**Case Study: Electronic Health Record (EHR) System for Healthcare**

**Problem Statement:**

Design and implement an Electronic Health Record (EHR) System for Healthcare using Oracle SQL and PL/SQL. The system will be used to store and manage patient health records, including diagnoses, treatments, and medications. Your task is to create the necessary database schema, populate the database with sample data, and develop PL/SQL procedures to handle health record management, diagnosis tracking, and medication management.

**Requirements:**

1. **Health Record Management**:
   * Implement the functionality to add, update, delete, and search for patient health records.
   * Ensure that each health record has attributes such as RECORD\_ID, PATIENT\_ID, VISIT\_DATE, DIAGNOSIS, TREATMENT, and MEDICATION.
2. **Diagnosis Tracking**:
   * Implement the functionality to track patient diagnoses over time.
   * Ensure that each diagnosis record has attributes such as DIAGNOSIS\_ID, PATIENT\_ID, DIAGNOSIS\_DATE, DIAGNOSIS\_DESCRIPTION, and DIAGNOSIS\_STATUS.
3. **Medication Management**:
   * Implement the functionality to manage patient medications.
   * Ensure that each medication record has attributes such as MEDICATION\_ID, PATIENT\_ID, MEDICATION\_NAME, DOSAGE, FREQUENCY, and START\_DATE.

**Tasks:**

1. **Design the Database Schema**:
   * Create the HealthRecords, Diagnoses, and Medications tables with the appropriate fields and constraints.
   * Define primary keys and foreign keys to maintain data integrity.
2. **Populate the Database with Sample Data**:
   * Insert sample records into the HealthRecords, Diagnoses, and Medications tables to facilitate testing of the system.
3. **Develop PL/SQL Procedures**:
   * Create a procedure to handle health record management. The procedure should insert, update, and delete health records.
   * Create a procedure to track patient diagnoses. The procedure should insert diagnosis records and update diagnosis status.
   * Create a procedure to manage patient medications. The procedure should insert, update, and delete medication records.

**Expected Outcomes:**

1. **HealthRecords Table**:
   * Contains all information about the patient health records.
2. **Diagnoses Table**:
   * Tracks the patient diagnoses over time.
3. **Medications Table**:
   * Stores the patient medication records.
4. **PL/SQL Procedures**:
   * Efficiently manage patient health records, track diagnoses, and manage medications, maintaining accurate records in the database.

**Deliverables:**

1. SQL scripts to create the HealthRecords, Diagnoses, and Medications tables.
2. SQL scripts to insert sample data into the tables.
3. PL/SQL scripts for the procedures to handle health record management, diagnosis tracking, and medication management.
4. Documentation explaining how to set up and use the system, including how to run the PL/SQL procedures.

**Database Schema:**

1. **HealthRecords Table**:
   * **RECORD\_ID**: Number, Primary Key
   * **PATIENT\_ID**: Number, Foreign Key References Patients(PATIENT\_ID)
   * **VISIT\_DATE**: Date
   * **DIAGNOSIS**: Clob
   * **TREATMENT**: Clob
   * **MEDICATION**: Clob
2. **Diagnoses Table**:
   * **DIAGNOSIS\_ID**: Number, Primary Key
   * **PATIENT\_ID**: Number, Foreign Key References Patients(PATIENT\_ID)
   * **DIAGNOSIS\_DATE**: Date
   * **DIAGNOSIS\_DESCRIPTION**: Clob
   * **DIAGNOSIS\_STATUS**: Varchar2(50)
3. **Medications Table**:
   * **MEDICATION\_ID**: Number, Primary Key
   * **PATIENT\_ID**: Number, Foreign Key References Patients(PATIENT\_ID)
   * **MEDICATION\_NAME**: Varchar2(100)
   * **DOSAGE**: Varchar2(50)
   * **FREQUENCY**: Varchar2(50)
   * **START\_DATE**: Date

**Case Study Task:**

* **Design**: Create the database schema as provided.
* **Implement**: Insert sample data into the HealthRecords, Diagnoses, and Medications tables.
* **Develop**: Write PL/SQL procedures for handling health record management, diagnosis tracking, and medication management.
* **Test**: Test the procedures with various scenarios (e.g., managing health records, tracking diagnoses, managing medications, ensuring proper updates).