**Lab 7 : Writing SQL Queries To Implement User Access Control**

**Case Study: Sales Management System (SMS).**

Sales management system database is used to manage sales of products to registered customers. There are two types of users/roles :- clerks and customers.

Role: Clerks:-

1. can manage *(insert, update, delete)* Customer table except CardNo and CardPin
2. can manage *(insert, update, delete)* Product table

Role: Customers :-

1. can view and update their own record in Customer table. cannot insert or delete any records.
2. can view their own decrypted values
3. can run SP\_AddPurchaseItem and SP\_RemovePurchaseItem procedures to manage their own purchases only
4. can view their own purchase summary and details
5. can view all the values in the Product table except CostPrice

**To Do**

1. Create an **authorization matrix** to represent the requirements stated above.
2. Write SQL queries create the SQL Roles
3. Write SQL queries to create a few SQL Logins and Database Users and add them to their respective SQL Roles
4. Write SQL queries to perform the permission settings according to your authorization matrix.
5. Create a view (*My\_Data*) to be used by customer to see their values including automatically decrypting the CardNo value before showing to the customer.
6. Create a view (*My\_PurchaseDetails*) to limit customers to see own their own purchase items only. Include product name as well.
7. Write SQL queries to perform the permission settings according to your authorization matrix.