MAIN

```
package Project2022;


public class Main {

        public static void main(String[] args) {
                LoginGUI A = new LoginGUI();
        }

}
```


LOGIN GUI

```
import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;


import javax.swing.*;


public class LoginGUI implements ActionListener{

        JFrame frame;

        JPanel panel;

        JTextField UserEmailT;

        JButton LoginButton;

        JLabel UserEmail;

        JLabel Result;

        public LoginGUI() {

                UserEmailT = new JTextField();

                UserEmailT.setBounds(100, 50, 265, 25);


                LoginButton = new JButton("Login");

                LoginButton.addActionListener(this);
```

```java
        LoginButton.setBounds(100, 110, 165, 25);


        UserEmail = new JLabel("User Email");

        UserEmail.setBounds(15, 50, 165, 25);


        Result = new JLabel("");

        Result.setBounds(15, 195, 350, 25);


        panel = new JPanel(null);

        panel.add(UserEmail);

        panel.add(UserEmailT);

        panel.add(LoginButton);

        panel.add(Result);


        frame = new JFrame();

        frame.setTitle("Welcome To On DemandTV");

        frame.pack();

        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        frame.setVisible(true);

        frame.add(panel);

    }
    @Override
    public void actionPerformed(ActionEvent e) {

        Object obj = new Object();

        obj = e.getSource();

        Connection Conn;

        String userType="";

        String answer;

        String NameText=UserEmailT.getText();


        try {

                Conn =
DriverManager.getConnection("jdbc:mysql://127.0.0.1:3306/Projet2022","root","piggyface123");
```

```java
Statement st = Conn.createStatement();

ResultSet res;

res = st.executeQuery("SELECT user_id FROM USER WHERE EMAIL=\""+NameText+"\"");

res.next();

Integer UserId = res.getInt("user_id");

String statement ="SELECT EXISTS(SELECT * FROM USER INNER JOIN CUSTOMER ON \""+UserId+"\"=customer.user_id)";

res = st.executeQuery(statement);

res.next();

if (res.getInt("EXISTS(SELECT * FROM USER INNER JOIN CUSTOMER ON \""+UserId+"\"=customer.user_id)")==1)

    {

    userType="1";

    }

statement = "SELECT EXISTS(SELECT * FROM USER INNER JOIN EMPLOYEE ON \""+UserId+"\"=employee.user_id)";

res = st.executeQuery(statement);

res.next();

if (res.getInt("EXISTS(SELECT * FROM USER INNER JOIN EMPLOYEE ON \""+UserId+"\"=employee.user_id)")==1)

    {

    userType="2";

    }

statement ="SELECT EXISTS(SELECT * FROM USER INNER JOIN administrator ON \""+UserId+"\"=administrator.user_id)";

res = st.executeQuery(statement);

res.next();

if (res.getInt("EXISTS(SELECT * FROM USER INNER JOIN administrator ON \""+UserId+"\"=administrator.user_id)")==1)

    {

    userType="3";

    }

res = st.executeQuery("SELECT EXISTS(SELECT * FROM USER WHERE EMAIL=\""+NameText+"\")");

res.next();
```

```java
                        answer=res.getString("EXISTS(SELECT * FROM USER WHERE
EMAIL=\""+NameText+"\")");

                        if (answer.equals("1")) {

                                if (userType.equals("1")) {CustomerInterface I = new
CustomerInterface(NameText);}

                                else if (userType.equals("2")) {EmployeeInterface I = new
EmployeeInterface(NameText);}

                                else if (userType.equals("3")) {AdminInterface I = new
AdminInterface(NameText);}

                        }

                        else {

                                Result.setText("Your Email or Password are incorrect!");

                        }

                } catch (SQLException e1) {

                        e1.printStackTrace();

                }

                }

        }
```

CUSTOMER GUI

```java
import java.awt.BorderLayout;
import java.awt.GridLayout;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.*;

import javax.swing.*;


public class CustomerInterface implements ActionListener{
        JTextField RentT;
        JTextArea T;
        JButton ConfirmB = new JButton("Confirm");
        JScrollPane sc = new JScrollPane(T);
        JLabel Error = new JLabel("You can only Enter OO/OS/OM/MS");
        JFrame frame = new JFrame();
        JPanel panel = new JPanel();
        JPanel panelC = new JPanel();
        JLabel FName = new JLabel();
        JLabel LName = new JLabel();
        JLabel Email = new JLabel();
        JLabel Address = new JLabel();
        JLabel Type = new JLabel();
        JLabel CDate = new JLabel();
        JLabel Disctrict = new JLabel();
```

```java
        JLabel CityL = new JLabel();
        JLabel phoneL = new JLabel();
        JLabel countryL = new JLabel();
        JLabel postal_codeL = new JLabel();
        JTextField Edit = new JTextField();
        JButton Back = new JButton("Back");
        JButton Edit1;
        JButton Edit2;
        JButton Edit4;
        JButton Edit5;
        JButton Edit6;
        JButton Edit7;
        JButton Edit8;
        JButton Edit9;
        JButton Edit10;
        JTextField EditT1;
        JTextField EditT2;
        JTextField EditT4;
        JTextField EditT5;
        JTextField EditT6;
        JTextField EditT7;
        JTextField EditT8;
        JTextField EditT9;
        JTextField EditT10;
        JButton Ok1 = new JButton("OK");
        JButton Ok2= new JButton("OK");
        JButton Ok4= new JButton("OK");
        JButton Ok5= new JButton("OK");
        JButton Ok6= new JButton("OK");
        JButton Ok7= new JButton("OK");
        JButton Ok8= new JButton("OK");
        JButton Ok9= new JButton("OK");
        JButton Ok10= new JButton("OK");
        JButton CheckInv = new JButton("Check your Rentals");
        JButton ViewInv = new JButton("View renting Options");
        JButton Rent = new JButton("Rent");
        JButton Close = new JButton("Close");
        JLabel sample;
        int cityID;
        int countryID;
        int userID;
        int addressID;
        int customerID;
        String type;

        Connection conn;
        public CustomerInterface(String Uemail) {
                sample = new JLabel(Uemail);
            try {
                conn =DriverManager.getConnection("jdbc:mysql://127.0.0.1:3306/Projet2022","root","piggyface123");
                Statement st = conn.createStatement();
                ResultSet res;
                String firstName="";
                String lastName="";
                String Saddress="";
                String Stype="";
                String SCdate="";
```

```java
                    String district="";
                    String City="";
                    String postal_code="";
                    String phone="";
                    String country="";

                    String statement="SELECT * FROM USER WHERE
email=\""+Uemail+"\"";
                    res = st.executeQuery(statement);
                    res.next();
                    firstName=res.getString("first_name");
                    lastName=res.getString("last_name");
                    SCdate=res.getString("create_date");
                    userID=res.getInt("user_id");
                    addressID=res.getInt("address_id");
                    statement="SELECT * FROM CUSTOMER WHERE
user_id=\""+userID+"\"";
                    res = st.executeQuery(statement);
                    res.next();
                    Stype=res.getString("type");
                    type=Stype;
                    statement="SELECT * FROM ADDRESS WHERE
address_id=\""+addressID+"\"";
                    res=st.executeQuery(statement);
                    res.next();
                    Saddress=res.getString("address");
                    district=res.getString("district");
                    postal_code=res.getString("postal_code");
                    phone=res.getString("phone");
                    cityID=res.getInt("city_id");
                    statement="SELECT * FROM CITY WHERE city_id=\""+cityID+"\"";
                    res=st.executeQuery(statement);
                    res.next();
                    City=res.getString("city");
                    countryID=res.getInt("country_id");
                    statement="SELECT * FROM COUNTRY WHERE
country_id=\""+countryID+"\"";
                    res=st.executeQuery(statement);
                    res.next();
                    country=res.getString("country");
                    statement="SELECT * FROM CUSTOMER WHERE
user_id=\""+userID+"\"";
                    res=st.executeQuery(statement);
                    res.next();
                    customerID = res.getInt("customer_id");

                    FName.setText("First Name: "+firstName);
                    FName.setBounds(100, 50, 165, 25);
                    Edit1 = new JButton("Edit");
                    Edit1.setBounds(400, 50, 75, 25);
                    Edit1.addActionListener(this);
                    LName.setText("Last Name : "+lastName);
                    LName.setBounds(100, 80, 165, 25);
                    Edit2 = new JButton("Edit");
                    Edit2.setBounds(400, 80, 75, 25);
                    Edit2.addActionListener(this);
                    Email.setText("Email : "+Uemail);
                    Email.setBounds(100, 110, 265, 25);
                    phoneL.setText("Phone : "+phone);
```

```java
                        phoneL.setBounds(100, 140, 165, 25);
                        Edit4 = new JButton("Edit");
                        Edit4.setBounds(400, 140, 75, 25);
                        Edit4.addActionListener(this);
                        postal_codeL.setText("Postal Code : "+postal_code);
                        postal_codeL.setBounds(100, 170, 165, 25);
                        Edit5 = new JButton("Edit");
                        Edit5.setBounds(400, 170, 75, 25);
                        Edit5.addActionListener(this);
                        Address.setText("Address : "+Saddress);
                        Address.setBounds(100, 200, 165, 25);
                        Edit6 = new JButton("Edit");
                        Edit6.setBounds(400, 200, 75, 25);
                        Edit6.addActionListener(this);
                        CityL.setText("City : "+City);
                        CityL.setBounds(100, 230, 165, 25);
                        Edit7 = new JButton("Edit");
                        Edit7.setBounds(400, 230, 75, 25);
                        Edit7.addActionListener(this);
                        countryL.setText("Country : "+country);
                        countryL.setBounds(100, 260, 165, 25);
                        Edit8 = new JButton("Edit");
                        Edit8.setBounds(400, 260, 75, 25);
                        Edit8.addActionListener(this);
                        Disctrict.setText("District : "+district);
                        Disctrict.setBounds(100,290,165,25);
                        Edit9 = new JButton("Edit");
                        Edit9.setBounds(400, 290, 75, 25);
                        Edit9.addActionListener(this);
                        Type.setText("Type : "+Stype);
                        Type.setBounds(100, 320, 165, 25);
                        Edit10 = new JButton("Edit");
                        Edit10.setBounds(400, 320, 75, 25);
                        Edit10.addActionListener(this);
                        CDate.setText("Creation Date : "+SCdate);
                        CDate.setBounds(100, 350, 200, 25);
                        CheckInv.setBounds(100, 380, 165, 25);
                        ViewInv.setBounds(270, 380, 165, 25);
                        Rent.setBounds(440, 380, 165, 25);
                        CheckInv.addActionListener(this);
                        ViewInv.addActionListener(this);
                        Rent.addActionListener(this);
                        Ok1.addActionListener(this);
                        Ok2.addActionListener(this);
                        Ok4.addActionListener(this);
                        Ok5.addActionListener(this);
                        Ok6.addActionListener(this);
                        Ok7.addActionListener(this);
                        Ok8.addActionListener(this);
                        Ok9.addActionListener(this);
                        Ok10.addActionListener(this);


                        panel.add(CheckInv);
                        panel.add(ViewInv);
                        panel.add(Rent);
                        panel.add(Edit1);
                        panel.add(Edit2);
                        panel.add(Edit4);
                        panel.add(Edit5);
```

```java
                    panel.add(Edit6);
                    panel.add(Edit7);
                    panel.add(Edit8);
                    panel.add(Edit9);
                    panel.add(Edit10);
                    panel.setLayout(null);
                    panel.add(FName);
                    panel.add(LName);
                    panel.add(Email);
                    panel.add(phoneL);
                    panel.add(Type);
                    panel.add(Address);
                    panel.add(countryL);
                    panel.add(CityL);
                    panel.add(Disctrict);
                    panel.add(postal_codeL);
                    panel.add(CDate);

                    frame.setTitle("Customer Interface");
                    frame.pack();
                    frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                    frame.setVisible(true);
                    frame.add(panel,BorderLayout.CENTER);

            } catch (SQLException e) {
                    e.printStackTrace();
            }
        }
        @Override
    public void actionPerformed(ActionEvent e) {
            panelC=panel;
            String Uemail = sample.getText();
            try {
            conn
=DriverManager.getConnection("jdbc:mysql://127.0.0.1:3306/Projet2022","root","pigg
yface123");
            Statement st = conn.createStatement();
            ResultSet res;
            String statement="";
            Object obj = new Object();
            obj = e.getSource();
            if (obj==Edit1) {
                    EditT1 = new JTextField();
                    EditT1.setBounds(500,50,165,25);
                    Ok1.setBounds(680, 50, 75, 25);
                    panel.add(Ok1);
                    panel.add(EditT1);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();


            }
            if (obj==Edit2) {
                    EditT2 = new JTextField();
                    EditT2.setBounds(500,80,165,25);
                    Ok2.setBounds(680, 80, 75, 25);
                    panel.add(Ok2);
```

```java
                    panel.add(EditT2);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
            if (obj==Edit4) {
                    EditT4 = new JTextField();
                    EditT4.setBounds(500,140,165,25);
                    Ok4.setBounds(680, 140, 75, 25);
                    panel.add(Ok4);
                    panel.add(EditT4);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
            if (obj==Edit5) {
                    EditT5 = new JTextField();
                    EditT5.setBounds(500,170,165,25);
                    Ok5.setBounds(680, 170, 75, 25);
                    panel.add(Ok5);
                    panel.add(EditT5);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
            if (obj==Edit6) {
                    EditT6 = new JTextField();
                    EditT6.setBounds(500,200,165,25);
                    Ok6.setBounds(680, 200, 75, 25);
                    panel.add(Ok6);
                    panel.add(EditT6);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
            if (obj==Edit7) {
                    EditT7 = new JTextField();
                    EditT7.setBounds(500,230,165,25);
                    Ok7.setBounds(680, 230, 75, 25);
                    panel.add(Ok7);
                    panel.add(EditT7);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
            if (obj==Edit8) {
                    EditT8 = new JTextField();
                    EditT8.setBounds(500,260,165,25);
                    Ok8.setBounds(680, 260, 75, 25);
                    panel.add(Ok8);
                    panel.add(EditT8);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
```

```java
                frame.repaint();
        }
        if (obj==Edit9) {
                EditT9 = new JTextField();
                EditT9.setBounds(500,290,165,25);
                Ok9.setBounds(680, 290, 75, 25);
                panel.add(Ok9);
                panel.add(EditT9);
                frame.add(panel);
                frame.invalidate();
                frame.validate();
                frame.repaint();
        }
        if (obj==Edit10) {
                EditT10 = new JTextField();
                EditT10.setBounds(500,320,165,25);
                Ok10.setBounds(680, 320, 75, 25);
                panel.add(Ok10);
                panel.add(EditT10);
                frame.add(panel);
                frame.invalidate();
                frame.validate();
                frame.repaint();
        }
        if (obj==Ok1) {
                String newS=EditT1.getText();
                statement="UPDATE USER"
                        + " SET first_name=\""+newS+"\""
                                + " WHERE EMAIL=\""+Uemail+"\"";
                st.executeUpdate(statement);
                FName.setText("First Name : "+newS);
                panel.remove(EditT1);panel.remove(Ok1);
                frame.invalidate();
                frame.validate();
                frame.repaint();
        }
        if (obj==Ok2) {
                String newS=EditT2.getText();
                statement="UPDATE USER"
                        + " SET last_name=\""+newS+"\""
                                + " WHERE EMAIL=\""+Uemail+"\"";
                st.executeUpdate(statement);
                LName.setText("Last Name : "+newS);
                panel.remove(EditT2);panel.remove(Ok2);
                frame.invalidate();
                frame.validate();
                frame.repaint();
        }
        if (obj==Ok4) {
                String newS=EditT4.getText();
                statement="UPDATE ADDRESS"
                        + " SET phone=\""+newS+"\""
                                + " WHERE city_id=\""+cityID+"\"";
                st.executeUpdate(statement);
                phoneL.setText("Phone : "+newS);
                panel.remove(EditT4);panel.remove(Ok4);
                frame.invalidate();
                frame.validate();
                frame.repaint();
```

```java
			}
			if (obj==Ok5) {
				String newS=EditT5.getText();
				statement="UPDATE ADDRESS"
						+ " SET postal_code=\""+newS+"\""
								+ " WHERE city_id=\""+cityID+"\"";
				st.executeUpdate(statement);
				panel.remove(EditT5);panel.remove(Ok5);
				postal_codeL.setText("Postal Code : "+newS);
				frame.invalidate();
				frame.validate();
				frame.repaint();
			}
			if (obj==Ok6) {
				String newS=EditT6.getText();
				statement="UPDATE ADDRESS"
						+ " SET address=\""+newS+"\""
								+ " WHERE city_id=\""+cityID+"\"";
				st.executeUpdate(statement);
				Address.setText("Address : "+newS);
				panel.remove(EditT6);panel.remove(Ok6);
				frame.invalidate();
				frame.validate();
				frame.repaint();
			}
			if (obj==Ok7) {
				String newS=EditT7.getText();
				statement="UPDATE CITY"
						+ " SET city=\""+newS+"\""
								+ " WHERE city_id=\""+cityID+"\"";
				st.executeUpdate(statement);
				CityL.setText("City : "+newS);
				panel.remove(EditT7);panel.remove(Ok7);
				frame.invalidate();
				frame.validate();
				frame.repaint();
			}
			if (obj==Ok8) {
				String newS=EditT8.getText();
				statement="UPDATE COUNTRY"
						+ " SET country=\""+newS+"\""
								+ " WHERE
country_id=\""+countryID+"\"";
				st.executeUpdate(statement);
				countryL.setText("Country : "+newS);
				panel.remove(EditT8);panel.remove(Ok8);
				frame.invalidate();
				frame.validate();
				frame.repaint();
			}
			if (obj==Ok9) {
				String newS=EditT9.getText();
				statement="UPDATE ADDRESS"
						+ " SET district=\""+newS+"\""
								+ " WHERE city_id=\""+cityID+"\"";
				st.executeUpdate(statement);
				Disctrict.setText("District : "+newS);
				panel.remove(EditT9);panel.remove(Ok9);
				frame.invalidate();
```

```java
                    frame.validate();
                    frame.repaint();
            }
            if (obj==Ok10) {
                    if (Error.isDisplayable()) {
                            panel.remove(Error);
                            frame.invalidate();
                            frame.validate();
                            frame.repaint();
                    }
                    try {
                    String newS=EditT10.getText();
                    statement="UPDATE CUSTOMER"
                            + " SET type=\""+newS+"\""
                                    + " WHERE user_id=\""+userID+"\"";
                    st.executeUpdate(statement);
                    Type.setText("Type : "+newS);
                    panel.remove(EditT10);panel.remove(Ok10);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
                    }catch (java.sql.SQLException e2) {
                            Error.setBounds(500, 355, 300, 25);
                            panel.add(Error);
                            frame.add(panel);
                            frame.invalidate();
                            frame.validate();
                            frame.repaint();
                    }
            }
            if (obj==CheckInv) {
                    if (sc.isDisplayable()) {
                            panel.remove(sc);
                            frame.invalidate();
                            frame.validate();
                            frame.repaint();
                    }
                    statement="SELECT * FROM RENTAL Inner join inventory ON
inventory.inventory_id=rental.inventory_id where
rental.customer_id=\""+customerID+"\"";
                    res = st.executeQuery(statement);
                    String txt="TYPE | TITLE | ACTIVE | DATE | RENTAL_ID |
INVENTORY_ID\n";
                    while(res.next()) {
                            txt=txt+res.getString("type")+" |
"+res.getString("title")+" | "+res.getString("active")+" |
"+res.getString("rental_date")+" | "+res.getString("rental_id")+" |
"+res.getString("inventory_id")+"\n";
                    }
                    T = new JTextArea(txt,600,600);
                    sc = new JScrollPane(T);

        sc.setHorizontalScrollBarPolicy(JScrollPane.HORIZONTAL_SCROLLBAR_ALWAYS);

        sc.setVerticalScrollBarPolicy(JScrollPane.VERTICAL_SCROLLBAR_ALWAYS);
                    sc.setBounds(800, 50, 600, 600);
                    panel.add(sc);
                    Close.setBounds(100, 410, 165, 25);
                    Close.addActionListener(this);
```

```java
                    panel.add(Close);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
        }
            if (obj==Close) {
                    if (RentT.isDisplayable()) {
                            panel.remove(RentT);
                            panel.remove(Close);
                            panel.remove(ConfirmB);
                            frame.invalidate();
                            frame.validate();
                            frame.repaint();
                    }
                    else if (sc.isDisplayable()) {
                            panel.remove(sc);
                            panel.remove(Close);
                            frame.invalidate();
                            frame.validate();
                            frame.repaint();
                    }
            }
            if (obj==ViewInv) {
                    if (sc.isDisplayable()) {
                            panel.remove(sc);
                            frame.invalidate();
                            frame.validate();
                            frame.repaint();
                    }
                    String txt="";
                    if (type.equals("OO")) {
                            txt="You aren't obliged to anything";
                    }
                    if (type.equals("OS")) {
                            statement="SELECT * FROM INVENTORY INNER JOIN RENTAL ON
INVENTORY.INVENTORY_ID=RENTAL.INVENTORY_ID "
                                    + "WHERE INVENTORY.TYPE=\"s\" AND ACTIVE=1
AND RENTAL.CUSTOMER_ID!=\""+customerID+"\"";
                            res=st.executeQuery(statement);
                            txt="TITLE | ID\n";
                            while(res.next()) {
                                    txt=txt+res.getString("title")+" |
"+res.getString("inventory_id")+"\n";
                            }
                    }
                    if (type.equals("OM")) {
                            statement="SELECT * FROM INVENTORY INNER JOIN RENTAL ON
INVENTORY.INVENTORY_ID=RENTAL.INVENTORY_ID "
                                    + "WHERE INVENTORY.TYPE=\"s\" AND ACTIVE=1
AND RENTAL.CUSTOMER_ID!=\""+customerID+"\"";
                            res=st.executeQuery(statement);
                            txt="TITLE | ID\n";
                            while(res.next()) {
                                    txt=txt+res.getString("title")+" |
"+res.getString("inventory_id")+"\n";
                            }
                    }
                    if (type.equals("MS")) {
```

```java
                            statement="SELECT * FROM INVENTORY INNER JOIN RENTAL ON
INVENTORY.INVENTORY_ID=RENTAL.INVENTORY_ID "
                                + "WHERE INVENTORY.TYPE=\"s\" AND ACTIVE=1
AND RENTAL.CUSTOMER_ID!=\""+customerID+"\"";
                            res=st.executeQuery(statement);
                            txt="TITLE | ID\n";
                            while(res.next()) {
                                txt=txt+res.getString("title")+" |
"+res.getString("inventory_id")+"\n";
                            }
                        }
                    T = new JTextArea(txt);
                    sc = new JScrollPane(T);

        sc.setHorizontalScrollBarPolicy(JScrollPane.HORIZONTAL_SCROLLBAR_ALWAYS);

        sc.setVerticalScrollBarPolicy(JScrollPane.VERTICAL_SCROLLBAR_ALWAYS);
                    sc.setBounds(800, 50, 600, 600);
                    panel.add(sc);
                    Close.setBounds(270, 410, 165, 25);
                    Close.addActionListener(this);
                    panel.add(Close);
                    frame.add(panel);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
                }
            if (obj==Rent) {
                if (Close.isDisplayable()) {
                        panel.remove(Close);
                        frame.invalidate();
                        frame.validate();
                        frame.repaint();
                }

                        RentT = new JTextField();
                        RentT.setBounds(440,440,165,25);
                        Close.setBounds(440, 410, 165, 25);
                        Close.addActionListener(this);
                        ConfirmB.setBounds(440,470,165,25);
                        ConfirmB.addActionListener(this);
                        panel.add(RentT);
                        panel.add(Close);
                        panel.add(ConfirmB);
                        frame.invalidate();
                        frame.validate();
                        frame.repaint();
            }
            if (obj==ConfirmB) {
                if (Error.isDisplayable()) {
                        panel.remove(Error);
                        frame.invalidate();
                        frame.validate();
                        frame.repaint();
                }
                try {
                int input;
                input = Integer.parseInt(RentT.getText());
```

```java
                statement="SELECT * FROM INVENTORY WHERE
INVENTORY_ID=\""+input+"\"";
                res=st.executeQuery(statement);
                res.next();
                String type1=res.getString("type");
                statement="insert into rental values
(default,now(),"+input+","+customerID+",\""+type1+"\")";
                st.executeUpdate(statement);
                panel.remove(ConfirmB);
                panel.remove(RentT);
                panel.remove(Close);
                frame.invalidate();
                frame.validate();
                frame.repaint();
                }catch (Exception e2) {
                    e2.printStackTrace();
                    Error.setText("Please enter a valid ID!");
                    Error.setBounds(440, 500, 165, 25);
                    panel.add(Error);
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
        }
    }catch(Exception e1) {e1.printStackTrace();}
    }
}
```

EMPLOYEE GUI

```java
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.*;
import javax.swing.*;

public class EmployeeInterface  implements ActionListener{

    int Count=0;
    int userID;
    int addressID;
    int countryID;
    JPanel panel = new JPanel();
    JFrame frame = new JFrame();
    JTextArea T = new JTextArea();
    JScrollPane sc = new JScrollPane(T);
    JButton SearchEnter = new JButton("Enter");
    JLabel SearchEmail = new JLabel("Enter Customer's email:");
    JTextField Search = new JTextField();
    String customerEmail="";
    JLabel FNameL = new JLabel();
    JLabel LNameL;
    JLabel EmailL;
    JLabel PhoneL;
    JLabel Postal_codeL;
    JLabel CountryL;
    JLabel CityL;
    JLabel DistrictL;
```

```java
JLabel AddressL;
JLabel TypeL;
JLabel CDateL;
JButton Edit1 = new JButton("Edit");
JButton Edit2 = new JButton("Edit");
JButton Edit3 = new JButton("Edit");
JButton Edit4 = new JButton("Edit");
JButton Edit5 = new JButton("Edit");
JButton Edit6 = new JButton("Edit");
JButton Edit7 = new JButton("Edit");
JButton Edit8 = new JButton("Edit");
JButton Edit9 = new JButton("Edit");
JTextField EditT = new JTextField();
JTextField EditTables = new JTextField();
JButton Okay = new JButton("Okay");
JButton CheckRental = new JButton("Check Rentals");
JButton CheckUsers = new JButton("Check Users");
JButton CheckAvailableTables = new JButton("Check Tables");
JButton EnterTables = new JButton("Enter");
JLabel Tables= new JLabel("Enter  the Table's Name:");
JButton bestOf = new JButton("Top 5 Films/Series");
String statement="";
Connection Conn;
public EmployeeInterface(String Uemail) {
        try {


    Conn=DriverManager.getConnection("jdbc:mysql://127.0.0.1:3306/Projet2022","
root","piggyface123");
        Statement st = Conn.createStatement();
        ResultSet res;
        String txt="USER \n";
        statement = "SELECT * FROM USER inner join customer on
user.user_id=customer.user_id";
        res = st.executeQuery(statement);
        while (res.next()) {
                txt=txt+res.getString("first_name")+"
"+res.getString("last_name")+" | "+res.getString("email")+" \n";
        }
        T.setText(txt);

    sc.setHorizontalScrollBarPolicy(JScrollPane.HORIZONTAL_SCROLLBAR_ALWAYS);

    sc.setVerticalScrollBarPolicy(JScrollPane.VERTICAL_SCROLLBAR_ALWAYS);
        sc.setBounds(50, 50, 600, 600);
        SearchEmail.setBounds(50, 650, 165, 25);
        Tables.setBounds(350, 650, 165, 25);
        EditTables.setBounds(350, 675, 165, 25);
        CheckAvailableTables.setBounds(350,730,165,25);
        CheckAvailableTables.addActionListener(this);
        EnterTables.setBounds(350, 700, 165, 25);
        EnterTables.addActionListener(this);
        Search.setBounds(50, 675, 265, 25);
        SearchEnter.setBounds(50, 700, 165, 25);
        SearchEnter.addActionListener(this);
        CheckRental.setBounds(50, 730, 165, 25);
        CheckRental.addActionListener(this);
        CheckUsers.setBounds(50, 760, 165, 25);
        CheckUsers.addActionListener(this);
```

```java
            bestOf.setBounds(350, 760, 165, 25);
            bestOf.addActionListener(this);


            panel.setLayout(null);
            panel.add(sc);
            panel.add(SearchEmail);
            panel.add(Search);
            panel.add(SearchEnter);
            panel.add(CheckRental);
            panel.add(CheckUsers);
            panel.add(EditTables);
            panel.add(CheckAvailableTables);
            panel.add(EnterTables);
            panel.add(Tables);
            panel.add(bestOf);

            frame.setTitle("Employee Interface");
            frame.pack();
            frame.setVisible(true);
            frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            frame.add(panel);
            }catch(SQLException e1) {e1.printStackTrace();}
    }
    @Override
    public void actionPerformed(ActionEvent e) {
            try {

        Conn=DriverManager.getConnection("jdbc:mysql://127.0.0.1:3306/Projet2022","
    root","piggyface123");
            Statement st = Conn.createStatement();
            ResultSet res;

            Object obj = new Object();
            obj=e.getSource();

            if (obj==SearchEnter) {
                    if (FNameL.isDisplayable()) {
                            panel.remove(FNameL);
                            panel.remove(LNameL);
                            panel.remove(EmailL);
                            panel.remove(PhoneL);
                            panel.remove(AddressL);
                            panel.remove(CDateL);
                            panel.remove(Postal_codeL);
                            panel.remove(CityL);
                            panel.remove(CountryL);
                            panel.remove(EditT);
                            panel.remove(Okay);
                            panel.remove(Edit1);
                            panel.remove(Edit2);
                            panel.remove(Edit3);
                            panel.remove(Edit4);
                            panel.remove(Edit5);
                            panel.remove(Edit6);
                            panel.remove(Edit7);
                            panel.remove(Edit8);
                            panel.remove(Edit9);
```

```java
                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
            customerEmail=Search.getText();
            statement="SELECT * FROM USER INNER JOIN CUSTOMER ON
USER.USER_ID=CUSTOMER.USER_ID "
                            + "WHERE email=\""+customerEmail+"\"";
            res=st.executeQuery(statement);
            res.next();
            userID = Integer.parseInt(res.getString("user_id"));
            addressID = Integer.parseInt(res.getString("address_id"));
            FNameL.setText("First Name :"+res.getString("first_name"));
            FNameL.setBounds(700, 50, 165, 25);
            Edit1 = new JButton("Edit");
            Edit1.setBounds(1000, 50, 165, 25);
            Edit1.addActionListener(this);
            LNameL = new JLabel("Last Name :"+res.getString("last_name"));
            LNameL.setBounds(700, 80, 165, 25);
            Edit2 = new JButton("Edit");
            Edit2.setBounds(1000, 80, 165, 25);
            Edit2.addActionListener(this);
            EmailL = new JLabel("Email :"+customerEmail);
            EmailL.setBounds(700,110,265,25);
            Edit3 = new JButton("Edit");
            Edit3.setBounds(1000, 110, 165, 25);
            Edit3.addActionListener(this);
            TypeL = new JLabel("Type :"+res.getString("type"));
            TypeL.setBounds(700, 290, 165, 25);
            Edit9 = new JButton("Edit");
            Edit9.setBounds(1000, 290, 165, 25);
            Edit9.addActionListener(this);
            CDateL = new JLabel("Creation Date
:"+res.getString("create_date"));
            CDateL.setBounds(700, 320, 265, 25);
            statement="select * from address inner "
                            + "join user on
address.address_id=user.address_id where user.email=\""+customerEmail+"\"; ";
            res=st.executeQuery(statement);
            res.next();
            AddressL = new JLabel("Address :"+res.getString("address"));
            AddressL.setBounds(700, 170, 265, 25);
            Edit5 = new JButton("Edit");
            Edit5.setBounds(1000, 170, 165, 25);
            Edit5.addActionListener(this);
            Postal_codeL = new JLabel("Postal code
:"+res.getString("postal_code"));
            Postal_codeL.setBounds(700, 200, 165, 25);
            Edit6 = new JButton("Edit");
            Edit6.setBounds(1000, 200, 165, 25);
            Edit6.addActionListener(this);
            PhoneL = new JLabel("Phone :"+res.getString("phone"));
            PhoneL.setBounds(700, 140, 165, 25);
            Edit4 = new JButton("Edit");
            Edit4.setBounds(1000, 140, 165, 25);
            Edit4.addActionListener(this);
            String cityID =res.getString("city_id");
            statement="select city,country,country.country_id from city
inner join country on "
```

```java
                                + "city.country_id=country.country_id where
city.city_id=\""+cityID+"\";\r\n";
                        res = st.executeQuery(statement);
                        res.next();
                        countryID=Integer.parseInt(res.getString("country_id"));
                        CityL = new JLabel("City :"+res.getString("city"));
                        CityL.setBounds(700, 230, 165, 25);
                        Edit7 = new JButton("Edit");
                        Edit7.setBounds(1000, 230, 165, 25);
                        Edit7.addActionListener(this);
                        CountryL = new JLabel("Country :"+res.getString("country"));
                        CountryL.setBounds(700, 260, 165, 25);
                        Edit8 = new JButton("Edit");
                        Edit8.setBounds(1000, 260, 165, 25);
                        Edit8.addActionListener(this);

                        panel.add(FNameL);
                        panel.add(LNameL);
                        panel.add(EmailL);
                        panel.add(PhoneL);
                        panel.add(AddressL);
                        panel.add(CDateL);
                        panel.add(Postal_codeL);
                        panel.add(CityL);
                        panel.add(CountryL);
                        panel.add(TypeL);
                        panel.add(Edit1);
                        panel.add(Edit2);
                        panel.add(Edit3);
                        panel.add(Edit4);
                        panel.add(Edit5);
                        panel.add(Edit6);
                        panel.add(Edit7);
                        panel.add(Edit8);
                        panel.add(Edit9);

                        frame.invalidate();
                        frame.validate();
                        frame.repaint();

                }
            if
(obj==Edit1||obj==Edit2||obj==Edit3||obj==Edit4||obj==Edit5||obj==Edit6||obj==Edit
7||obj==Edit8||obj==Edit9) {
                        Count=0;
                        Okay.addActionListener(this);
                        if (EditT.isDisplayable()) {
                                panel.remove(EditT);
                                panel.remove(Okay);
                                frame.invalidate();
                                frame.validate();
                                frame.repaint();
                        }
                        if (obj==Edit1) {
                                EditT.setBounds(1170, 50, 165, 25);
                                Okay.setBounds(1340, 50, 165, 25);
                                Count=1;
                        }
                        if (obj==Edit2) {
```

```java
                    EditT.setBounds(1170, 80, 165, 25);
                    Okay.setBounds(1340, 80, 165, 25);
                    Count=2;
                }
                if (obj==Edit3) {
                    EditT.setBounds(1170, 110, 165, 25);
                    Okay.setBounds(1340, 110, 165, 25);
                    Count=3;
                }
                if (obj==Edit4) {
                    EditT.setBounds(1170, 140, 165, 25);
                    Okay.setBounds(1340, 140, 165, 25);
                    Count=4;
                }
                if (obj==Edit5) {
                    EditT.setBounds(1170, 170, 165, 25);
                    Okay.setBounds(1340, 170, 165, 25);
                    Count=5;
                }
                if (obj==Edit6) {
                    EditT.setBounds(1170, 200, 165, 25);
                    Okay.setBounds(1340, 200, 165, 25);
                    Count=6;
                }
                if (obj==Edit7) {
                    EditT.setBounds(1170, 230, 165, 25);
                    Okay.setBounds(1340, 230, 165, 25);
                    Count=7;
                }
                if (obj==Edit8) {
                    EditT.setBounds(1170, 260, 165, 25);
                    Okay.setBounds(1340, 260, 165, 25);
                    Count=8;
                }
                if (obj==Edit9) {
                    EditT.setBounds(1170, 290, 165, 25);
                    Okay.setBounds(1340, 290, 165, 25);
                    Count=9;
                }
                panel.add(EditT);
                panel.add(Okay);
                frame.invalidate();
                frame.validate();
                frame.repaint();

            }
            if (obj==Okay) {
                String NewT="";
                NewT=EditT.getText();
                if (Count==1) {
                    statement="update user "
                            + "set first_name=\""+NewT+"\""
                                    + " where
user_id=\""+userID+"\"";
                    st.executeUpdate(statement);
                    FNameL.setText("First Name :"+NewT);
                }
                if (Count==2) {
                    statement="update user "
```

```java
                                        + "set last_name=\""+NewT+"\""
                                            + " where
user_id=\""+userID+"\"";
                    st.executeUpdate(statement);
                    LNameL.setText("Last Name :"+NewT);
                    }
                if (Count==3) {
                    statement="update user "
                            + "set email=\""+NewT+"\""
                                + " where
user_id=\""+userID+"\"";
                    st.executeUpdate(statement);
                    EmailL.setText("Email :"+NewT);
                    }
                if (Count==4) {
                    statement="update address "
                            + "set phone=\""+NewT+"\""
                                + " where
address_id=\""+addressID+"\"";
                    st.executeUpdate(statement);
                    PhoneL.setText("Phone :"+NewT);
                    }
                if (Count==5) {
                    statement="update address "
                            + "set address=\""+NewT+"\""
                                + " where
address_id=\""+addressID+"\"";
                    st.executeUpdate(statement);
                    AddressL.setText("Address :"+NewT);
                    }
                if (Count==6) {
                    statement="update address "
                            + "set postal_code=\""+NewT+"\""
                                + " where
address_id=\""+addressID+"\"";
                    st.executeUpdate(statement);
                    Postal_codeL.setText("Postal code :"+NewT);
                    }
                if (Count==7) {
                    statement="update city "
                            + "set city=\""+NewT+"\""
                                + " where
country_id=\""+countryID+"\"";
                    st.executeUpdate(statement);
                    CityL.setText("City :"+NewT);
                    }
                if (Count==8) {
                    statement="update country "
                            + "set country=\""+NewT+"\""
                                + " where
country_id=\""+countryID+"\"";
                    st.executeUpdate(statement);
                    CountryL.setText("Country :"+NewT);
                    }
                if (Count==9) {
                    statement="update customer "
                            + "set type=\""+NewT+"\""
                                + " where
user_id=\""+userID+"\"";
```

```java
                        st.executeUpdate(statement);
                        TypeL.setText("Type :"+NewT);
                        }
                panel.remove(Okay);
                panel.remove(EditT);

                frame.invalidate();
                frame.validate();
                frame.repaint();
                }

        if (obj==CheckRental) {
                statement="select * from rental";
                res = st.executeQuery(statement);
                String txt="RENTAL ID | RENTAL DATE | INVENTORY ID | CUSTOMER
ID | TYPE \n";
                while (res.next()) {
                        txt=txt+res.getString("rental_id")+" |
"+res.getString("rental_date")+" | "+res.getShort("inventory_id")+" |
"+res.getString("customer_id")
                        +" | "+res.getString("type")+" \n";
                }
                T.setText(txt);

                frame.invalidate();
                frame.validate();
                frame.repaint();
        }
        if (obj==CheckUsers) {
                String txt="USER \n";
                statement = "SELECT * FROM USER where user_id>10";
                res = st.executeQuery(statement);
                while (res.next()) {
                        txt=txt+res.getString("first_name")+"
"+res.getString("last_name")+" | "+res.getString("email")+" \n";
                }
                T.setText(txt);

                frame.invalidate();
                frame.validate();
                frame.repaint();
        }
        if (obj==CheckAvailableTables) {
                String txt="Available Tables\n"
                            + "actor | film | series \n"
                            + "language | category | address\n"
                            + "city | country | inventory";
                T.setText(txt);

                frame.invalidate();
                frame.validate();
                frame.repaint();
        }
        /*if (obj==EnterTables) {
                String ans = EditTables.getText();
                String txt="";
                statement="select * from "+ans;
                res=st.executeQuery(statement);
                while (res.next()) {
```

```java
                        txt=txt+res.getRow();
                }
                T.setText(txt);

                frame.invalidate();
                frame.validate();
                frame.repaint();

            }*/
            if (obj==bestOf) {
                    statement="call ask1(\"m\",5,now()-interval 1 month,now())";
                    res=st.executeQuery(statement);
                    String txt="The best Movies of the Last Month are :\n";
                    while(res.next()) {
                            txt=txt+res.getString("title")+" | With
"+res.getString("VIEWS")+" Views"+"\n";
                    }
                    statement="call ask1(\"s\",5,now()-interval 1 month,now())";
                    res=st.executeQuery(statement);
                    txt=txt+"\nThe best Serieses of the Last Month are :\n";
                    while(res.next()) {
                            txt=txt+res.getString("title")+" | With
"+res.getString("telika_views")+" Views"+"\n";
                    }
                    T.setText(txt);

                    frame.invalidate();
                    frame.validate();
                    frame.repaint();
            }
            }catch (SQLException e1) {
                    e1.printStackTrace();
            }
        }
}
```

ADMINISTATOR GUI

```java
public class AdminInterface {
      public AdminInterface(String Uemail) {
            System.out.println("Administrator");
      }
}
```