

Part - 6

SQL Basics

Interview

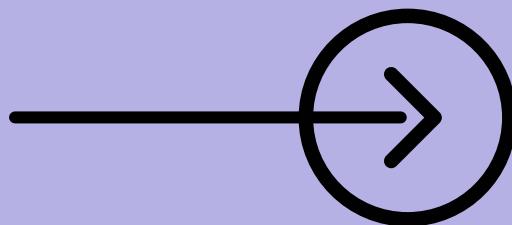
Questions and Answers...!



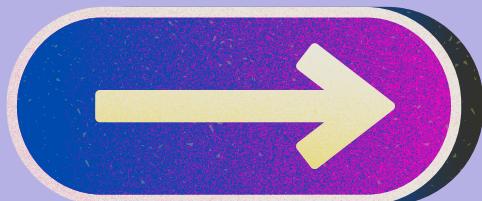
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krishna kumar
@Krishan kumar



What are the constraints in SQL?



What are constraints in SQL, and why are they important?

- **Constraints in SQL are rules that enforce restrictions on the data in a table. They are essential for**
 - **ensuring data integrity,**
 - **consistency, and**
 - **accuracy within a database.**

Constraints prevent invalid data entry and help maintain reliable relationships between tables.



What is a Primary Key Constraint?

Primary Key Constraint

- A Primary Key Constraint ensures that each record in a table is uniquely identifiable.

It means that values in the primary key column(s) must be unique and cannot be NULL.

For example: a student_id column in a students table could be defined as a primary key.



How does a Foreign Key Constraint work?

Foreign Key Constraint work

→ A Foreign Key Constraint establishes a relationship between two tables.

It ensures referential integrity by requiring that values in a column match values in another table's primary key or unique key.

This constraint prevents invalid data from being entered into a table, maintaining consistent relationships.



What is the purpose of a Unique Constraint?

Purpose of a Unique Constraint

→ A Unique Constraint ensures that all values in a column (or a group of columns) are unique across the table.

Unlike the primary key, a unique constraint allows NULL values, but only one NULL value is permitted in a column.

It's used to enforce uniqueness without setting a column as a primary key.



How does a Check Constraint help maintain data integrity?

Check Constraint in maintain data integrity.

→ A Check Constraint defines a condition that must be met for values being inserted or updated in a column.

It restricts the range or type of acceptable values for that column, ensuring that only valid data is entered.

For instance: a check constraint on a salary column might enforce that salaries are non-negative.



What is the Not Null Constraint in SQL?

Not Null Constraint in SQL

→ **The Not Null Constraint ensures that a column cannot contain NULL values.**

It requires that every row in the table has a value for that column.

This constraint is commonly used for fields that must always have data, like product_name in a products table



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Counter Questions

1. Can a table have more than one Primary Key Constraint?

→ **No, a table can only have one primary key constraint.**

However, the primary key can consist of multiple columns (a composite key) to ensure unique identification of records.



Next Question

2. What is the difference between a Unique Constraint and a Primary Key Constraint?

- Both ensure uniqueness of values in a column, but a primary key constraint does not allow NULL values and uniquely identifies each record in a table.

A unique constraint, on the other hand, can allow one NULL value per column and does not necessarily uniquely identify each record.



3. What happens if you try to delete a row in a table that is referenced by a Foreign Key Constraint in another table?

→ If a foreign key constraint exists, attempting to delete a referenced row will result in an error unless cascading options are defined.

(ON DELETE CASCADE or ON DELETE SET NULL)

These options either delete the related records or set the foreign key to NULL in the referencing table.



Next Question

4. How do you modify or remove a constraint from a table in SQL?

- To modify or remove a constraint, you typically use the **ALTER TABLE** statement.

For instance, to remove a check constraint named `chk_salary`, you would use:

```
ALTER TABLE employees DROP CONSTRAINT chk_salary;
```

To add or modify a constraint, the **ALTER TABLE statement can also include **ADD CONSTRAINT** clauses.**



5. Can you have a Check Constraint on multiple columns in SQL?

- Yes, a check constraint can be defined on multiple columns.

For example: you can ensure that the start_date is always before the end_date in a table by using a check constraint that compares these two columns.



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