PES University, Bengaluru

(Established under Karnataka Act 16 of 2013)

Department of Computer Science & Engineering

Session: Jan - May 2022

UE19CS353 – Object Oriented Analysis and Design with Java

Theory ISA (Mini Project)

Report On

EMPLOYEE MANAGEMENT SYSTEM

BY :

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[Link to GitHub Repository]

PROJECT DESCRIPTION :

Earlier Systems were manual where there was no centralised way of storing information of employees, a lot of paperwork would consume time and it was hard to maintain at multiple sites. There were no administration to who could handle the records and accessing data based on employee details (such as age,YOE etc.) was difficult as well.

Functionalities in our project :

1) Login : Both admin and employee can login by mentioning their email and password.

2) Adding employee details like: [can be done by both employee and admin]

a. First name
b. Last name
c. Age
d. Salary
e. Department
f. Phone number

3) Updating employee details [can be done only by admin]

4) Removing employee details [can be done by admin and employee]

5) Viewing employee details [can be done by both admin and employee]

For User:

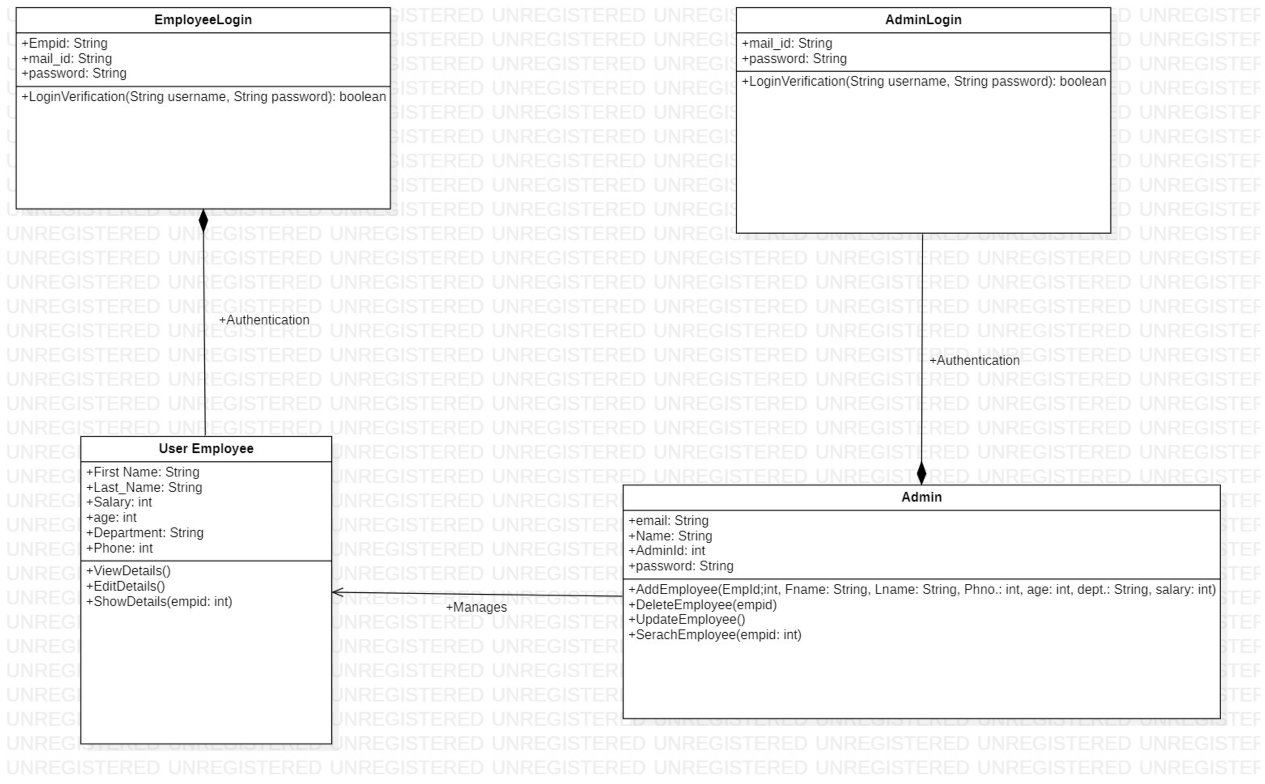
1. Add Employee details
2. Edit Employee details
3. View Own details
4. Remove Details

For Admin :

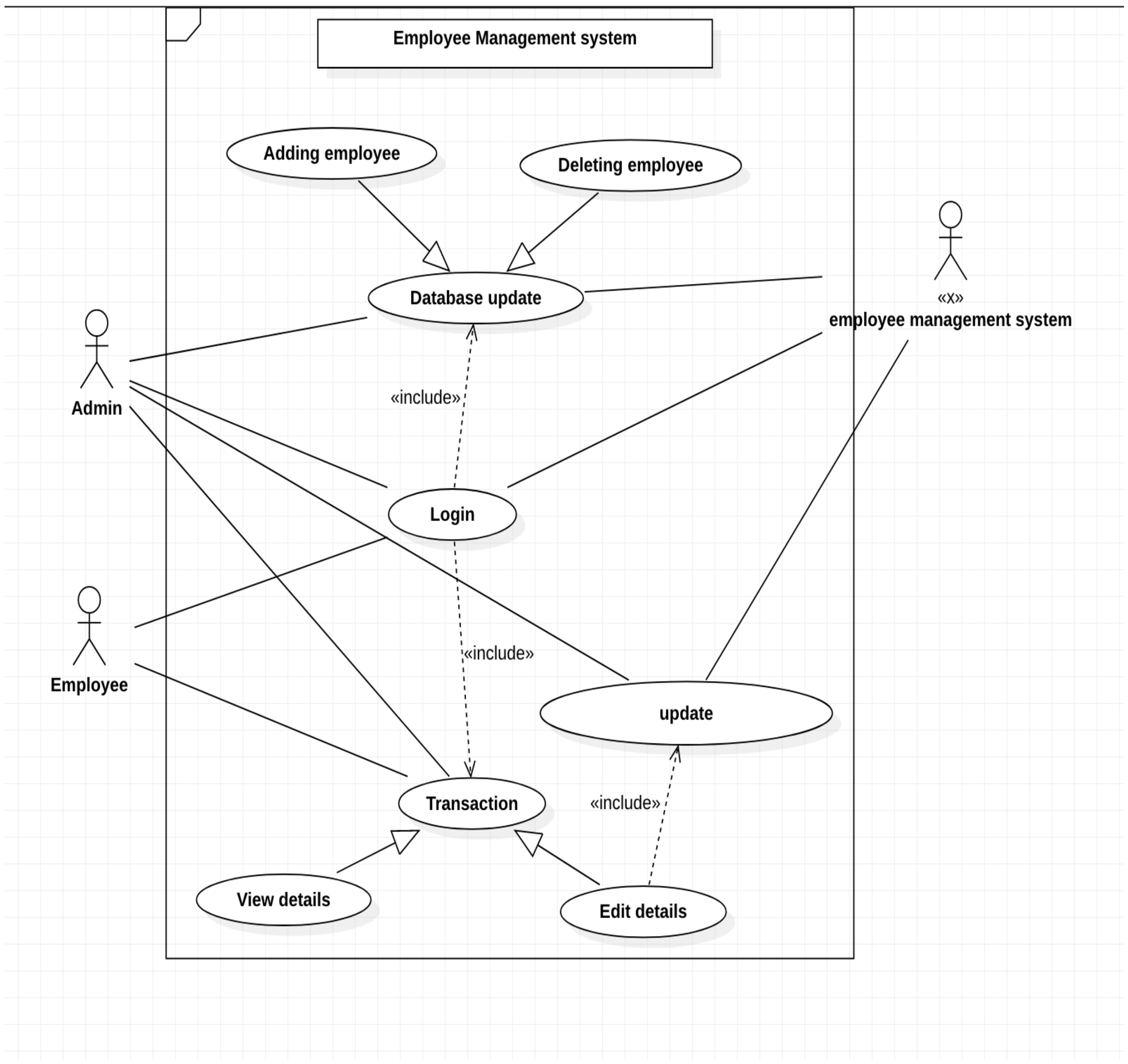
1. View all Employees
2. Change Details of Employees
3. Search/Query for Employees
4. Add or Delete Employees.

Analysis and Design Models :

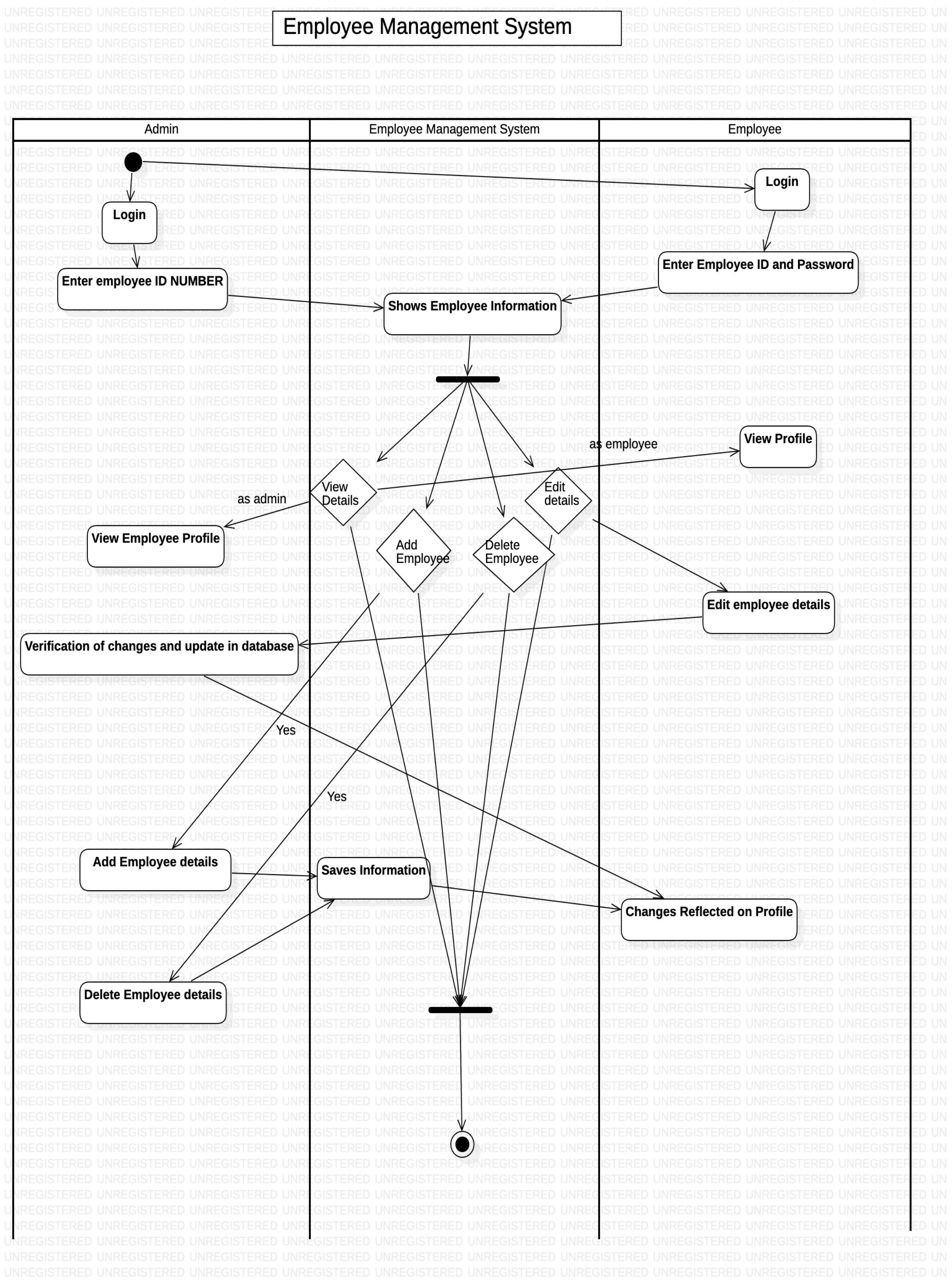
CLASS DIAGRAM :



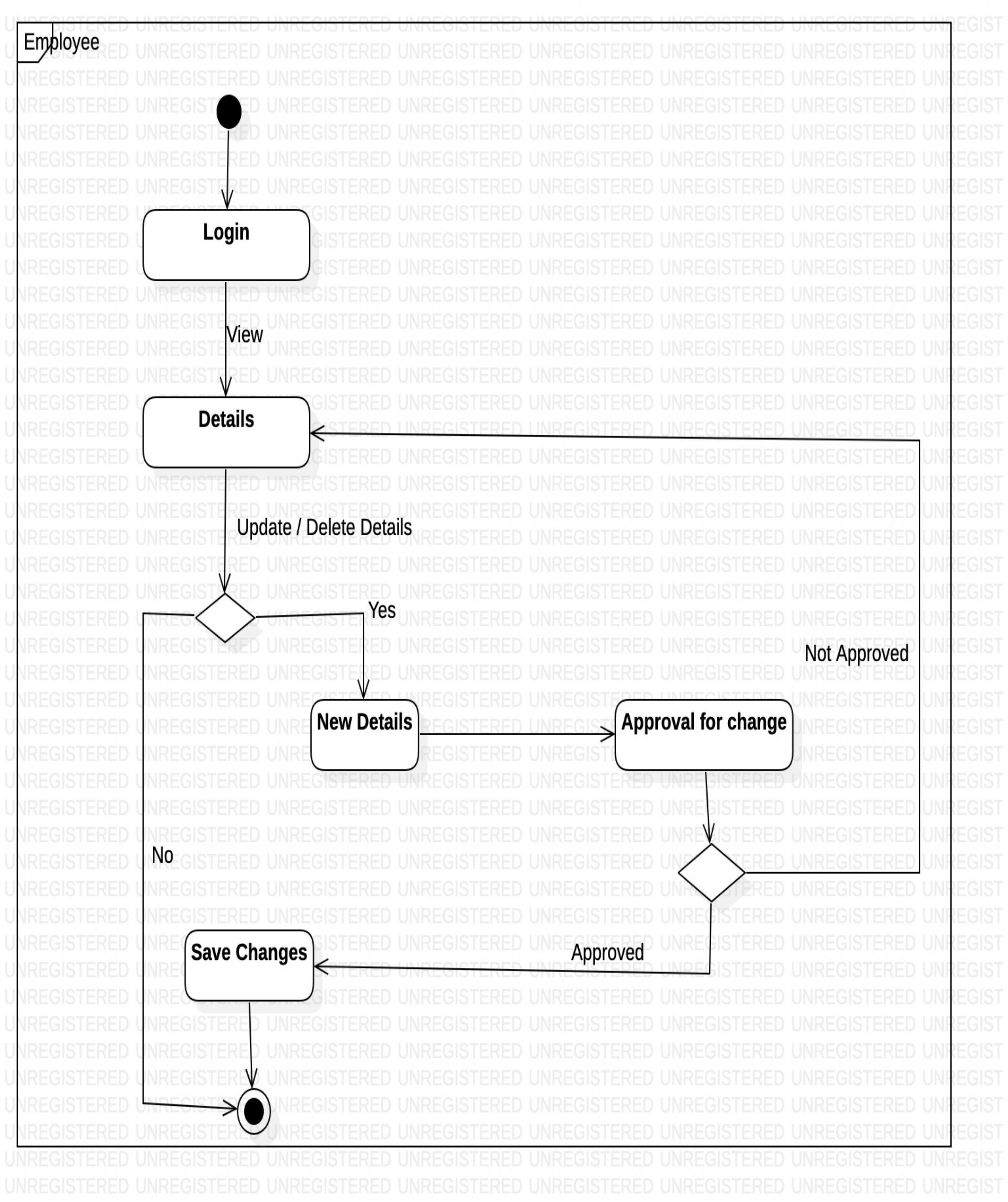
<u>USE CASE DIAGRAM :</u>



<u>ACTIVITY DIAGRAM :</u>



STATE DIAGRAM :



TOOLS AND FRAMEWORKS USED :

IDE : NetBeans
Database : MySQL
Concept : Java Swing

DESIGN PRINCIPLES AND DESIGN PATTERNS APPLIED

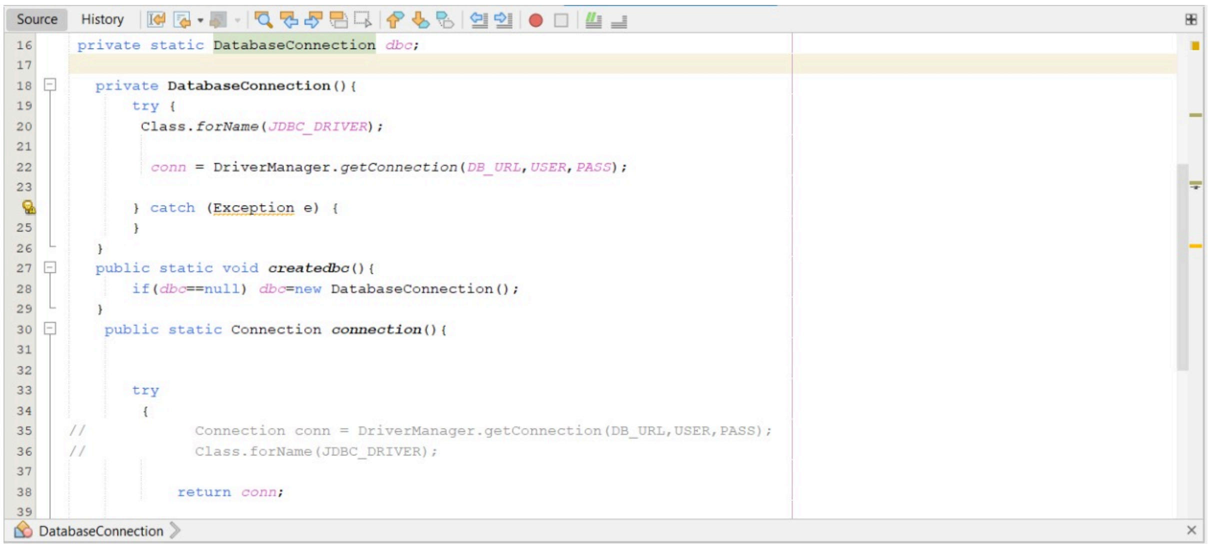
COMMAND PATTERN :

We used Following Design Patterns:

1. Singleton Pattern-Software design pattern that restricts the instantiation of a class to one "single" instance.

- In our case The Database Connection should be once but the many classes can use its instance to add,delete retrieve data from database.So Singleton was best fit to use.

Singleton Pattern Used in Code:

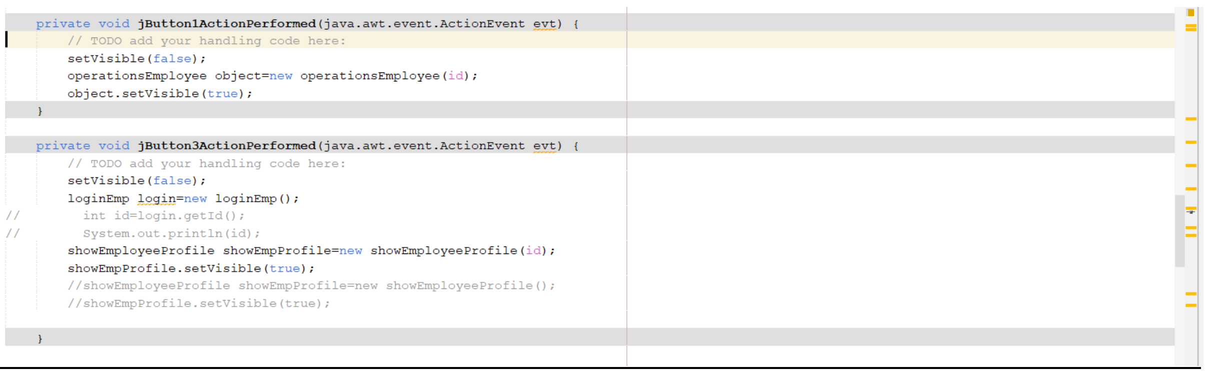


```
    private static DatabaseConnection dbc;

      private DatabaseConnection(){
          try {
           Class.forName(JDBC_DRIVER);

             conn = DriverManager.getConnection(DB_URL,USER,PASS);

          } catch (Exception e) {
          }
      }
      public static void createdbc(){
          if(dbc==null) dbc=new DatabaseConnection();
      }
       public static Connection connection(){


          try
           {
//                Connection conn = DriverManager.getConnection(DB_URL,USER,PASS);
//                Class.forName(JDBC_DRIVER);

                return conn;

```

Command Pattern-Command is a behavioral design pattern that turns a request into a stand-alone object that contains all information about the request.

- Each Button in the app generates separate command to the database to do specific task.In our case initiating the button in turn initiates object to be created which is a request.

<u>**Command Pattern used in code :**</u>



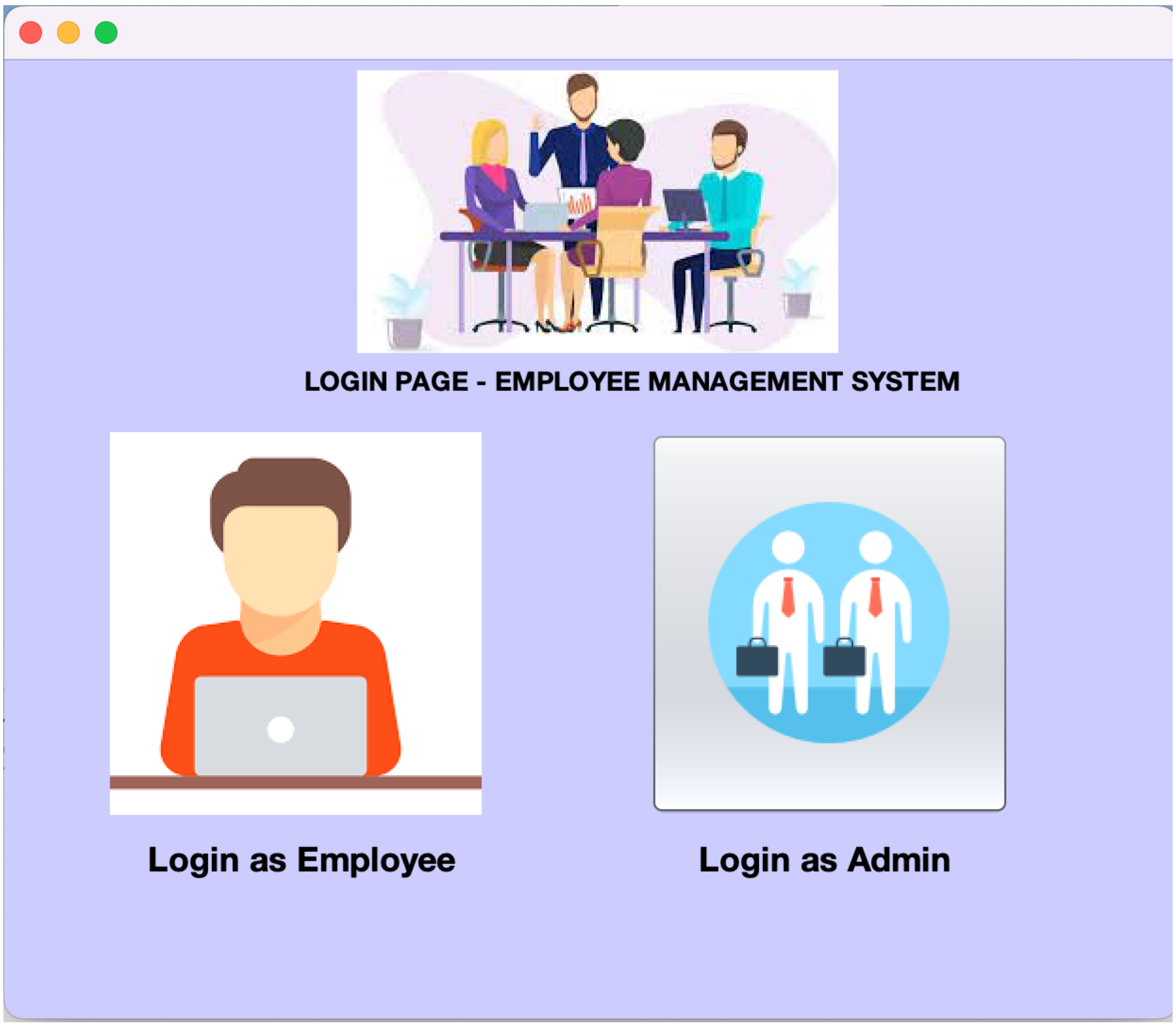
```java
    private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        setVisible(false);
        operationsEmployee object=new operationsEmployee(id);
        object.setVisible(true);
    }

    private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        setVisible(false);
        loginEmp login=new loginEmp();
//          int id=login.getId();
//          System.out.println(id);
        showEmployeeProfile showEmpProfile=new showEmployeeProfile(id);
        showEmpProfile.setVisible(true);
        //showEmployeeProfile showEmpProfile=new showEmployeeProfile();
        //showEmpProfile.setVisible(true);

    }
```

<u>**APPLICATION SCREENSHOTS (3-4 IMPORTANT PAGES)**</u>

User Interface :

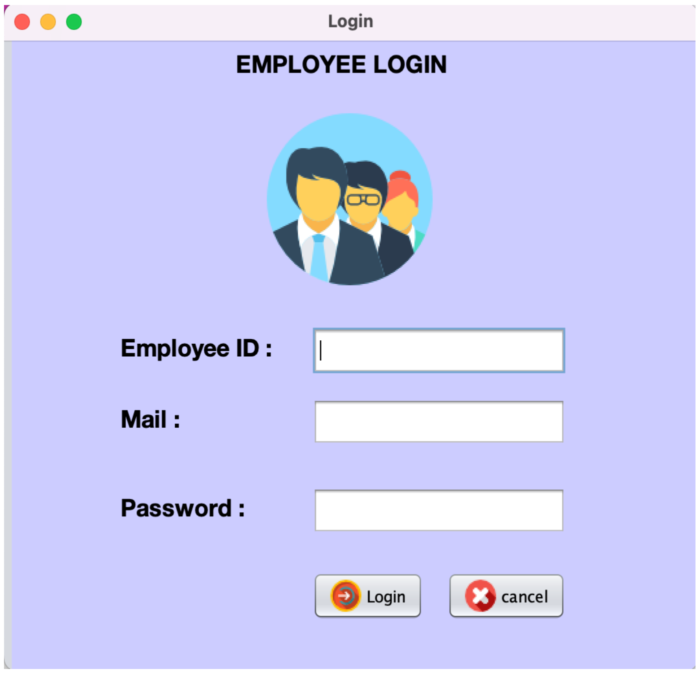
MAIN PAGE :

Here the user can login - as an ADMIN or as an EMPLOYEE.



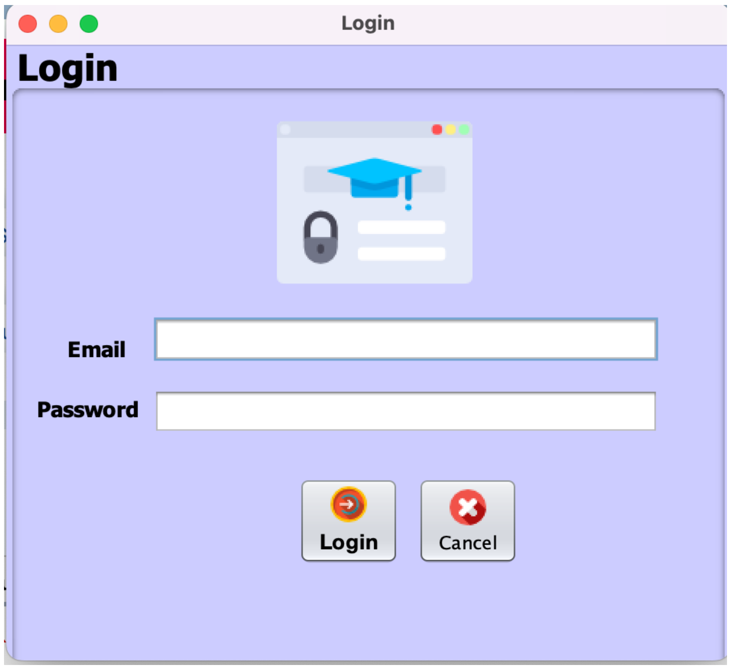
LOGIN FOR EMPLOYEE :

The employee can login by entering her/his EMPLOYEE ID , EMAIL and PASSWORD.



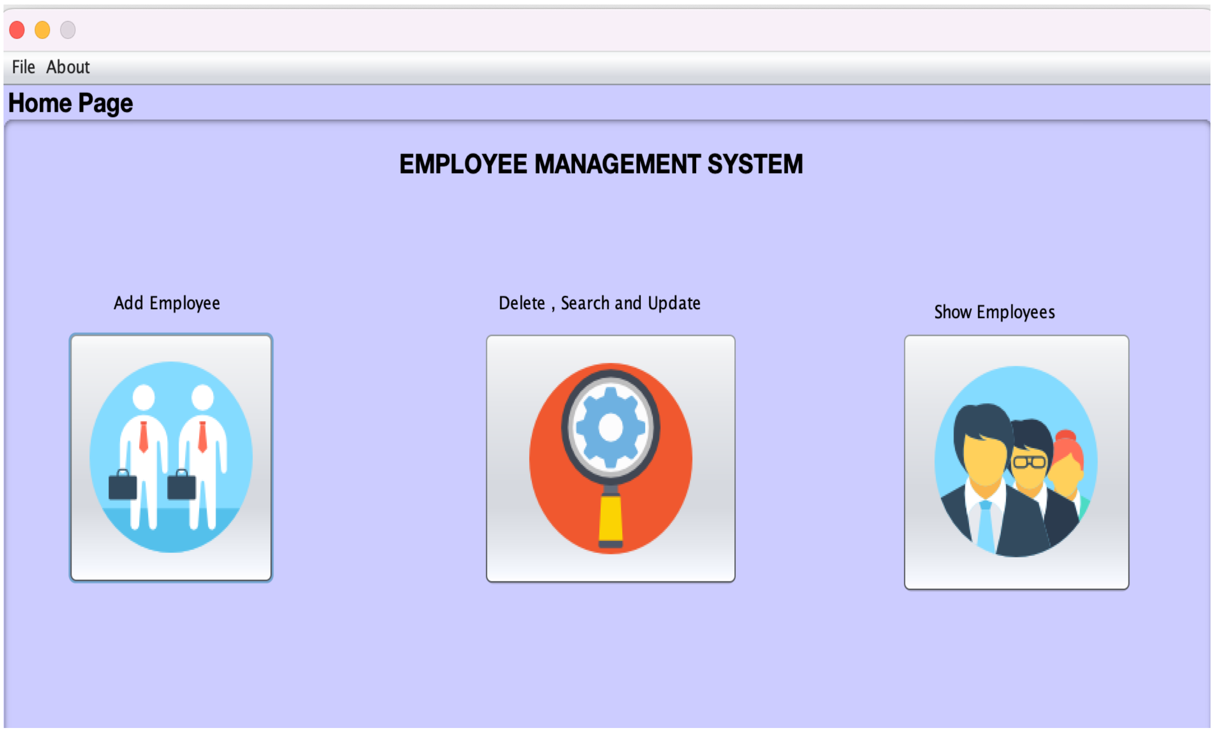
LOGIN FOR ADMIN :

The ADMIN can login by entering EMAIL and PASSWORD.

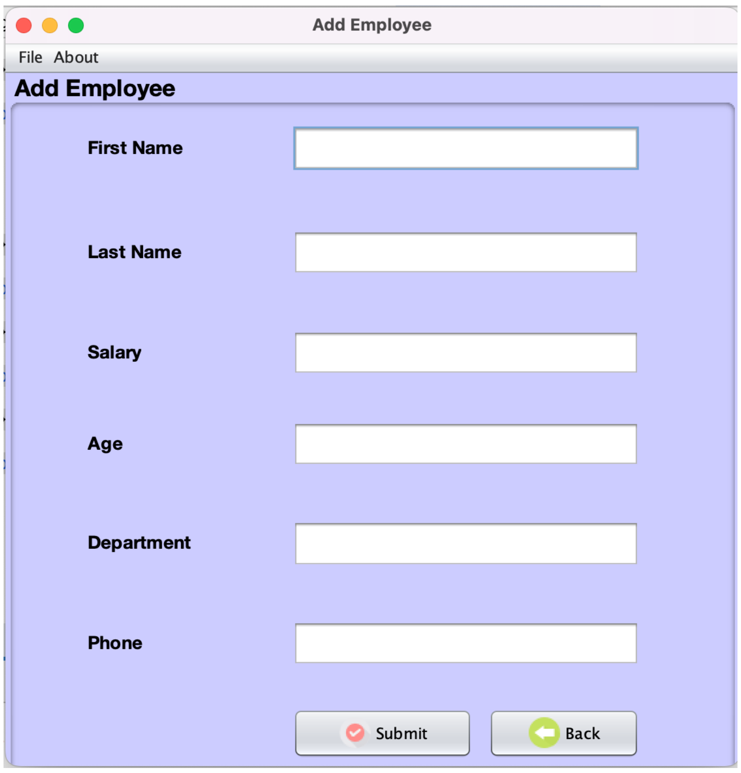


HOME PAGE FOR ADMIN :

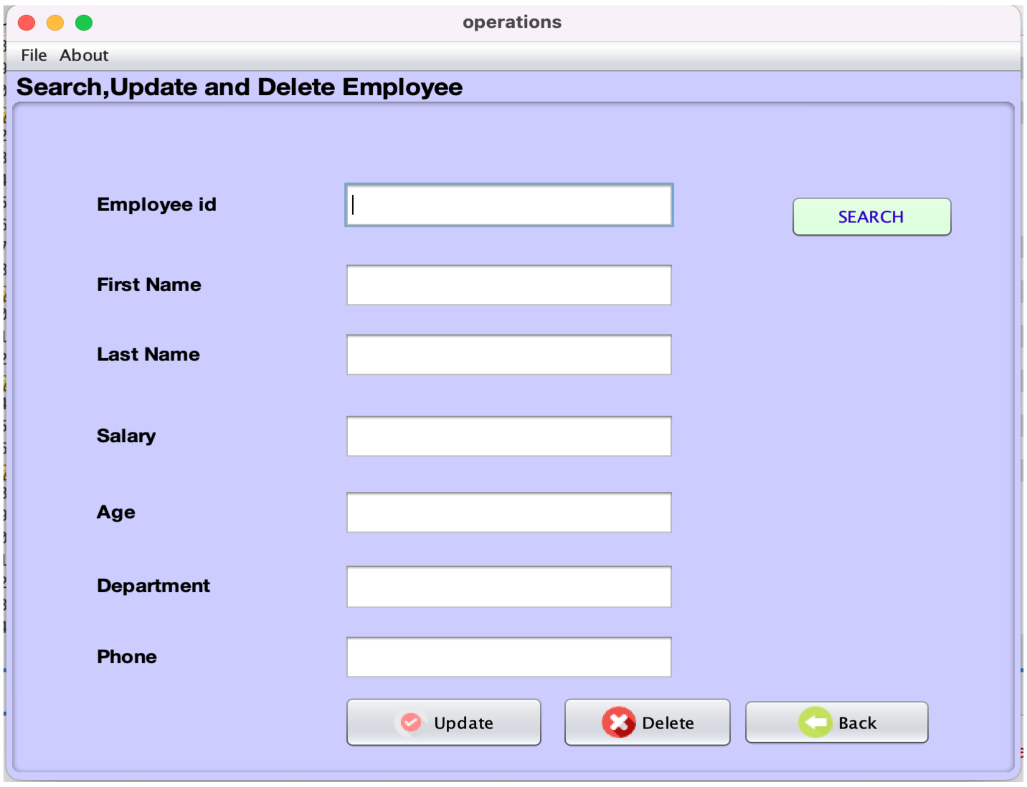
The admin can ADD AN EMLPOYEE, PERFORM OPERATIONS (LIKE UPDATE , DELETE AND SEARCH) AND SHOW EMPLOYEES.



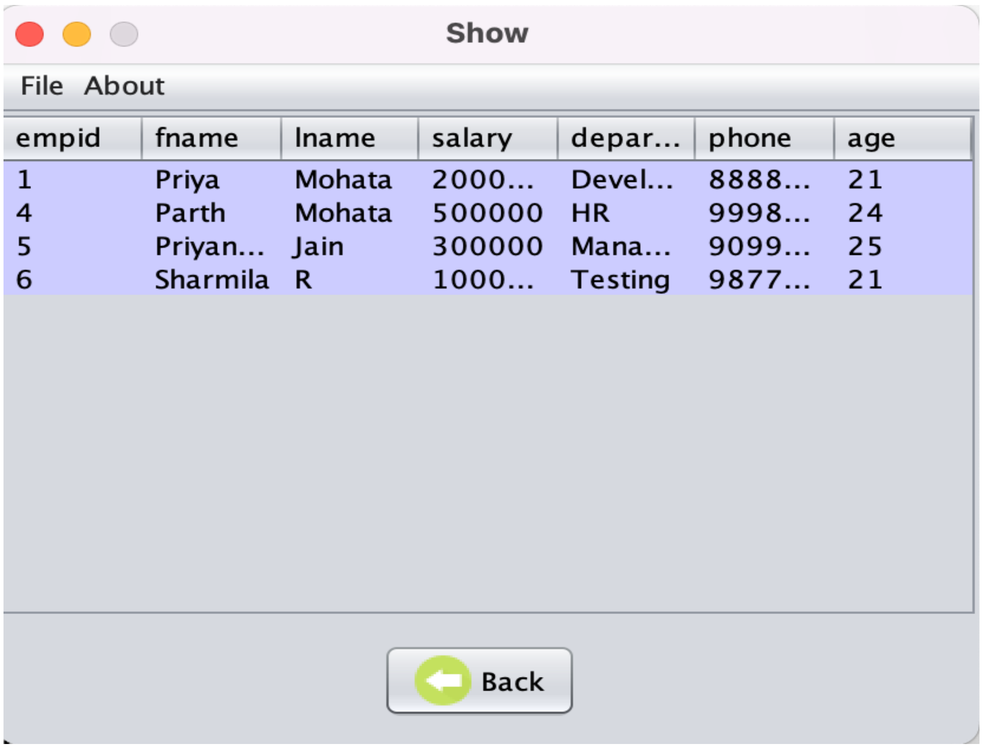
PAGE FOR ADDING AN EMPLOYEE :



PAGE FOR SEARCH , UPDATE AND DELETE AN EMPLOYEE

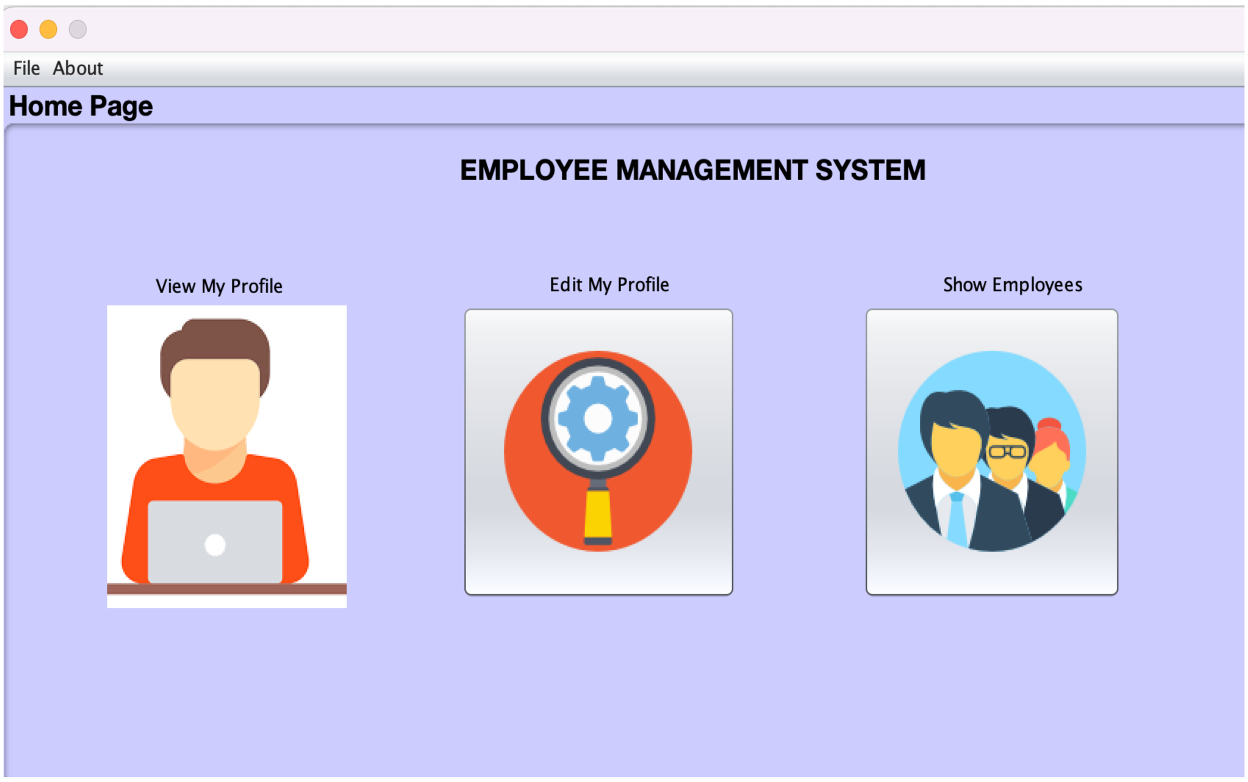


PAGE WHICH SHOWS DETAILS OF ALL THE EMPLOYEES

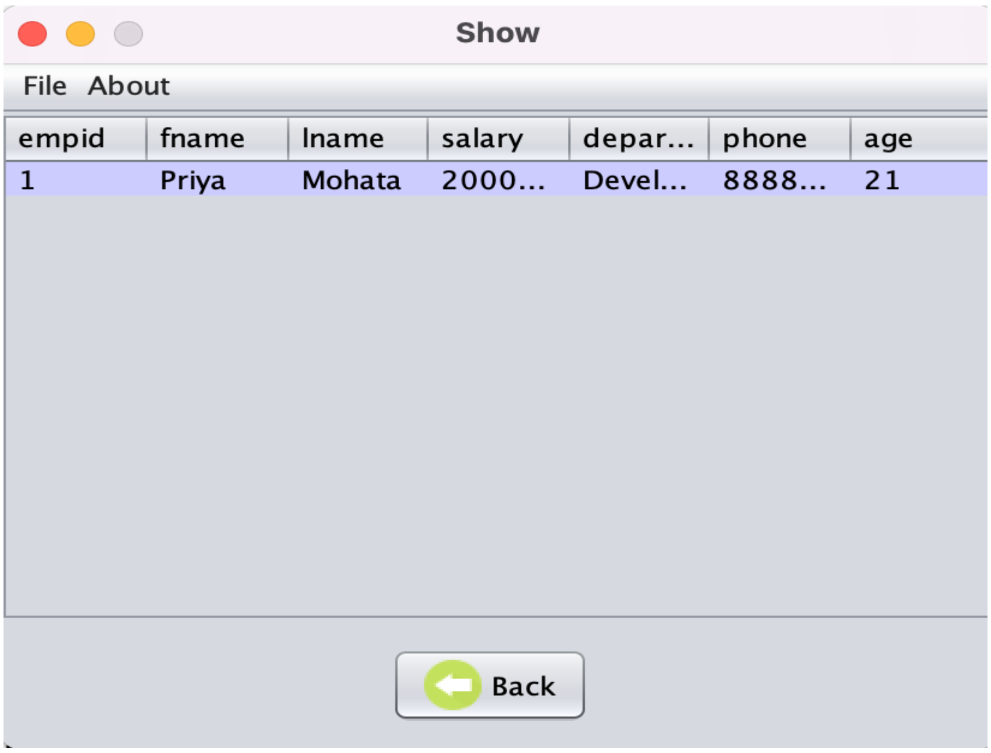


empid	fname	lname	salary	depar...	phone	age
1	Priya	Mohata	2000...	Devel...	8888...	21
4	Parth	Mohata	500000	HR	9998...	24
5	Priyan...	Jain	300000	Mana...	9099...	25
6	Sharmila	R	1000...	Testing	9877...	21

HOME PAGE FOR EMPLOYEE

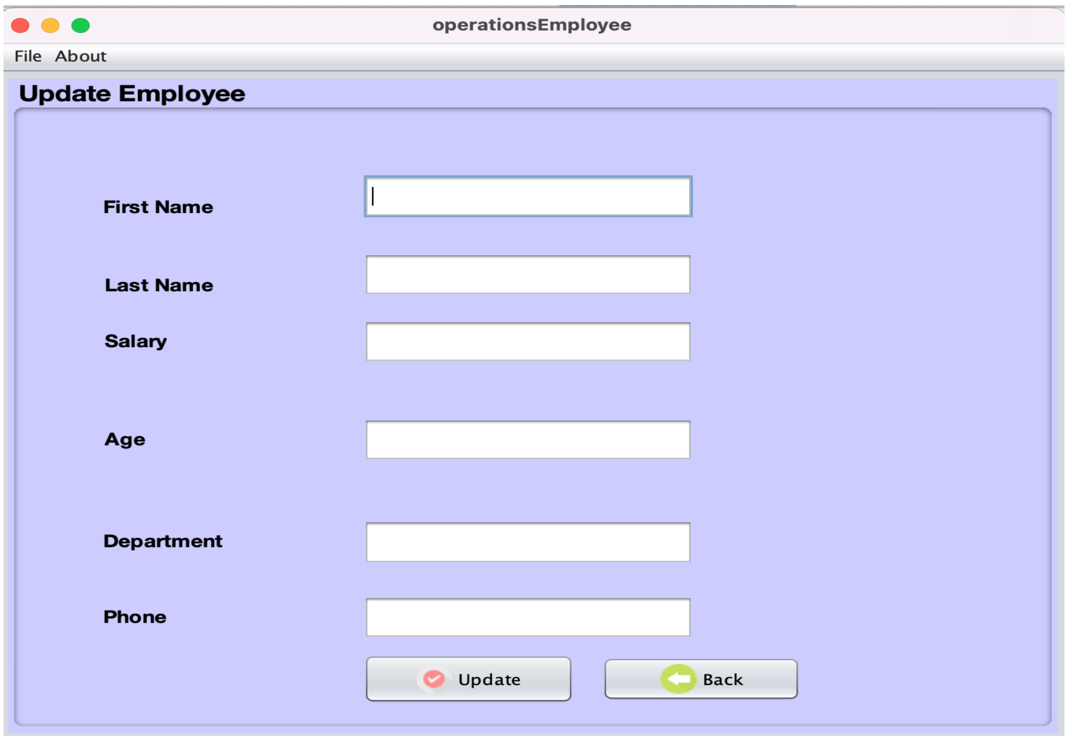


PAGE THAT SHOWS EMPLOYEE'S DETAILS :

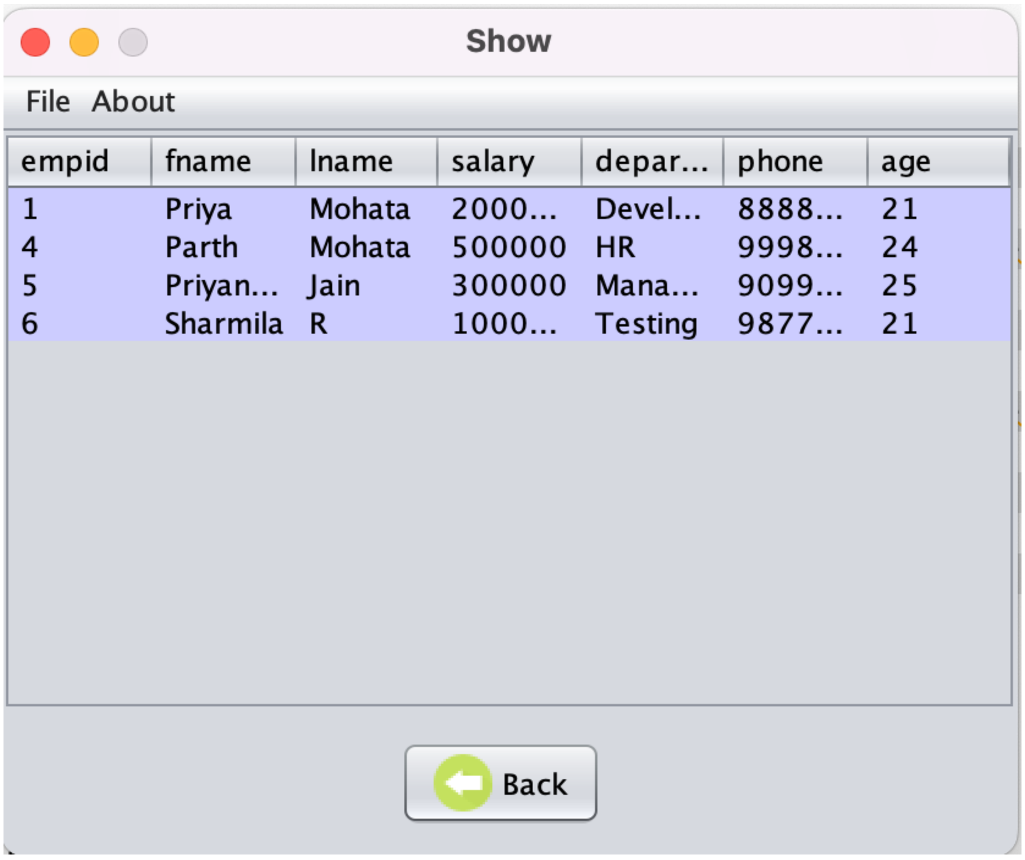


empid	fname	lname	salary	depar...	phone	age
1	Priya	Mohata	2000...	Devel...	8888...	21

PAGE THAT ALLOWS EMPLOYEE TO UPDATE EMPLOYEE :

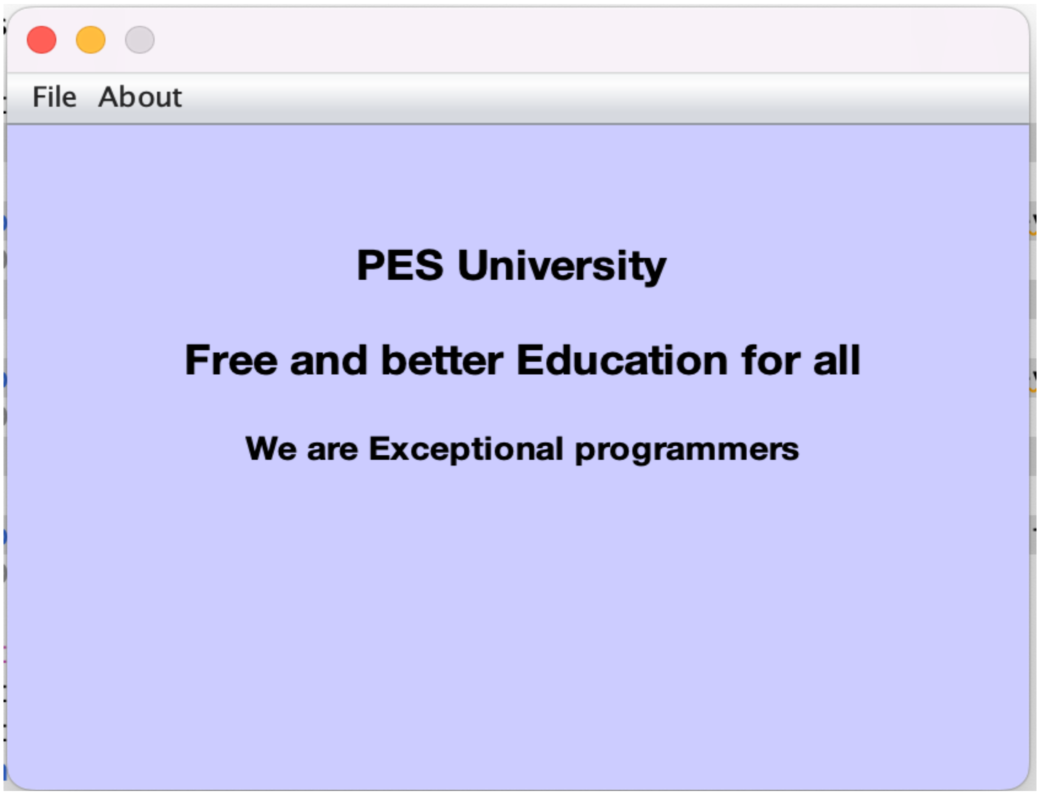


PAGE THAT SHOWS ALL THE DETAILS OF ALL THE EMPLOYEES :



empid	fname	lname	salary	depar...	phone	age
1	Priya	Mohata	2000...	Devel...	8888...	21
4	Parth	Mohata	500000	HR	9998...	24
5	Priyan...	Jain	300000	Mana...	9099...	25
6	Sharmila	R	1000...	Testing	9877...	21

ABOUT PAGE :



PES University

Free and better Education for all

We are Exceptional programmers

TEAM MEMBER CONTRIBUTIONS :

FEATURES	TOPIC IS HANDLED BY
Login	Priya Mohata
Adding Employee details	Sharmila
Updating of employee details	Sharmila & Priyansh
Removing employee details	Priyansh
Viewing employee details	Priya Mohata