OBJECT ORIENTED PROGRAMMING

ASSIGNMENT REPORT

TOPIC: E-STORE MANAGEMENT SYSTEM

Submitted to:
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Date of submission:
15th December 2022

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ACKNOWLEDGEMENT

In performing our assignment, we had to take the help and guideline of some respected persons, who deserve our greatest gratitude. The completion of this assignment gives us much Pleasure. We would like to show our gratitude to **Dr. Sujala Shetty**, of **BITS Pilani Dubai Campus** for giving us a good guideline for the assignment. We would also like to expand our deepest gratitude to all those who have directly and indirectly guided us in writing this assignment.

Many people, especially our classmates and team members, have made valuable comment suggestions on this proposal which gave us inspiration to improve our assignment. We thank all the people for their help directly and indirectly to complete our assignment.

A noteworthy appreciation also goes to our seniors who supported us and helped us in a lot of ways. We finally thank all the people who directly or indirectly helped us in this assignment.

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Applications of JAVA

Using Java, we can develop different applications for different purposes.

We can use Java technology to develop the following applications:

- **Mobile App Development**
- **Desktop GUI Applications**
- **Web-based Applications**
- **Gaming Applications**
- **Big Data Technologies**
- **Distributed Applications**
- **Cloud-based Applications**
- **IoT Applications**

1) Mobile App Development

The Java programming language can be considered as the official language for mobile application development. Most of the android applications built using Java. The most popular android app development IDE Android Studio also uses Java for developing android applications.
So, if you are already familiar with Java, it will become much easier to develop android applications. The most popular android applications Spotify and Twitter are developed using Java.

2) Desktop GUI Applications

We can also develop a GUI application using Java. Java provides AWT, JavaFX, and Swing for developing the GUI based desktop application.
The tools contain the pre-assembled components like list, menu, button.

3) Web-based Applications

It is also used for developing web-based applications because it provides vast support for web development through Servlet, JSP, and Struts. It is the reason that Java is also known as a server-side programming language. Using these technologies, we can develop a variety of applications.

The most popular frameworks are Spring, Hibernate, Spring Boot, used for developing web-based applications. LinkedIn, AliExpress, web.archive.org, IRCTC, etc. are the popular websites that are written using Java programming language.

4) Game Development

Java is widely used by game development companies because it has the support of the open-source most powerful 3D engine. The engine provides unparalleled capacity when it comes to the context of the designing of 3D games. The most popular games developed in Java are Minecraft, Mission Impossible III, etc. There are some popular Frameworks and Libraries available for Game Development, like - LibGDX and OpenGL.

5) Big Data Technology

As many programming languages are available for Big Data Technology but still Java is the first choice for the same. The Hadoop HDFS platform for processing and storing big data applications is written in Java. In big data, Java is widely used in ETL applications such as Apache Camel and Apache Kafka. It is used to extract and transform data, and load in big data environments.

6) Distributed Applications

The JINI (Java Intelligent Networking Infrastructure) provides the infrastructure to register and find distributed services based on its specification. It implements a mechanism that is known as JavaSpaces. It supports the distribution, persistence, and migration of objects in a network.

7) Cloud-Based Applications

A cloud application is the on-demand availability of IT resources via the internet. The cloud-based application provides the service at a low cost. Java provides the environment to develop cloud-based applications. We can use Java to develop SaaS (Software as a Service), LaaS (Logging as a Service), and PaaS (Platform as a Service). The cloud application is widely used to share data between companies or to develop applications Remotely.

8) IoT Application

IoT is a technology that connects the devices in its network and communicate with them. IoT has found almost all the small devices such as health gears, smartphones, wearables, smart lighting, TVs, etc. For developing the IoT application there are a lot of programming languages that can be used but Java offers an edge to developers that is unparalleled. IoT programmers gravitate towards Java because of its security, flexibility, and versatility.

Topic Abstract

Online shopping or e-shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller, through e-stores, over the Internet. Online shopping has revolutionized the business world by making everything anyone would want by the simple click of a mouse button. In modern times, e-shopping is steadily gaining popularity because of its various benefits.The project satisfies all basic functions required to run an e-store.

Our project-

> Provides the user the facility to purchase products according to their preference.

> The data entered in the database is safe and secured.

> It reduces the human efforts and increases efficiency as the details are entered electronically.

Some benefits include:

1) Convenience: - One of the most enjoyable conveniences of online~ shopping which is enjoyed by many is the ability to shop for products or services at a time which is suitable for the consumer.

2) Ability to order products from around the world. This can make it easy for online customers to acquire hard to find items or items which are the regional speciality of a particular area.

3) A great advantage of online purchasing is the ability to comparison shop easily.

MAJOR CONCEPTS USED IN THE CODE

1. **INTERFACES** -ADMIN AND USER are 2 interfaces used in the code which shows the outline of the program.

   ADMIN interface has access to the following methods :

   - Display()
   - add()
   - update()
   - delete()
   - Transac()
   - backToMenu()

   USER interface has access to:

   purchase()

   Also,there are 2 classes

   - **Class Productdetails** which implements the ADMIN interface and defines all the methods listed in the interface inside this class.
   - **Class Customer** which implements the USER interface and defines all the methods listed in the interface inside this class.

   Apart from these 2 classes we have

   Class Menu which connects both the classes.i.e. Class Productdetails and Class Customer through the method choices().

   Class LoginFrame is used for GUI only for the login page display and is called from the main method named “MainMenu”.

2. **CONNECTIVITY OF JAVA AND MYSQL-**In Java, we can connect to our database(MySQL) with JDBC(Java Database Connectivity) through the Java code. JDBC is one of the standard APIs for database connectivity, using it we can easily run our query, statement, and also fetch data from the database.

MYSQL is used to permanently store tables inside the database created.

In MYSQL,we have created 2 tables

1.Productdetails table

2.Transaction table

So, these 2 tables will store all the details of the products and transactions made in past and present.

3.**ENCAPSULATION**-has been used in the code for different classes to encapsulate the various methods.

Following are the list of classes in which we have used encapsulation:-

1. Class ProductDetails- has encapsulated the admin’s access details.

2 Class Customer- has encapsulated the user’s access details.

3.Class menu- has encapsulated the main menu details.

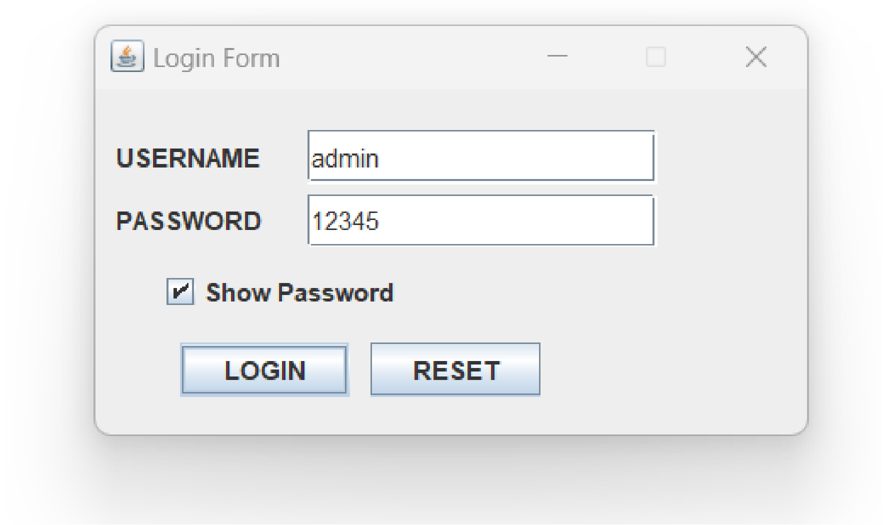
4.LoginFrame- has encapsulated the login credential details.

4.GUI -has been used at the start of the project for the display of the login page.

It’s a graphics-based operating system interface that uses icons, menus and a mouse (to click on the icon or pull down the menus) to manage interaction with the system.

LoginFrame is the class name which contains the login page details which we have developed using GUI through swing and AWT.

And have implemented the Action listener interface to all the buttons to give it a function-like login button,reset button.



USERNAME admin

PASSWORD 12345

☑ Show Password

5. EXCEPTION HANDLING has been implemented in the code while connecting MYSQLand JAVA in the form of try,catch and finally block so that it shows us the error if any issue occurs during the connectivity of the two platforms. Exception handling basically shows the user what kind/type of error they are facing.In Java, an exception is an event that disrupts the normal flow of the program. It is an object which is thrown at runtime.

So the finally block is executed when the connection between MYSQL and java is successful.

TRY BLOCK-The try statement allows you to define a block of code to be tested for errors while it is being executed.

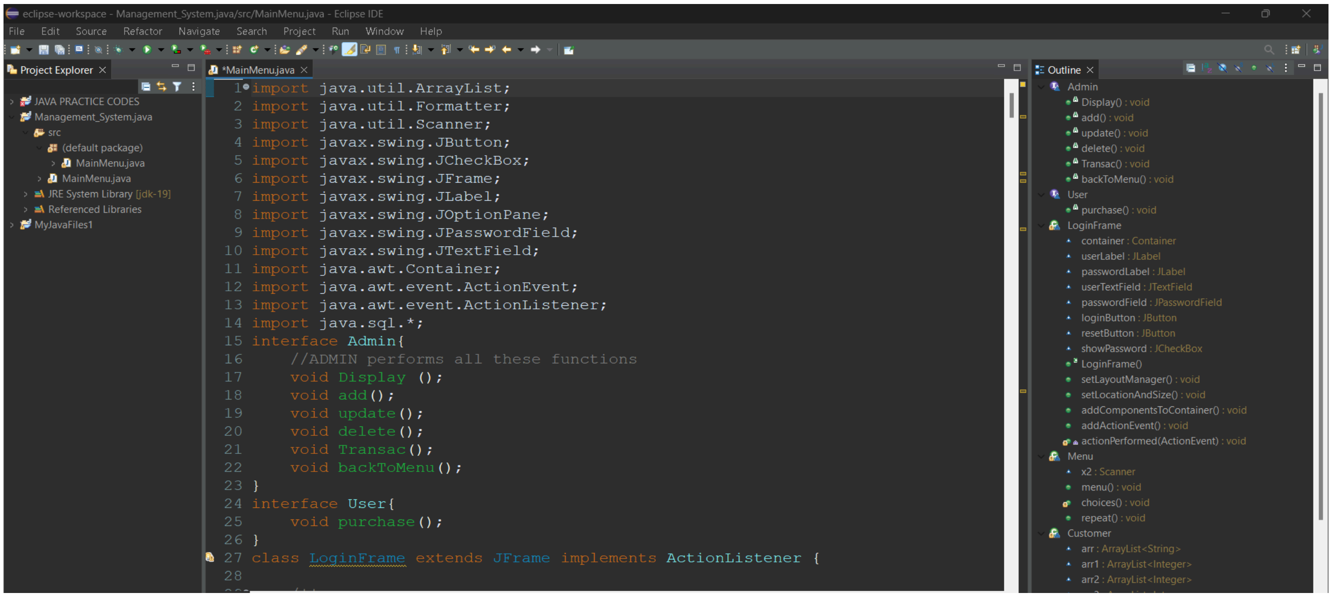
CATCH BLOCK-The catch statement allows you to define a block of code to be executed, if an error occurs in the try block.

So if try detects an error it goes inside catch and prints that particular error which the user is facing.

The try and catch keywords come in pairs.

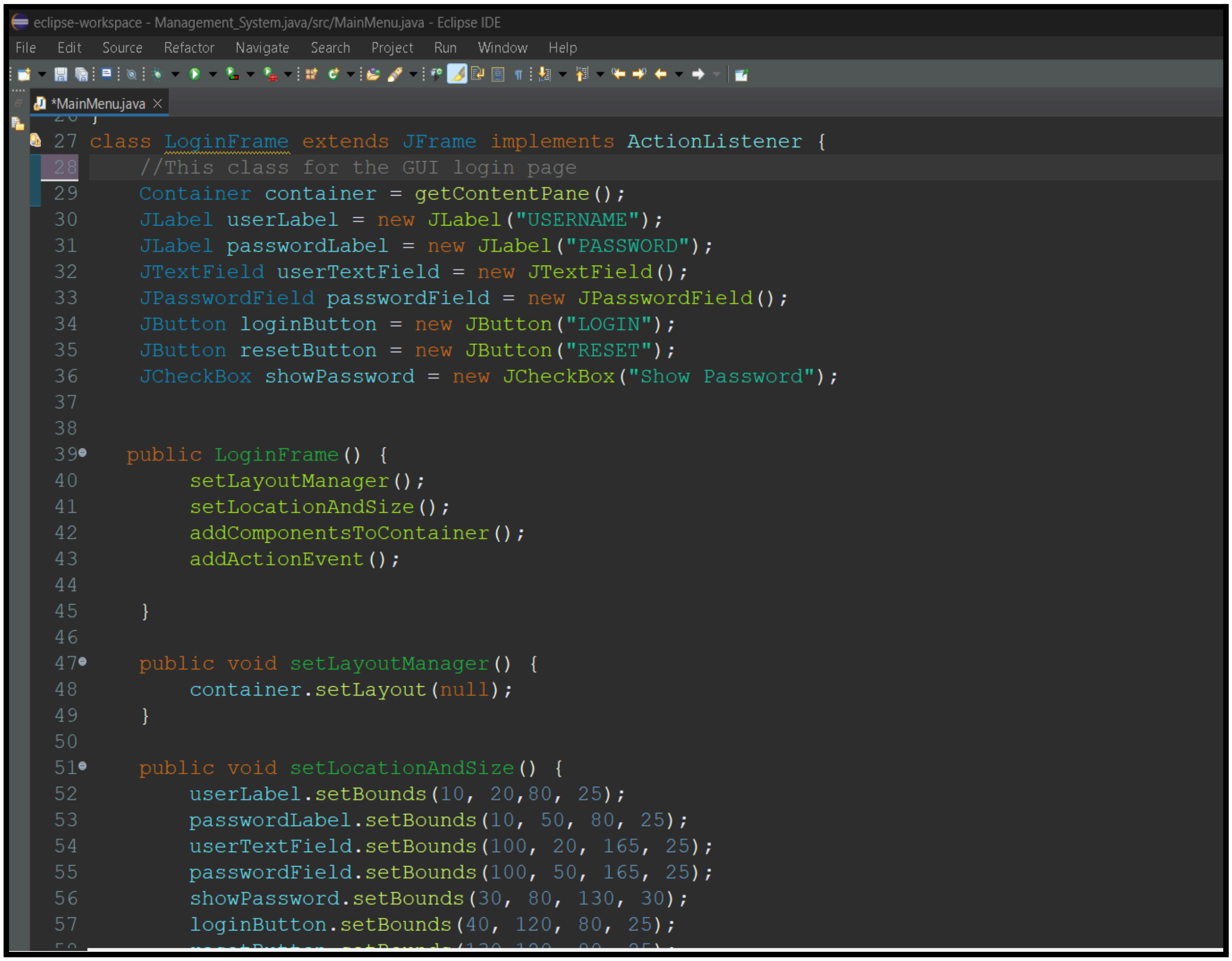
FINALLY BLOCK-The finally statement lets you execute code, after try...catch, regardless of the result.

Source Code



```java
import java.util.ArrayList;
import java.util.Formatter;
import java.util.Scanner;
import javax.swing.JButton;
import javax.swing.JCheckBox;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.JPasswordField;
import javax.swing.JTextField;
import java.awt.Container;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.*;
interface Admin{
    //ADMIN performs all these functions
    void Display ();
    void add();
    void update();
    void delete();
    void Transac();
    void backToMenu();
}
interface User{
    void purchase();
}
class LoginFrame extends JFrame implements ActionListener {

```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*MainMenu.java

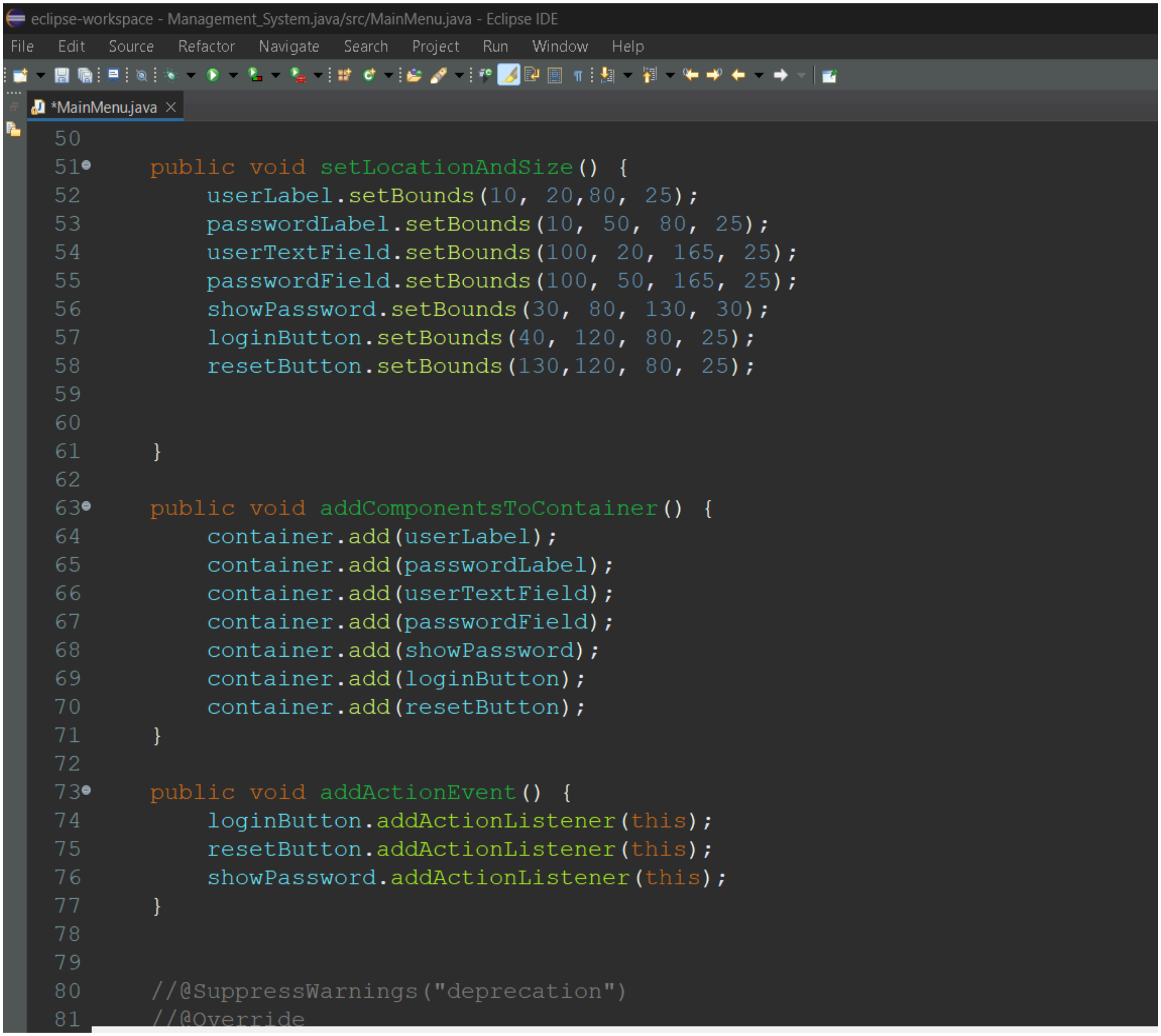
```java
}
class LoginFrame extends JFrame implements ActionListener {
    //This class for the GUI login page
    Container container = getContentPane();
    JLabel userLabel = new JLabel("USERNAME");
    JLabel passwordLabel = new JLabel("PASSWORD");
    JTextField userTextField = new JTextField();
    JPasswordField passwordField = new JPasswordField();
    JButton loginButton = new JButton("LOGIN");
    JButton resetButton = new JButton("RESET");
    JCheckBox showPassword = new JCheckBox("Show Password");


   public LoginFrame() {
        setLayoutManager();
        setLocationAndSize();
        addComponentsToContainer();
        addActionEvent();

    }

    public void setLayoutManager() {
        container.setLayout(null);
    }

    public void setLocationAndSize() {
        userLabel.setBounds(10, 20,80, 25);
        passwordLabel.setBounds(10, 50, 80, 25);
        userTextField.setBounds(100, 20, 165, 25);
        passwordField.setBounds(100, 50, 165, 25);
        showPassword.setBounds(30, 80, 130, 30);
        loginButton.setBounds(40, 120, 80, 25);
        resetButton.setBounds(120, 120, 80, 25);
```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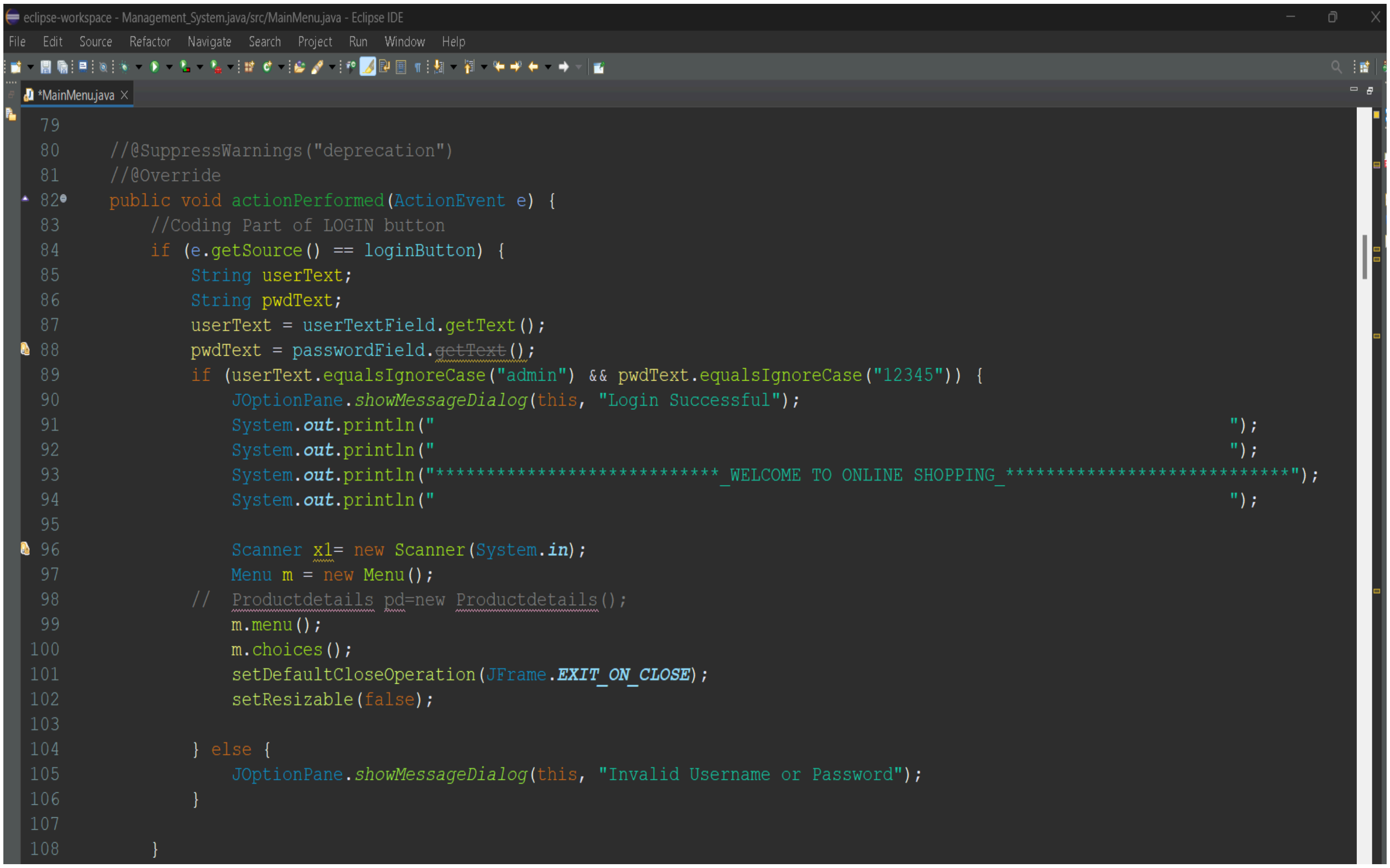
```

    public void setLocationAndSize() {
        userLabel.setBounds(10, 20,80, 25);
        passwordLabel.setBounds(10, 50, 80, 25);
        userTextField.setBounds(100, 20, 165, 25);
        passwordField.setBounds(100, 50, 165, 25);
        showPassword.setBounds(30, 80, 130, 30);
        loginButton.setBounds(40, 120, 80, 25);
        resetButton.setBounds(130,120, 80, 25);


    }

    public void addComponentsToContainer() {
        container.add(userLabel);
        container.add(passwordLabel);
        container.add(userTextField);
        container.add(passwordField);
        container.add(showPassword);
        container.add(loginButton);
        container.add(resetButton);
    }

    public void addActionEvent() {
        loginButton.addActionListener(this);
        resetButton.addActionListener(this);
        showPassword.addActionListener(this);
    }


    //@SuppressWarnings("deprecation")
    //@Override
```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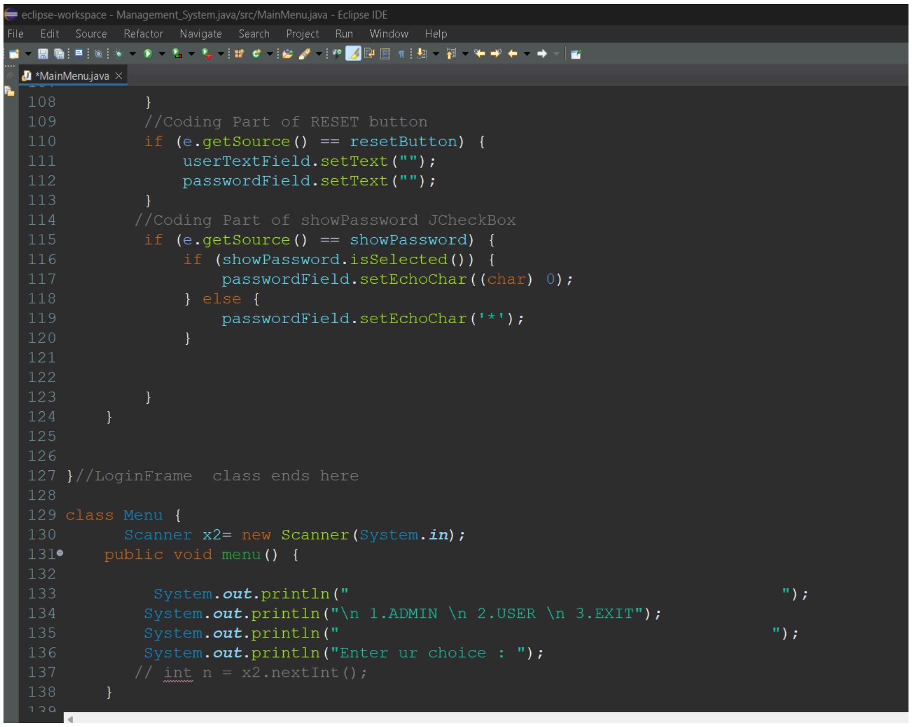
```java

    //@SuppressWarnings("deprecation")
    //@Override
    public void actionPerformed(ActionEvent e) {
        //Coding Part of LOGIN button
        if (e.getSource() == loginButton) {
            String userText;
            String pwdText;
            userText = userTextField.getText();
            pwdText = passwordField.~~getText~~();
            if (userText.equalsIgnoreCase("admin") && pwdText.equalsIgnoreCase("12345")) {
                JOptionPane.showMessageDialog(this, "Login Successful");
                System.out.println("                                                                              ");
                System.out.println("                                                                              ");
                System.out.println("****************************_WELCOME TO ONLINE SHOPPING_****************************");
                System.out.println("                                                                              ");

                Scanner x1= new Scanner(System.in);
                Menu m = new Menu();
            //  Productdetails pd=new Productdetails();
                m.menu();
                m.choices();
                setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                setResizable(false);

            } else {
                JOptionPane.showMessageDialog(this, "Invalid Username or Password");
            }

        }
```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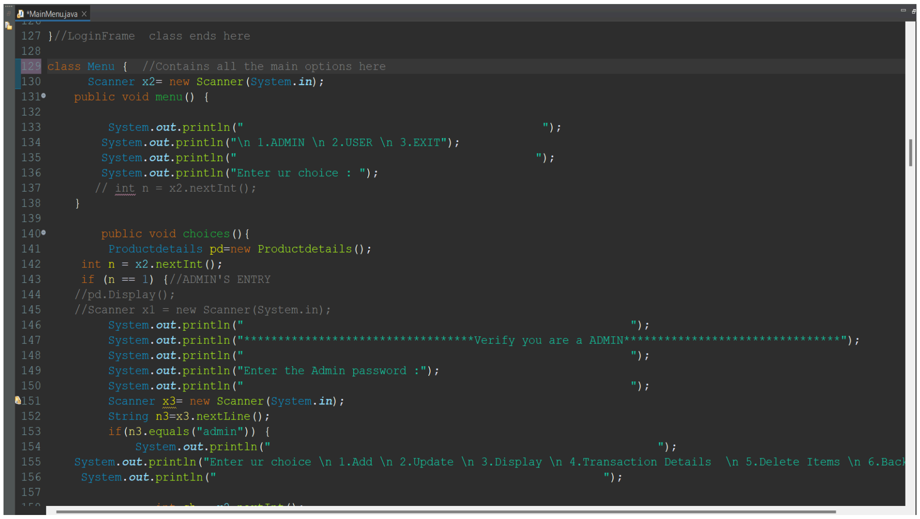
```java
        }
        //Coding Part of RESET button
        if (e.getSource() == resetButton) {
            userTextField.setText("");
            passwordField.setText("");
        }
       //Coding Part of showPassword JCheckBox
        if (e.getSource() == showPassword) {
            if (showPassword.isSelected()) {
                passwordField.setEchoChar((char) 0);
            } else {
                passwordField.setEchoChar('*');
            }


        }
    }


}//LoginFrame  class ends here

class Menu {
      Scanner x2= new Scanner(System.in);
    public void menu() {

         System.out.println("                                            ");
        System.out.println("\n 1.ADMIN \n 2.USER \n 3.EXIT");
        System.out.println("                                            ");
        System.out.println("Enter ur choice : ");
       // int n = x2.nextInt();
    }
```



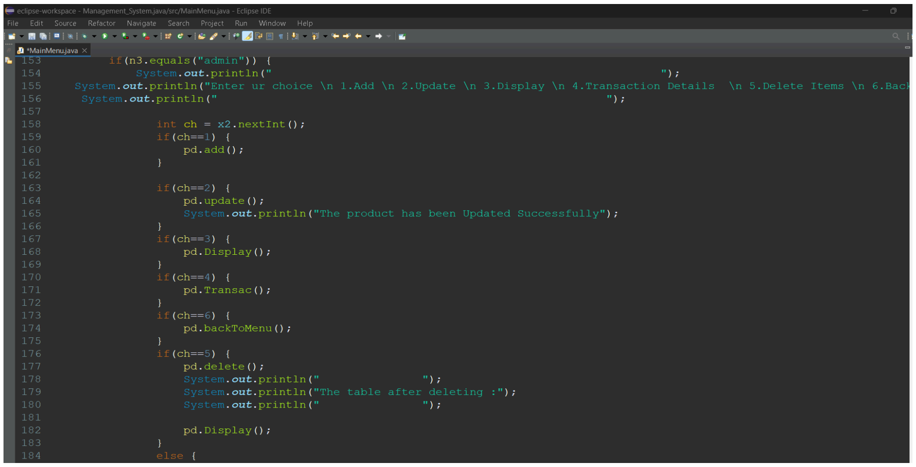
```java
}//LoginFrame  class ends here

class Menu {  //Contains all the main options here
      Scanner x2= new Scanner(System.in);
    public void menu() {

         System.out.println("                                            ");
        System.out.println("\n 1.ADMIN \n 2.USER \n 3.EXIT");
        System.out.println("                                            ");
        System.out.println("Enter ur choice : ");
       // int n = x2.nextInt();
    }

        public void choices(){
         Productdetails pd=new Productdetails();
     int n = x2.nextInt();
     if (n == 1) {//ADMIN'S ENTRY
    //pd.Display();
    //Scanner x1 = new Scanner(System.in);
         System.out.println("                                                  ");
         System.out.println("**********************************Verify you are a ADMIN*********************************");
         System.out.println("                                                  ");
         System.out.println("Enter the Admin password :");
         System.out.println("                                                  ");
         Scanner x3= new Scanner(System.in);
         String n3=x3.nextLine();
         if(n3.equals("admin")) {
             System.out.println("                                                  ");
    System.out.println("Enter ur choice \n 1.Add \n 2.Update \n 3.Display \n 4.Transaction Details  \n 5.Delete Items \n 6.Back
     System.out.println("                                                  ");

```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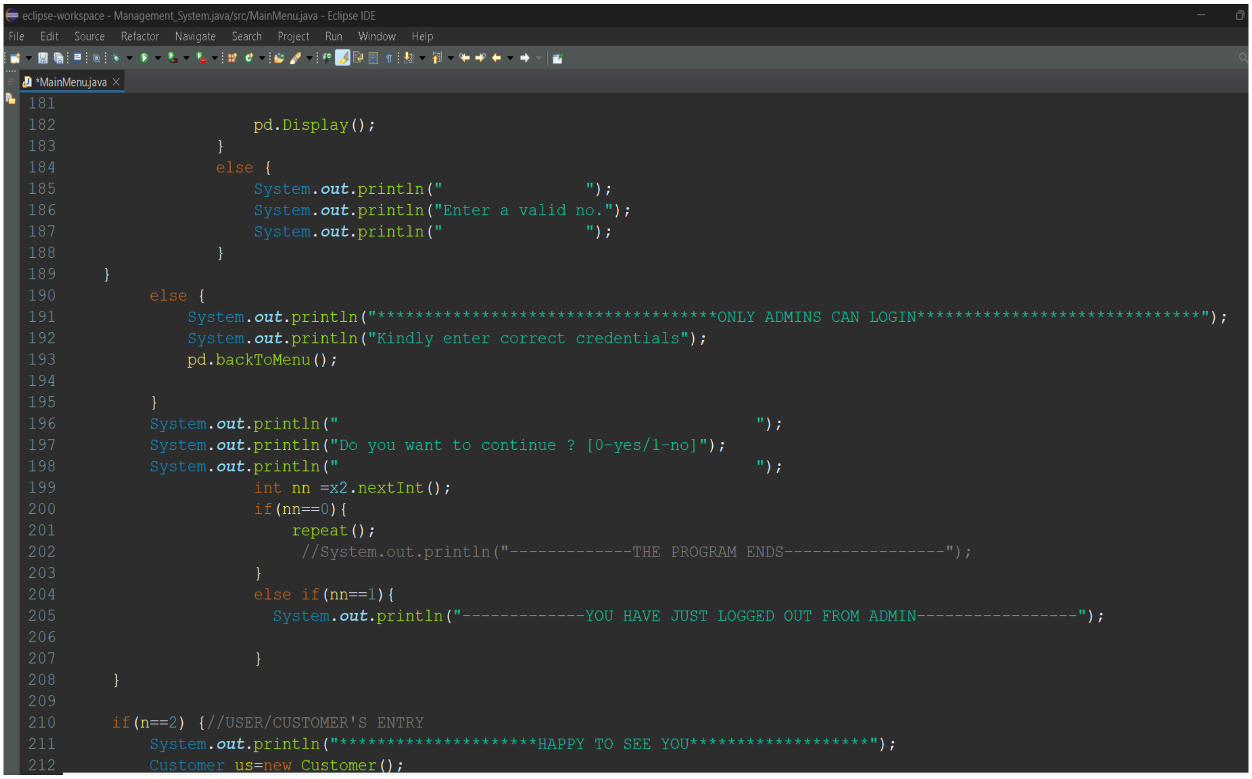
```java
         if(n3.equals("admin")) {
             System.out.println("                                                  ");
    System.out.println("Enter ur choice \n 1.Add \n 2.Update \n 3.Display \n 4.Transaction Details  \n 5.Delete Items \n 6.Back
     System.out.println("                                                  ");

                int ch = x2.nextInt();
                if(ch==1) {
                    pd.add();
                }

                if(ch==2) {
                    pd.update();
                    System.out.println("The product has been Updated Successfully");
                }
                if(ch==3) {
                    pd.Display();
                }
                if(ch==4) {
                    pd.Transac();
                }
                if(ch==6) {
                    pd.backToMenu();
                }
                if(ch==5) {
                    pd.delete();
                    System.out.println("               ");
                    System.out.println("The table after deleting :");
                    System.out.println("               ");

                    pd.Display();
                }
                else {
```



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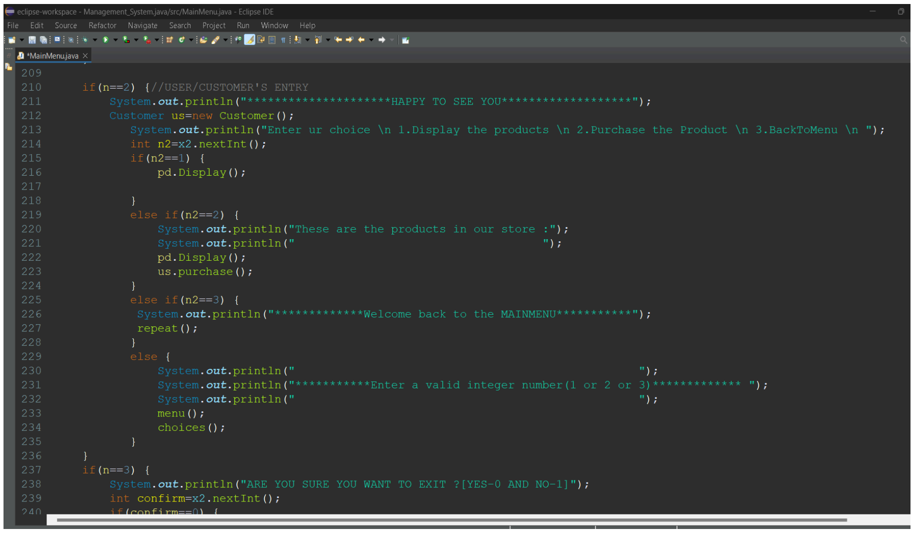
```
                    pd.Display();
                }
                else {
                    System.out.println("               ");
                    System.out.println("Enter a valid no.");
                    System.out.println("               ");
                }
    }
         else {
             System.out.println("*************************************ONLY ADMINS CAN LOGIN********************************");
             System.out.println("Kindly enter correct credentials");
             pd.backToMenu();

         }
         System.out.println("                                            ");
         System.out.println("Do you want to continue ? [0-yes/1-no]");
         System.out.println("                                            ");
                    int nn =x2.nextInt();
                    if(nn==0){
                        repeat();
                         //System.out.println("-------------THE PROGRAM ENDS-----------------");
                    }
                    else if(nn==1){
                      System.out.println("-------------YOU HAVE JUST LOGGED OUT FROM ADMIN-----------------");

                    }
     }

     if(n==2) {//USER/CUSTOMER'S ENTRY
         System.out.println("*********************HAPPY TO SEE YOU*******************");
         Customer us=new Customer();
```



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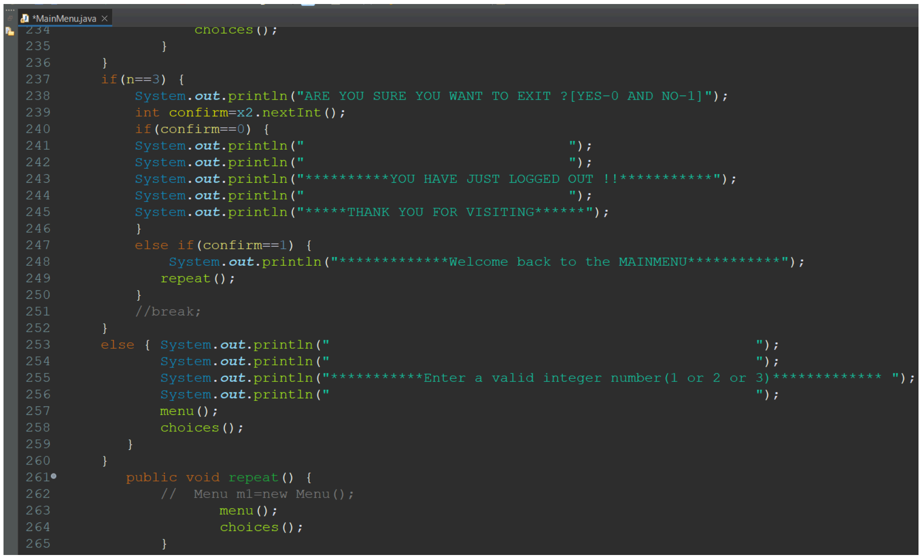
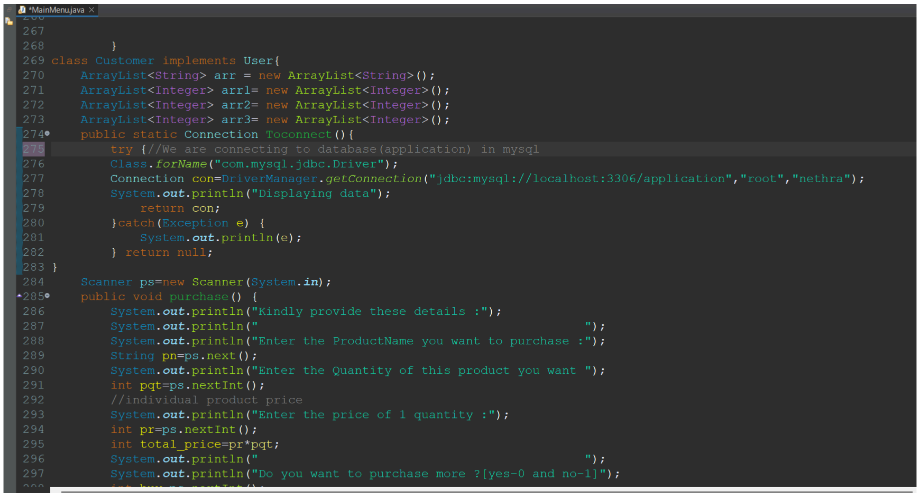
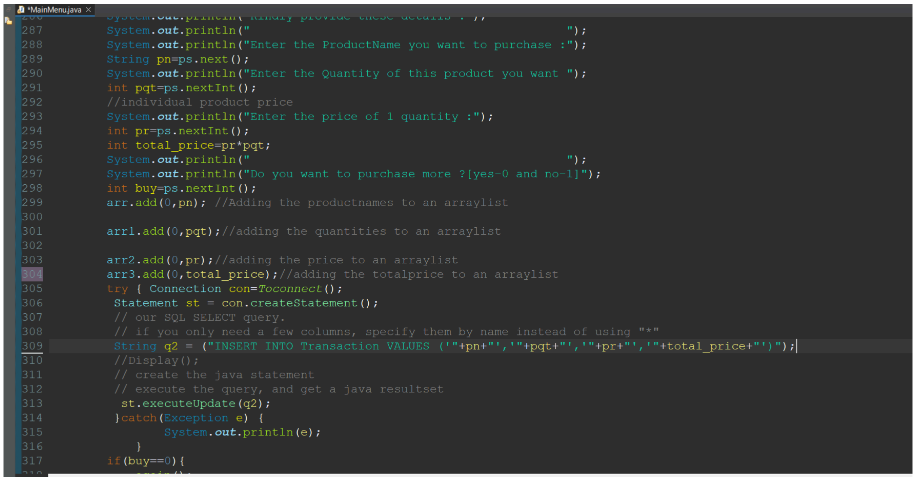
```
     if(n==2) {//USER/CUSTOMER'S ENTRY
         System.out.println("*********************HAPPY TO SEE YOU*******************");
         Customer us=new Customer();
            System.out.println("Enter ur choice \n 1.Display the products \n 2.Purchase the Product \n 3.BackToMenu \n ");
            int n2=x2.nextInt();
            if(n2==1) {
                pd.Display();

            }
            else if(n2==2) {
                System.out.println("These are the products in our store :");
                System.out.println("                                    ");
                pd.Display();
                us.purchase();
            }
            else if(n2==3) {
             System.out.println("*************Welcome back to the MAINMENU***********");
             repeat();
            }
            else {
                System.out.println("                                                  ");
                System.out.println("***********Enter a valid integer number(1 or 2 or 3)************* ");
                System.out.println("                                                  ");
                menu();
                choices();
            }
     }
     if(n==3) {
         System.out.println("ARE YOU SURE YOU WANT TO EXIT ?[YES-0 AND NO-1]");
         int confirm=x2.nextInt();
         if(confirm==0) {
```



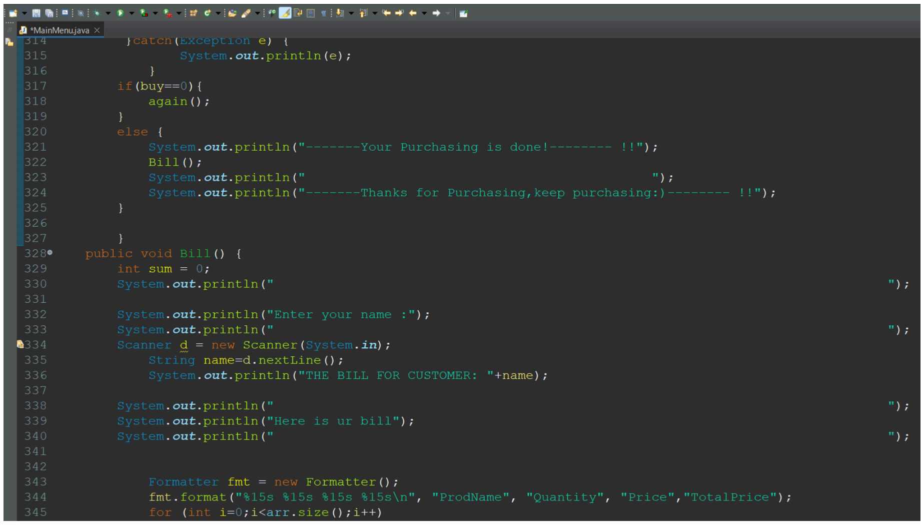
```
               choices();
           }
    }
    if(n==3) {
        System.out.println("ARE YOU SURE YOU WANT TO EXIT ?[YES-0 AND NO-1]");
        int confirm=x2.nextInt();
        if(confirm==0) {
        System.out.println("                               ");
        System.out.println("                               ");
        System.out.println("**********YOU HAVE JUST LOGGED OUT !!***********");
        System.out.println("                               ");
        System.out.println("*****THANK YOU FOR VISITING******");
        }
        else if(confirm==1) {
            System.out.println("*************Welcome back to the MAINMENU***********");
           repeat();
        }
        //break;
    }
    else { System.out.println("                                                   ");
           System.out.println("                                                   ");
           System.out.println("***********Enter a valid integer number(1 or 2 or 3)************* ");
           System.out.println("                                                   ");
           menu();
           choices();
       }
    }
       public void repeat() {
           //  Menu m1=new Menu();
                  menu();
                  choices();
           }
```



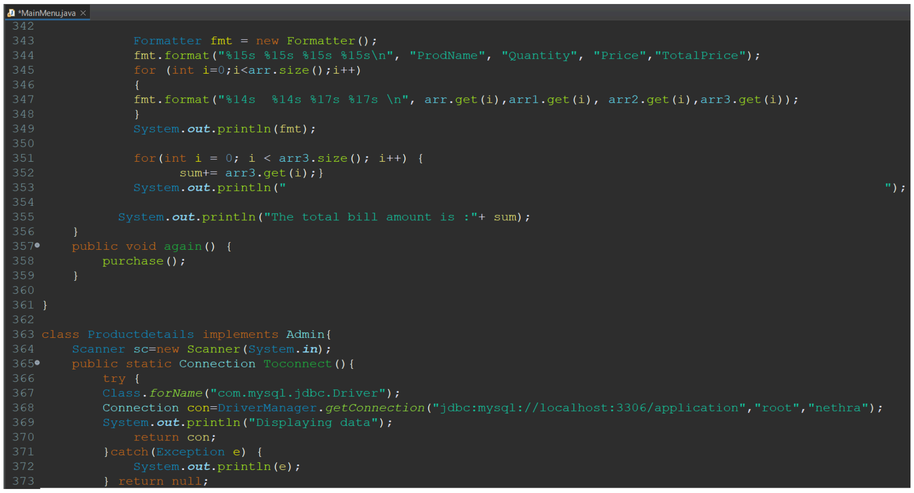
```

        }
class Customer implements User{
    ArrayList<String> arr = new ArrayList<String>();
    ArrayList<Integer> arr1= new ArrayList<Integer>();
    ArrayList<Integer> arr2= new ArrayList<Integer>();
    ArrayList<Integer> arr3= new ArrayList<Integer>();
    public static Connection Toconnect(){
        try {//We are connecting to database(application) in mysql
        Class.forName("com.mysql.jdbc.Driver");
        Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/application","root","nethra");
        System.out.println("Displaying data");
            return con;
        }catch(Exception e) {
            System.out.println(e);
        } return null;
}
    Scanner ps=new Scanner(System.in);
    public void purchase() {
        System.out.println("Kindly provide these details :");
        System.out.println("                                            ");
        System.out.println("Enter the ProductName you want to purchase :");
        String pn=ps.next();
        System.out.println("Enter the Quantity of this product you want ");
        int pqt=ps.nextInt();
        //individual product price
        System.out.println("Enter the price of 1 quantity :");
        int pr=ps.nextInt();
        int total_price=pr*pqt;
        System.out.println("                                            ");
        System.out.println("Do you want to purchase more ?[yes-0 and no-1]");
```



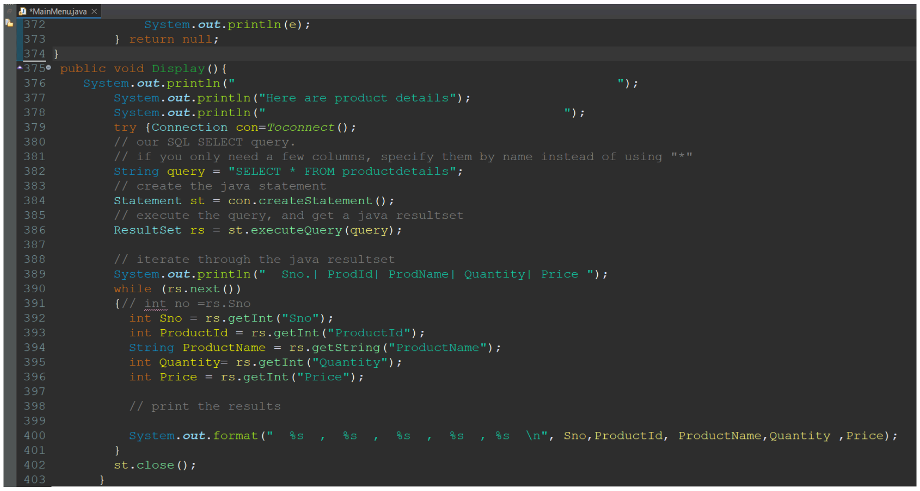
```
        System.out.println("Kindly provide these details :");
        System.out.println("                                             ");
        System.out.println("Enter the ProductName you want to purchase :");
        String pn=ps.next();
        System.out.println("Enter the Quantity of this product you want ");
        int pqt=ps.nextInt();
        //individual product price
        System.out.println("Enter the price of 1 quantity :");
        int pr=ps.nextInt();
        int total_price=pr*pqt;
        System.out.println("                                             ");
        System.out.println("Do you want to purchase more ?[yes-0 and no-1]");
        int buy=ps.nextInt();
        arr.add(0,pn); //Adding the productnames to an arraylist

        arr1.add(0,pqt);//adding the quantities to an arraylist

        arr2.add(0,pr);//adding the price to an arraylist
        arr3.add(0,total_price);//adding the totalprice to an arraylist
        try { Connection con=Toconnect();
         Statement st = con.createStatement();
         // our SQL SELECT query.
         // if you only need a few columns, specify them by name instead of using "*"
         String q2 = ("INSERT INTO Transaction VALUES ('"+pn+"','"+pqt+"','"+pr+"','"+total_price+"')");
         //Display();
         // create the java statement
         // execute the query, and get a java resultset
          st.executeUpdate(q2);
         }catch(Exception e) {
                System.out.println(e);
            }
        if(buy==0){
```



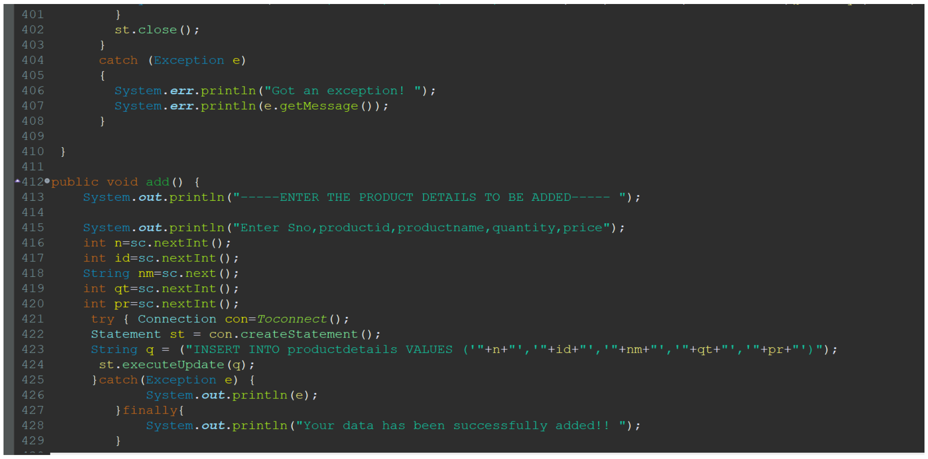
```
         }catch(Exception e) {
                System.out.println(e);
            }
        if(buy==0){
            again();
        }
        else {
            System.out.println("-------Your Purchasing is done!-------- !!");
            Bill();
            System.out.println("                                             ");
            System.out.println("-------Thanks for Purchasing,keep purchasing:)-------- !!");
        }

        }
    public void Bill() {
        int sum = 0;
        System.out.println("                                                                              ");

        System.out.println("Enter your name :");
        System.out.println("                                                                              ");
        Scanner d = new Scanner(System.in);
            String name=d.nextLine();
            System.out.println("THE BILL FOR CUSTOMER: "+name);

        System.out.println("                                                                              ");
        System.out.println("Here is ur bill");
        System.out.println("                                                                              ");


            Formatter fmt = new Formatter();
            fmt.format("%15s %15s %15s %15s\n", "ProdName", "Quantity", "Price","TotalPrice");
            for (int i=0;i<arr.size();i++)
```



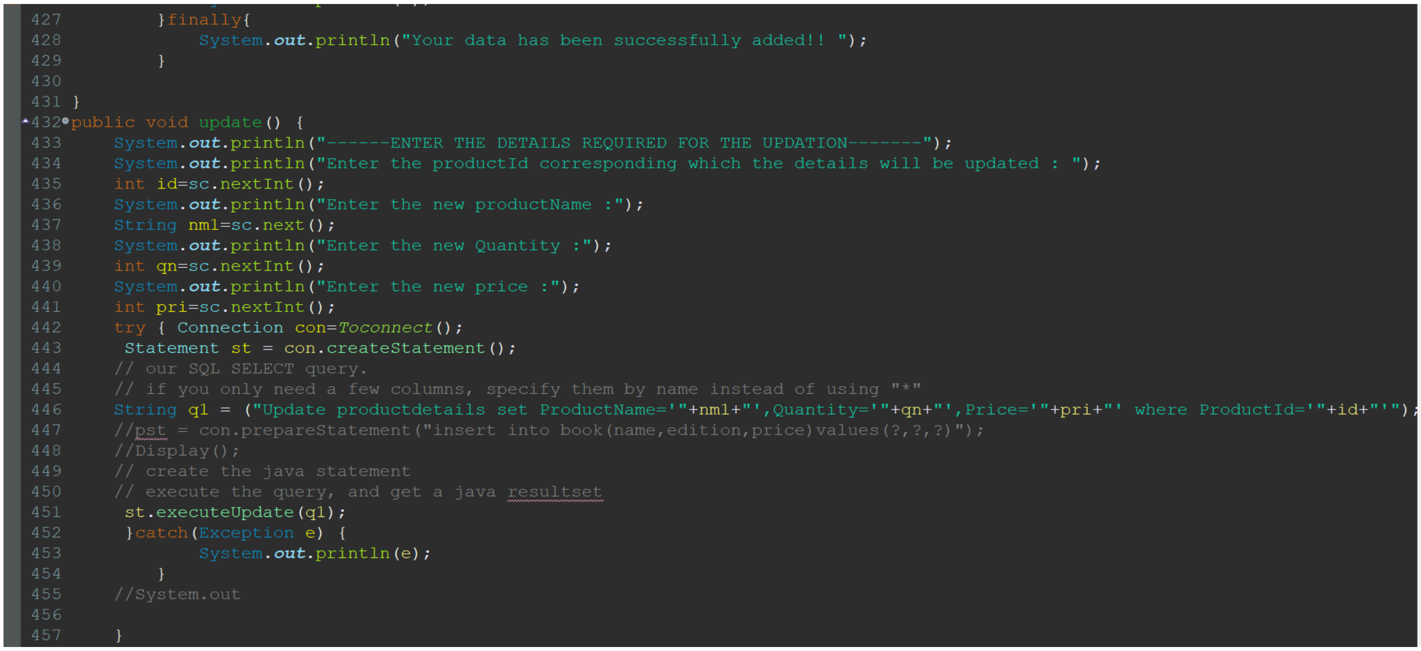
```java

            Formatter fmt = new Formatter();
            fmt.format("%15s %15s %15s %15s\n", "ProdName", "Quantity", "Price","TotalPrice");
            for (int i=0;i<arr.size();i++)
            {
            fmt.format("%14s  %14s %17s %17s \n", arr.get(i),arr1.get(i), arr2.get(i),arr3.get(i));
            }
            System.out.println(fmt);

            for(int i = 0; i < arr3.size(); i++) {
                  sum+= arr3.get(i);}
            System.out.println("                                                                                ");

          System.out.println("The total bill amount is :"+ sum);
    }
    public void again() {
        purchase();
    }

}

class Productdetails implements Admin{
    Scanner sc=new Scanner(System.in);
    public static Connection Toconnect(){
        try {
        Class.forName("com.mysql.jdbc.Driver");
        Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/application","root","nethra");
        System.out.println("Displaying data");
            return con;
        }catch(Exception e) {
            System.out.println(e);
        } return null;
```



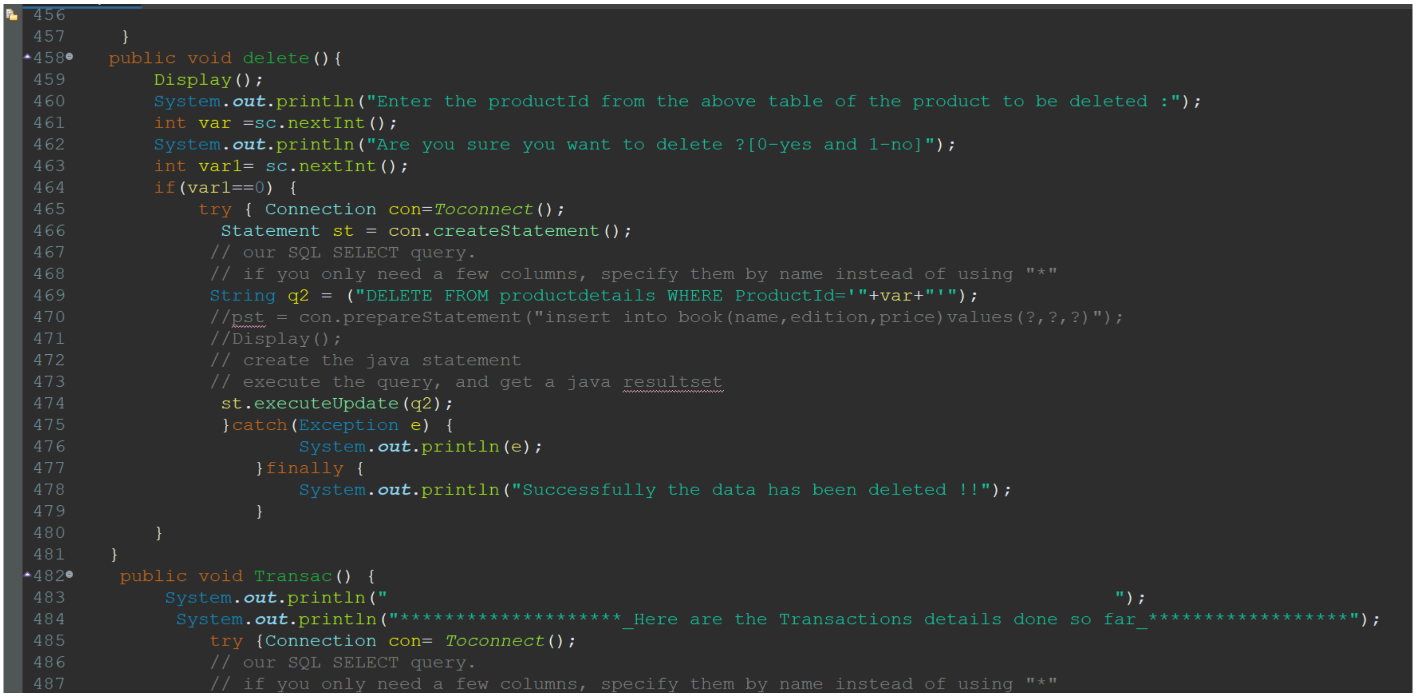
```java
            System.out.println(e);
        } return null;
}
public void Display(){
    System.out.println("                                                   ");
        System.out.println("Here are product details");
        System.out.println("                                          ");
        try {Connection con=Toconnect();
        // our SQL SELECT query.
        // if you only need a few columns, specify them by name instead of using "*"
        String query = "SELECT * FROM productdetails";
        // create the java statement
        Statement st = con.createStatement();
        // execute the query, and get a java resultset
        ResultSet rs = st.executeQuery(query);

        // iterate through the java resultset
        System.out.println("  Sno.| ProdId| ProdName| Quantity| Price ");
        while (rs.next())
        {// int no =rs.Sno
          int Sno = rs.getInt("Sno");
          int ProductId = rs.getInt("ProductId");
          String ProductName = rs.getString("ProductName");
          int Quantity= rs.getInt("Quantity");
          int Price = rs.getInt("Price");

          // print the results

          System.out.format("  %s  ,  %s  ,  %s  ,  %s  , %s  \n", Sno,ProductId, ProductName,Quantity ,Price);
        }
        st.close();
      }
```



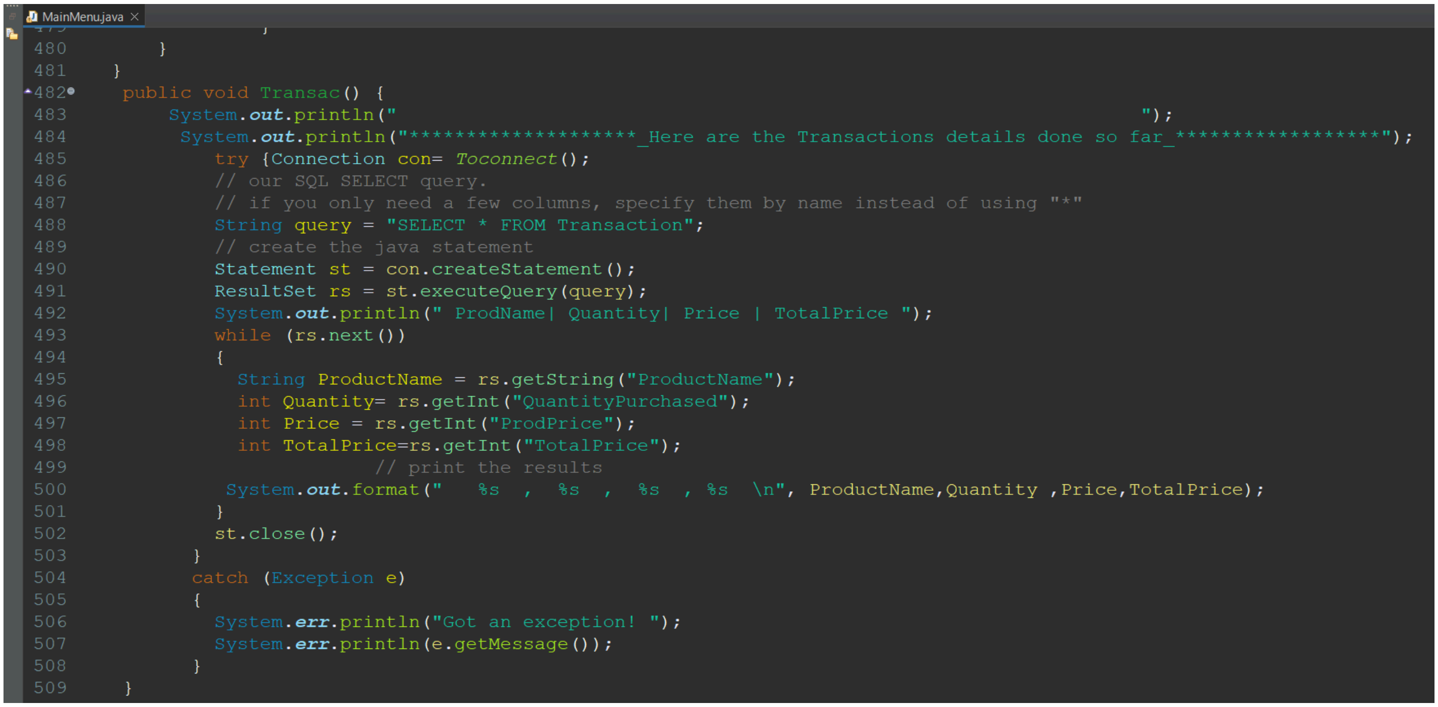
```java
        }
        st.close();
      }
      catch (Exception e)
      {
        System.err.println("Got an exception! ");
        System.err.println(e.getMessage());
      }

 }

public void add() {
    System.out.println("-----ENTER THE PRODUCT DETAILS TO BE ADDED----- ");

    System.out.println("Enter Sno,productid,productname,quantity,price");
    int n=sc.nextInt();
    int id=sc.nextInt();
    String nm=sc.next();
    int qt=sc.nextInt();
    int pr=sc.nextInt();
     try { Connection con=Toconnect();
     Statement st = con.createStatement();
     String q = ("INSERT INTO productdetails VALUES ('"+n+"','"+id+"','"+nm+"','"+qt+"','"+pr+"')");
      st.executeUpdate(q);
     }catch(Exception e) {
            System.out.println(e);
        }finally{
            System.out.println("Your data has been successfully added!! ");
        }
```



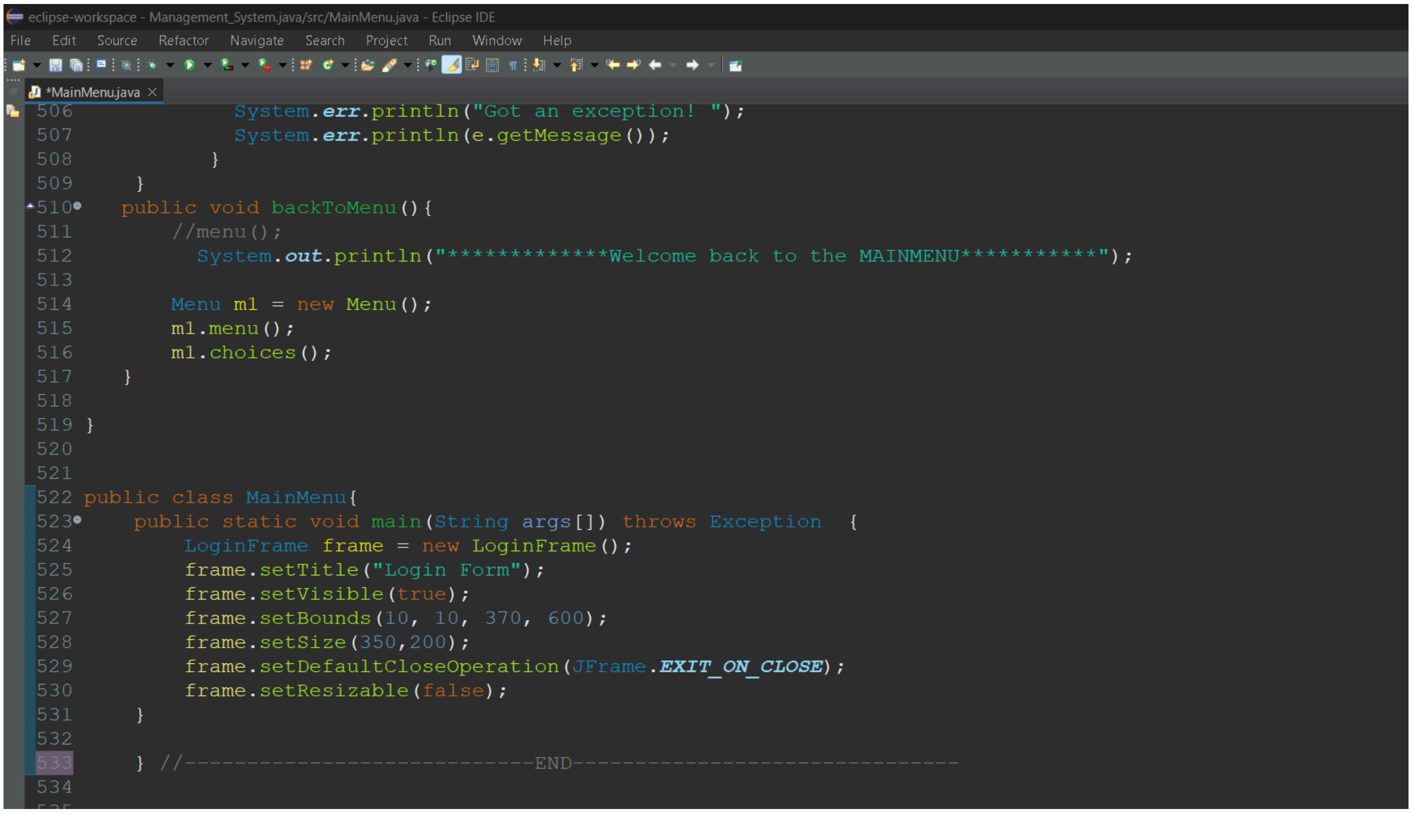
```java
        }finally{
            System.out.println("Your data has been successfully added!! ");
        }

}
public void update() {
    System.out.println("------ENTER THE DETAILS REQUIRED FOR THE UPDATION-------");
    System.out.println("Enter the productId corresponding which the details will be updated : ");
    int id=sc.nextInt();
    System.out.println("Enter the new productName :");
    String nml=sc.next();
    System.out.println("Enter the new Quantity :");
    int qn=sc.nextInt();
    System.out.println("Enter the new price :");
    int pri=sc.nextInt();
    try { Connection con=Toconnect();
     Statement st = con.createStatement();
    // our SQL SELECT query.
    // if you only need a few columns, specify them by name instead of using "*"
    String q1 = ("Update productdetails set ProductName='"+nml+"',Quantity='"+qn+"',Price='"+pri+"' where ProductId='"+id+"'");
    //pst = con.prepareStatement("insert into book(name,edition,price)values(?,?,?)");
    //Display();
    // create the java statement
    // execute the query, and get a java resultset
     st.executeUpdate(q1);
     }catch(Exception e) {
            System.out.println(e);
        }
    //System.out

    }
```



```java

    }
    public void delete(){
        Display();
        System.out.println("Enter the productId from the above table of the product to be deleted :");
        int var =sc.nextInt();
        System.out.println("Are you sure you want to delete ?[0-yes and 1-no]");
        int var1= sc.nextInt();
        if(var1==0) {
            try { Connection con=Toconnect();
              Statement st = con.createStatement();
             // our SQL SELECT query.
             // if you only need a few columns, specify them by name instead of using "*"
             String q2 = ("DELETE FROM productdetails WHERE ProductId='"+var+"'");
             //pst = con.prepareStatement("insert into book(name,edition,price)values(?,?,?)");
             //Display();
             // create the java statement
             // execute the query, and get a java resultset
              st.executeUpdate(q2);
              }catch(Exception e) {
                      System.out.println(e);
                 }finally {
                      System.out.println("Successfully the data has been deleted !!");
                 }
        }
    }
     public void Transac() {
         System.out.println("                                                                  ");
          System.out.println("********************_Here are the Transactions details done so far_******************");
             try {Connection con= Toconnect();
             // our SQL SELECT query.
             // if you only need a few columns, specify them by name instead of using "*"
```



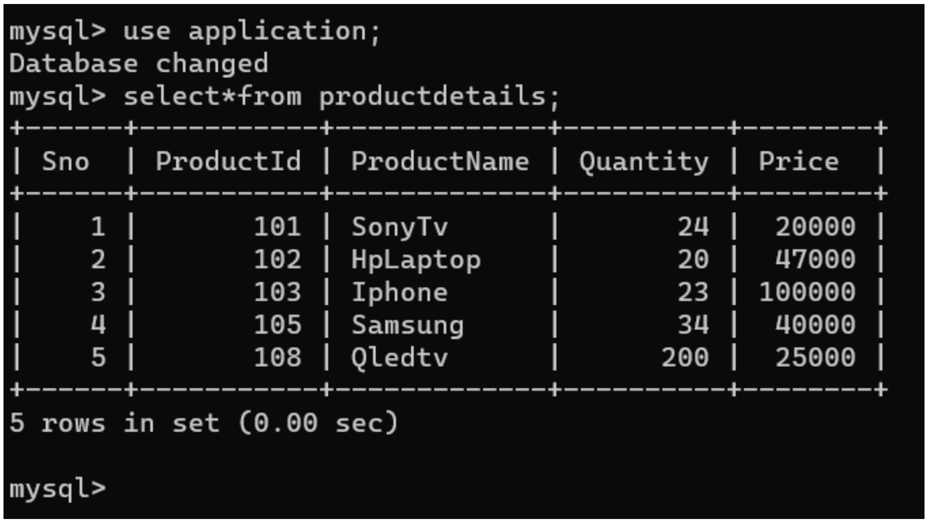
```
        }
    }
     public void Transac() {
         System.out.println("                                                          ");
          System.out.println("*******************_Here are the Transactions details done so far_*****************");
             try {Connection con= Toconnect();
             // our SQL SELECT query.
             // if you only need a few columns, specify them by name instead of using "*"
             String query = "SELECT * FROM Transaction";
             // create the java statement
             Statement st = con.createStatement();
             ResultSet rs = st.executeQuery(query);
             System.out.println(" ProdName| Quantity| Price | TotalPrice ");
             while (rs.next())
             {
               String ProductName = rs.getString("ProductName");
               int Quantity= rs.getInt("QuantityPurchased");
               int Price = rs.getInt("ProdPrice");
               int TotalPrice=rs.getInt("TotalPrice");
                           // print the results
              System.out.format("   %s  ,  %s  ,  %s  , %s  \n", ProductName,Quantity ,Price,TotalPrice);
             }
             st.close();
           }
           catch (Exception e)
           {
             System.err.println("Got an exception! ");
             System.err.println(e.getMessage());
           }
     }
```


eclipse-workspace - Management_System.java/src/MainMenu.java - Eclipse IDE
File
Edit
Source
Refactor
Navigate
Search
Project
Run
Window
Help
*MainMenu.java

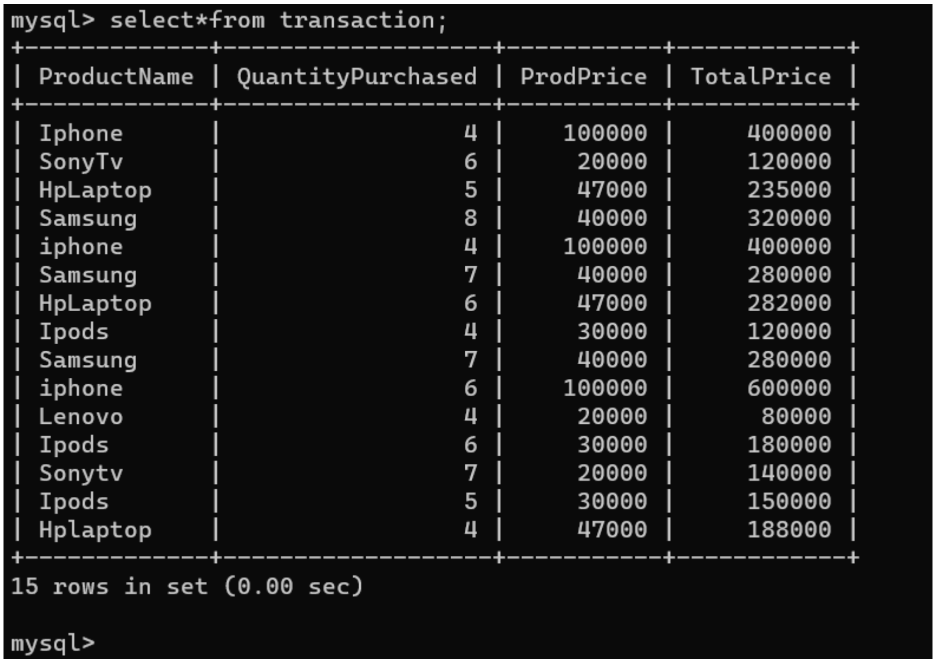
```
             System.err.println("Got an exception! ");
             System.err.println(e.getMessage());
           }
     }
     public void backToMenu(){
         //menu();
           System.out.println("*************Welcome back to the MAINMENU***********");

         Menu m1 = new Menu();
         m1.menu();
         m1.choices();
     }

 }


public class MainMenu{
    public static void main(String args[]) throws Exception  {
        LoginFrame frame = new LoginFrame();
        frame.setTitle("Login Form");
        frame.setVisible(true);
        frame.setBounds(10, 10, 370, 600);
        frame.setSize(350,200);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setResizable(false);
    }

    } //----------------------------END------------------------------
```

Output

MY SQL TABLES

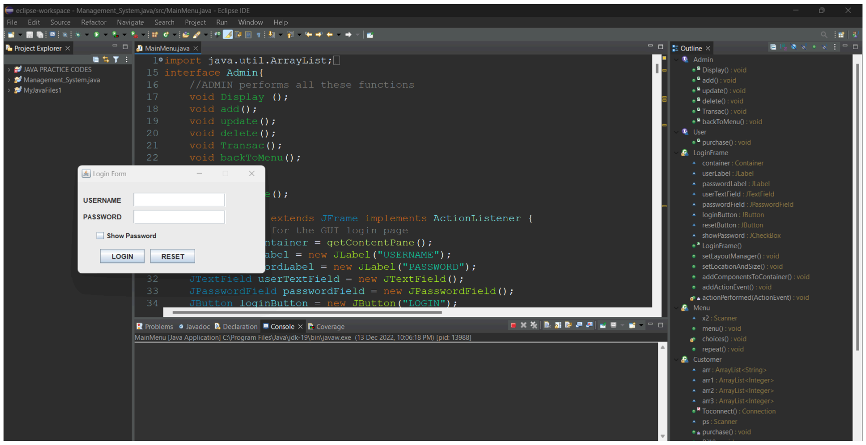


```
mysql> use application;
Database changed
mysql> select*from productdetails;
+------+-----------+-------------+----------+--------+
| Sno  | ProductId | ProductName | Quantity | Price  |
+------+-----------+-------------+----------+--------+
|    1 |       101 | SonyTv      |       24 |  20000 |
|    2 |       102 | HpLaptop    |       20 |  47000 |
|    3 |       103 | Iphone      |       23 | 100000 |
|    4 |       105 | Samsung     |       34 |  40000 |
|    5 |       108 | Qledtv      |      200 |  25000 |
+------+-----------+-------------+----------+--------+
5 rows in set (0.00 sec)

mysql>
```



```
mysql> select*from transaction;
+-------------+-------------------+-----------+------------+
| ProductName | QuantityPurchased | ProdPrice | TotalPrice |
+-------------+-------------------+-----------+------------+
| Iphone      |                 4 |    100000 |     400000 |
| SonyTv      |                 6 |     20000 |     120000 |
| HpLaptop    |                 5 |     47000 |     235000 |
| Samsung     |                 8 |     40000 |     320000 |
| iphone      |                 4 |    100000 |     400000 |
| Samsung     |                 7 |     40000 |     280000 |
| HpLaptop    |                 6 |     47000 |     282000 |
| Ipods       |                 4 |     30000 |     120000 |
| Samsung     |                 7 |     40000 |     280000 |
| iphone      |                 6 |    100000 |     600000 |
| Lenovo      |                 4 |     20000 |      80000 |
| Ipods       |                 6 |     30000 |     180000 |
| Sonytv      |                 7 |     20000 |     140000 |
| Ipods       |                 5 |     30000 |     150000 |
| Hplaptop    |                 4 |     47000 |     188000 |
+-------------+-------------------+-----------+------------+
15 rows in set (0.00 sec)

mysql>
```

Code Output


eclipse-workspace - Management_System.java/src/MainMenu.java - Eclipse IDE

```
import java.util.ArrayList;
interface Admin{
    //ADMIN performs all these functions
    void Display ();
    void add();
    void update();
    void delete();
    void Transac();
    void backToMenu();

                    e();

              extends JFrame implements ActionListener {
              for the GUI login page
             ntainer = getContentPane();
             abel = new JLabel("USERNAME");
             ordLabel = new JLabel("PASSWORD");
    JTextField userTextField = new JTextField();
    JPasswordField passwordField = new JPasswordField();
    JButton loginButton = new JButton("LOGIN");
```

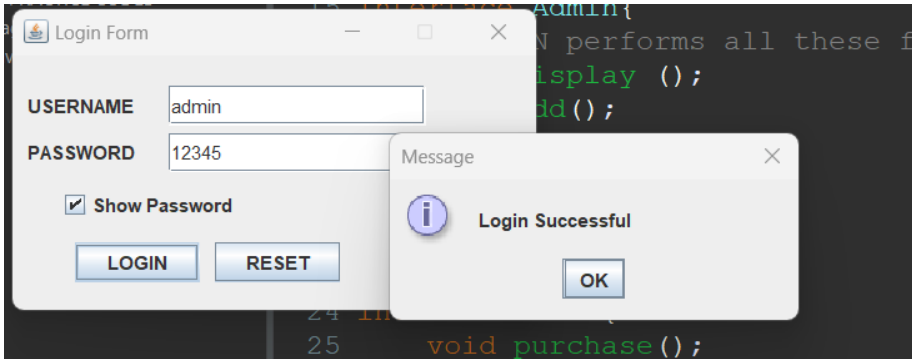
Login Form

USERNAME

PASSWORD

☐ Show Password

```
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (13 Dec 2022, 10:06:18 PM) [pid: 13988]
```


Login Form

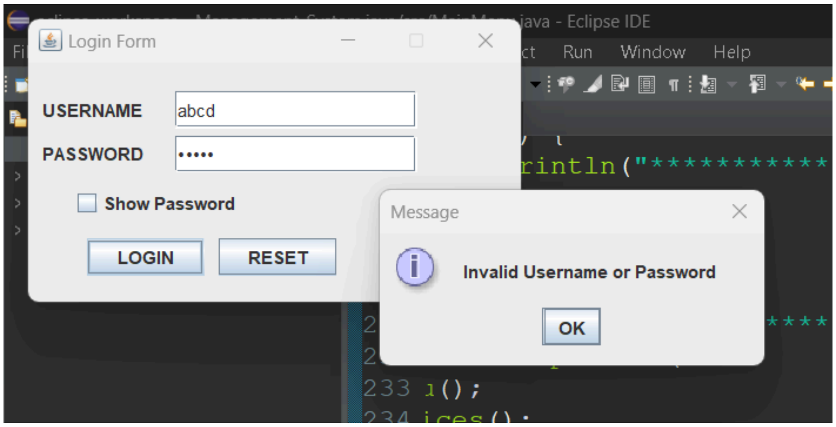
USERNAME admin

PASSWORD 12345

☑ Show Password

Message

Login Successful


Login Form

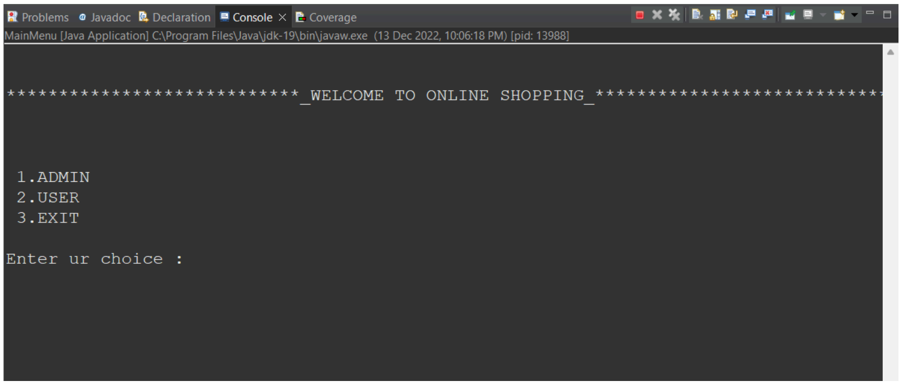
USERNAME abcd

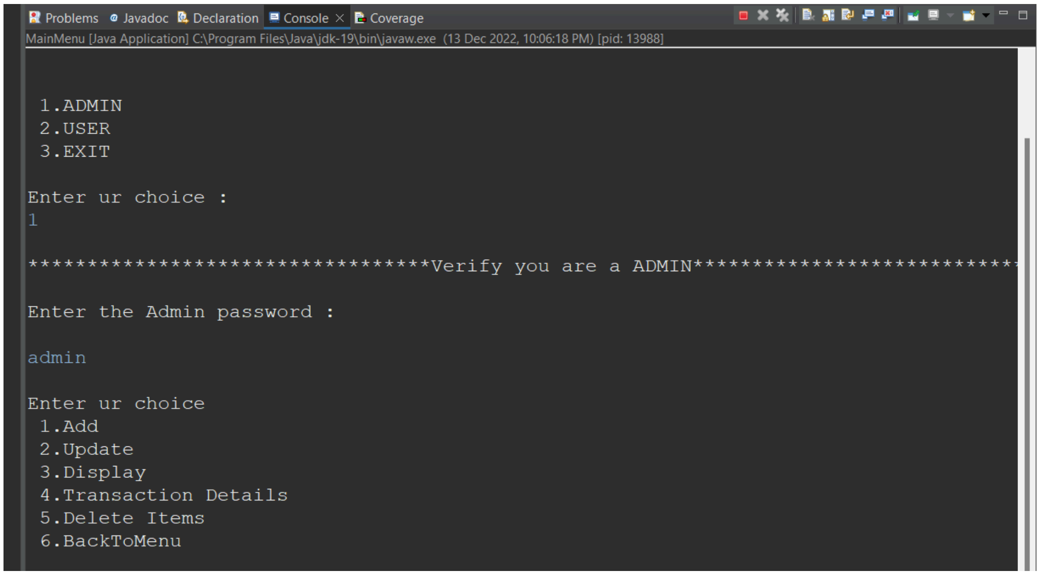
PASSWORD •••••

☐ Show Password

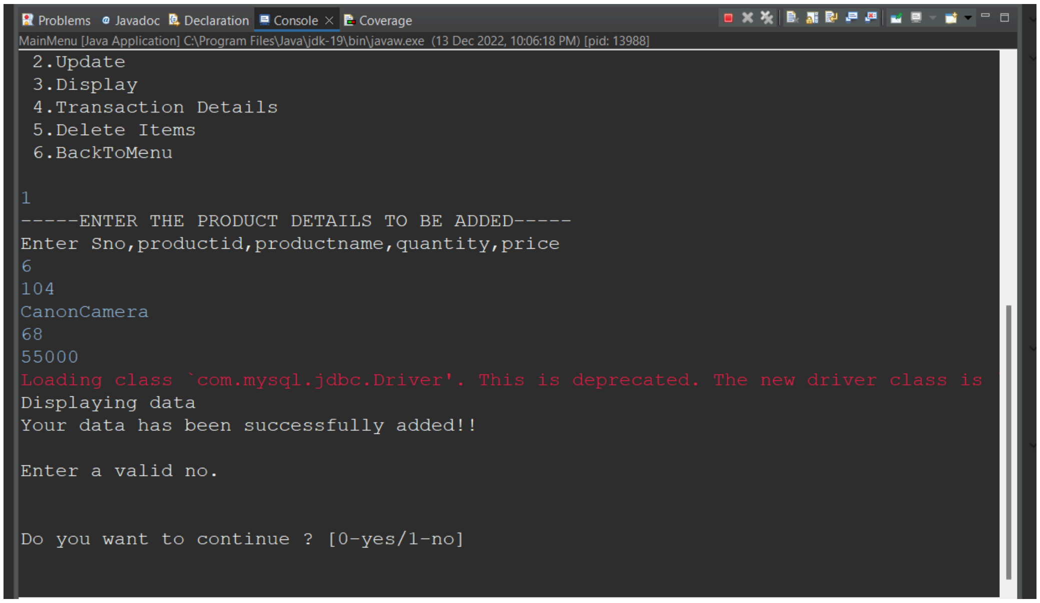
Message

Invalid Username or Password

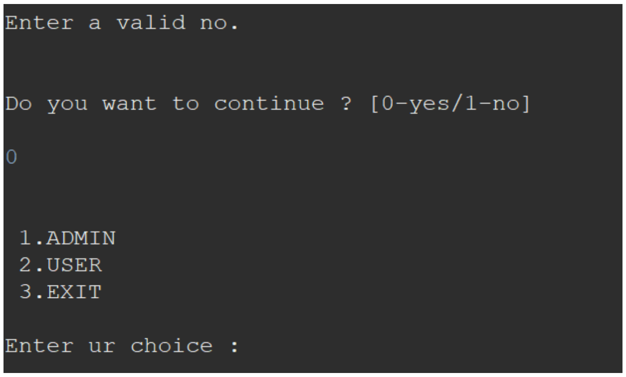

```
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (13 Dec 2022, 10:06:18 PM) [pid: 13988]


****************************_WELCOME TO ONLINE SHOPPING_****************************


 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
```


Problems
Javadoc
Declaration
Console
Coverage
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (13 Dec 2022, 10:06:18 PM) [pid: 13988]

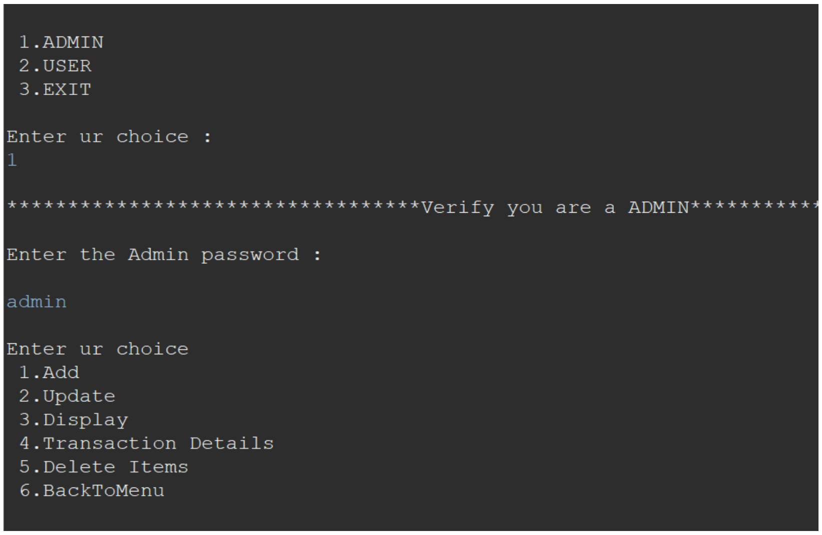
```

 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
1

**********************************Verify you are a ADMIN***************************

Enter the Admin password :

admin

Enter ur choice
 1.Add
 2.Update
 3.Display
 4.Transaction Details
 5.Delete Items
 6.BackToMenu
```


Problems
Javadoc
Declaration
Console
Coverage
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (13 Dec 2022, 10:06:18 PM) [pid: 13988]

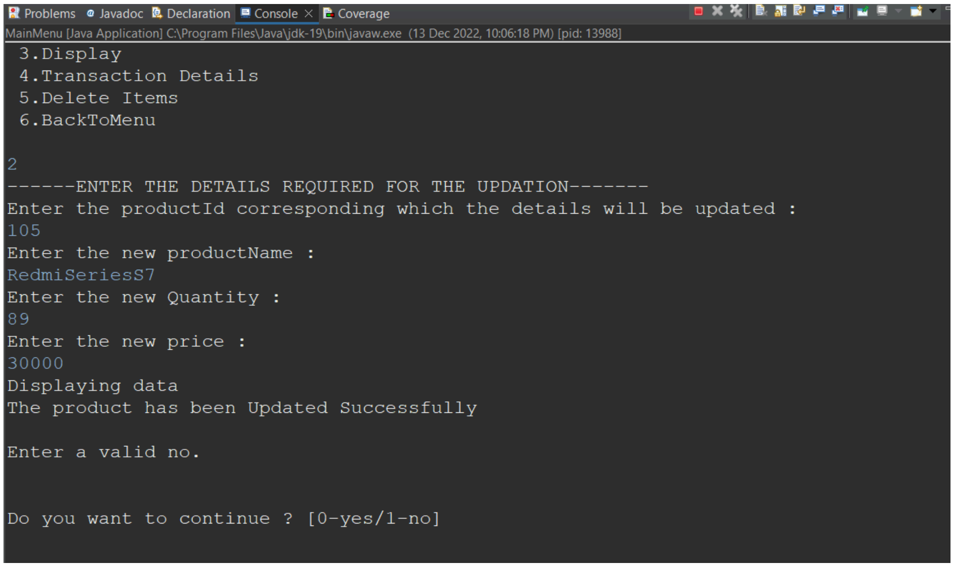
```
 2.Update
 3.Display
 4.Transaction Details
 5.Delete Items
 6.BackToMenu

1
-----ENTER THE PRODUCT DETAILS TO BE ADDED-----
Enter Sno,productid,productname,quantity,price
6
104
CanonCamera
68
55000
Loading class `com.mysql.jdbc.Driver'. This is deprecated. The new driver class is
Displaying data
Your data has been successfully added!!

Enter a valid no.


Do you want to continue ? [0-yes/1-no]
```



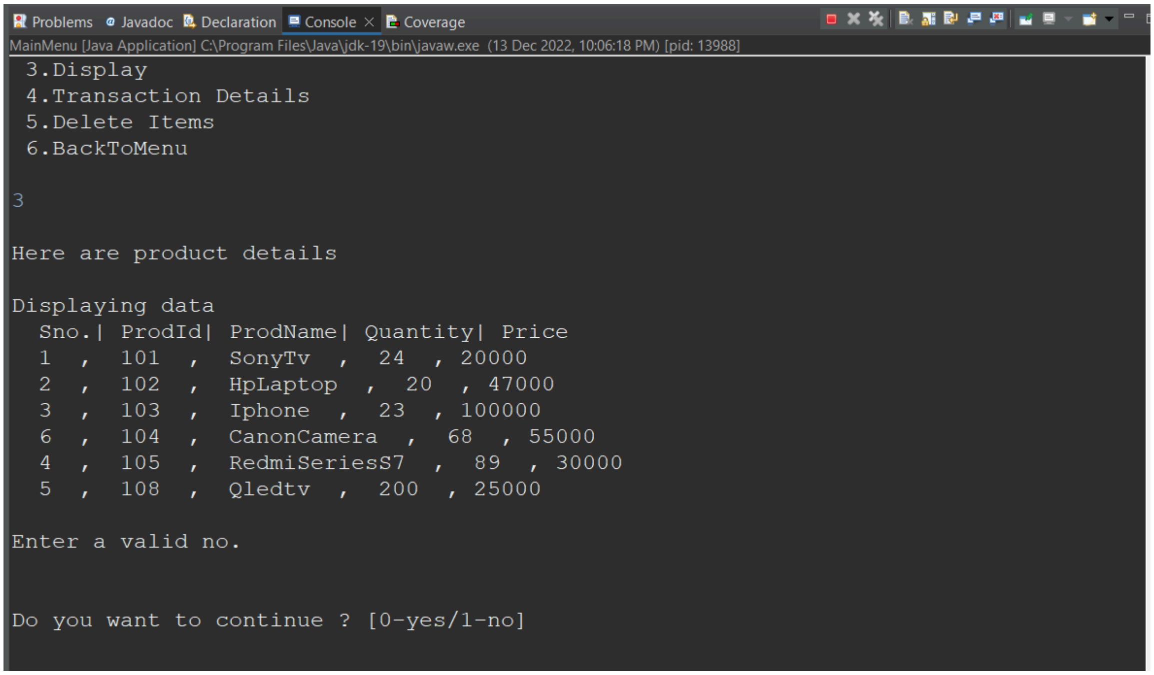
```
Enter a valid no.


Do you want to continue ? [0-yes/1-no]

0


 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
```



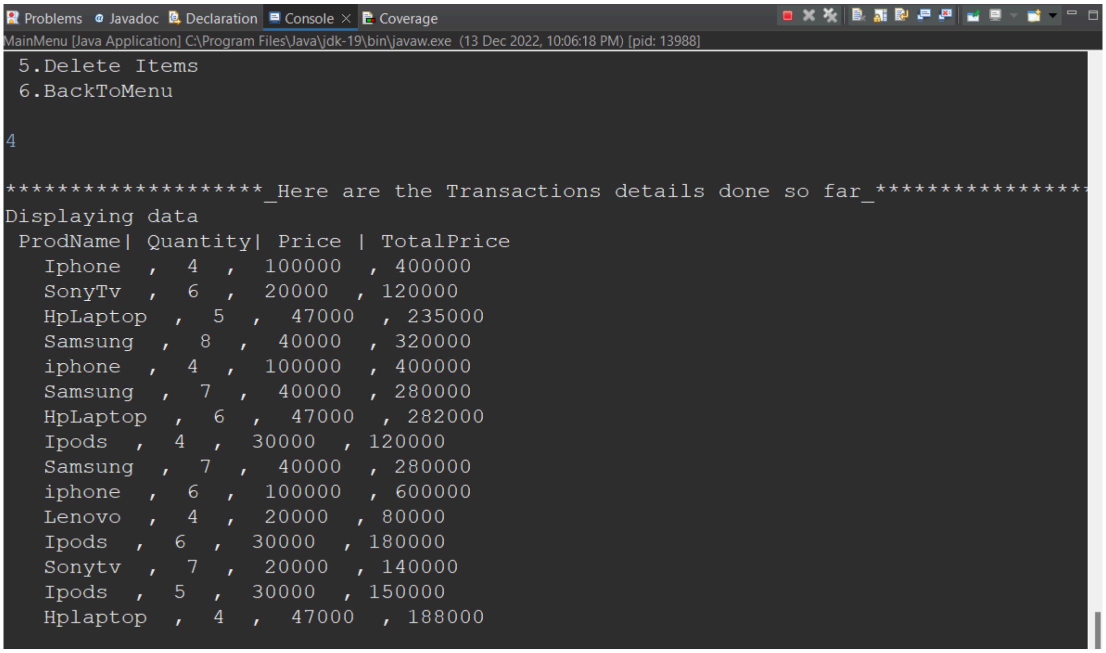
```
 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
1

**********************************Verify you are a ADMIN**********

Enter the Admin password :

admin

Enter ur choice
 1.Add
 2.Update
 3.Display
 4.Transaction Details
 5.Delete Items
 6.BackToMenu
```



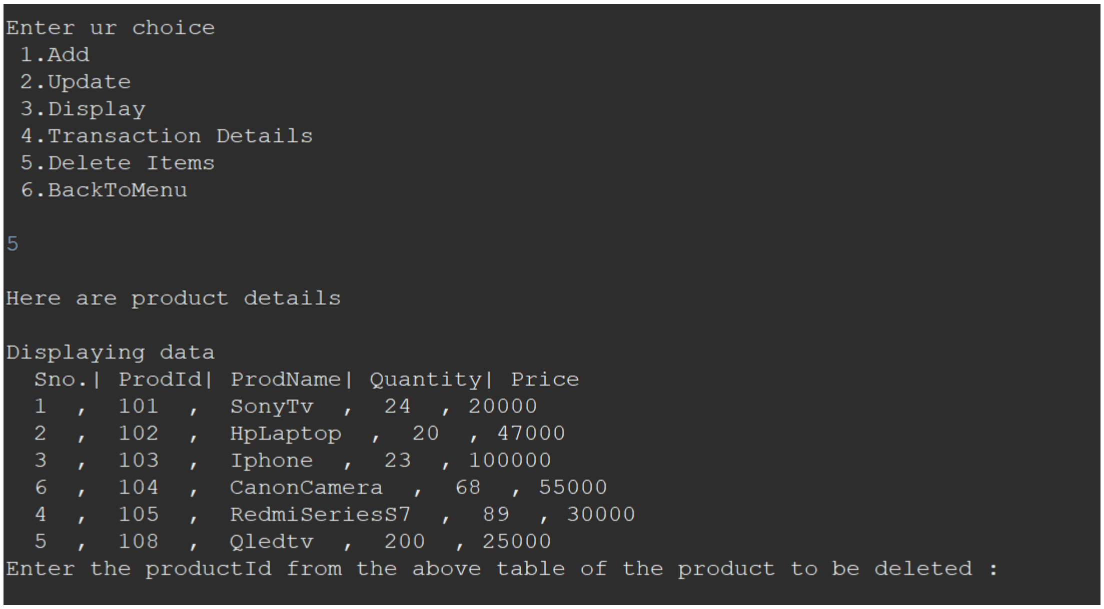
```
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (13 Dec 2022, 10:06:18 PM) [pid: 13988]
 3.Display
 4.Transaction Details
 5.Delete Items
 6.BackToMenu

2
------ENTER THE DETAILS REQUIRED FOR THE UPDATION-------
Enter the productId corresponding which the details will be updated :
105
Enter the new productName :
RedmiSeriesS7
Enter the new Quantity :
89
Enter the new price :
30000
Displaying data
The product has been Updated Successfully

Enter a valid no.


Do you want to continue ? [0-yes/1-no]
```



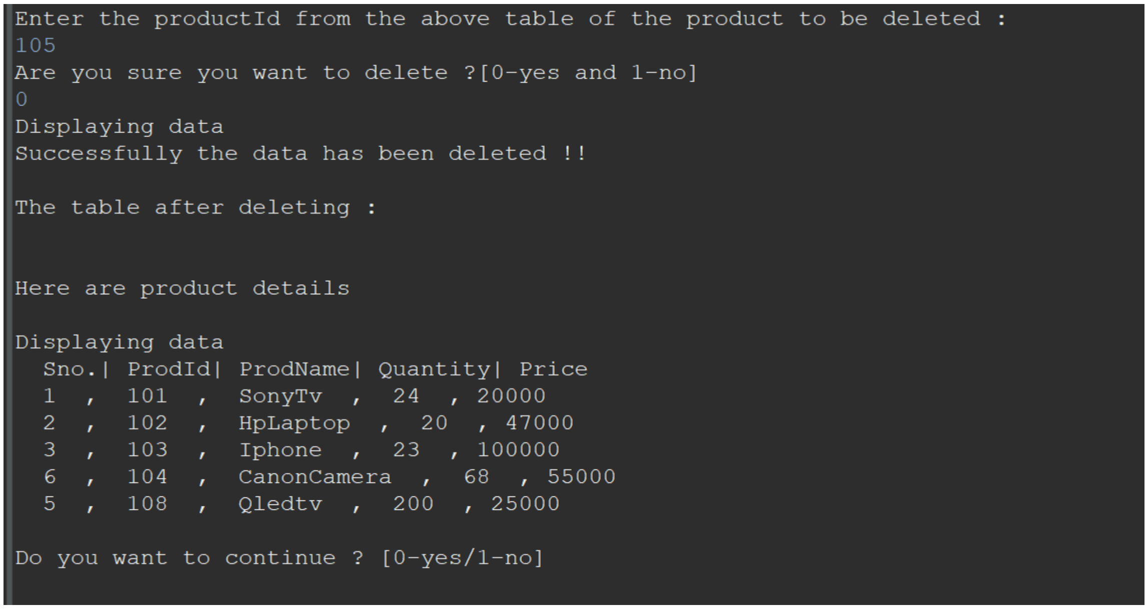
```
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (13 Dec 2022, 10:06:18 PM) [pid: 13988]
 3.Display
 4.Transaction Details
 5.Delete Items
 6.BackToMenu

3

Here are product details

Displaying data
   Sno.| ProdId| ProdName| Quantity| Price
   1  ,  101  ,  SonyTv  ,  24  , 20000
   2  ,  102  ,  HpLaptop  ,  20  , 47000
   3  ,  103  ,  Iphone  ,  23  , 100000
   6  ,  104  ,  CanonCamera  ,  68  , 55000
   4  ,  105  ,  RedmiSeriesS7  ,  89  , 30000
   5  ,  108  ,  Qledtv  ,  200  , 25000

Enter a valid no.


Do you want to continue ? [0-yes/1-no]
```



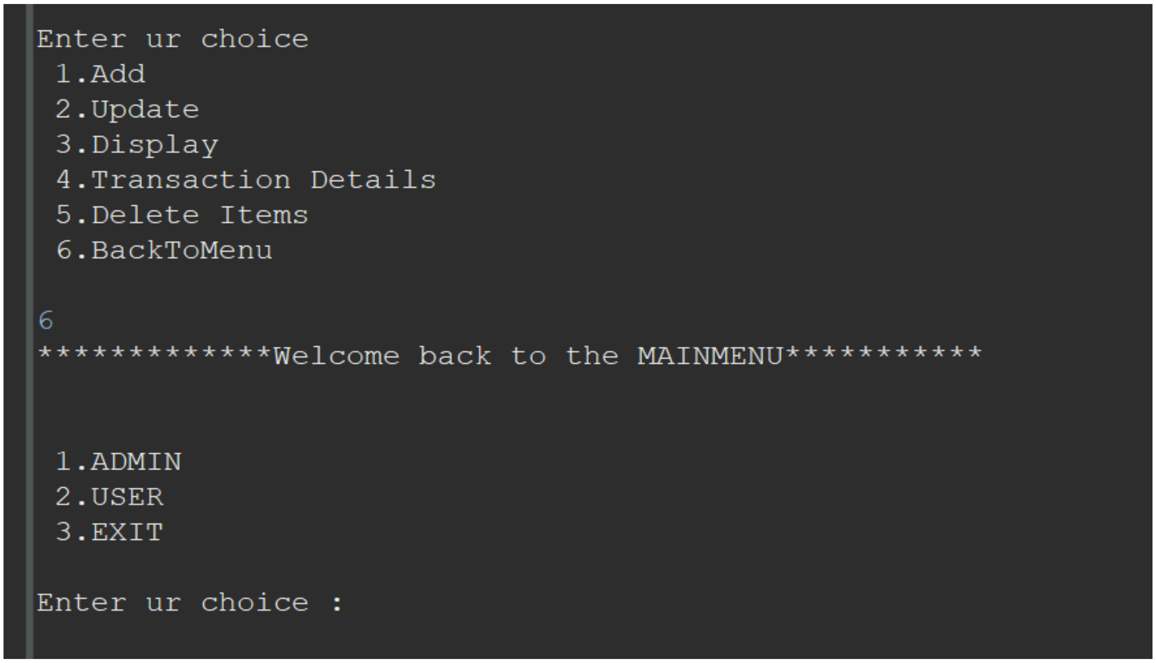
```
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (13 Dec 2022, 10:06:18 PM) [pid: 13988]
 5.Delete Items
 6.BackToMenu

4

********************_Here are the Transactions details done so far_****************
Displaying data
 ProdName| Quantity| Price | TotalPrice
   Iphone  ,  4  ,  100000  , 400000
   SonyTv  ,  6  ,  20000  , 120000
   HpLaptop  ,  5  ,  47000  , 235000
   Samsung  ,  8  ,  40000  , 320000
   iphone  ,  4  ,  100000  , 400000
   Samsung  ,  7  ,  40000  , 280000
   HpLaptop  ,  6  ,  47000  , 282000
   Ipods  ,  4  ,  30000  , 120000
   Samsung  ,  7  ,  40000  , 280000
   iphone  ,  6  ,  100000  , 600000
   Lenovo  ,  4  ,  20000  , 80000
   Ipods  ,  6  ,  30000  , 180000
   Sonytv  ,  7  ,  20000  , 140000
   Ipods  ,  5  ,  30000  , 150000
   Hplaptop  ,  4  ,  47000  , 188000
```



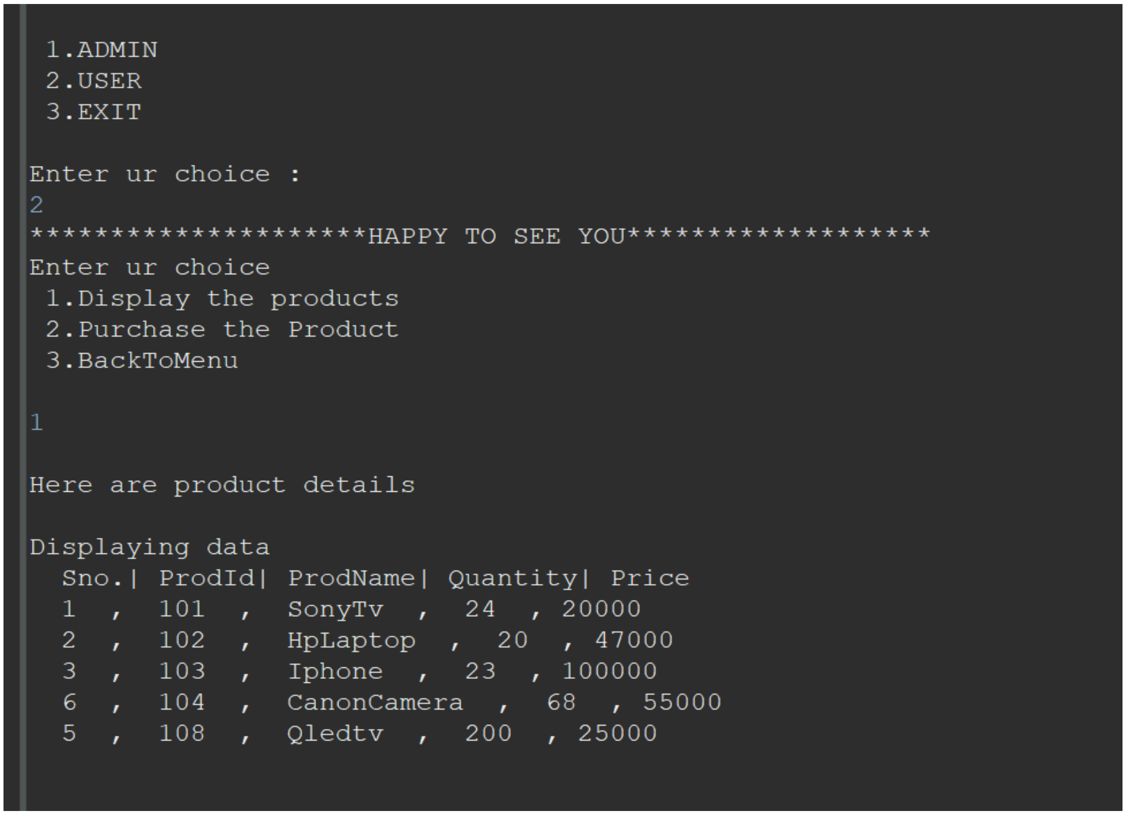
```
Enter ur choice
 1.Add
 2.Update
 3.Display
 4.Transaction Details
 5.Delete Items
 6.BackToMenu

5

Here are product details

Displaying data
  Sno.| ProdId| ProdName| Quantity| Price
  1  ,  101  ,  SonyTv  ,  24  , 20000
  2  ,  102  ,  HpLaptop  ,  20  , 47000
  3  ,  103  ,  Iphone  ,  23  , 100000
  6  ,  104  ,  CanonCamera  ,  68  , 55000
  4  ,  105  ,  RedmiSeriesS7  ,  89  , 30000
  5  ,  108  ,  Qledtv  ,  200  , 25000
Enter the productId from the above table of the product to be deleted :
```



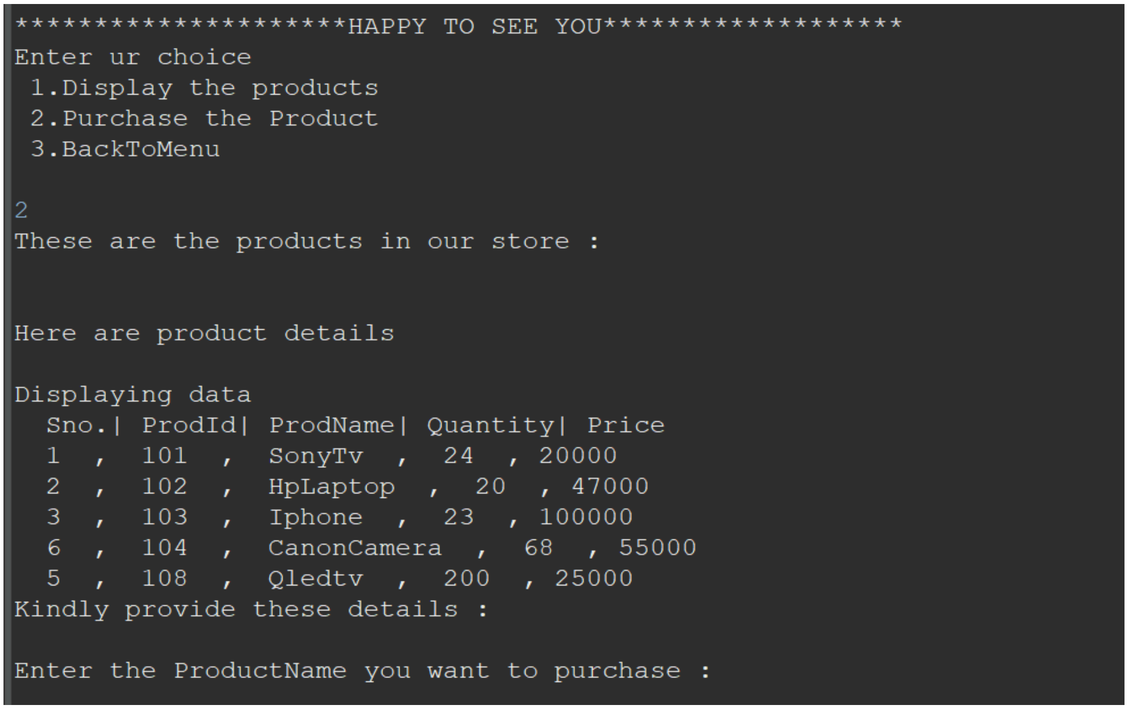
```
Enter the productId from the above table of the product to be deleted :
105
Are you sure you want to delete ?[0-yes and 1-no]
0
Displaying data
Successfully the data has been deleted !!

The table after deleting :


Here are product details

Displaying data
  Sno.| ProdId| ProdName| Quantity| Price
  1   ,   101   ,   SonyTv   ,   24   , 20000
  2   ,   102   ,   HpLaptop   ,   20   , 47000
  3   ,   103   ,   Iphone   ,   23   , 100000
  6   ,   104   ,   CanonCamera   ,   68   , 55000
  5   ,   108   ,   Qledtv   ,   200   , 25000

Do you want to continue ? [0-yes/1-no]
```



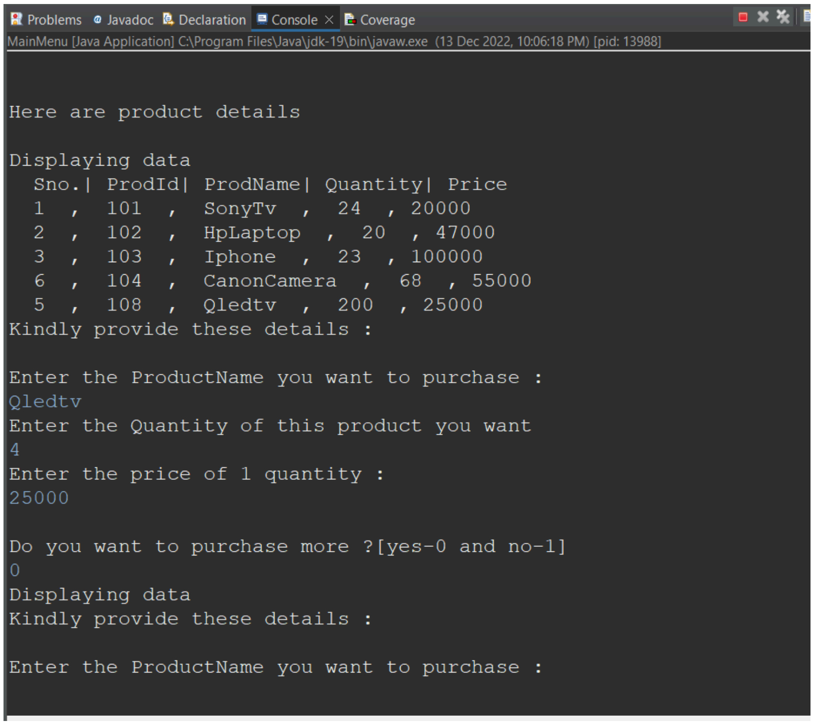
```
Enter ur choice
 1.Add
 2.Update
 3.Display
 4.Transaction Details
 5.Delete Items
 6.BackToMenu

6
*************Welcome back to the MAINMENU***********



 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
```



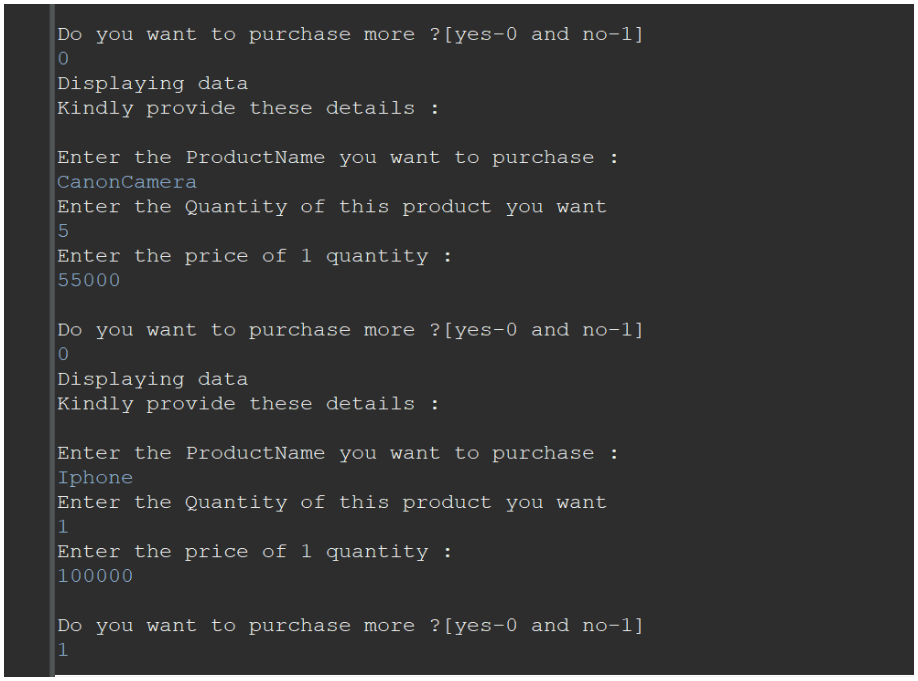
```
 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
2
*********************HAPPY TO SEE YOU*******************
Enter ur choice
 1.Display the products
 2.Purchase the Product
 3.BackToMenu

1

Here are product details

Displaying data
  Sno.| ProdId| ProdName| Quantity| Price
  1  ,  101  ,  SonyTv  ,  24  , 20000
  2  ,  102  ,  HpLaptop  ,  20  , 47000
  3  ,  103  ,  Iphone  ,  23  , 100000
  6  ,  104  ,  CanonCamera  ,  68  , 55000
  5  ,  108  ,  Qledtv  ,  200  , 25000
```



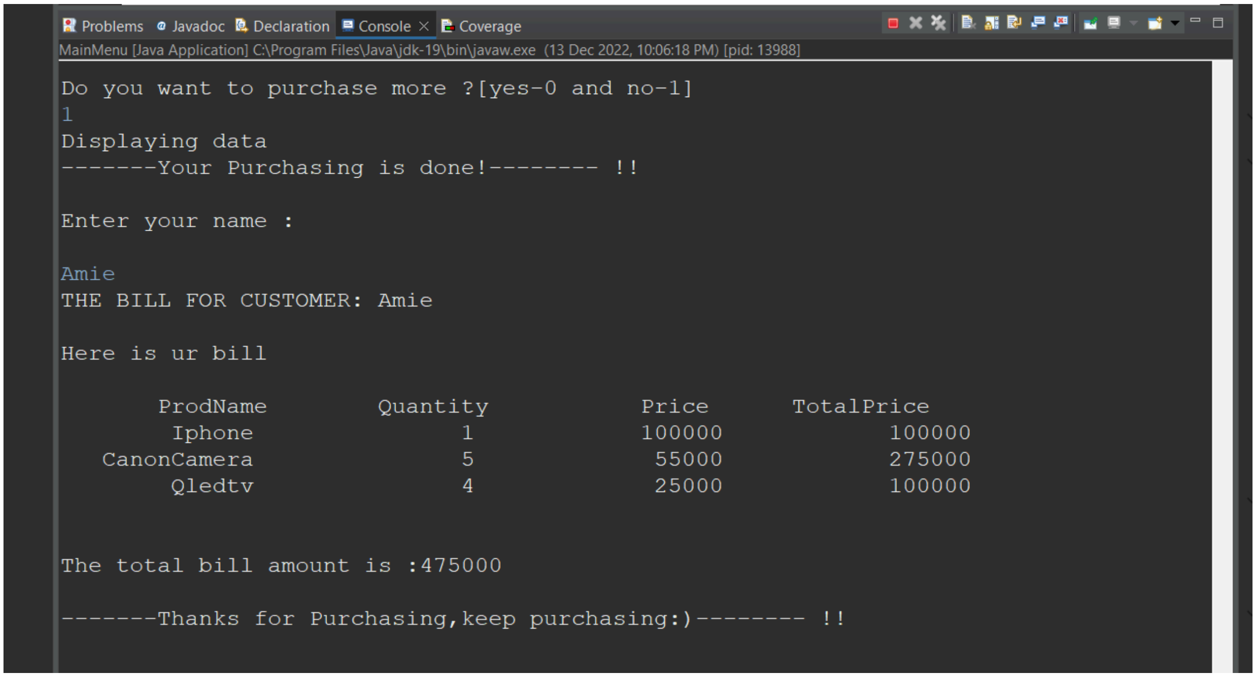
```
*********************HAPPY TO SEE YOU*******************
Enter ur choice
 1.Display the products
 2.Purchase the Product
 3.BackToMenu

2
These are the products in our store :


Here are product details

Displaying data
  Sno.| ProdId| ProdName| Quantity| Price
  1  ,  101  ,  SonyTv  ,  24  , 20000
  2  ,  102  ,  HpLaptop  ,  20  , 47000
  3  ,  103  ,  Iphone  ,  23  , 100000
  6  ,  104  ,  CanonCamera  ,  68  , 55000
  5  ,  108  ,  Qledtv  ,  200  , 25000
Kindly provide these details :

Enter the ProductName you want to purchase :
```



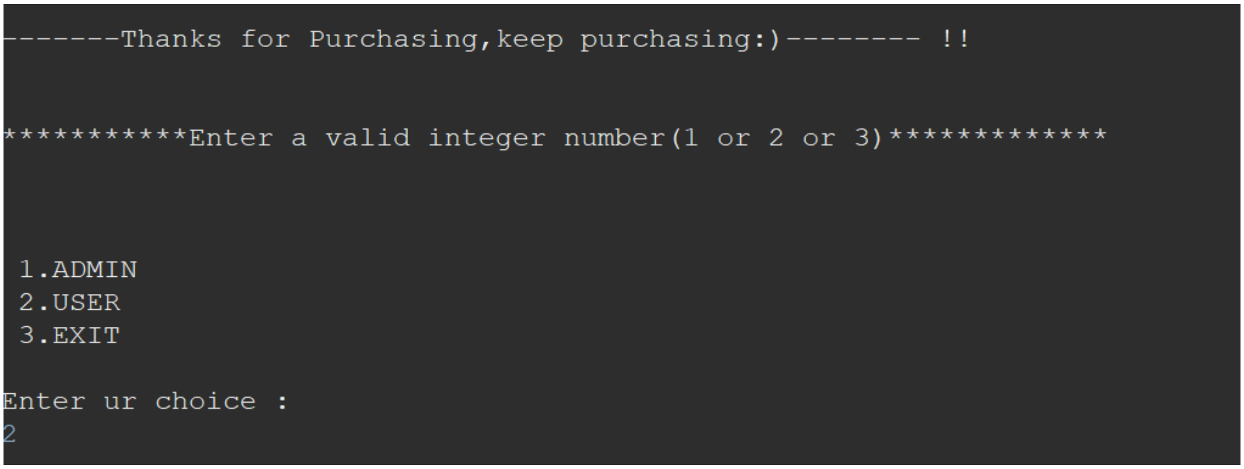
```
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (13 Dec 2022, 10:06:18 PM) [pid: 13988]


Here are product details

Displaying data
  Sno.| ProdId| ProdName| Quantity| Price
  1  ,  101  ,  SonyTv  ,  24  , 20000
  2  ,  102  ,  HpLaptop  ,  20  , 47000
  3  ,  103  ,  Iphone  ,  23  , 100000
  6  ,  104  ,  CanonCamera  ,  68  , 55000
  5  ,  108  ,  Qledtv  ,  200  , 25000
Kindly provide these details :

Enter the ProductName you want to purchase :
Qledtv
Enter the Quantity of this product you want
4
Enter the price of 1 quantity :
25000

Do you want to purchase more ?[yes-0 and no-1]
0
Displaying data
Kindly provide these details :

Enter the ProductName you want to purchase :
```



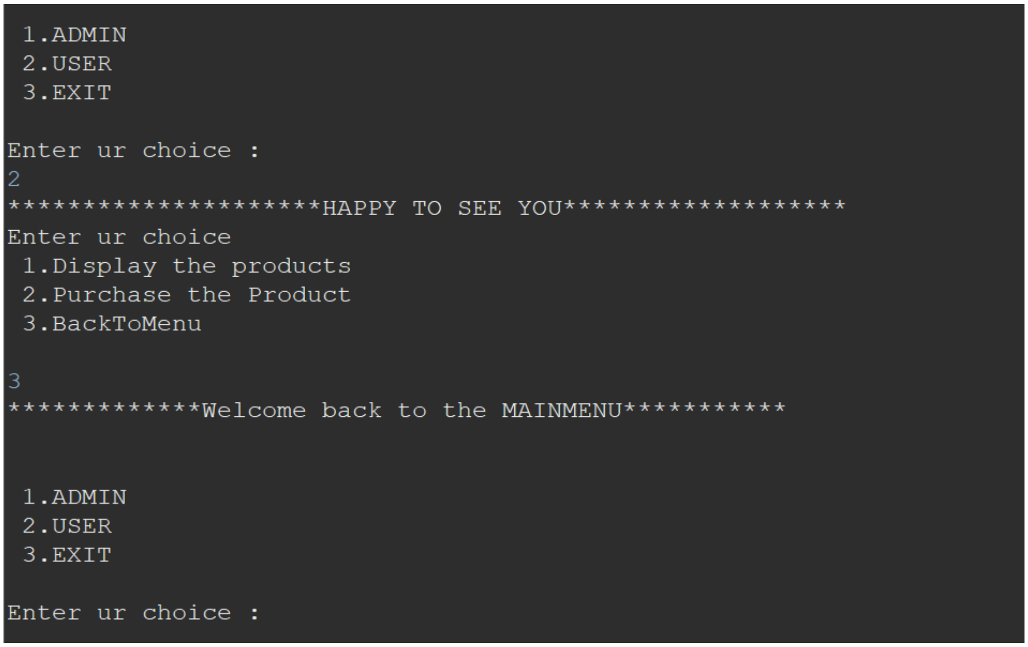
```
Do you want to purchase more ?[yes-0 and no-1]
0
Displaying data
Kindly provide these details :

Enter the ProductName you want to purchase :
CanonCamera
Enter the Quantity of this product you want
5
Enter the price of 1 quantity :
55000

Do you want to purchase more ?[yes-0 and no-1]
0
Displaying data
Kindly provide these details :

Enter the ProductName you want to purchase :
Iphone
Enter the Quantity of this product you want
1
Enter the price of 1 quantity :
100000

Do you want to purchase more ?[yes-0 and no-1]
1
```



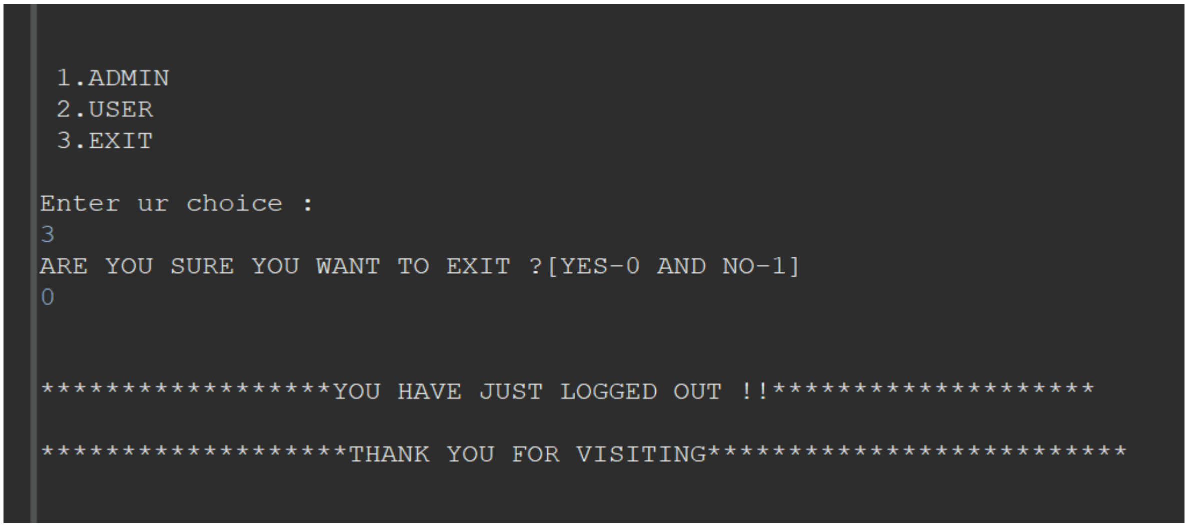
```
MainMenu [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (13 Dec 2022, 10:06:18 PM) [pid: 13988]
Do you want to purchase more ?[yes-0 and no-1]
1
Displaying data
-------Your Purchasing is done!-------- !!

Enter your name :

Amie
THE BILL FOR CUSTOMER: Amie

Here is ur bill

       ProdName        Quantity           Price      TotalPrice
        Iphone                1          100000          100000
   CanonCamera                5           55000          275000
        Qledtv                4           25000          100000


The total bill amount is :475000

-------Thanks for Purchasing,keep purchasing:)-------- !!
```



```
-------Thanks for Purchasing,keep purchasing:)-------- !!


***********Enter a valid integer number(1 or 2 or 3)*************



 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
2
```



```
 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
2
*********************HAPPY TO SEE YOU*******************
Enter ur choice
 1.Display the products
 2.Purchase the Product
 3.BackToMenu

3
*************Welcome back to the MAINMENU***********


 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
```



```

 1.ADMIN
 2.USER
 3.EXIT

Enter ur choice :
3
ARE YOU SURE YOU WANT TO EXIT ?[YES-0 AND NO-1]
0


******************YOU HAVE JUST LOGGED OUT !!********************

*******************THANK YOU FOR VISITING**************************
```

CONCLUSION

This project provided a great opportunity to learn about new concepts like java mysql connectivity and Graphical interface. And also its other applications. Through this project I learnt about more applications of JAVA in real life, and realized how the online systems work from the backend.

This assignment also proved that solving problems by means of this software(eclipse editor) is less time consuming and very interesting, while also representing various types of solutions possible.

Thank you!