**Case Study: Inventory Management System for a Manufacturing Company**

**Problem Statement:**

Design and implement an Inventory Management System for a manufacturing company using Oracle SQL and PL/SQL. The system will be used to manage inventory items, supplier information, and stock movements within the company. Your task is to create the necessary database schema, populate the database with sample data, and develop PL/SQL procedures to handle inventory management, supplier management, and stock movement tracking.

**Requirements:**

1. **Inventory Management**:
   * Implement the functionality to add, update, delete, and search for inventory items.
   * Ensure that each inventory item has attributes such as ITEM\_ID, ITEM\_NAME, CATEGORY, QUANTITY, UNIT\_PRICE, and SUPPLIER\_ID.
2. **Supplier Management**:
   * Implement the functionality to manage suppliers.
   * Ensure that each supplier has attributes such as SUPPLIER\_ID, SUPPLIER\_NAME, CONTACT\_NAME, EMAIL, PHONE\_NUMBER, and ADDRESS.
3. **Stock Movement Tracking**:
   * Implement the functionality to track stock movements (inbound and outbound).
   * Ensure that each stock movement has attributes such as MOVEMENT\_ID, ITEM\_ID, MOVEMENT\_TYPE, QUANTITY\_MOVED, MOVEMENT\_DATE, and REMARKS.

**Tasks:**

1. **Design the Database Schema**:
   * Create the Inventory, Suppliers, and StockMovements 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 Inventory, Suppliers, and StockMovements tables to facilitate testing of the system.
3. **Develop PL/SQL Procedures**:
   * Create a procedure to handle inventory management. The procedure should insert, update, and delete inventory item records.
   * Create a procedure to manage supplier information. The procedure should insert new suppliers, update existing ones, and delete suppliers.
   * Create a procedure to track stock movements. The procedure should record inbound and outbound stock movements and update inventory quantities accordingly.

**Expected Outcomes:**

1. **Inventory Table**:
   * Contains all information about the inventory items managed by the company.
2. **Suppliers Table**:
   * Stores supplier information relevant to the inventory items.
3. **StockMovements Table**:
   * Tracks all stock movements, including both inbound and outbound transactions.
4. **PL/SQL Procedures**:
   * Efficiently manage inventory items, supplier information, and stock movements, maintaining accurate records in the database.

**Deliverables:**

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

**Database Schema:**

1. **Inventory Table**:
   * **ITEM\_ID**: Number, Primary Key
   * **ITEM\_NAME**: Varchar2(100)
   * **CATEGORY**: Varchar2(50)
   * **QUANTITY**: Number
   * **UNIT\_PRICE**: Number
   * **SUPPLIER\_ID**: Number, Foreign Key References Suppliers(SUPPLIER\_ID)
2. **Suppliers Table**:
   * **SUPPLIER\_ID**: Number, Primary Key
   * **SUPPLIER\_NAME**: Varchar2(100)
   * **CONTACT\_NAME**: Varchar2(50)
   * **EMAIL**: Varchar2(100)
   * **PHONE\_NUMBER**: Varchar2(15)
   * **ADDRESS**: Varchar2(255)
3. **StockMovements Table**:
   * **MOVEMENT\_ID**: Number, Primary Key
   * **ITEM\_ID**: Number, Foreign Key References Inventory(ITEM\_ID)
   * **MOVEMENT\_TYPE**: Varchar2(10) -- ('INBOUND' or 'OUTBOUND')
   * **QUANTITY\_MOVED**: Number
   * **MOVEMENT\_DATE**: Date
   * **REMARKS**: Varchar2(255)

**Case Study Task:**

* **Design**: Create the database schema as provided.
* **Implement**: Insert sample data into the Inventory, Suppliers, and StockMovements tables.
* **Develop**: Write PL/SQL procedures for handling inventory management, supplier management, and stock movement tracking.
* **Test**: Test the procedures with various scenarios (e.g., adding new inventory items, updating supplier information, tracking inbound and outbound stock movements, ensuring proper updates).