Database Creation and Tables

1. **Database Creation**:
   - Created the `Pharmacy_Management` database with specified data and log file properties.
2. **Tables Created**:
   - `Patients`: Stores patient details.
   - `Doctors`: Stores doctor details.
   - `Medications`: Stores medication details.
   - `Prescriptions`: Links patients and doctors with their prescriptions.
   - `PrescriptionDetails`: Details of medications in each prescription.
   - `Sales`: Records sales of medications.
   - `MedicationChangesLog`: Logs changes to medication stock.
   - `PrescriptionsLog`: Logs actions related to prescriptions.
   - `PharmacyRecords`: A merged table combining details from `Patients`, `Doctors`, `Medications`, `Prescriptions`, and `Sales`.

Data Insertion

- **Inserted Data**:
  - **Patients**: Added three patients.
  - **Doctors**: Added three doctors.
  - **Medications**: Added three medications.
  - **Prescriptions**: Added three prescriptions.
  - **PrescriptionDetails**: Added details for the three prescriptions.
  - **Sales**: Added sales records for medications.

Stored Procedure

- **AddNewPrescription**: A stored procedure to add a new prescription and its details to the `Prescriptions` and `PrescriptionDetails` tables.

Triggers

- **trg_MedicationChanges**: Trigger on `Medications` to log changes in stock quantity (INSERT, UPDATE, DELETE).
- **trg_AfterInsert_Prescriptions**: Trigger on `Prescriptions` to log new prescription entries.

Functions

- **Scalar Function**:
  - `CalculateTotalPrice`: Calculates the total price for a given quantity of a medication.
- **Table-Valued Functions**:
  - `GetLowStockMedications`: Retrieves medications with stock below a specified threshold.
  - `GetPatientPrescriptions`: Retrieves prescriptions for a specific patient.

Views

- **EncryptedPatientView**: View with encryption for patient details.
- **MedicationView**: View with schema binding for medication details.
- **EncryptedBoundPrescriptionView**: View with both encryption and schema binding, showing prescriptions with patient and doctor names.

Indexes and Queries

- **Non-Clustered Index**:
  - `IX_PatientName`: Index on the `Name` column of the `Patients` table.
- **Queries**:
  - **Subqueries**: Extracted patient names with prescriptions.
  - **CTE (Common Table Expressions)**: Retrieved patients with their prescriptions.
  - **Aggregate Queries**: Calculated total stock, average price of medications, total sales, quantity sold, and daily total sales.

Records in `PharmacyRecords`

- **Insert Operation**: Added a record to the `PharmacyRecords` table.
- **Update Operation**: Updated a record in `PharmacyRecords`.
- **Delete Operation**: Deleted a record from `PharmacyRecords`.