Trigger vs Stored Procedure

- **Trigger**
  - **Executes automatically when Insert, Update, or Delete happens.**
  - **Cannot be run manually with `EXEC`.**
  - **Does not accept parameters.**
  - **Used for auditing, enforcing rules, or preventing unwanted changes.**

- **Stored Procedure**
  - **Runs manually using `EXEC`.**
  - **Accepts parameters (input and output).**
  - **Can contain multiple SQL statements (DML, logic).**
  - **Used for reusable business logic and operations.**

Stored Procedure vs Function

- **Stored Procedure**
  - **May return data or no data.**
  - **Cannot be used inside SELECT.**
  - **Can use input and output parameters.**
  - **Can perform Insert, Update, Delete.**

- **Function**
  - **Must return a value or a table.**
  - **Can be used inside SELECT.**
  - **Accepts only input parameters.**
  - **Often used for calculations or reusable expressions.**

DROP vs DELETE

🔹 **DROP**

- **Deletes the object itself (table, database, etc.).**
- **Removes structure and data.**
- **Cannot be rolled back easily.**

🔹 **DELETE**

- **Deletes only the rows in a table.**
- **Keeps the table structure.**
- **Can be rolled back with a transaction.**

SELECT vs SELECT INTO

🔹 **SELECT**

- **Retrieves data from an existing table.**
- **Does not create a new object.**

🔹 **SELECT INTO**

- **Creates a new table and fills it with data from another table.**

DDL, DML, DCL, DQL

🔹 **DDL (Data Definition Language)**

- **Defines database structure.**
- **Examples: `CREATE`, `ALTER`, `DROP`.**

🔹 **DML (Data Manipulation Language)**

- **Changes the data.**
- **Examples: `INSERT`, `UPDATE`, `DELETE`.**

- **DCL (Data Control Language)**
  - **Manages permissions.**
  - **Examples: `GRANT`, `REVOKE`, `DENY`.**

- **DQL (Data Query Language)**
  - **Used to query data.**
  - **Example: `SELECT`.**

Table-Valued Function vs Multi-Statement Function.

- **Table-Valued Function**
  - **Returns a table from one query.**
  - **Faster, like a view with parameters.**

- **Multi-Statement Function**
  - **Returns a table after multiple SQL statements.**
  - **More flexible but slower.**

VARCHAR(50) vs VARCHAR(MAX)

- **VARCHAR(50)**
  - **Stores up to 50 characters.**
  - **Faster and efficient for short text.**

- **VARCHAR(MAX)**
  - **Stores up to 2 GB of text.**
  - **Used for long text (documents, JSON, XML).**

SQL Authentication vs Windows Authentication

- **SQL Authentication**
  - Login with SQL username + password.
  - Works without Windows account.
  - Less secure.

- **Windows Authentication**
  - Login with Windows/Active Directory account.
  - More secure (Single Sign-On)

Inline Function vs View

- **Inline Function**
  - Accepts parameters.
  - Returns a table from one query.
  - Like a parameterized view.

- **View**
  - Does not accept parameters.
  - Returns a table from a fixed query.
  - Used for reporting or simplifying queries.

Identity vs Unique Constraint

- **Identity**
  - **Auto-generates sequential numbers.**
  - **Works only on one numeric column.**
  - **Values are created automatically.**

- **Unique Constraint**
  - **Ensures values are unique.**
  - **Can be applied to one or more columns.**
  - **Values must be inserted manually.**