**Case Study: Order Process Management System**

**Problem Statement:**

Design and implement an Inventory Management System using Oracle SQL and PL/SQL. The system will be used to manage products, suppliers, orders, and stock levels. Your task is to create the necessary database schema, populate the database with sample data, and develop PL/SQL procedures to handle product ordering, stock management, and generating inventory reports.

**Requirements:**

1. **Product Management**:
   * Implement the functionality to add, update, delete, and search for products.
   * Ensure that each product has attributes such as PRODUCT\_ID, NAME, DESCRIPTION, PRICE, STOCK\_QUANTITY, and SUPPLIER\_ID.
2. **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.
3. **Order Management**:
   * Implement the functionality to create, update, and cancel orders.
   * Ensure that each order has attributes such as ORDER\_ID, PRODUCT\_ID, SUPPLIER\_ID, ORDER\_DATE, QUANTITY, and STATUS.

**Tasks:**

1. **Design the Database Schema**:
   * Create the Products, Suppliers, and Orders 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 Products, Suppliers, and Orders tables to facilitate testing of the system.
3. **Develop PL/SQL Procedures**:
   * Create a procedure to handle product ordering. The procedure should check product availability, insert a new order record, and update the stock quantity.
   * Create a procedure to handle stock management. The procedure should update the stock quantity when new products are received from suppliers.
   * Create a procedure to generate inventory reports, including details such as product information, supplier information, order date, quantity, and status.

**Expected Outcomes:**

1. **Products Table**:
   * Contains all information about the products available in the inventory.
2. **Suppliers Table**:
   * Contains details of all suppliers providing products to the inventory.
3. **Orders Table**:
   * Tracks the order history, including order details and status.
4. **PL/SQL Procedures**:
   * Efficiently manage product ordering, stock management, and generating inventory reports, maintaining accurate records in the database.

**Deliverables:**

1. SQL scripts to create the Products, Suppliers, and Orders tables.
2. SQL scripts to insert sample data into the tables.
3. PL/SQL scripts for the procedures to order products, manage stock, 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. **Products Table**:
   * **PRODUCT\_ID**: Number, Primary Key
   * **NAME**: Varchar2(100)
   * **DESCRIPTION**: Varchar2(255)
   * **PRICE**: Number
   * **STOCK\_QUANTITY**: Number
   * **SUPPLIER\_ID**: Number, Foreign Key References Suppliers(SUPPLIER\_ID)
2. **Suppliers Table**:
   * **SUPPLIER\_ID**: Number, Primary Key
   * **NAME**: Varchar2(100)
   * **CONTACT\_PERSON**: Varchar2(50)
   * **PHONE\_NUMBER**: Varchar2(15)
   * **EMAIL**: Varchar2(100)
3. **Orders Table**:
   * **ORDER\_ID**: Number, Primary Key
   * **PRODUCT\_ID**: Number, Foreign Key References Products(PRODUCT\_ID)
   * **SUPPLIER\_ID**: Number, Foreign Key References Suppliers(SUPPLIER\_ID)
   * **ORDER\_DATE**: Date
   * **QUANTITY**: Number
   * **STATUS**: Varchar2(20)

**Case Study Task:**

* **Design**: Create the database schema as provided.
* **Implement**: Insert sample data into the tables.
* **Develop**: Write PL/SQL procedures for ordering products, managing stock, and generating inventory reports.
* **Test**: Test the procedures with various scenarios (e.g., ordering a product, receiving new stock, generating reports, ensuring proper updates).