Module 4 – Introduction to DBMS

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Main SQL Commands and Sub-commands (DDL)

1.Define the SQL Data Definition Language (DDL)?

➤ **SQL Data Definition Language (DDL)** consists of commands used to define, modify, and manage the structure of database objects such as tables, schemas, and indexes. Key DDL commands include **CREATE** (to create objects), **ALTER** (to modify objects), **DROP** (to delete objects), and **TRUNCATE** (to remove all data from a table while keeping its structure). These commands directly affect the database schema and are auto-committed.

2. Explain the CREATE command and its syntax.

➤ The **CREATE** command in SQL is used to create new database objects such as tables, databases, views, or indexes. It defines the structure of the object, including columns, data types, and constraints.

➤ **Syntax for Creating a Table**:

➤ CREATE TABLE table_name (

➤   column1 datatype constraint,

➤   column2 datatype constraint,

➤   ...

➤   );

➤ **Example**:

➤ CREATE TABLE employees (

➤   employee_id INT PRIMARY KEY,

➤   name VARCHAR(50) NOT NULL,

➤   department VARCHAR(50)

➤);

3. What is the purpose of specifying data types and constraints during table creation?

➢ **Data Types**

➢ **Purpose**: Define the kind of data a column can store (e.g., integers, text, dates).

➢ **Benefits**:

  ➢ Ensures data consistency and integrity.

  ➢ Allocates appropriate storage space.

  ➢ Prevents invalid data entry (e.g., storing text in a numeric field).

  ➢ **Constraints**

➢ **Purpose**: Enforce rules on the data to maintain accuracy and reliability.

➢ **Common Constraints**:

  ➢ **NOT NULL**: Ensures a column cannot have NULL values.

  ➢ **UNIQUE**: Prevents duplicate values in a column.

  ➢ **PRIMARY KEY**: Uniquely identifies each row in a table.

➢ **FOREIGN KEY**: Maintains referential integrity between tables.

➢ **CHECK**: Ensures values meet a specific condition.

➢ **DEFAULT**: Assigns a default value if none is provided.