

9. What is the Difference Between a Primary Key and a Foreign Key?

Primary Key

- A Primary Key is used to uniquely identify each record in a table.
- It cannot contain NULL values.
- Each table can have only one primary key.
- Values must be unique.

Foreign Key

- A Foreign Key is used to link one table to another table.
- It refers to the primary key of another table.
- It can contain duplicate values.
- It can contain NULL values (unless restricted).

10. What Are Constraints in SQL and Why Are They Used?

Constraints in SQL are rules applied to table columns to control the type of data that can be stored in a database. They help ensure data accuracy, consistency, and integrity.

Common Types of SQL Constraints:

NOT NULL

- Ensures a column **cannot have NULL values**.

UNIQUE

- Ensures all values in a column are **different**.

PRIMARY KEY

- Uniquely identifies each record in a table.
- Combination of **UNIQUE + NOT NULL**.

FOREIGN KEY

- Links one table to another table.
- Maintains **referential integrity**.

CHECK

- Ensures values meet a **specific condition**.

DEFAULT

- Assigns a **default value** if no value is provided.