Answer the following Questions

1. What is Cursor in SQL?

A cursor in SQL is a database object used to retrieve, manipulate, and navigate through rows in a result set one row at a time. It is particularly useful when operations need to be performed on individual rows sequentially, rather than all at once. Cursors allow for row-by-row processing of query results, making them helpful in scenarios where complex row-level processing is required in stored procedures or triggers.

Key operations with cursors:

Declare: Define the cursor and associate it with a query.

Open: Execute the query and make the result set available.

Fetch: Retrieve the next row in the result set.

Close: Release the cursor when done.

2. What is the difference between implicit and explicit cursor?

Aspect	Implicit Cursor	Explicit Cursor
Definition	Automatically created by SQL for DML operations (like `INSERT`, `UPDATE`, `DELETE`, or `SELECT INTO`).	Manually defined by the programmer for more control over the query results.
Control	The system manages implicit cursors; no direct control by the user.	Programmers manually declare, open, fetch, and close the cursor.
When used	Used when an SQL statement like `INSERT`, `UPDATE`, or `DELETE` affects data.	Used when a query returns multiple rows and you need to process them one at a time.
Memory Usage	Automatically managed by the SQL engine.	Requires manual handling and proper memory management.
Operations	Does not require explicit `OPEN`, `FETCH`, or `CLOSE` operations.	Requires explicit operations such as `OPEN`, `FETCH`, and `CLOSE`.

Error Handling	Automatically handles exceptions like `NO_DATA_FOUND`.	Requires explicit error handling within the cursor code.
Example	In `INSERT INTO ... SELECT`, SQL implicitly creates a cursor to fetch rows.	In scenarios where rows need to be processed one-by-one (e.g., looping through a result set).