses a subset of rows that satisfies a condition. The PROJECT command reorders, selects, or deletes attributes during a query. Other commands include JOIN, UNION, INTERSECTION, SUBTRACT, PRODUCT, and RENAME.

POINTS: 1

RUBRIC:

Criteria	10	0
	Pts	Your Score
The answer includes a definition and an example.	2	
Relational algebra is defined as a query language that takes instances of relations as input and produces instances of relations as output.	3	
An example is provided to demonstrate how relational algebra is used, such as the SELECT command choosing a subset of rows that satisfies a condition.	5	

DIFFICULTY: Difficult
REFERENCES: Examining Relational Algebra
LEARNING OBJECTIVES: CDBM.PRAT.21.02.09 - Apply relational algebra
KEYWORDS: Bloom's: Understand