



CMPS 277 – Database Systems Project Report

Abdel Rahman AL Ladiki	aza24@mail.aub.edu
Jean Menassa	jjm25@mail.aub.edu
Salim Jarmakani	stj03@mail.aub.edu
Samih Jomaa	Ssj19@mail.aub.edu



American University of Beirut
Department of Computer Science
CMPS 277- Database Systems-Spring 2022
Project Proposal
Group 24

Project Description:

This project aims at building a database system that manages the relationships between customers and salesmen in a certain company.

Entities:

We will maintain information about the following set of entities:

1. User: name, id, mobile number, address, and email.
2. Salesman: name, id, address, mobile, password.
3. Customer: name, id, address, mobile, email, password.
4. Permission: name, module, id.
5. Roles: name, id, description.
6. Login: role id, username, password, id.
7. Product: items, id, number, description, type.
8. Schedule: description, type, id.

Relationships:

The following relationships will hold between our entities

1. A User will be able to login.
2. A User will have a role assigned to him/her.
3. A User will also have a level of permission granted to him/her.
4. A salesman has a schedule/appointment.
5. A salesman manages the actions of customers and users.
6. A salesman manages products as well.
7. A customer can purchase a product.

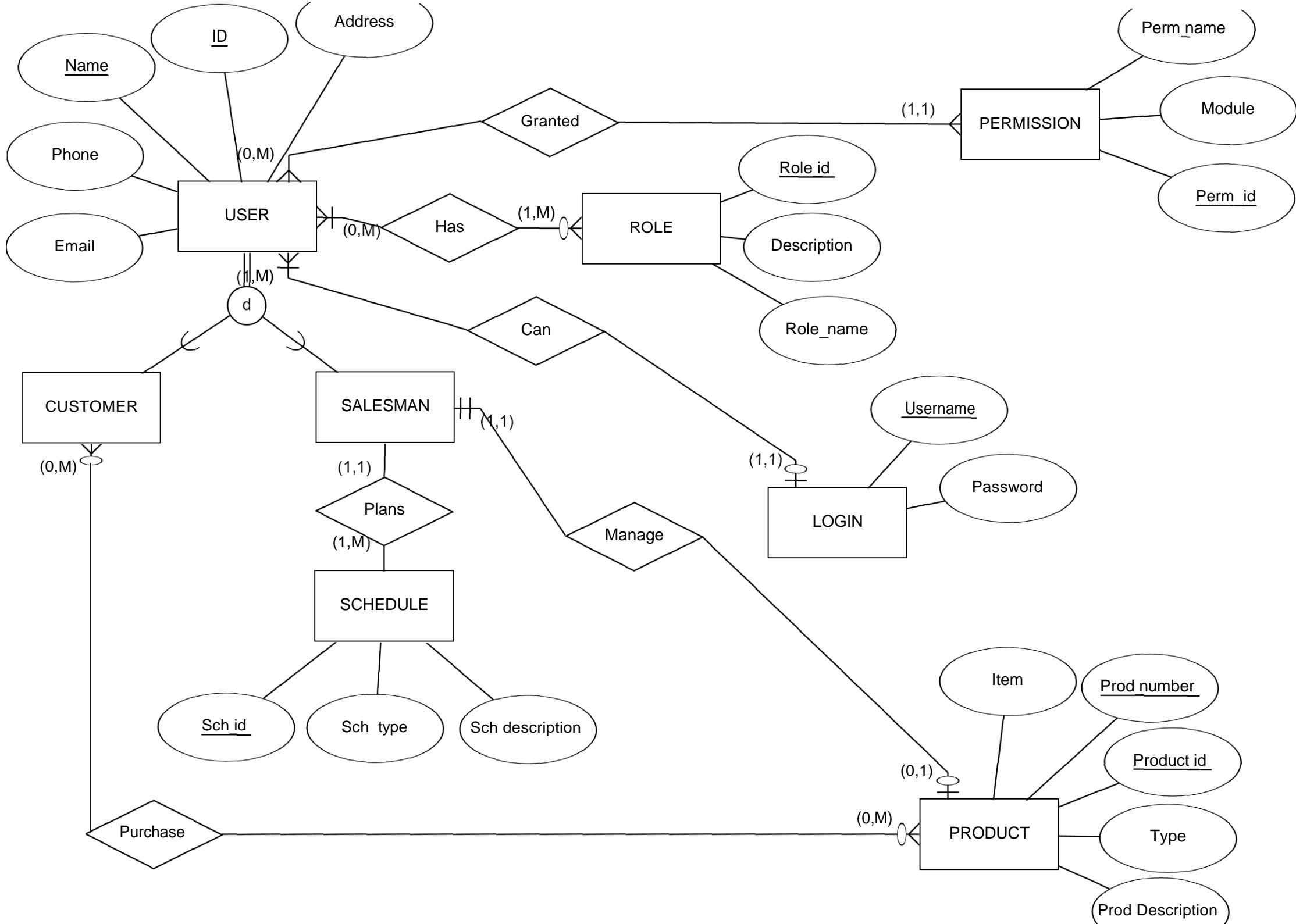
Constraints:

1. A salesman cannot manage more than two products.
2. A product cannot be managed by more than one salesman.
3. No two salesmen can have the same schedules/appointments.
4. No two salesmen can manage the same user or customer.

Sample Queries:

1. List all customers who bought a certain product during a certain day.
2. List all customers who are managed by a specific salesman.
3. List all users who got permission to access the software/DB.

4. List all products managed by specific salesmen.
5. List all products that are bought by a specific customer.
6. List the roles of a specific user.

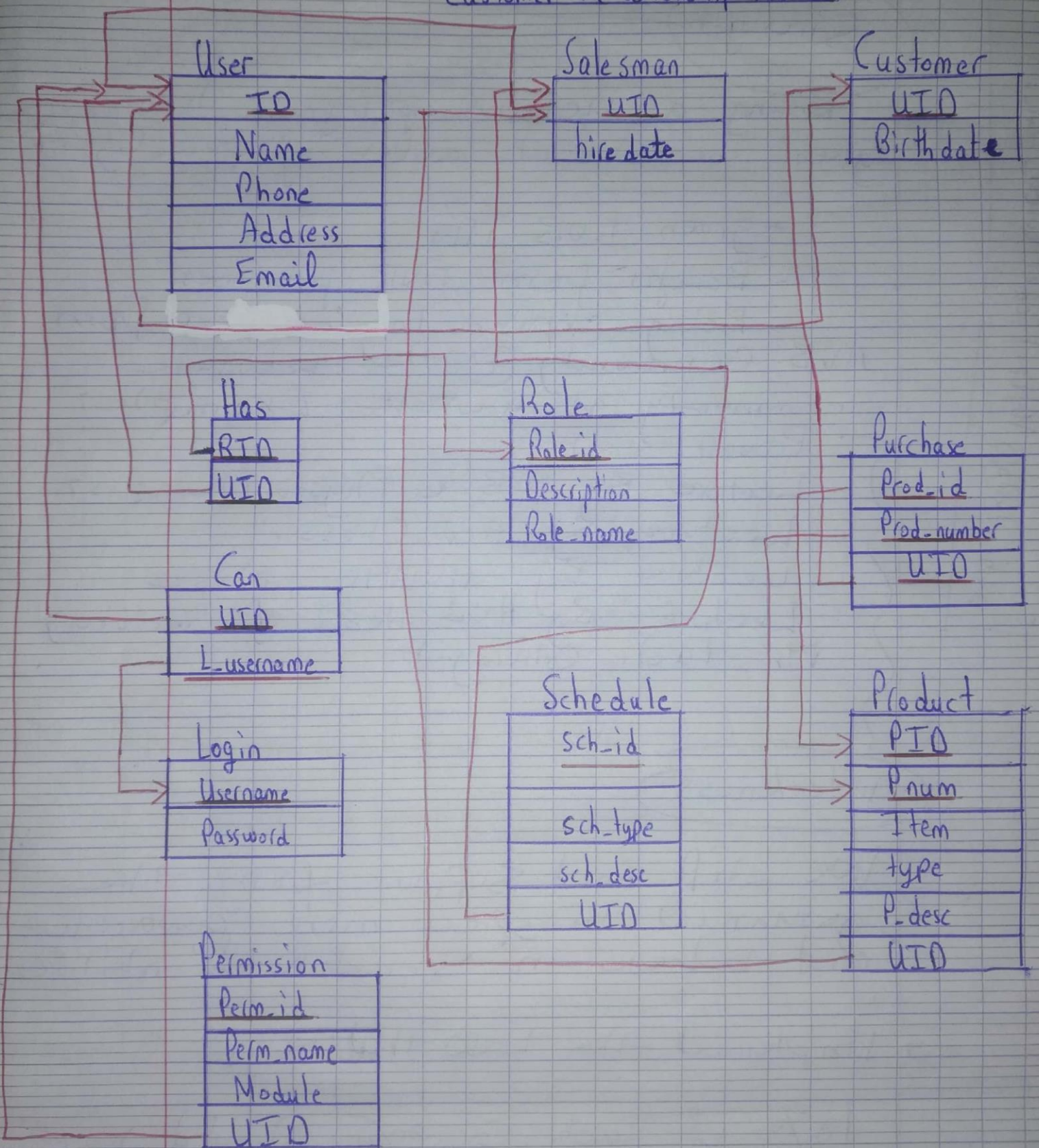


Beside each entity, there exists two symbols of the following: | > O

The first symbol represents whether it is a many(>) or 1 (|) for this entity.

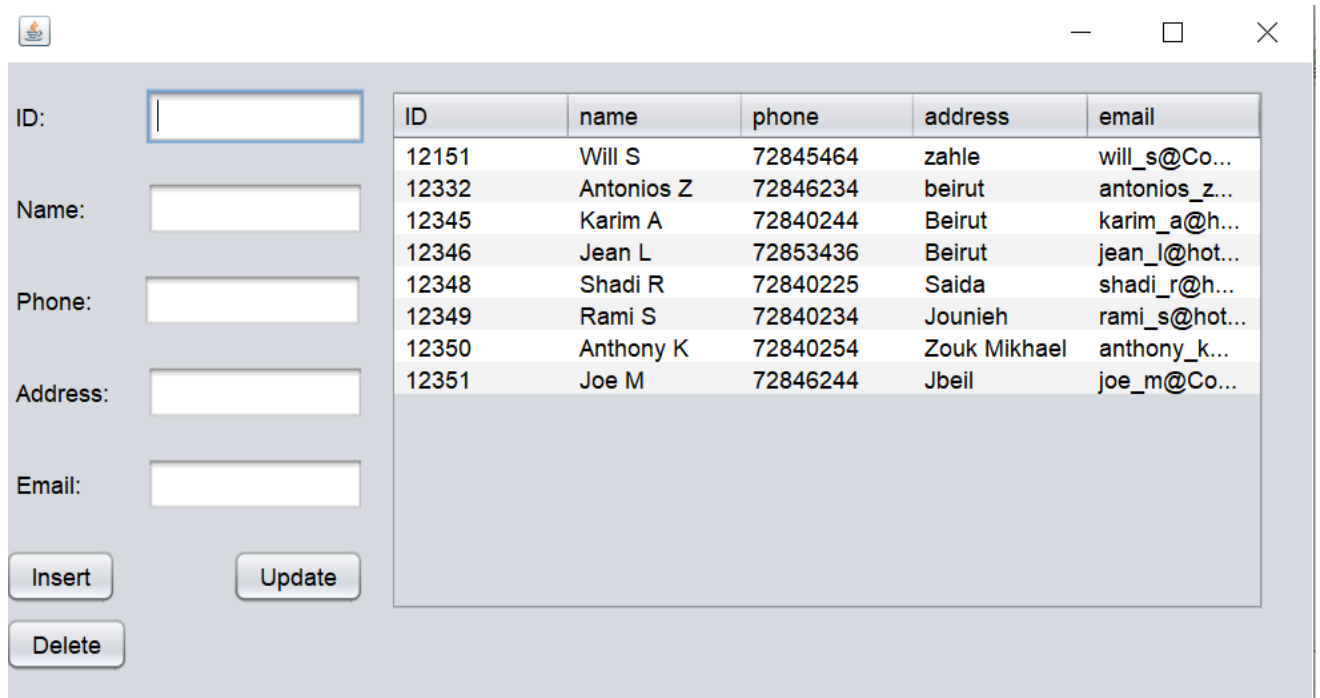
The second symbol represents the participation, whether total (|) or partial (O) for this entity.

Customer Relationship Model.



User interface description:

Using JDBC, NetBeans and java swing library, a graphical user interface was implemented for each table in our database. A user may insert new values into each table, delete current values in each table and update current values in each table. In addition, all data will be displayed for the user in the form of a table, and they are updated once an action is performed. For instance, any insertion, deletion or updating will lead this table to be updated accordingly. An example is provided in Figure 1 where a user can insert, update and delete values from the USER table and view the data available in the table.



ID	name	phone	address	email
12151	Will S	72845464	zahle	will_s@Co...
12332	Antonios Z	72846234	beirut	antonios_z...
12345	Karim A	72840244	Beirut	karim_a@h...
12346	Jean L	72853436	Beirut	jean_l@hot...
12348	Shadi R	72840225	Saida	shadi_r@h...
12349	Rami S	72840234	Jounieh	rami_s@hot...
12350	Anthony K	72840254	Zouk Mikhael	anthony_k...
12351	Joe M	72846244	Jbeil	joe_m@Co...

Figure 1. USER table with all functionalities

Functionalities:

- 1) Insertion
- 2) Deletion
- 3) Updating
- 4) Viewing data