**Case Study: Manufacturing Inventory Management System**

**Problem Statement:**

Design and implement a Manufacturing Inventory Management System using Oracle SQL and PL/SQL. The system will be used to manage raw materials, finished products, stock levels, and inventory movements. Your task is to create the necessary database schema, populate the database with sample data, and develop PL/SQL procedures to handle stock entries, withdrawals, and generating inventory reports.

**Requirements:**

1. **Raw Material Management**:
   * Implement the functionality to add, update, delete, and search for raw materials.
   * Ensure that each raw material has attributes such as MATERIAL\_ID, NAME, DESCRIPTION, UNIT\_COST, and QUANTITY\_IN\_STOCK.
2. **Finished Product Management**:
   * Implement the functionality to add, update, delete, and search for finished products.
   * Ensure that each product has attributes such as PRODUCT\_ID, NAME, CATEGORY, UNIT\_PRICE, and QUANTITY\_IN\_STOCK.
3. **Inventory Movement Management**:
   * Implement the functionality to log and track inventory movements (entries and withdrawals).
   * Ensure that each movement has attributes such as MOVEMENT\_ID, ITEM\_ID, MOVEMENT\_TYPE, QUANTITY, MOVEMENT\_DATE, and DESCRIPTION.

**Tasks:**

1. **Design the Database Schema**:
   * Create the RawMaterials, FinishedProducts, and InventoryMovements 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 RawMaterials, FinishedProducts, and InventoryMovements tables to facilitate testing of the system.
3. **Develop PL/SQL Procedures**:
   * Create a procedure to handle stock entries. The procedure should update the quantity in stock and log the movement.
   * Create a procedure to handle stock withdrawals. The procedure should update the quantity in stock and log the movement.
   * Create a procedure to generate inventory reports, including details such as current stock levels, recent movements, and overall inventory value.

**Expected Outcomes:**

1. **RawMaterials Table**:
   * Contains all information about the raw materials used in manufacturing.
2. **FinishedProducts Table**:
   * Tracks the finished products ready for sale.
3. **InventoryMovements Table**:
   * Logs all inventory movements (entries and withdrawals).
4. **PL/SQL Procedures**:
   * Efficiently manage stock entries, withdrawals, and generating inventory reports, maintaining accurate records in the database.

**Deliverables:**

1. SQL scripts to create the RawMaterials, FinishedProducts, and InventoryMovements tables.
2. SQL scripts to insert sample data into the tables.
3. PL/SQL scripts for the procedures to handle stock entries, withdrawals, and generate inventory reports.
4. Documentation explaining how to set up and use the system, including how to run the PL/SQL procedures.

**Database Schema:**

1. **RawMaterials Table**:
   * **MATERIAL\_ID**: Number, Primary Key
   * **NAME**: Varchar2(100)
   * **DESCRIPTION**: Varchar2(255)
   * **UNIT\_COST**: Number
   * **QUANTITY\_IN\_STOCK**: Number
2. **FinishedProducts Table**:
   * **PRODUCT\_ID**: Number, Primary Key
   * **NAME**: Varchar2(100)
   * **CATEGORY**: Varchar2(50)
   * **UNIT\_PRICE**: Number
   * **QUANTITY\_IN\_STOCK**: Number
3. **InventoryMovements Table**:
   * **MOVEMENT\_ID**: Number, Primary Key
   * **ITEM\_ID**: Number
   * **MOVEMENT\_TYPE**: Varchar2(50) (e.g., 'ENTRY', 'WITHDRAWAL')
   * **QUANTITY**: Number
   * **MOVEMENT\_DATE**: Date
   * **DESCRIPTION**: 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 stock entries, withdrawals, and generating inventory reports.
* **Test**: Test the procedures with various scenarios (e.g., adding stock, removing stock, generating reports, ensuring proper updates).