**Case Study: Financial Transaction Management System**

**Problem Statement:**

Design and implement a Financial Transaction Management System using Oracle SQL and PL/SQL. The system will be used to manage financial transactions, reconcile accounts, and generate financial reports. Your task is to create the necessary database schema, populate the database with sample data, and develop PL/SQL procedures to handle transaction processing, account reconciliation, and report generation.

**Requirements:**

1. **Transaction Management**:
   * Implement the functionality to add, update, delete, and search for financial transactions.
   * Ensure that each transaction has attributes such as TRANSACTION\_ID, ACCOUNT\_ID, TRANSACTION\_DATE, AMOUNT, and DESCRIPTION.
2. **Account Reconciliation**:
   * Implement the functionality to reconcile accounts based on transactions.
   * Ensure that each reconciliation record has attributes such as RECONCILIATION\_ID, ACCOUNT\_ID, RECONCILIATION\_DATE, BALANCE, and STATUS.
3. **Report Generation**:
   * Implement the functionality to generate financial reports.
   * Reports should include details such as account balances, transaction summaries, and reconciliation status.

**Tasks:**

1. **Design the Database Schema**:
   * Create the FinancialTransactions, AccountReconciliations, and FinancialReports 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 FinancialTransactions and AccountReconciliations tables to facilitate testing of the system.
3. **Develop PL/SQL Procedures**:
   * Create a procedure to handle financial transaction management. The procedure should insert, update, and delete transaction records.
   * Create a procedure to reconcile accounts. The procedure should calculate account balances and update reconciliation status.
   * Create a procedure to generate financial reports. The procedure should aggregate data to provide insights into account balances and transaction summaries.

**Expected Outcomes:**

1. **FinancialTransactions Table**:
   * Contains all information about the financial transactions.
2. **AccountReconciliations Table**:
   * Tracks the reconciliation of each account based on transactions.
3. **FinancialReports Table**:
   * Stores the generated financial reports.
4. **PL/SQL Procedures**:
   * Efficiently manage financial transactions, reconcile accounts, and generate reports, maintaining accurate records in the database.

**Deliverables:**

1. SQL scripts to create the FinancialTransactions, AccountReconciliations, and FinancialReports tables.
2. SQL scripts to insert sample data into the FinancialTransactions and AccountReconciliations tables.
3. PL/SQL scripts for the procedures to handle financial transaction management, account reconciliation, and generate financial reports.
4. Documentation explaining how to set up and use the system, including how to run the PL/SQL procedures.

**Database Schema:**

1. **FinancialTransactions Table**:
   * **TRANSACTION\_ID**: Number, Primary Key
   * **ACCOUNT\_ID**: Number
   * **TRANSACTION\_DATE**: Date
   * **AMOUNT**: Number
   * **DESCRIPTION**: Varchar2(255)
2. **AccountReconciliations Table**:
   * **RECONCILIATION\_ID**: Number, Primary Key
   * **ACCOUNT\_ID**: Number, Foreign Key References FinancialTransactions(ACCOUNT\_ID)
   * **RECONCILIATION\_DATE**: Date
   * **BALANCE**: Number
   * **STATUS**: Varchar2(50)
3. **FinancialReports Table**:
   * **REPORT\_ID**: Number, Primary Key
   * **REPORT\_DATE**: Date
   * **ACCOUNT\_BALANCES**: Clob
   * **TRANSACTION\_SUMMARY**: Clob
   * **RECONCILIATION\_STATUS**: Varchar2(50)

**Case Study Task:**

* **Design**: Create the database schema as provided.
* **Implement**: Insert sample data into the FinancialTransactions and AccountReconciliations tables.
* **Develop**: Write PL/SQL procedures for handling financial transaction management, account reconciliation, and generating financial reports.
* **Test**: Test the procedures with various scenarios (e.g., managing transactions, reconciling accounts, generating reports, ensuring proper updates).