**Case Study: Supply Chain Management System**

**Problem Statement:**

Design and implement a Supply Chain Management System using Oracle SQL and PL/SQL. The system will be used to manage suppliers, materials procurement, and inventory tracking. Your task is to create the necessary database schema, populate the database with sample data, and develop PL/SQL procedures to handle supplier management, procurement processes, and inventory management.

**Requirements:**

1. **Supplier Management**:
   * Implement the functionality to add, update, delete, and search for suppliers.
   * Ensure that each supplier has attributes such as SUPPLIER\_ID, NAME, CONTACT\_PERSON, PHONE\_NUMBER, and EMAIL.
2. **Materials Procurement**:
   * Implement the functionality to create, update, delete, and search for procurement orders.
   * Ensure that each order has attributes such as ORDER\_ID, SUPPLIER\_ID, ORDER\_DATE, DELIVERY\_DATE, and STATUS.
3. **Inventory Management**:
   * Implement the functionality to track inventory levels and movements.
   * Ensure that each inventory record has attributes such as INVENTORY\_ID, MATERIAL\_ID, QUANTITY, MOVEMENT\_TYPE, MOVEMENT\_DATE, and NOTES.

**Tasks:**

1. **Design the Database Schema**:
   * Create the Suppliers, ProcurementOrders, and Inventory 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 Suppliers, ProcurementOrders, and Inventory tables to facilitate testing of the system.
3. **Develop PL/SQL Procedures**:
   * Create a procedure to handle supplier management. The procedure should insert, update, and delete supplier records.
   * Create a procedure to manage materials procurement. The procedure should insert, update, and delete procurement orders.
   * Create a procedure to manage inventory movements. The procedure should update inventory levels based on movements (e.g., receiving materials, issuing materials).

**Expected Outcomes:**

1. **Suppliers Table**:
   * Contains all information about the suppliers providing materials.
2. **ProcurementOrders Table**:
   * Tracks the procurement orders placed with suppliers.
3. **Inventory Table**:
   * Records the inventory movements and levels for materials.
4. **PL/SQL Procedures**:
   * Efficiently manage supplier information, procurement orders, and inventory movements, maintaining accurate records in the database.

**Deliverables:**

1. SQL scripts to create the Suppliers, ProcurementOrders, and Inventory tables.
2. SQL scripts to insert sample data into the tables.
3. PL/SQL scripts for the procedures to handle supplier management, materials procurement, and inventory management.
4. Documentation explaining how to set up and use the system, including how to run the PL/SQL procedures.

**Database Schema:**

1. **Suppliers Table**:
   * **SUPPLIER\_ID**: Number, Primary Key
   * **NAME**: Varchar2(100)
   * **CONTACT\_PERSON**: Varchar2(100)
   * **PHONE\_NUMBER**: Varchar2(15)
   * **EMAIL**: Varchar2(100)
2. **ProcurementOrders Table**:
   * **ORDER\_ID**: Number, Primary Key
   * **SUPPLIER\_ID**: Number, Foreign Key References Suppliers(SUPPLIER\_ID)
   * **ORDER\_DATE**: Date
   * **DELIVERY\_DATE**: Date
   * **STATUS**: Varchar2(50)
3. **Inventory Table**:
   * **INVENTORY\_ID**: Number, Primary Key
   * **MATERIAL\_ID**: Number
   * **QUANTITY**: Number
   * **MOVEMENT\_TYPE**: Varchar2(50) (e.g., 'RECEIPT', 'ISSUE')
   * **MOVEMENT\_DATE**: Date
   * **NOTES**: Varchar2(255)

**Case Study Task:**

* **Design**: Create the database schema as provided.
* **Implement**: Insert sample data into the tables.
* **Develop**: Write PL/SQL procedures for handling supplier management, materials procurement, and inventory management.
* **Test**: Test the procedures with various scenarios (e.g., managing suppliers, creating procurement orders, tracking inventory, ensuring proper updates).