

WORKING WITH MULTIPLE TABLES

Question and answers

A. Multiple Choice Questions

1. Which of the following actions can be performed once the tables are created in a database?
 - Answer: All of the above (Add a field in a table, Rename a table, Delete a table).
 2. Which of the following is checked by a DBMS?
 - Answer: Both (a) and (b) (Redundancy and Inconsistency).
 3. Which of the following is required to set a relationship between the two tables?
 - Answer: Both the tables must have a common field.
 4. If a record is added in a master table, which of the following is NOT true for transaction table?
 - Answer: The corresponding record in transaction table can only be entered once.
 5. Which type of relationship exists between a student and the subjects studied by him/her?
 - Answer: Many-to-many.
 6. Consider the following tables. Which type of relationship can be established between the two tables?
Table 1: Item (Item_Code, Item_Name, Price)
Table 2: Item_Category (Category_Code, Cat_Name, Item_Code, Qty, Cat_Disc)
 - Answer: One-to-many.
 7. Which of the following menus contains the Relationship option?
 - Answer: Tools.
 8. The list of tables to be added is displayed in the _____ dialog box in the Relationship Screen.
 - Answer: Add Tables.
 9. In the relationship design screen, the relationship between the two tables is done using _____ operation.
 - Answer: Drag and Drop.
 10. Which of the following is NOT an option that can be used to maintain referential integrity in a database?
 - Answer: Set Value.
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B. State Whether the Following Statements are True or False

1. Redundancy is preferred in a database.
 - Answer: False — DBMS and table relationships aim to control and prevent data redundancy.
2. In a table, a record for a particular entity should not be repeated.
 - Answer: True — Storing repeated records for a single entity causes data redundancy.
3. A single field should always have only one data value.
 - Answer: True — Preventing variable or multiple data values for a particular field ensures data consistency.
4. If a table is edited, the records already entered in it are deleted.
 - Answer: False — Modifications made to table design do not affect existing records entered in the table.
5. The record in master table should be entered before the corresponding record is entered in the transaction table.
 - Answer: True — A master record must exist first before referencing it in a transaction table.
6. In one-to-many relationship, one specific record of the master table has more than one corresponding records in the related transaction table.
 - Answer: True — A single master record connects to multiple transaction records in a one-to-many relationship.
7. The Relationship option is present in the Windows menu.

- **Answer: False** — The Relationship option is located under the **Tools** menu.
 - 8. **In a database, the referential integrity is maintained by the user.**
 - **Answer: False** — Referential integrity is automatically managed and enforced by the DBMS.
 - 9. **A relationship is always set between the tables based on a common field.**
 - **Answer: True** — Having a common field between tables is the primary prerequisite for establishing a relationship.
 - 10. **If the master record is deleted, the transaction records will always be deleted.**
 - **Answer: False** — Options such as **No action**, **Set NULL**, or **Set default** can be configured instead of cascading deletion.
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C. Fill in the Blanks

1. **A table to be edited is displayed in Design view.**
 2. **The most important prerequisite for setting a relationship between the two tables is that there must be a common field(s) between them.**
 3. **In One-to-One relationship, one specific record of a master table has one and only one corresponding record in the transaction table.**
 4. **** One-to-Many relationship is one of the most common types of relationship between the tables in a database.****
 5. **A record being entered in a transaction table must always exist in a master table.**
 6. **The principle of referential integrity helps prevent missing data by keeping deleted data from getting out of synch.**
 7. **Creating relationships between tables restricts the user from entering invalid data in the referenced fields.**
 8. **Data integrity is maintained by DBMS.**
 9. **A relationship between customers and products is an example of Many-to-Many relationship.**
 10. **The Relationship Design window is used to set relationships between the tables.**
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D. Answer the Following Questions

1. **Give any two advantages of relating a table in a database.**
 - **Helps prevent data redundancy and inconsistency** across tables.
 - **Restricts users from entering invalid data** in referenced fields, enforcing referential integrity.
 - **Automatic updates:** Changes or updates in the master table automatically reflect in related transaction tables.
2. **How is redundancy or inconsistency controlled in a database? Explain with an example.**
 - **Explanation:** Redundancy and inconsistency are controlled by linking tables through a **common field**. Master data is stored once in a master table, while related transaction tables reference this data using foreign keys rather than duplicating the entire record.
 - **Example:** In a school database, student personal information (Name, Father's Name, DOB) is kept in the Student_Details master table with Admission No as the primary key. The Student_Result transaction table uses Admission No as a foreign key to link exam scores. This prevents re-entering student details for every exam result.
3. **Define referential integrity. Who maintains referential integrity in a database?**
 - **Definition:** Referential integrity is a rule stating that **no unmatched foreign key values should exist in the database**. Every value in a transaction table's referencing field must correspond to a valid, existing record in the master table.
 - **Maintainer:** Referential integrity is managed and enforced automatically by the **Database Management System (DBMS)**.
4. **Differentiate between one to one relationship and one to many relationship. Give suitable examples to explain your answer.**

- **One-to-One Relationship:** A single record in the master table corresponds to **one and only one record** in the transaction table.
 - *Example:* A citizen and their driving license number, or a student and their unique admission record.
- **One-to-Many Relationship:** A single record in the master table corresponds to **more than one record** in the transaction table.
 - *Example:* A teacher teaching multiple classes or students, or a category containing multiple products.

5. **Explain many to many relationship with an example.**

- **Explanation:** In a Many-to-Many relationship, **multiple records in the master table correspond to multiple records in the transaction table**. This is used when entities on both sides can have multiple associated records.
- **Example:** A shopkeeper selling multiple products to multiple customers, or teachers holding multiple school responsibilities attached to multiple students.