JAVA AWT BASED – UBER EATS DATABASE-SQL CONNECTIVITY USING JDBC

A

Report

Submitted in partial fulfilment of the

Requirements for the award of the Degree of

BACHELOR OF ENGINEERING

IN

INFORMATION TECHNOLOGY

By

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BONAFIDE CERTIFICATE

Certified that this project report titled ”Uber Eats Database System” is a bonafide work of Miss Gollapalli Sai Madhu Samhita, who carried out the mini project work under my supervision.

Certified further that, to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion or any other candidate.

ABSTRACT

Different varieties of food have a growing demand these days. People want to enjoy different cuisines all over the world. But with increase of restaurants day-by-day dining out or takeaway is a difficult choice. An online food ordering system like “Uber Eats” shows an easy way out by bringing food to your doorstep. Customers can order food from any place and at any time provided network connection is available. “Uber Eats” provides customers with a variety of restaurants to order from. Various details of restaurant are given, like rating and food menu, making the choice of customer easy. Live tracking of order is provided. Apart from this, refund is provided when the correct order is not delivered or when the customer is not satisfied with the food. “Uber Eats” is the best choice for people looking for good food.

“Good food equals good mood”

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REQUIREMENT ANALYSIS

List of tables:

- *Restaurant Details*
- *Customer Details*
- *Reservation*
- *Order Details*
- *Orders*
- *Payment*
- *Pays*
- *Order From*
- *Contains*
- *Reserve In*
- *Reserves*
- *Order By*

List of attributes with their domain types:

- *Customer*

1. Customer Id – varchar (Primary key)
2. Password - varchar
3. Gmail account – varchar
4. Name-char
5. Phone number - Number
6. Address – varchar

- *Uber Eats*

1. Opening and Closing Time – Time
2. Location – varchar
3. Food Item – char
4. Cost – Number
5. Restaurant Id – varchar (Primary key)

- *Order Details*

1. Location – varchar
2. Price – Number
3. Time of Delivery – Time
4. Order Id – Number (Primary Key)

- *Payment*

1. Date – date
2. Time – time
3. Type – varchar
4. Cash – Number
5. Transaction Id – Number (Primary Key)

- *Orders*

1. Order Id – varchar (Foreign key)
2. Customer Id – varchar (Foreign key)

- *Generates*

1. Order Id – varchar (Foreign key)

2. Transaction Id – varchar (Foreign key)

3

- *Order From*

1. Restaurant Id – varchar (Foreign key)
2. Customer Id – varchar (Foreign key)

- *Pays*

1. Customer Id – varchar2(Foreign key)
2. Transaction Id – varchar(Foreign key)

SPECIFIC GOAL OF THE PROJECT:

The main goal of this project is to provide an online based food ordering system, which ensures home delivery of food, chosen from a wide variety of restaurants. Details of different kind of restaurants are shown with their food menus. This allows the customer to choose food of their choice by sitting at home. An order of food from a specific restaurant can be placed via the Uber Eats Database. Payment can be done through different modes and order would be delivered to the required location.

SQL particular - Uber Eats, Customer, Order, Payment methods.

- **Architecture and technology used:**

  SQL Plus is the most basic Oracle Database utility with a basic command-line interface, commonly used by users, administrators and programmers.

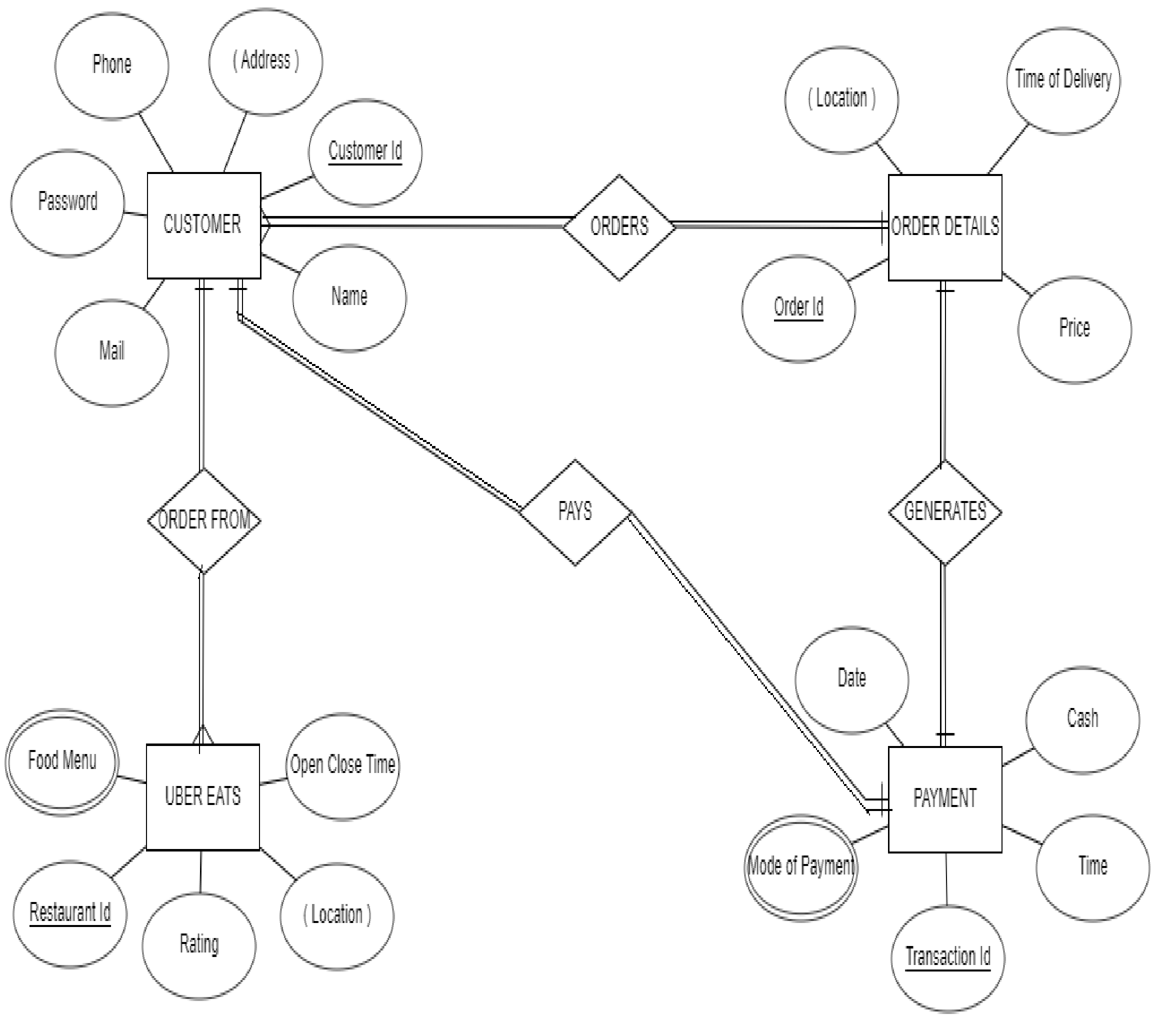
  The interface of SQL Plus is used for creating the database. DDL and DML commands are implemented for operations being executed. The details of various Online MOOC's provider, courses, student, assignments, and results are stored in the form of tables in the database.

  Eclipse is an integrated development environment (IDE) used in computer programming. It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in java and its primary use is for developing Java applications, but it may also be used to develop applications in other programming languages via plug-ins, including Erlang, Java Scripts etc.

  The front-end application code is written in "**Java**" using Eclipse. The portal for front end application is designed through Eclipse, runs and has the capacity to connect with the database which has data inserted using SQL.

DESIGN

ER DIAGRAM



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Mapping Cardinalities and Constraints

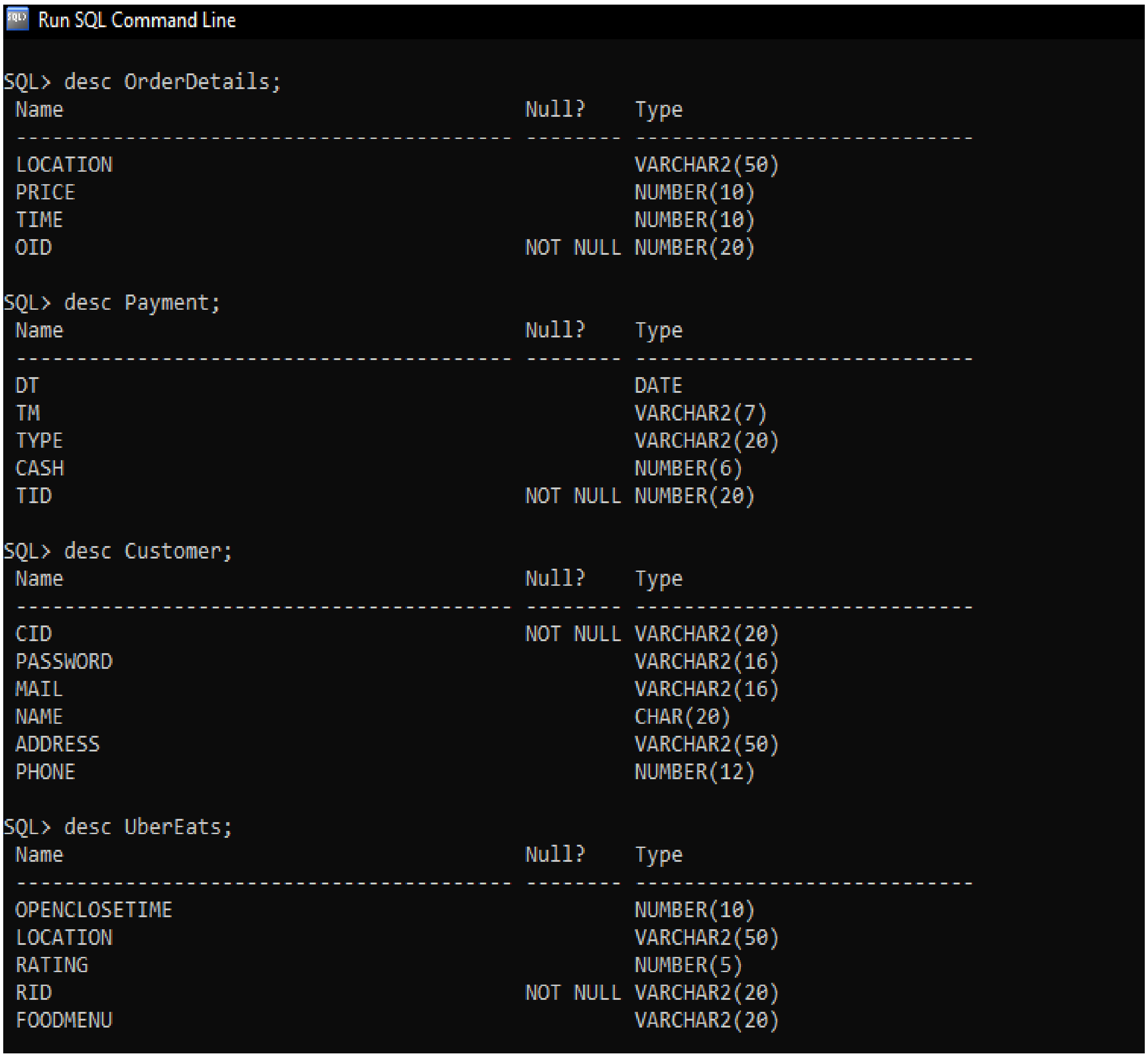
- Customer(many) Order from Uber Eats(one)
  One Customer can place an order from one Restaurant, but One Restaurant can receive orders from many Restaurants.
- Customer(one) Orders Order Details(many)
  One Customer can place many orders, but one order is places by one Customer.
- Order Details(one) Generates Payment(one)
  One Order generates one bill and one bill is generated by one Order.
- Customer(one) Pays Payment(one)
  One Customer can make one Payment regarding one order and one Payment is made by only one Customer regarding one order.

DDL COMMANDS

```
SQL> create table Customer(
  2 Cid varchar2(20),
  3 Password varchar2(16),
  4 Mail varchar2(16),
  5 Name char(20),
  6 Address varchar2(50),
  7 Phone number(12));

Table created.

SQL> create table UberEats(
  2  OpenCloseTime number(10),
  3  Location varchar2(50),
  4  Rating number(5),
  5  Rid varchar2(20),
  6  FoodMenu varchar2(20));

Table created.

SQL> create table OrderDetails(
  2  Location varchar2(50),
  3  Price number(10),
  4  Time number(10),
  5  Oid number(20));

Table created.

SQL> create table Payment(
  2  Dt date,
  3  Tm varchar2(7),
  4  Type varchar2(20),
  5  Cash number(6),
  6  Tid number(20));

Table created.

SQL> create table OrderFroms(
  2  Cid varchar2(20),
  3  Rid varchar2(20));

Table created.
```

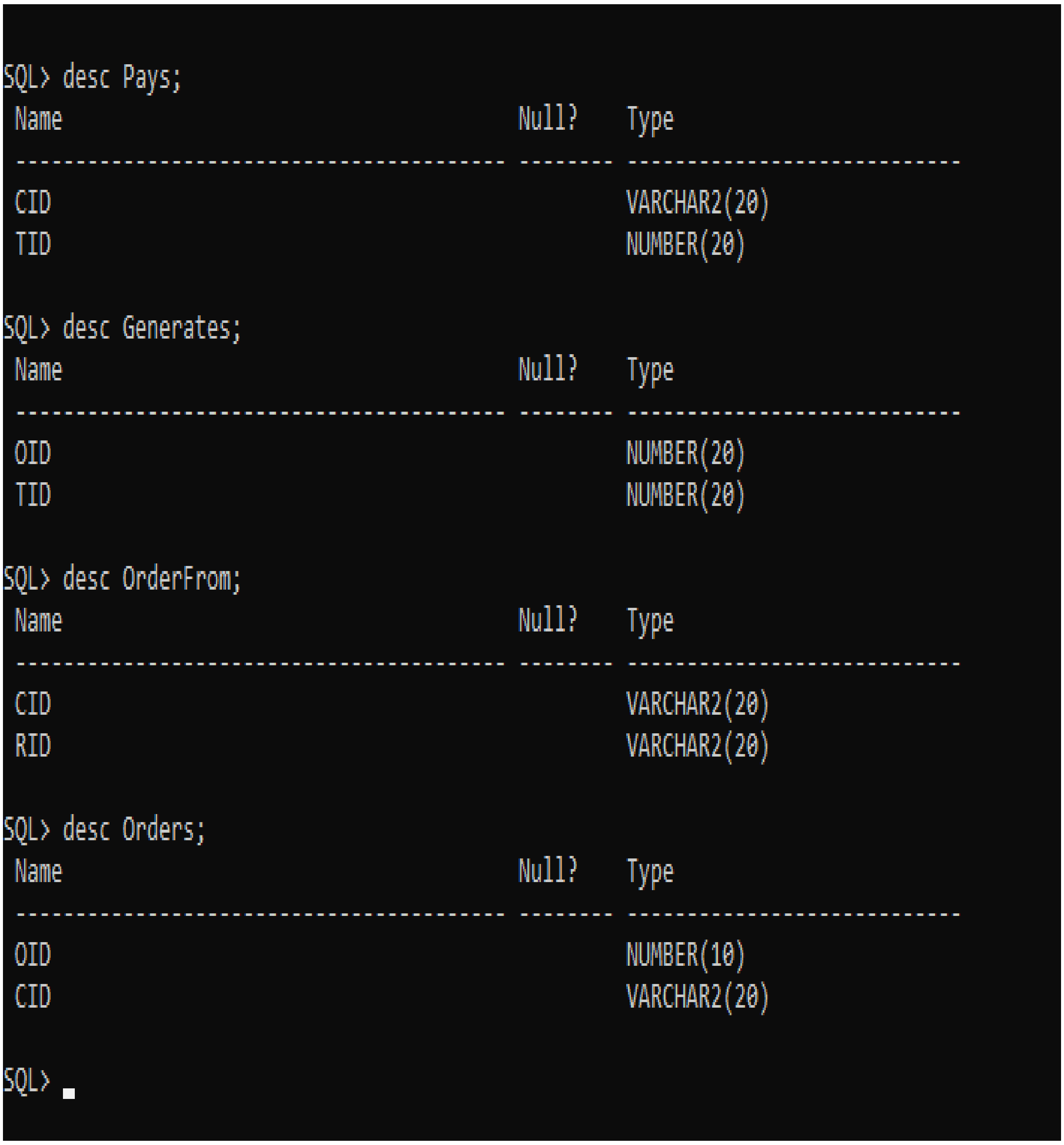
```
SQL> create table Orders(
  2  Oid number(10),
  3  Cid varchar2(20));

Table created.

SQL> create table Pays(
  2  Cid varchar2(20),
  3  Tid number(20));

Table created.

SQL> create table Generates(
  2  Oid number(20),
  3  Tid number(20));

Table created.

SQL> alter table Customer add primary key(Cid);

Table altered.

SQL>  alter table UberEats add primary key(Rid);

Table altered.

SQL>  alter table Payment add primary key(Tid);

Table altered.

SQL>  alter table OrderDetails add primary key(Oid);

Table altered.

SQL> alter table Pays add foreign key(Cid) references Customer;

Table altered.

SQL> alter table Pays add foreign key(Tid) references Payment;

Table altered.

SQL> alter table OrderFrom add foreign key(Cid) references Customer;

Table altered.
```

```
SQL> alter table OrderFrom add foreign key(Rid) references UberEats;

Table altered.
SQL> alter table Orders add foreign key(Cid) references Customer;

Table altered.

SQL> alter table Orders add foreign key(Oid) references OrderDetails;

Table altered.

SQL> alter table Generates add foreign key(Oid) references OrderDetails;

Table altered.

SQL> alter table Generates add foreign key(Tid) references Payment;

Table altered.
```



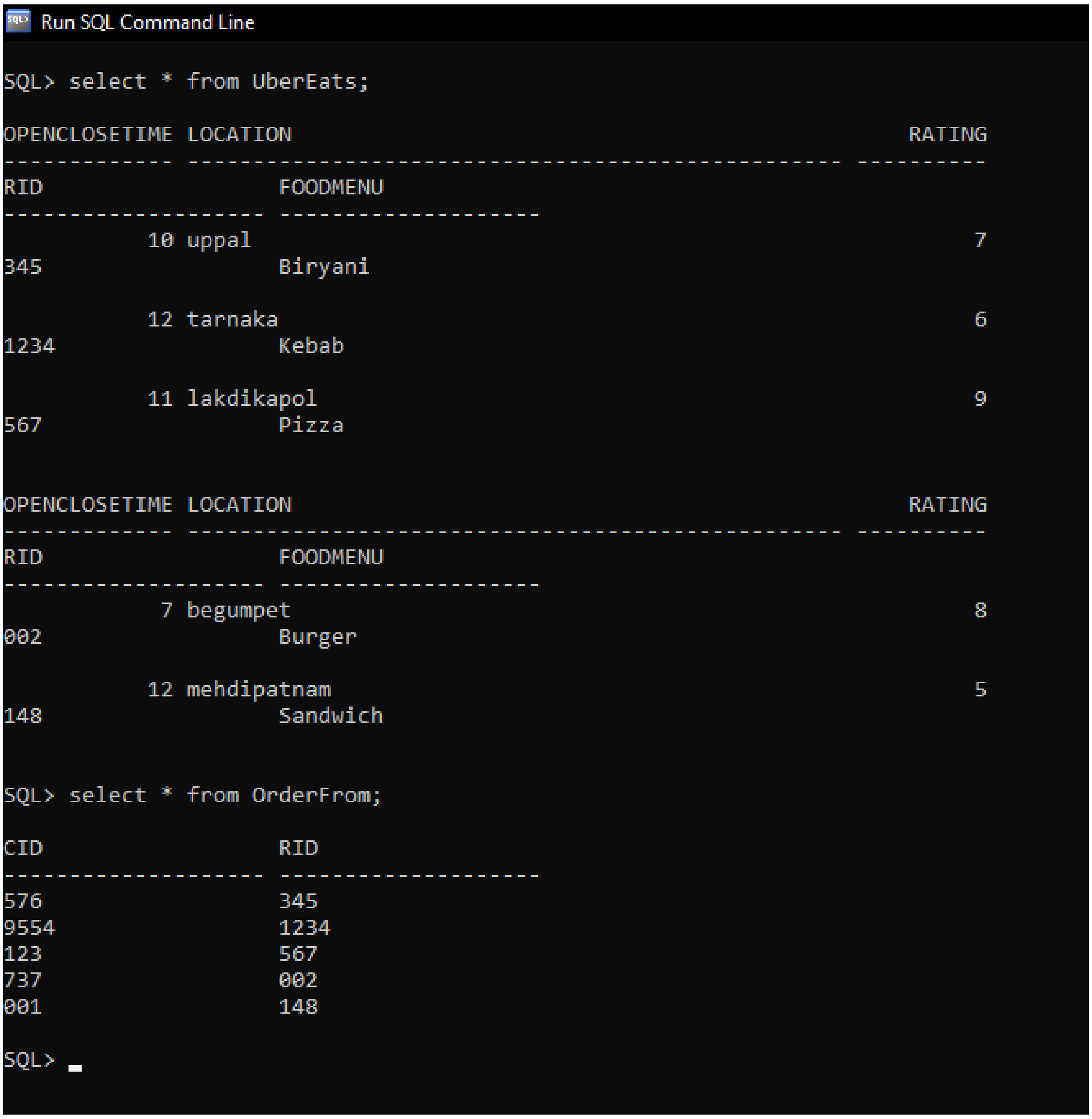
Run SQL Command Line

```
SQL> desc OrderDetails;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 LOCATION                                           VARCHAR2(50)
 PRICE                                              NUMBER(10)
 TIME                                               NUMBER(10)
 OID                                       NOT NULL NUMBER(20)

SQL> desc Payment;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DT                                                 DATE
 TM                                                 VARCHAR2(7)
 TYPE                                               VARCHAR2(20)
 CASH                                               NUMBER(6)
 TID                                       NOT NULL NUMBER(20)

SQL> desc Customer;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CID                                       NOT NULL VARCHAR2(20)
 PASSWORD                                           VARCHAR2(16)
 MAIL                                               VARCHAR2(16)
 NAME                                               CHAR(20)
 ADDRESS                                            VARCHAR2(50)
 PHONE                                              NUMBER(12)

SQL> desc UberEats;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 OPENCLOSETIME                                      NUMBER(10)
 LOCATION                                           VARCHAR2(50)
 RATING                                             NUMBER(5)
 RID                                       NOT NULL VARCHAR2(20)
 FOODMENU                                           VARCHAR2(20)
```



```
SQL> desc Pays;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CID                                                VARCHAR2(20)
 TID                                                NUMBER(20)

SQL> desc Generates;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 OID                                                NUMBER(20)
 TID                                                NUMBER(20)

SQL> desc OrderFrom;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CID                                                VARCHAR2(20)
 RID                                                VARCHAR2(20)

SQL> desc Orders;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 OID                                                NUMBER(10)
 CID                                                VARCHAR2(20)

SQL>
```

DML COMMANDS


Run SQL Command Line

```
SQL> select * from UberEats;

OPENCLOSETIME LOCATION                                           RATING
------------- -------------------------------------------------- ----------
RID                  FOODMENU
-------------------- --------------------
           10 uppal                                                       7
345                  Biryani

           12 tarnaka                                                     6
1234                 Kebab

           11 lakdikapol                                                  9
567                  Pizza


OPENCLOSETIME LOCATION                                           RATING
------------- -------------------------------------------------- ----------
RID                  FOODMENU
-------------------- --------------------
            7 begumpet                                                    8
002                  Burger

           12 mehdipatnam                                                 5
148                  Sandwich


SQL> select * from OrderFrom;

CID                  RID
-------------------- --------------------
576                  345
9554                 1234
123                  567
737                  002
001                  148

SQL> _
```

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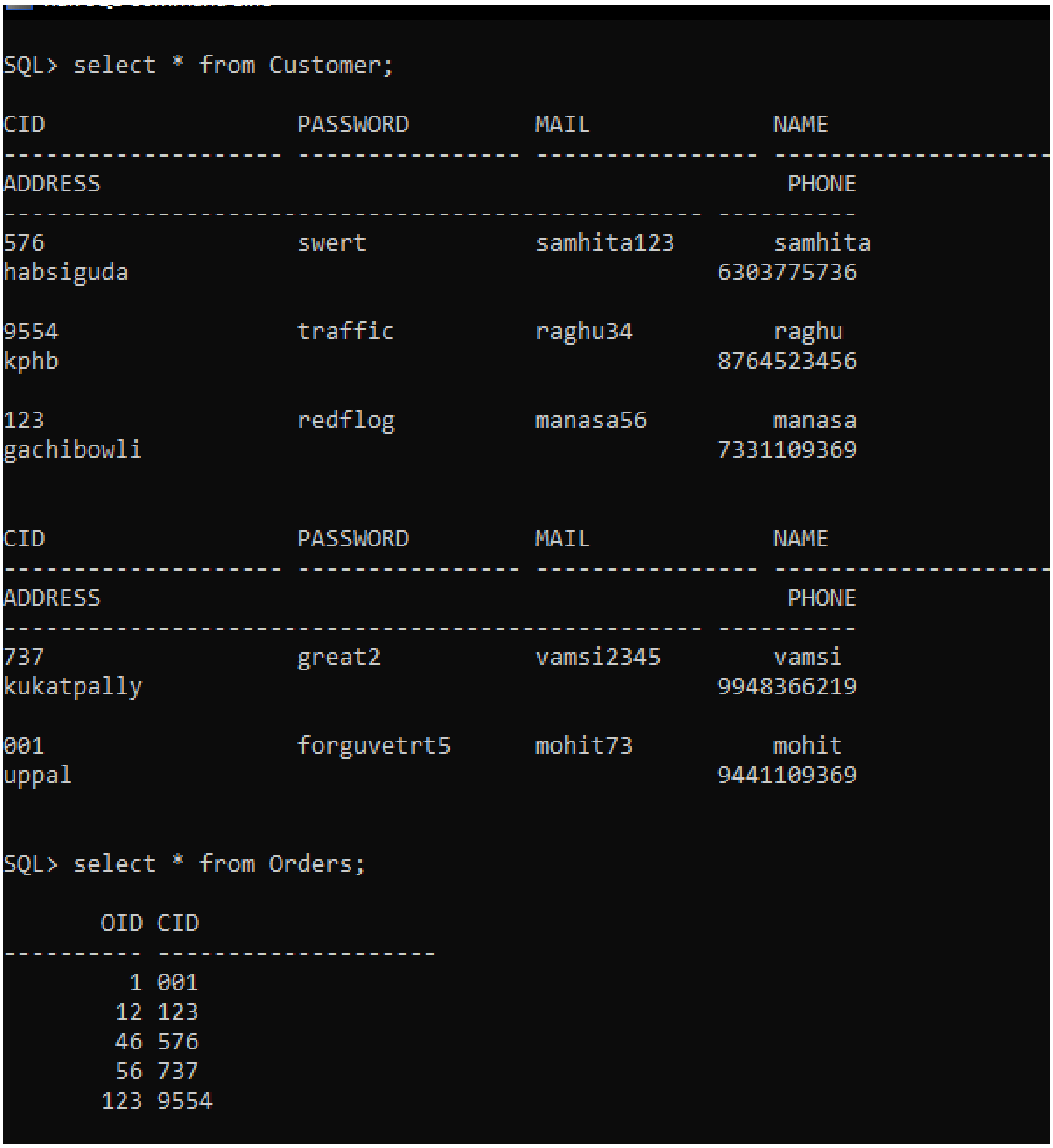

```
SQL> select * from Customer;

CID                  PASSWORD        MAIL            NAME
-------------------- --------------- --------------- --------------------
ADDRESS                                                PHONE
-------------------------------------------------- ----------
576                  swert           samhita123       samhita
habsiguda                                          6303775736

9554                 traffic         raghu34          raghu
kphb                                               8764523456

123                  redflog         manasa56         manasa
gachibowli                                         7331109369


CID                  PASSWORD        MAIL            NAME
-------------------- --------------- --------------- --------------------
ADDRESS                                                PHONE
-------------------------------------------------- ----------
737                  great2          vamsi2345        vamsi
kukatpally                                         9948366219

001                  forguvetrt5     mohit73          mohit
uppal                                              9441109369


SQL> select * from Orders;

       OID CID
---------- --------------------
         1 001
        12 123
        46 576
        56 737
       123 9554
```

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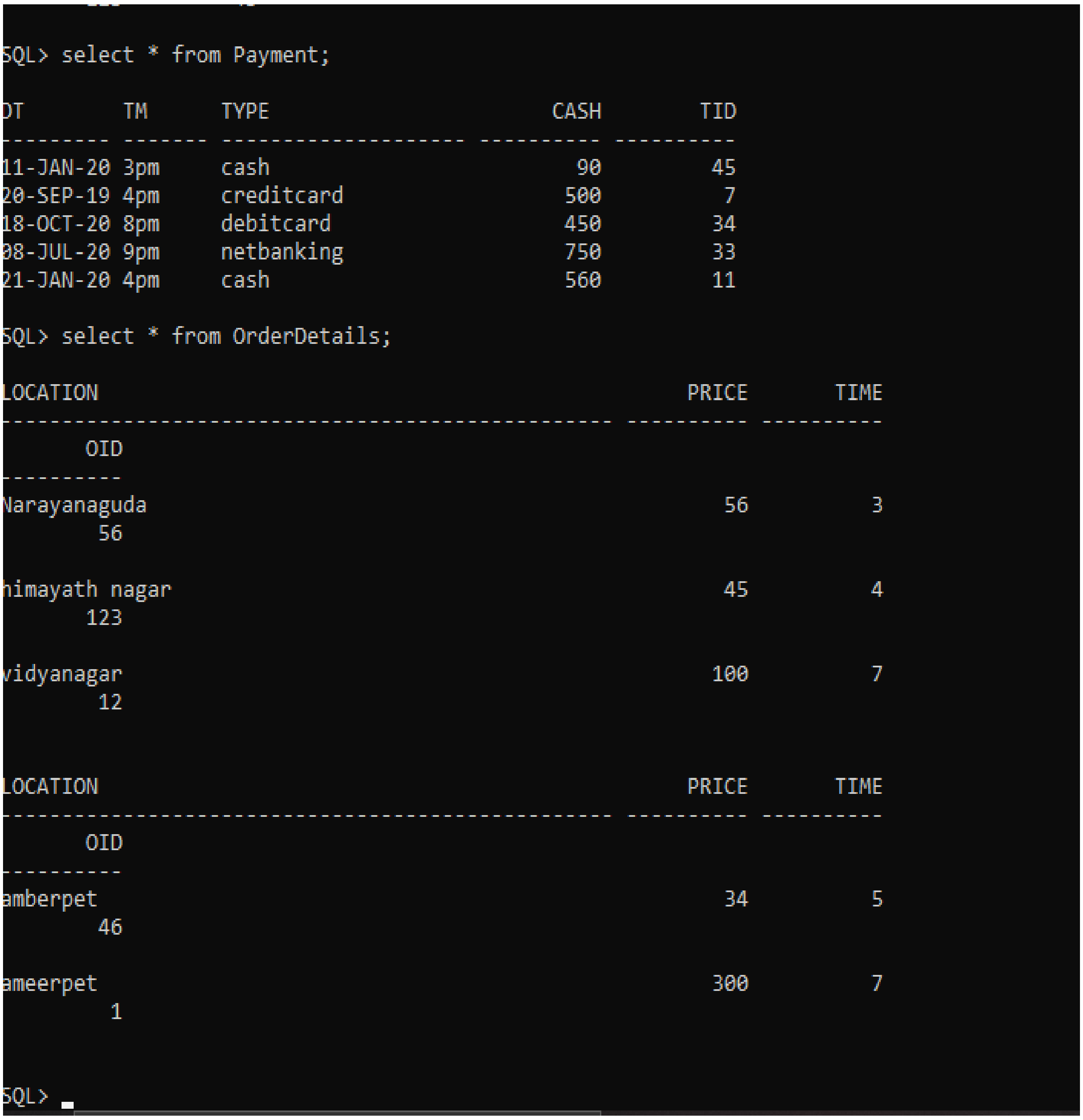
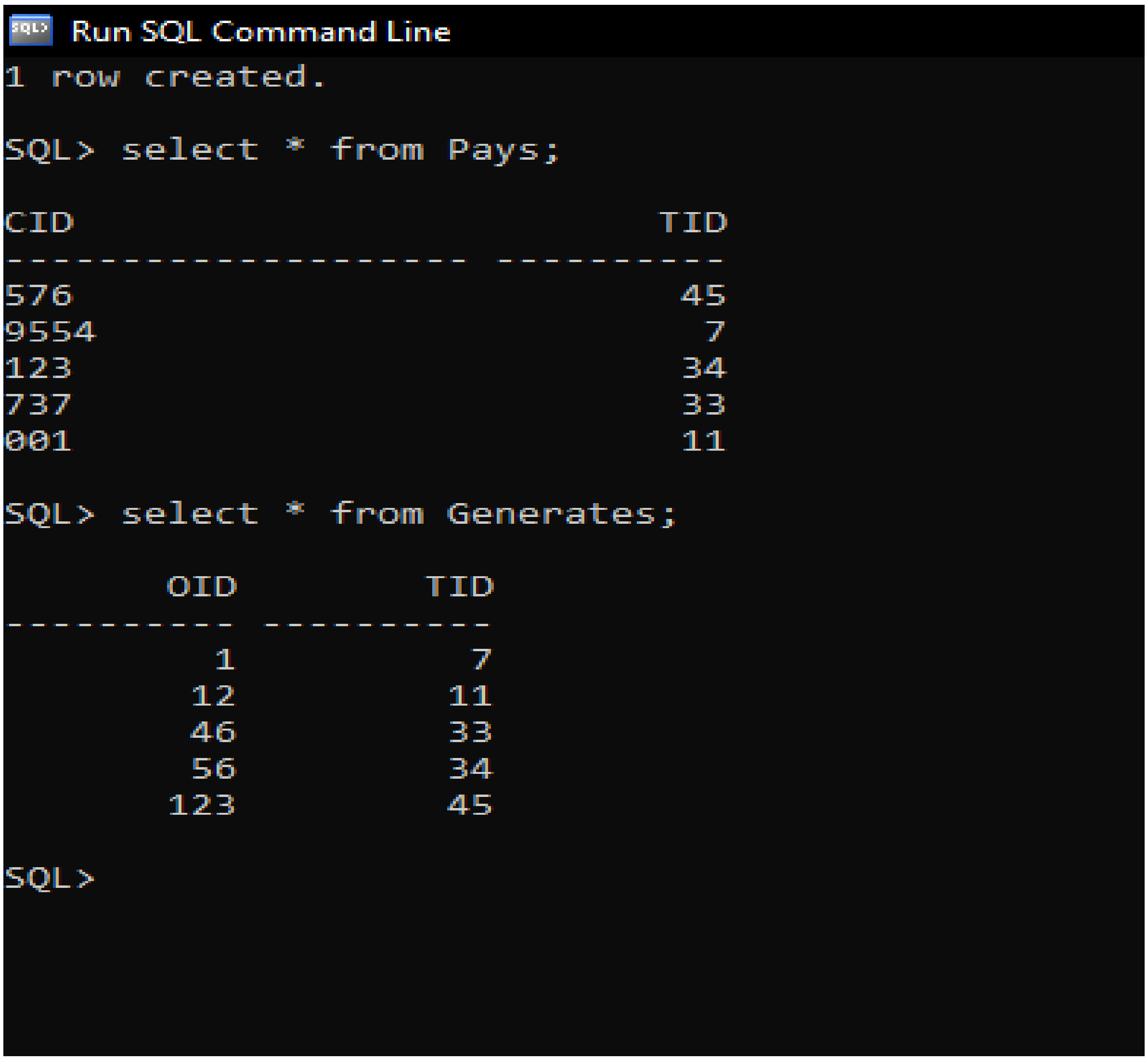


```
SQL> select * from Payment;

DT        TM      TYPE                       CASH        TID
--------- ------- -------------------- ---------- ----------
11-JAN-20 3pm     cash                         90         45
20-SEP-19 4pm     creditcard                  500          7
18-OCT-20 8pm     debitcard                   450         34
08-JUL-20 9pm     netbanking                  750         33
21-JAN-20 4pm     cash                        560         11

SQL> select * from OrderDetails;

LOCATION                                                PRICE       TIME
-------------------------------------------------- ---------- ----------
       OID
----------
Narayanaguda                                               56          3
        56

himayath nagar                                             45          4
       123

vidyanagar                                                100          7
        12


LOCATION                                                PRICE       TIME
-------------------------------------------------- ---------- ----------
       OID
----------
amberpet                                                   34          5
        46

ameerpet                                                  300          7
         1


SQL>
```


Run SQL Command Line

```
1 row created.

SQL> select * from Pays;

CID                         TID
-------------------- ----------
576                          45
9554                          7
123                          34
737                          33
001                          11

SQL> select * from Generates;

       OID        TID
---------- ----------
         1          7
        12         11
        46         33
        56         34
       123         45

SQL>
```

IMPLEMENTATION

Front End Programs:

1) Insert Customer-

```
import java.awt.*;
import java.awt.event.*;
import java.sql.*;
public class InsertCustomer extends Panel
{
	Button insertCustomerButton;
	TextField cidText, cnameText, addressText,
mailText,passwordText,phoneText;
	TextArea errorText;
	Connection connection;
	Statement statement;
	public InsertCustomer()
	{
		try
		{

	Class.forName("oracle.jdbc.driver.OracleDriver");
		}
		catch (Exception e)
		{
			System.err.println("Unable to find and load
driver");
			System.exit(1);
		}
		connectToDB();
```

```
        }

        public void connectToDB()
    {
                try
                {
                 connection =
DriverManager.getConnection("jdbc:oracle:thin:@localhost:15
21:xe","system","OracleDBMS2090&");
                 statement = connection.createStatement();

                }
                catch (SQLException connectException)
                {

System.out.println(connectException.getMessage());

System.out.println(connectException.getSQLState());

System.out.println(connectException.getErrorCode());
                 System.exit(1);
                }
    }
        public void buildGUI()
        {
                insertCustomerButton = new Button("Submit");
                insertCustomerButton.addActionListener(new
ActionListener()
                {
                        public void actionPerformed(ActionEvent e)
                        {
```

```
                                   try
                                   {
                                    Statement statement =
connection.createStatement();

                                    String query= "INSERT INTO Customer
VALUES('" + cidText.getText() + "', " + "'" +
passwordText.getText() + "'," + "'" + mailText.getText() +
"',"+"'"+cnameText.getText()+"',"
+"'"+addressText.getText()+"',"+phoneText.getText()+")";
                                     int i = statement.executeUpdate(query);
                                     errorText.append("\nInserted " + i + "
rows successfully");
                                   }
                                   catch (SQLException insertException)
                                   {
                                     displaySQLErrors(insertException);
                                   }
                              }
                    });


                    cnameText = new TextField(15);
                    cidText = new TextField(15);
                    addressText = new TextField(15);
                    mailText = new TextField(15);
                 passwordText = new TextField(15);
                phoneText = new TextField(15);
```

```
errorText = new TextArea(10,40);
errorText.setEditable(false);

Panel first = new Panel();
first.setLayout(new GridLayout(6,2));
first.add(new Label("Customer ID:"));
first.add(cidText);
first.add(new Label("Name:"));
first.add(cnameText);
first.add(new Label("Address:"));
first.add(addressText);
first.add(new Label("Mail"));
first.add(mailText);
first.add(new Label("Password:"));
first.add(passwordText);
first.add(new Label("Phone:"));
first.add(phoneText);


first.setBounds(125,90,300,150);

Panel second = new Panel(new GridLayout(4, 1));
second.add(insertCustomerButton);
second.setBounds(195,290,150,100);

Panel third = new Panel();
third.add(errorText);
third.setBounds(80,410,430,300);
setLayout(null);

add(first);
```

```
            add(second);
            add(third);

            setSize(500,600);
            setVisible(true);
        }



        private void displaySQLErrors(SQLException e)
        {
            errorText.append("\nSQLException: " +
    e.getMessage() + "\n");
            errorText.append("SQLState:     " + e.getSQLState() +
    "\n");
            errorText.append("VendorError:  " +
    e.getErrorCode() + "\n");
        }



        public static void main(String[] args)
        {
            InsertCustomer incus = new InsertCustomer();


            incus.buildGUI();
        }
    }
```

2)Delete Customer-

```
import java.awt.*;
import java.awt.event.*;
import java.sql.*;
public class DeleteCustomer extends Panel
{
        Button deleteCustomerButton;
        List CustomerIDList;
        TextField cidText, cnameText, mailText,
passwordText,addressText,phoneText;
        TextArea errorText;
        Connection connection;
        Statement statement;
        ResultSet rs;

        public DeleteCustomer()
        {
                try
                {

        Class.forName("oracle.jdbc.driver.OracleDriver");
                }
                catch (Exception e)
                {
                        System.err.println("Unable to find and load
driver");
                        System.exit(1);
                }
                connectToDB();
        }

        public void connectToDB()
```

```
    {
            try
            {
             connection =
DriverManager.getConnection("jdbc:oracle:thin:@localhost:15
21:xe","system","OracleDBMS2090&");
             statement = connection.createStatement();

            }
            catch (SQLException connectException)
            {

System.out.println(connectException.getMessage());

System.out.println(connectException.getSQLState());

System.out.println(connectException.getErrorCode());
             System.exit(1);
            }
    }

        private void loadCustomer()
        {
            try
            {
             rs = statement.executeQuery("SELECT * FROM
Customer");
             while (rs.next())
             {
                 CustomerIDList.add(rs.getString("CID"));
             }
```

```
		}
		catch (SQLException e)
		{
		  displaySQLErrors(e);
		}
	}

	public void buildGUI()
	{
	    CustomerIDList = new List(10);
		loadCustomer();
		add(CustomerIDList);

		//When a list item is selected populate the text
fields
		CustomerIDList.addItemListener(new ItemListener()
		{
			public void itemStateChanged(ItemEvent e)
			{
				try
				{
					rs =
statement.executeQuery("SELECT * FROM Customer");
					while (rs.next())
					{
						if
(rs.getString("CID").equals(CustomerIDList.getSelectedItem()))
						break;
					}
					if (!rs.isAfterLast())
					{
            cidText.setText(rs.getString("CID"));

            passwordText.setText(rs.getString("Password"));

            mailText.setText(rs.getString("Mail"));

            cnameText.setText(rs.getString("Name"));

            addressText.setText(rs.getString("Address"));

            phoneText.setText(rs.getString("Phone"));
                                        }
                                }
                                catch (SQLException selectException)
                                {
                                        displaySQLErrors(selectException);
                                }
                        }
                });


                deleteCustomerButton = new Button("Delete");
                deleteCustomerButton.addActionListener(new
        ActionListener()
                {
                        public void actionPerformed(ActionEvent e)
                        {
                                try
                                {
                                        Statement statement = 
connection.createStatement();
                                        int i = 
statement.executeUpdate("DELETE FROM Customer WHERE 
CID = '"
                                                        + 
CustomerIDList.getSelectedItem()+"'");
                                        errorText.append("\nDeleted " + i + 
" rows successfully");
                                        cidText.setText(null);
                                        passwordText.setText(null);
                                        mailText.setText(null);
                                        cnameText.setText(null);
                                        addressText.setText(null);
                                        phoneText.setText(null);
                                        CustomerIDList.removeAll();
                                        loadCustomer();
                                }
                                catch (SQLException insertException) 
                                {
                                        displaySQLErrors(insertException);
                                }
                        }
                });

                cidText = new TextField(15);
                cnameText = new TextField(15);
                mailText = new TextField(15);
                passwordText = new TextField(15);
                addressText= new TextField(15);
                phoneText= new TextField(15);
```

```
errorText = new TextArea(10, 40);
errorText.setEditable(false);

Panel first = new Panel();
first.setLayout(new GridLayout(6, 1));
first.add(new Label("Customer ID:"));
first.add(cidText);
cidText.setEditable(false);
first.add(new Label("Name:"));
first.add(cnameText);
cnameText.setEditable(false);
first.add(new Label("Mail:"));
first.add(mailText);
mailText.setEditable(false);
first.add(new Label("Password:"));
first.add(passwordText);
passwordText.setEditable(false);
first.add(new Label("Address:"));
first.add(addressText);
addressText.setEditable(false);
first.add(new Label("Phones:"));
first.add(phoneText);
phoneText.setEditable(false);



Panel second = new Panel(new GridLayout(4, 1));
second.add(deleteCustomerButton);

Panel third = new Panel();
```

```
                third.add(errorText);

                add(first);
                add(second);
                add(third);

                setSize(450, 600);
                setLayout(new FlowLayout());
                setVisible(true);


        }



        private void displaySQLErrors(SQLException e)
        {
                errorText.append("\nSQLException: " +
e.getMessage() + "\n");
                errorText.append("SQLState:     " + e.getSQLState() +
"\n");
                errorText.append("VendorError:  " +
e.getErrorCode() + "\n");
        }



        public static void main(String[] args)
        {
                DeleteCustomer delcus = new DeleteCustomer();
                delcus.buildGUI();
```

```
		}
	}
```

3)Update Customer-

```
	import java.awt.*;
	import java.awt.event.*;
	import java.sql.*;
	public class UpdateCustomer extends Panel
	{
		Button updateCustomerButton;
		List CustomerIDList;
		TextField cidText,cnameText, mailText,
	passwordText,addressText,phoneText;
		TextArea errorText;
		Connection connection;
		Statement statement;
		ResultSet rs;

		public UpdateCustomer()

		{
			try
			{

		Class.forName("oracle.jdbc.driver.OracleDriver");
			}
			catch (Exception e)
			{
				System.err.println("Unable to find and load
	driver");
				System.exit(1);
```

```
                }
                connectToDB();
        }

        public void connectToDB()
    {
                try
                {
                  connection =
DriverManager.getConnection("jdbc:oracle:thin:@localhost:15
21:xe","system","OracleDBMS2090&");
                  statement = connection.createStatement();

                }
                catch (SQLException connectException)
                {

System.out.println(connectException.getMessage());

System.out.println(connectException.getSQLState());

System.out.println(connectException.getErrorCode());
                  System.exit(1);
                }
    }

        private void loadCustomer()
        {
                try
                {
                  rs = statement.executeQuery("SELECT CID FROM 
Customer");
                  while (rs.next())
                  {
                         CustomerIDList.add(rs.getString("CID"));
                  }
                }
                catch (SQLException e)
                {
                  displaySQLErrors(e);
                }
        }

        public void buildGUI()
        {
            CustomerIDList = new List(10);
                loadCustomer();
                add(CustomerIDList);

                //When a list item is selected populate the text 
fields
        CustomerIDList.addItemListener(new ItemListener()
                {
                public void itemStateChanged(ItemEvent e)
                {
                         try
                         {
                                  rs = statement.executeQuery("SELECT * 
FROM Customer");
                                  while (rs.next())
                                  {
                                        if
    (rs.getString("CID").equals(CustomerIDList.getSelectedItem()))
                                        break;
                                }
                                if (!rs.isAfterLast())
                                {
                                        cidText.setText(rs.getString("CID"));

        passwordText.setText(rs.getString("Password"));

        mailText.setText(rs.getString("Mail"));

        cnameText.setText(rs.getString("Name"));

        addressText.setText(rs.getString("Address"));

        phoneText.setText(rs.getString("Phone"));
                                }
                        }
                                catch (SQLException selectException)
                                {
                                        displaySQLErrors(selectException);
                                }
                        }
                });


                updateCustomerButton = new Button("Modify");
                updateCustomerButton.addActionListener(new
    ActionListener()
                {
                        public void actionPerformed(ActionEvent e)
                        {
                                try
                                {
                                        Statement statement =
    connection.createStatement();
                                        int i =
    statement.executeUpdate("UPDATE Customer "
                                        + "SET password='" +
    passwordText.getText() + "', "
                                        + "mail='" + mailText.getText() + "',
    "
                                        + "name ='"+
    cnameText.getText()+"',"
                                        +"address ='"+
    addressText.getText()+"',"
                                        +"phone=" +phoneText.getText()+ "
    WHERE Cid = '"
                                        +
    CustomerIDList.getSelectedItem()+"'");
                                        errorText.append("\nUpdated " + i
    + " rows successfully");
                                        CustomerIDList.removeAll();
                                        loadCustomer();
                                }
                                catch (SQLException insertException)
                                {
                                        displaySQLErrors(insertException);
                                }
                        }
                });
```

```
cidText = new TextField(15);
cidText.setEditable(false);
cnameText = new TextField(15);
mailText = new TextField(15);
passwordText = new TextField(15);
addressText=new TextField(15);
phoneText=new TextField(15);



errorText = new TextArea(10, 40);
errorText.setEditable(false);

Panel first = new Panel();
first.setLayout(new GridLayout(6, 2));
first.add(new Label("Customer ID:"));
first.add(cidText);
first.add(new Label("Name:"));
first.add(cnameText);
first.add(new Label("Mail:"));
first.add(mailText);
first.add(new Label("Password:"));
first.add(passwordText);
first.add(new Label("Address:"));
first.add(addressText);
first.add(new Label("Phone:"));
first.add(phoneText);


Panel second = new Panel(new GridLayout(4, 1));
```

```
                second.add(updateCustomerButton);

                Panel third = new Panel();
                third.add(errorText);

                add(first);
                add(second);
                add(third);

                setSize(500, 600);
                setLayout(new FlowLayout());
                setVisible(true);

        }

        private void displaySQLErrors(SQLException e)
        {
                errorText.append("\nSQLException: " +
    e.getMessage() + "\n");
                errorText.append("SQLState:     " + e.getSQLState() +
    "\n");
                errorText.append("VendorError:  " +
    e.getErrorCode() + "\n");
        }

        public static void main(String[] args)
        {
                UpdateCustomer upc = new UpdateCustomer();


                upc.buildGUI();
        }
    }
```

4)Main Method-

```
import java.awt.*;
import java.awt.event.*;

class UberEatsDatabase extends Frame implements
ActionListener
{
        String msg = "";
        Label ll,l2;

        CardLayout cardLO;

        InsertCustomer incus;
        UpdateCustomer upcus;
        DeleteCustomer delcus;
        InsertRestaurant inres;
        UpdateRestaurant upres;
        DeleteRestaurant delres;
        InsertOrder ino;
        DeleteOrder delo;
        UpdateOrder upo;
        InsertPayment inpay;
        UpdatePayment uppay;
        DeletePayment delpay;
        InsertOrders inords;
        UpdateOrders upords;
        DeleteOrders delords;
        InsertOrderFrom inorf;
```

```
 UpdateOrderFrom uporf;
 DeleteOrderFrom delorf;
 InsertPays inpays;
 UpdatePays uppays;
 DeletePays delpays;
 InsertGenerates ingen;
 UpdateGenerates upgen;
 DeleteGenerates delgen;

 Panel home,welcome;

UberEatsDatabase()
 {
            cardLO = new CardLayout();

            home = new Panel();
            home.setLayout(cardLO);


            ll = new Label();
            l2 =new Label();
            ll.setAlignment(Label.CENTER);
            l2.setAlignment(Label.CENTER);
            ll.setText("Welcome to UBER EATS");
            l2.setText("\nAll @rights are reserved");
            //Create welcome panel and add the label to it
            welcome = new Panel();
            welcome.add(ll);
            welcome.add(l2);
```

```
                    //create panels for each of our menu items
and build them with respective components
                    incus = new InsertCustomer(); incus.buildGUI();
                    upcus = new UpdateCustomer();
upcus.buildGUI();
                    delcus = new DeleteCustomer();
        delcus.buildGUI();
                    inres = new
InsertRestaurant();inres.buildGUI();
                    upres= new
UpdateRestaurant();upres.buildGUI();
                    delres = new
DeleteRestaurant();delres.buildGUI();
                    ino = new InsertOrder();ino.buildGUI();
                    delo = new DeleteOrder();delo.buildGUI();
                    upo= new UpdateOrder();upo.buildGUI();
                    inpay= new InsertPayment();
        inpay.buildGUI();
                    uppay= new
UpdatePayment();uppay.buildGUI();
                    delpay = new DeletePayment();
delpay.buildGUI();
                    inords = new InsertOrders();inords.buildGUI();
                    upords = new
UpdateOrders();upords.buildGUI();
                    delords = new
DeleteOrders();delords.buildGUI();
                    inorf = new
InsertOrderFrom();inorf.buildGUI();
                    delorf = new
DeleteOrderFrom();delorf.buildGUI();
```

```
                    uporf = new
UpdateOrderFrom();uporf.buildGUI();
                    inpays = new InsertPays();inpays.buildGUI();
                    delpays = new DeletePays();delpays.buildGUI();
                    uppays = new UpdatePays();uppays.buildGUI();
                    ingen = new
InsertGenerates();ingen.buildGUI();
                    delgen = new
DeleteGenerates();delgen.buildGUI();
                    upgen = new
UpdateGenerates();upgen.buildGUI();



                    //add all the panels to the home panel which
has a cardlayout
                    home.add(welcome, "Welcome");
                    home.add(incus, "InsertCustomer");
                    home.add(upcus, "UpdateCustomer");
                    home.add(delcus, "DeleteCustomer");
                    home.add(inres,"InsertRestaurant");
                    home.add(upres,"UpdateRestaurant");
                    home.add(delres,"DeleteRestaurant");
                    home.add(ino,"InsertOrder");
                    home.add(delo,"DeleteOrder");
                    home.add(upo,"UpdateOrder");
                    home.add(inpay,"InsertPayment");
                    home.add(uppay,"UpdatePayment");
                    home.add(delpay,"DeletePayment");
                    home.add(inords,"InsertOrders");
                    home.add(upords,"UpdateOrders");
                    home.add(delords,"DeleteOrders");
                    home.add(inpays,"InsertPays");
                    home.add(delpays,"DeletePays");
                    home.add(uppays,"UpdatePays");
                    home.add(inorf,"InsertOrderFrom");
                    home.add(delorf,"DeleteOrderFrom");
                    home.add(uporf,"UpdateOrderFrom");
                    home.add(ingen,"InsertGenerates");
                    home.add(delgen,"DeleteGenerates");
                    home.add(upgen,"UpdateGenerates");




                    // add home panel to main frame
                    add(home);

                    // create menu bar and add it to frame
                    MenuBar mbar = new MenuBar();
                    setMenuBar(mbar);

                    // create the menu items and add it to Menu
                    Menu customer= new Menu("Customer
          Details");
                    MenuItem item1, item2, item3;
                    customer.add(item1 = new MenuItem("Insert
          Customer"));
                    customer.add(item2 = new MenuItem("View
          Customer"));
                    customer.add(item3 = new MenuItem("Delete
          Customer"));
```

```
                    mbar.add(customer);

                    Menu res = new Menu("UberEats");
                    MenuItem item4, item5, item6;
                    res.add(item4 = new MenuItem("Insert
        Restaurant"));
                    res.add(item5 = new MenuItem("View
        Restaurant"));
                    res.add(item6 = new MenuItem("Delete
        Restaurant"));
                    mbar.add(res);

                    Menu order = new Menu("Order Details");
                    MenuItem item7, item8, item9;
                    order.add(item7 = new MenuItem("Insert
        Order"));
                    order.add(item8 = new MenuItem("View
        Order"));
                    order.add(item9 = new MenuItem("Delete
        Order"));
                    mbar.add(order);

                    Menu payment= new Menu("Payment
        Details");
                    MenuItem item10, item11, item12;
                    payment.add(item10 = new MenuItem("Insert
        Payment"));
                    payment.add(item11= new MenuItem("View
        Payment"));
                    payment.add(item12 = new MenuItem("Delete
        Payment"));
```

```
                    mbar.add(payment);

                    Menu orders= new Menu("Orders");
                    MenuItem item13, item14, item15;
                    orders.add(item13 = new MenuItem("Insert
    Orders"));
                    orders.add(item14= new MenuItem("View
    Orders"));
                    orders.add(item15 = new MenuItem("Delete
    Orders"));
                    mbar.add(orders);

                    Menu orderFrom= new Menu("Order From");
                    MenuItem item16, item17, item18;
                    orderFrom.add(item16 = new
    MenuItem("Insert Order From"));
                    orderFrom.add(item17= new MenuItem("View
    Order From"));
                    orderFrom.add(item18 = new
    MenuItem("Delete Order From"));
                    mbar.add(orderFrom);

                    Menu pays= new Menu("Pays");
                    MenuItem item19, item20, item21;
                    pays.add(item19 = new MenuItem("Insert
    Pays"));
                    pays.add(item20= new MenuItem("View
    Pays"));
                    pays.add(item21 = new MenuItem("Delete
    Pays"));
                    mbar.add(pays);
                    Menu generates= new Menu("Generates");
                    MenuItem item22, item23, item24;
                    generates.add(item22 = new
MenuItem("Insert Generates"));
                    generates.add(item23= new MenuItem("View
Generates"));
                    generates.add(item24 = new
MenuItem("Delete Generates"));
                    mbar.add(generates);

                    // register listeners
                    item1.addActionListener(this);
                    item2.addActionListener(this);
                    item3.addActionListener(this);
                    item4.addActionListener(this);
                    item5.addActionListener(this);
                    item6.addActionListener(this);
                    item7.addActionListener(this);
                    item8.addActionListener(this);
                    item9.addActionListener(this);
                    item10.addActionListener(this);
                    item11.addActionListener(this);
                    item12.addActionListener(this);
                    item13.addActionListener(this);
                    item14.addActionListener(this);
                    item15.addActionListener(this);
                    item16.addActionListener(this);
                    item17.addActionListener(this);
                    item18.addActionListener(this);
                    item19.addActionListener(this);
```

```
                        item20.addActionListener(this);
                        item21.addActionListener(this);
                        item22.addActionListener(this);
                        item23.addActionListener(this);
                        item24.addActionListener(this);


                         // Anonymous inner class which extends
WindowAdaptor to handle the Window event: windowClosing
                        addWindowListener(new WindowAdapter(){
                                public void windowClosing(WindowEvent
we)
                                {
                                        System.exit(0);
                                }
                        });

                        //Frame properties
                        setTitle("UBER EATS");
                        Color clr = new Color(255, 102, 102);
                        setBackground(clr);
                        setFont(new Font("Monaco", Font.BOLD, 20));
                        setSize(900, 1000);

                        setVisible(true);

                }

                public void actionPerformed(ActionEvent ae)
                {
                        String arg = ae.getActionCommand();
```

```
             if(arg.equals("Insert Customer"))
             {

                    cardLO.show(home, "InsertCustomer");

      }

            else if(arg.equals("View Customer"))
            {

                    cardLO.show(home, "UpdateCustomer");

            }

            else if(arg.equals("Delete Customer"))
            {

                    cardLO.show(home, "DeleteCustomer");

            }
            else if(arg.equals("Insert Restaurant"))
            {

                     cardLO.show(home, "InsertRestaurant");
            }
            else if(arg.equals("Delete Restaurant"))
            {

                     cardLO.show(home, "DeleteRestaurant");
            }
            else if(arg.equals("View Restaurant"))
```

```
{

        cardLO.show(home, "UpdateRestaurant");
}
else if(arg.equals("Insert Order"))
{
        cardLO.show(home, "InsertOrder");
}
else if(arg.equals("Delete Order"))
{
        cardLO.show(home, "DeleteOrder");
}
else if(arg.equals("View Order"))
{
        cardLO.show(home, "UpdateOrder");
}
else if(arg.equals("Insert Payment"))
{
        cardLO.show(home, "InsertPayment");
}
else if(arg.equals("View Payment"))
{
        cardLO.show(home, "UpdatePayment");
}
else if(arg.equals("Delete Payment"))
{
        cardLO.show(home, "DeletePayment");
}
else if(arg.equals("Insert Orders"))
{
        cardLO.show(home, "InsertOrders");
```

```
}
else if(arg.equals("View Orders"))
{
        cardLO.show(home, "UpdateOrders");
}
else if(arg.equals("Delete Orders"))
{
        cardLO.show(home, "DeleteOrders");
}
else if(arg.equals("Insert Order From"))
{
        cardLO.show(home, "InsertOrderFrom");
}
else if(arg.equals("View Order From"))
{
        cardLO.show(home, "UpdateOrderFrom");
}
else if(arg.equals("Delete Order From"))
{
        cardLO.show(home, "DeleteOrderFrom");
}
else if(arg.equals("Insert Pays"))
{
        cardLO.show(home, "InsertPays");
}
else if(arg.equals("View Pays"))
{
        cardLO.show(home, "UpdatePays");
}
else if(arg.equals("Delete Pays"))
{
```

```
                cardLO.show(home, "DeletePays");
            }
            else if(arg.equals("Insert Generates"))
            {
                cardLO.show(home, "InsertGenerates");
            }
            else if(arg.equals("View Generates"))
            {
                cardLO.show(home, "UpdateGenerates");
            }
            else if(arg.equals("Delete Generates"))
            {
                cardLO.show(home, "DeleteGenerates");
            }

        }
        public static void main(String  ... args)
        {
                new UberEatsDatabase();
        }
}
```

Connectivity with the Database:

Java Database Connectivity (JDBC) is an application programming interface (API) for the programming language Java, which defines how a client may access a database. It is a Java-based data access technology used for Java database connectivity. It is a part of the Java Standard Edition platform, from Oracle Corporation. It provides methods to query and update data in a database and is oriented towards relational databases.

Block of Code for JAVA-SQL connectivity with JDBC:

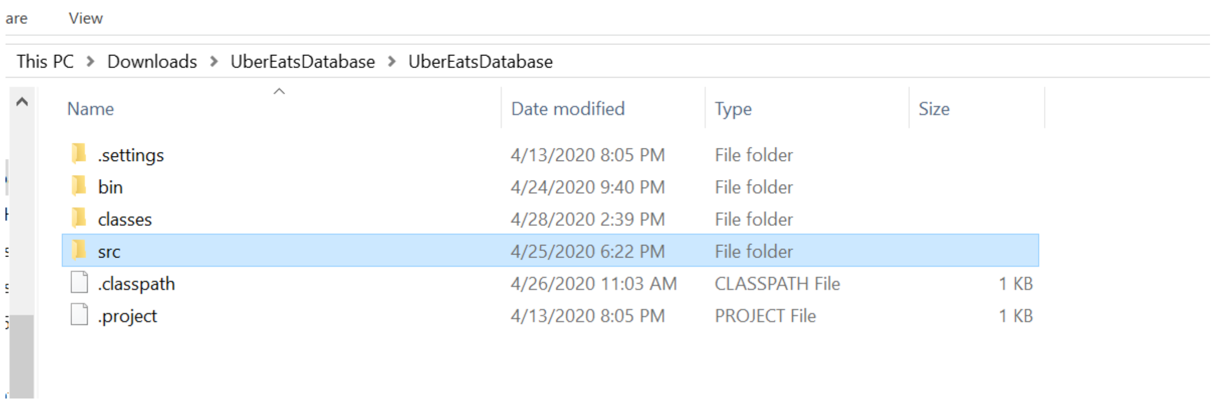
```
public void connectToDB()
   {
               try
               {
                           connection =
               DriverManager.getConnection("jdbc:oracle:thin:@lo
               calhost:1521:xe","system","OracleDBMS2090&");
                statement = connection.createStatement();

               }
               catch (SQLException connectException)
               {

System.out.println(connectException.getMessage());

System.out.println(connectException.getSQLState());

System.out.println(connectException.getErrorCode());
                System.exit(1);
               }
   }
```

GITHUB LINK:

https://github.com/Samhita20/Dbms-project

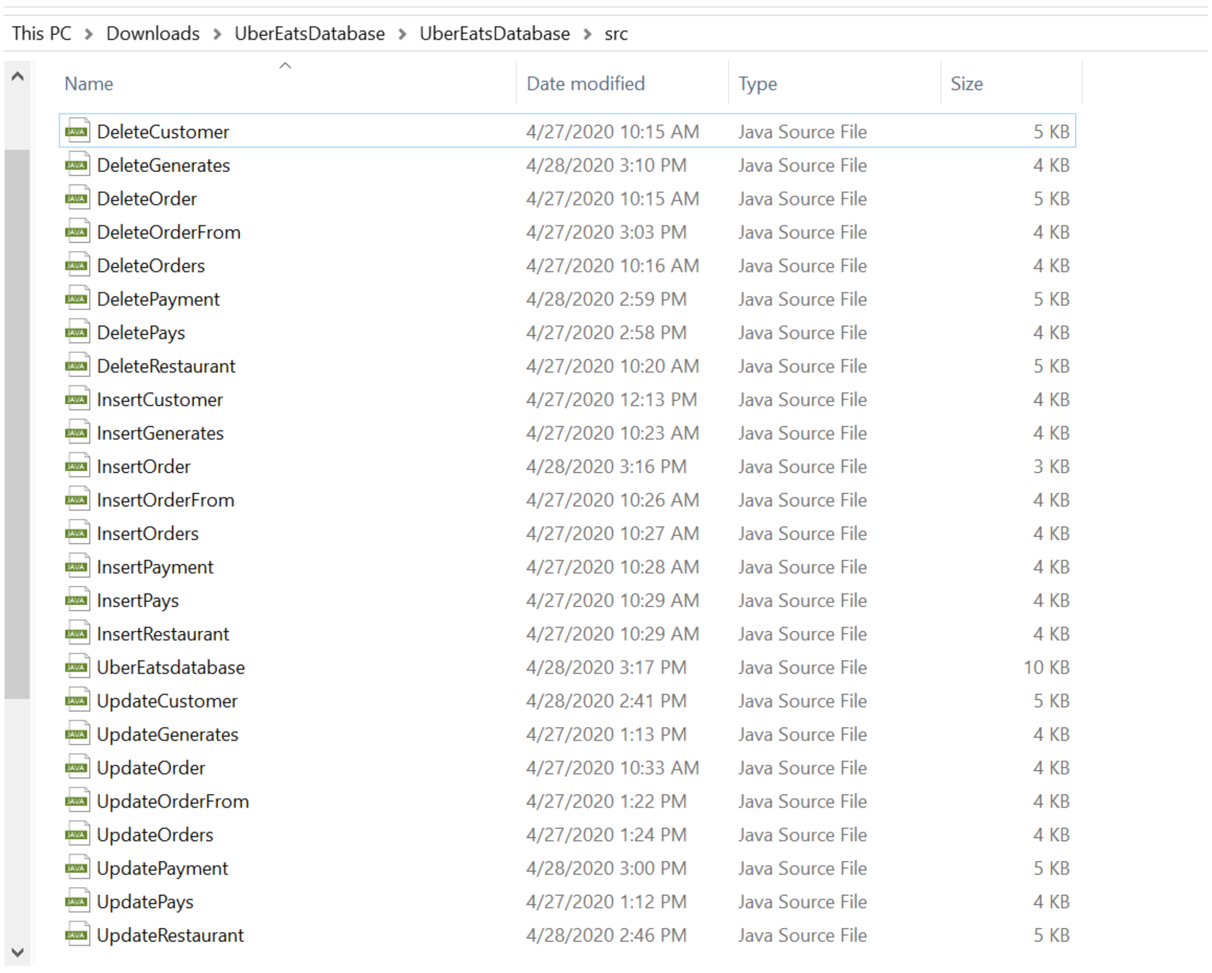
Folder Structure:

This project consists of a folder named src which has 25 .java files. The files are for 8 different tables, including four relation tables. The programs include insert, update, delete functionalities and the main function. By which we can navigate easily to reach the java code and we can make changes easily.



This PC > Downloads > UberEatsDatabase > UberEatsDatabase

Name	Date modified	Type	Size
.settings	4/13/2020 8:05 PM	File folder	
bin	4/24/2020 9:40 PM	File folder	
classes	4/28/2020 2:39 PM	File folder	
src	4/25/2020 6:22 PM	File folder	
.classpath	4/26/2020 11:03 AM	CLASSPATH File	1 KB
.project	4/13/2020 8:05 PM	PROJECT File	1 KB



This PC > Downloads > UberEatsDatabase > UberEatsDatabase > src

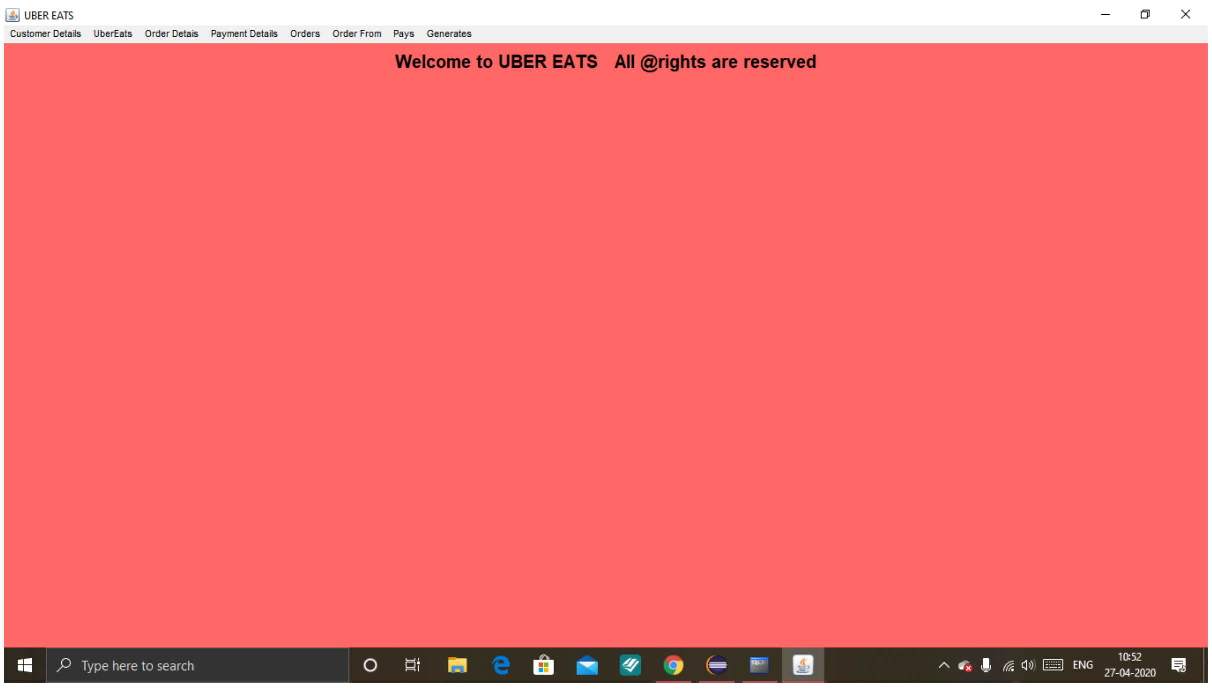
Name	Date modified	Type	Size
DeleteCustomer	4/27/2020 10:15 AM	Java Source File	5 KB
DeleteGenerates	4/28/2020 3:10 PM	Java Source File	4 KB
DeleteOrder	4/27/2020 10:15 AM	Java Source File	5 KB
DeleteOrderFrom	4/27/2020 3:03 PM	Java Source File	4 KB
DeleteOrders	4/27/2020 10:16 AM	Java Source File	4 KB
DeletePayment	4/28/2020 2:59 PM	Java Source File	5 KB
DeletePays	4/27/2020 2:58 PM	Java Source File	4 KB
DeleteRestaurant	4/27/2020 10:20 AM	Java Source File	5 KB
InsertCustomer	4/27/2020 12:13 PM	Java Source File	4 KB
InsertGenerates	4/27/2020 10:23 AM	Java Source File	4 KB
InsertOrder	4/28/2020 3:16 PM	Java Source File	3 KB
InsertOrderFrom	4/27/2020 10:26 AM	Java Source File	4 KB
InsertOrders	4/27/2020 10:27 AM	Java Source File	4 KB
InsertPayment	4/27/2020 10:28 AM	Java Source File	4 KB
InsertPays	4/27/2020 10:29 AM	Java Source File	4 KB
InsertRestaurant	4/27/2020 10:29 AM	Java Source File	4 KB
UberEatsdatabase	4/28/2020 3:17 PM	Java Source File	10 KB
UpdateCustomer	4/28/2020 2:41 PM	Java Source File	5 KB
UpdateGenerates	4/27/2020 1:13 PM	Java Source File	4 KB
UpdateOrder	4/27/2020 10:33 AM	Java Source File	4 KB
UpdateOrderFrom	4/27/2020 1:22 PM	Java Source File	4 KB
UpdateOrders	4/27/2020 1:24 PM	Java Source File	4 KB
UpdatePayment	4/28/2020 3:00 PM	Java Source File	5 KB
UpdatePays	4/27/2020 1:12 PM	Java Source File	4 KB
UpdateRestaurant	4/28/2020 2:46 PM	Java Source File	5 KB

TESTING

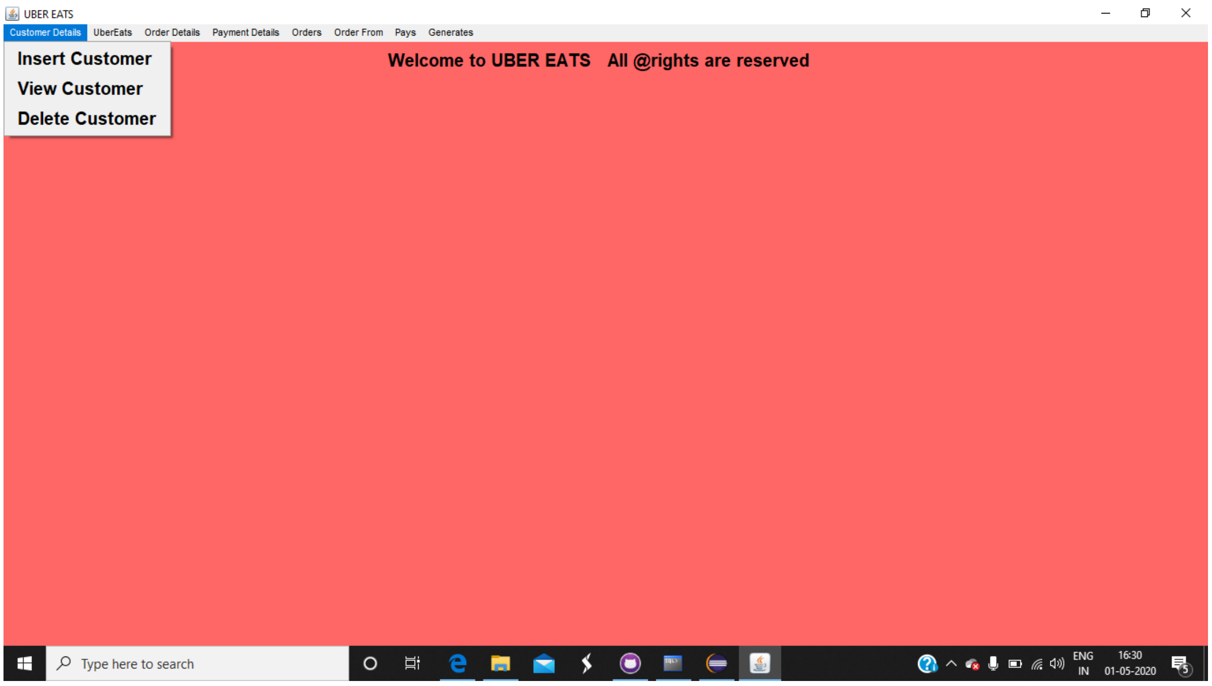
The program runts for the three basic operations of insertion, updating, and deletion on 8 different tables. Along with this, it also has a output column which gives the information about how many rows have been edited, Errors, syntactical or exceptional will be shown if occurred.

The code written for building GUI and connecting with database ensures that the values entered by the users are of correct data types. It prompts an error message in the text message box.

Home Page:



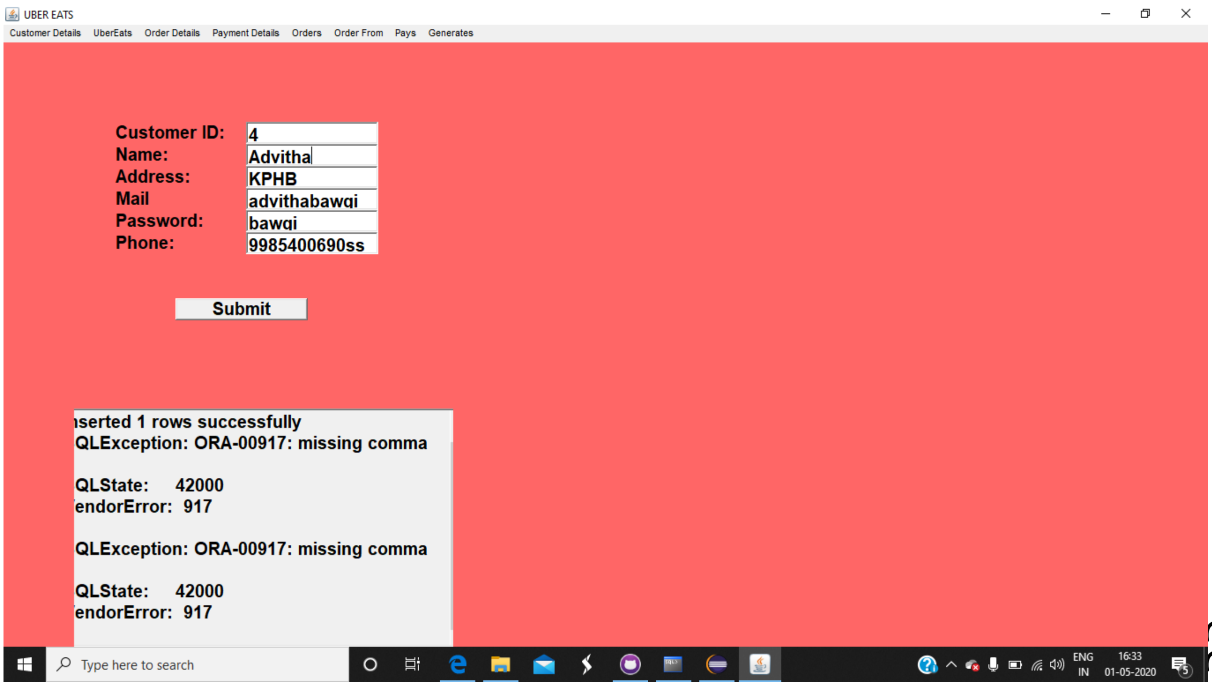
Welcome to UBER EATS   All @rights are reserved



Insertion:

Error-

If user given invalid content it gives an error.

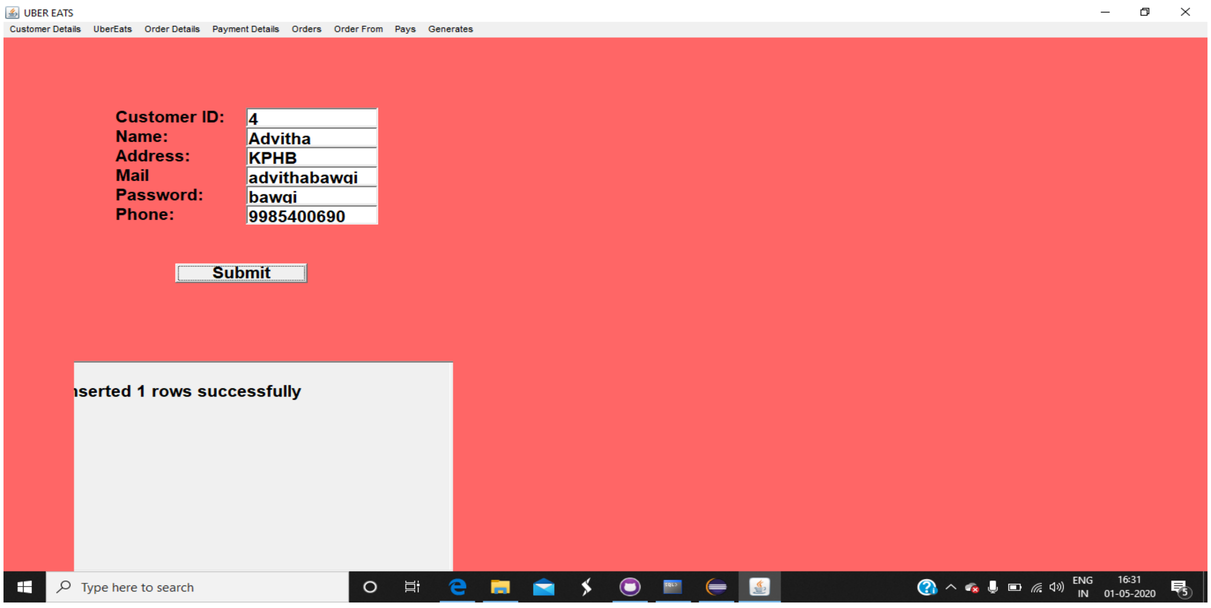


Customer ID:	4
Name:	Advitha
Address:	KPHB
Mail	advithabawqi
Password:	bawqi
Phone:	9985400690ss

```
nserted 1 rows successfully
QLException: ORA-00917: missing comma

QLState:     42000
endorError:  917

QLException: ORA-00917: missing comma

QLState:     42000
endorError:  917
```

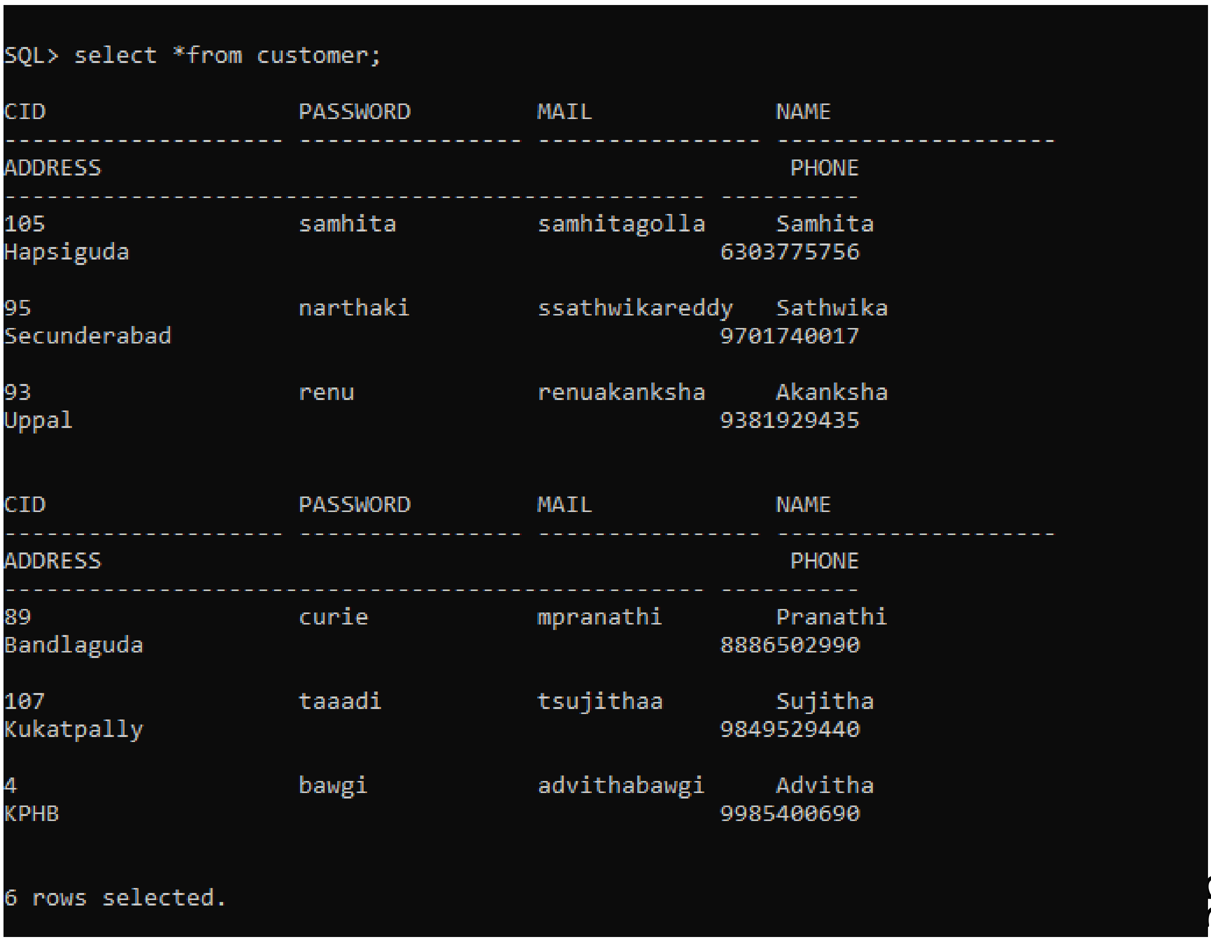
G Samhita
1602-18-737-095

Proper Entry-



Customer ID:	4
Name:	Advitha
Address:	KPHB
Mail	advithabawgi
Password:	bawgi
Phone:	9985400690

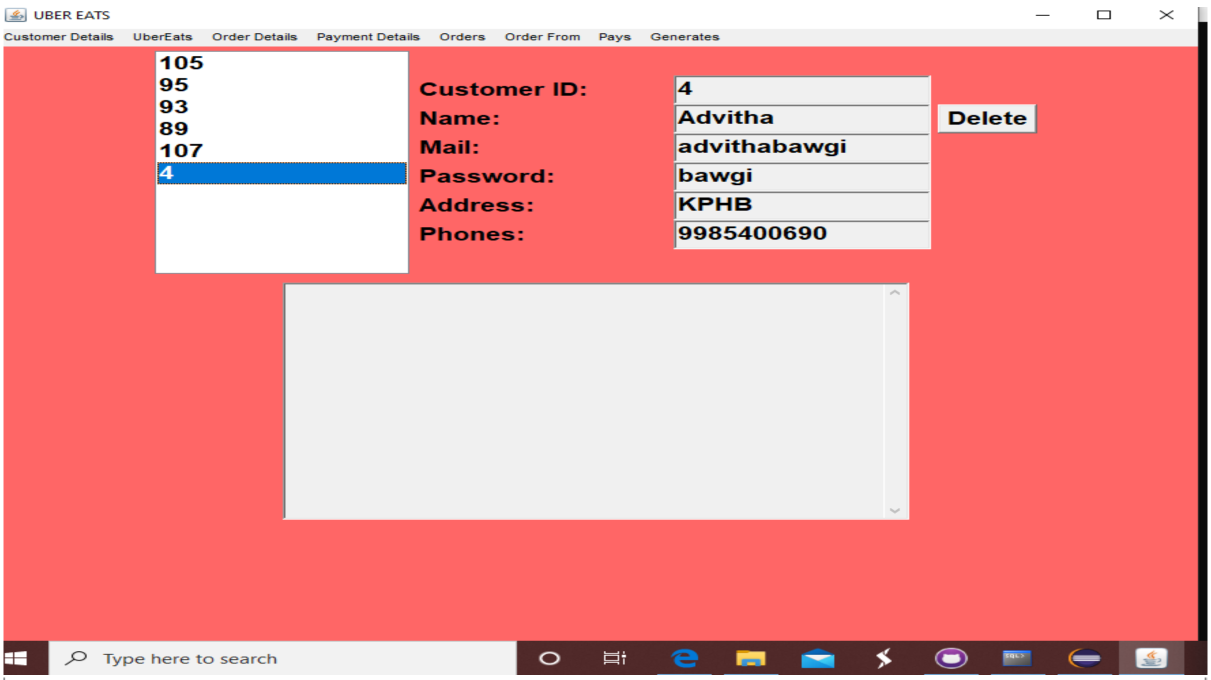
serted 1 rows successfully



```
SQL> select *from customer;

CID                  PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
ADDRESS                                                 PHONE
-------------------------------------------------- ----------
105                  samhita          samhitagolla     Samhita
Hapsiguda                                           6303775756

95                   narthaki         ssathwikareddy   Sathwika
Secunderabad                                        9701740017

93                   renu             renuakanksha     Akanksha
Uppal                                               9381929435


CID                  PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
ADDRESS                                                 PHONE
-------------------------------------------------- ----------
89                   curie            mpranathi        Pranathi
Bandlaguda                                          8886502990

107                  taaadi           tsujithaa        Sujitha
Kukatpally                                          9849529440

4                    bawgi            advithabawgi     Advitha
KPHB                                                9985400690


6 rows selected.
```

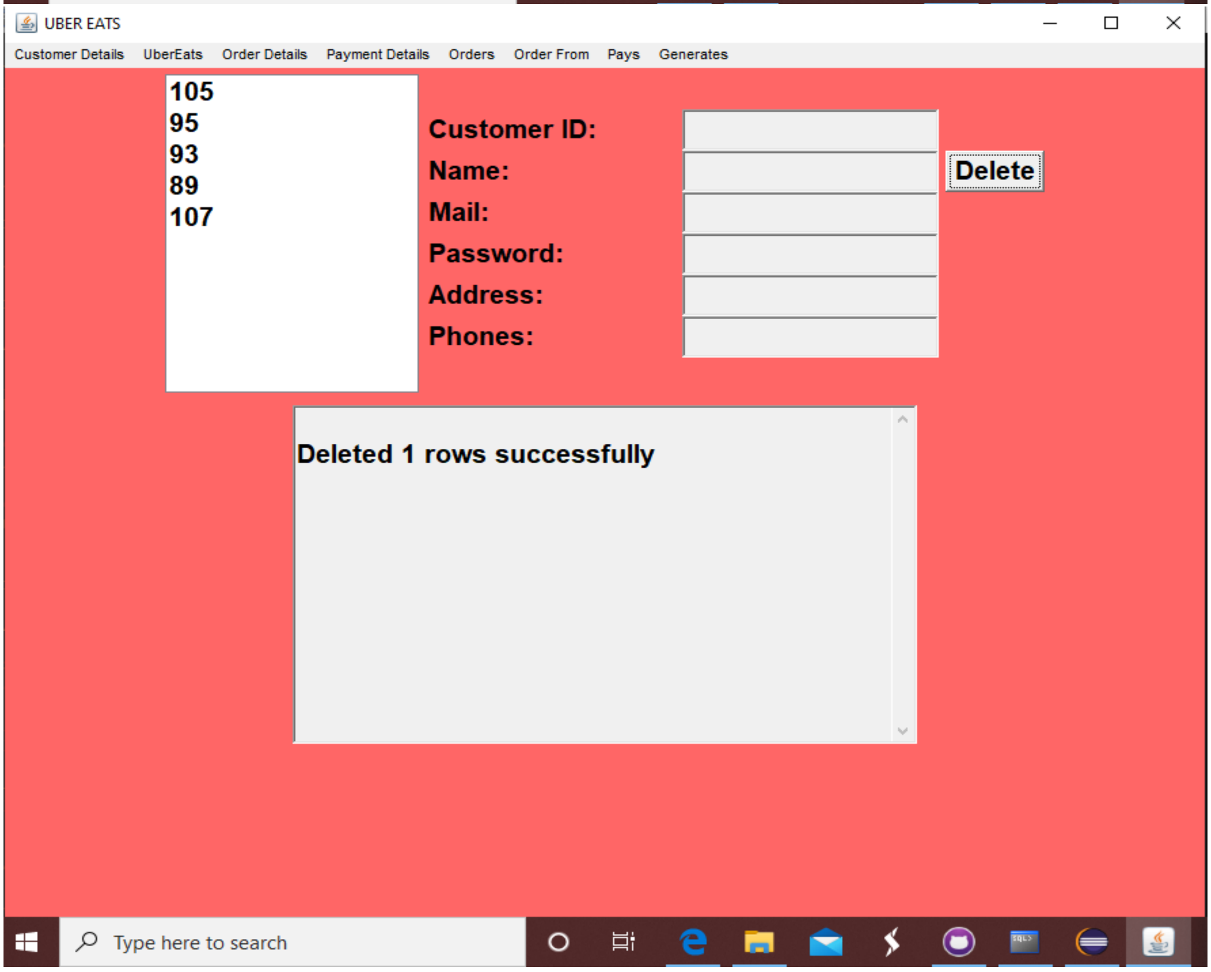
Deletion:

Proper Entry-



105
95
93
89
107
4

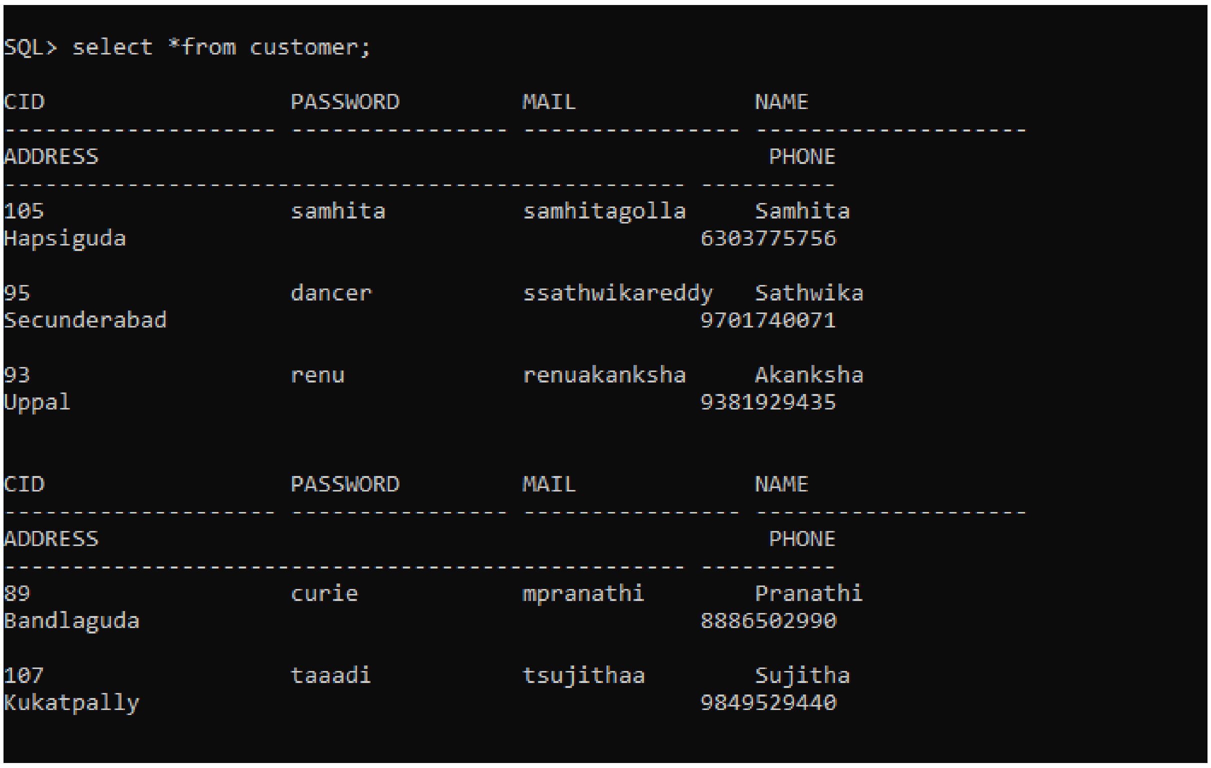
Customer ID:	4
Name:	Advitha
Mail:	advithabawgi
Password:	bawgi
Address:	KPHB
Phones:	9985400690



105
95
93
89
107

Customer ID:	
Name:	
Mail:	
Password:	
Address:	
Phones:	

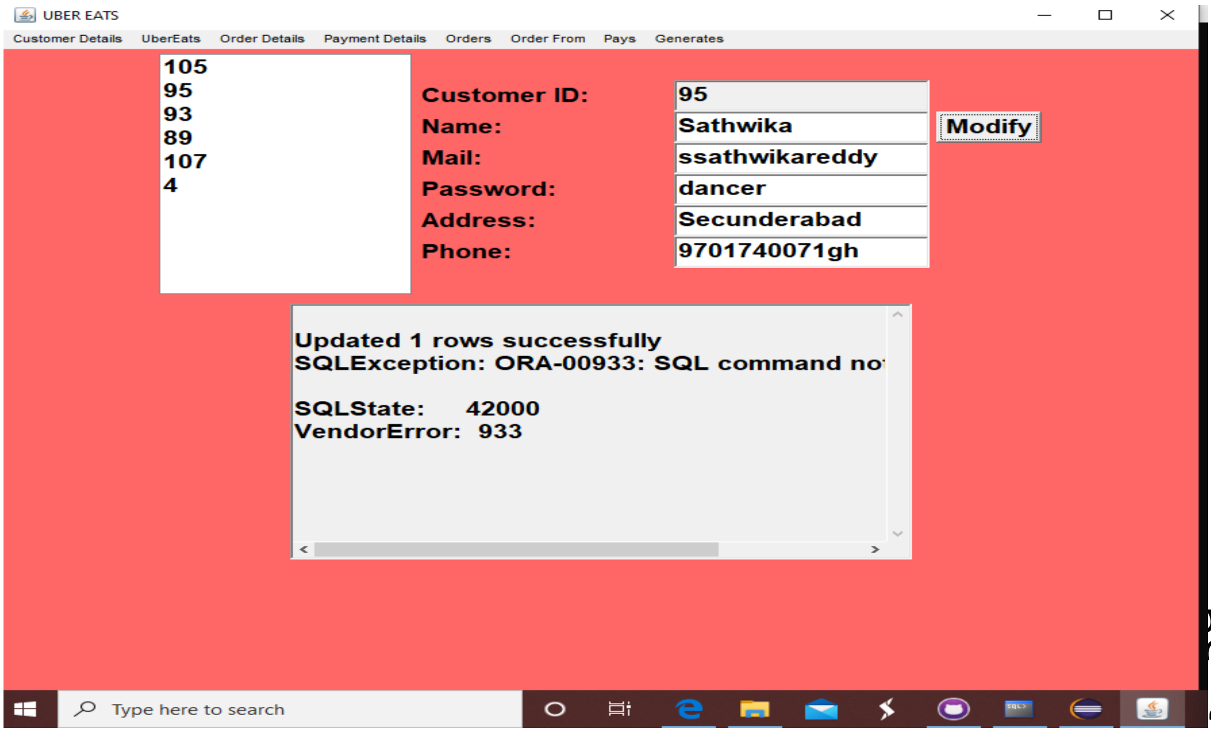
```
Deleted 1 rows successfully
```



```
SQL> select *from customer;

CID                  PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
ADDRESS                                                 PHONE
-------------------------------------------------- ----------
105                  samhita          samhitagolla     Samhita
Hapsiguda                                          6303775756

95                   dancer           ssathwikareddy   Sathwika
Secunderabad                                       9701740071

93                   renu             renuakanksha     Akanksha
Uppal                                              9381929435


CID                  PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
ADDRESS                                                 PHONE
-------------------------------------------------- ----------
89                   curie            mpranathi        Pranathi
Bandlaguda                                         8886502990

107                  taaadi           tsujithaa        Sujitha
Kukatpally                                         9849529440
```

Update:

Error-



105
95
93
89
107
4

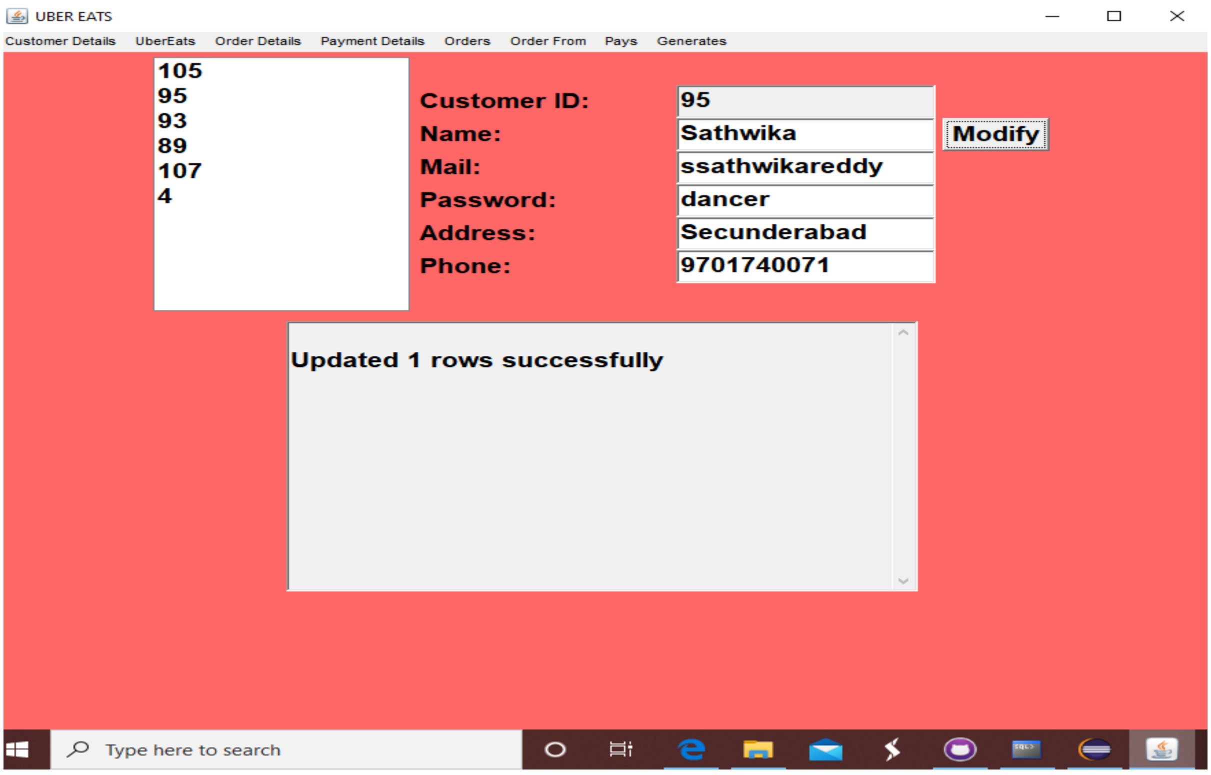
Customer ID:	95
Name:	Sathwika
Mail:	ssathwikareddy
Password:	dancer
Address:	Secunderabad
Phone:	9701740071gh

```
Updated 1 rows successfully
SQLException: ORA-00933: SQL command no

SQLState:     42000
VendorError:  933
```

G Samhita
1602-18-737-095

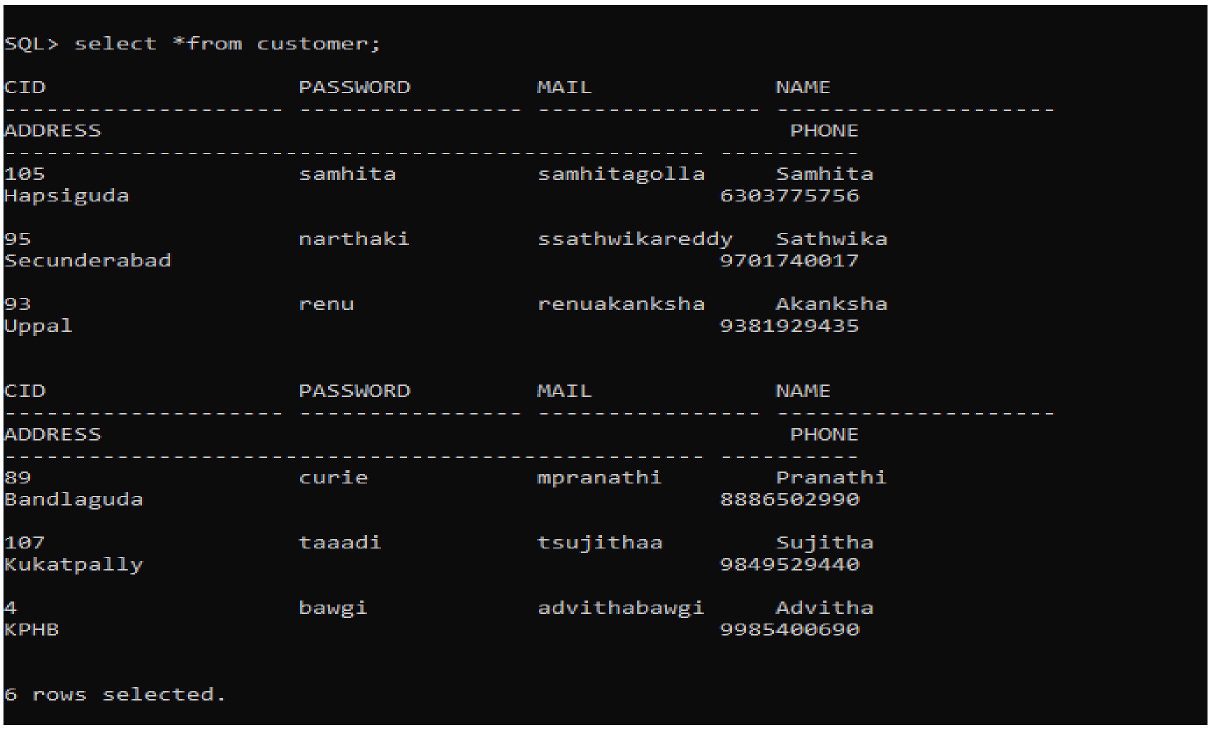
Proper Entry-

The entry of Customer Id 95 was updated from narthaki to dancer in the field of password.



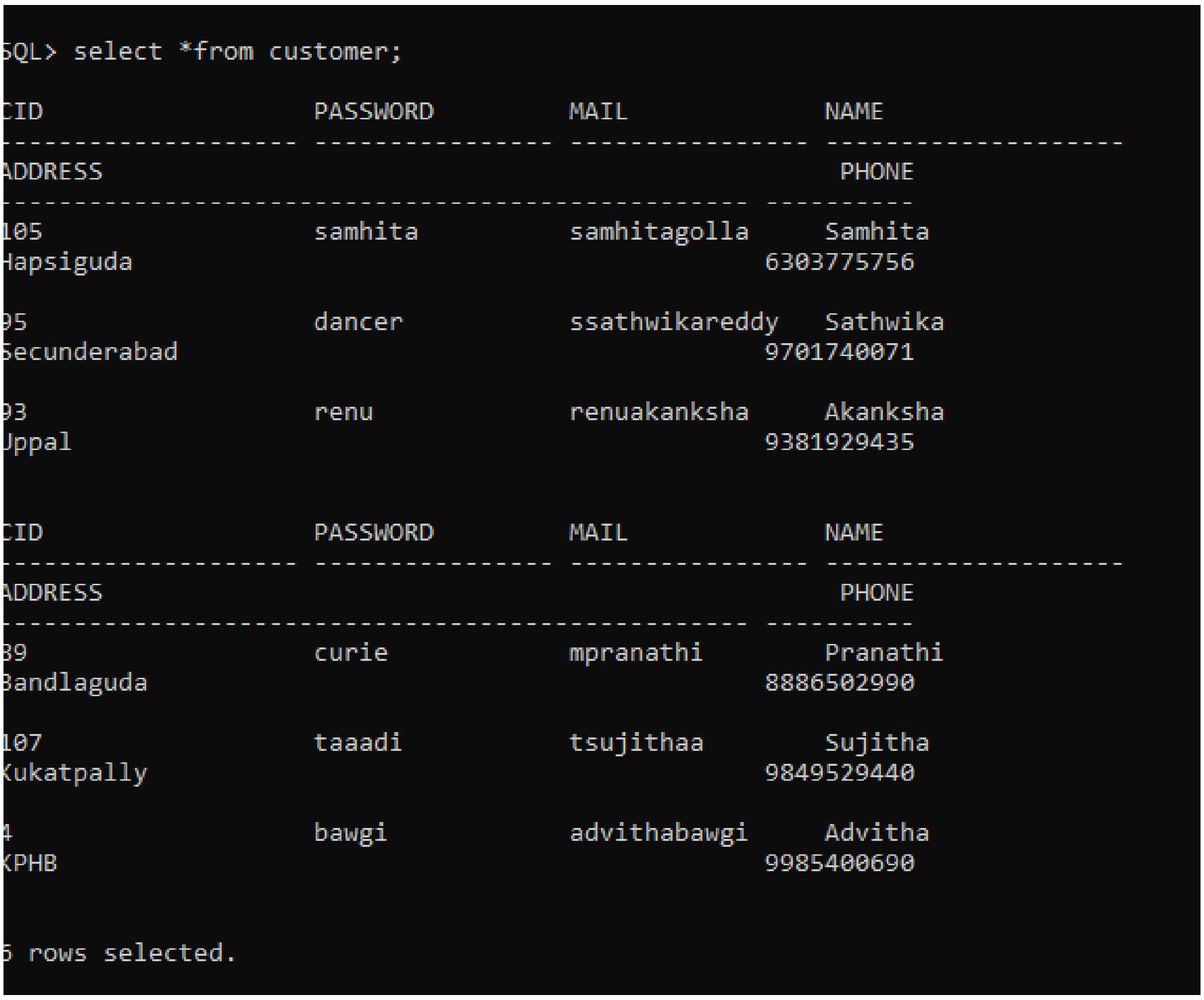
Customer ID:	95
Name:	Sathwika
Mail:	ssathwikareddy
Password:	dancer
Address:	Secunderabad
Phone:	9701740071

```
Updated 1 rows successfully
```



```
SQL> select *from customer;

CID                  PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
ADDRESS                                                  PHONE
-------------------------------------------------- ----------
105                  samhita          samhitagolla     Samhita
Hapsiguda                                          6303775756

95                   narthaki         ssathwikareddy   Sathwika
Secunderabad                                       9701740017

93                   renu             renuakanksha     Akanksha
Uppal                                              9381929435


CID                  PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
ADDRESS                                                  PHONE
-------------------------------------------------- ----------
89                   curie            mpranathi        Pranathi
Bandlaguda                                         8886502990

107                  taaadi           tsujithaa        Sujitha
Kukatpally                                         9849529440

4                    bawgi            advithabawgi     Advitha
KPHB                                               9985400690


6 rows selected.
```

G Samhita
1602-18-737-095



```
QL> select *from customer;

ID                   PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
DDRESS                                                   PHONE
-------------------------------------------------- ----------
105                  samhita          samhitagolla     Samhita
Hapsiguda                                            6303775756

95                   dancer           ssathwikareddy   Sathwika
ecunderabad                                          9701740071

93                   renu             renuakanksha     Akanksha
Jppal                                                9381929435


ID                   PASSWORD         MAIL             NAME
-------------------- ---------------- ---------------- --------------------
DDRESS                                                   PHONE
-------------------------------------------------- ----------
39                   curie            mpranathi        Pranathi
andlaguda                                            8886502990

107                  taaadi           tsujithaa        Sujitha
Kukatpally                                           9849529440

4                    bawgi            advithabawgi     Advitha
PHB                                                  9985400690


 rows selected.
```

RESULTS:

The DML commands, insert, update and delete for one of the tables are given below:

For Customer table (in java as per the application):

```
INSERT - "INSERT INTO Customer VALUES('" + cidText.getText()
+ "', " + "'" + passwordText.getText() + "'," + "'" +
mailText.getText() + "',"+"'"+cnameText.getText()+"',"
+"'"+addressText.getText()+"',"+phoneText.getText()+")";
```

```
DELETE - "DELETE FROM Customer WHERE CID = '"+
CustomerIDList.getSelectedItem() +" ' "
```

```
UPDATE - "UPDATE Customer "+ "SET password='" +
passwordText.getText() + "', "+ "mail='" + mailText.getText() +
"', "+ "name ='"+ cnameText.getText()+"',"+"address ='"+
addressText.getText()+"',"   +"phone=" +phoneText.getText()+ "
WHERE Cid = '"+ CustomerIDList.getSelectedItem()+" ' "
```

1. Connection with database is established.
2. The values given for tables in the GUI components by the user are saved in the database.

REFERENCES

1. https://en.wikipedia.org/wiki/Uber_Eats
2. https://eng.uber.com/uber-eats-query-understanding/
3. https://github.com/Samhita20/Dbms-project