
PROJECT DOCUMENTATION

FOR

SALES DEPARTMENT

OF

PAMUNUWILA HARDWARE (Pvt) Ltd

Version <1.0>

Prepared by

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Course: PROFESSIONAL DIPLOMA IN SOFTWARE ENGINEERING

Batch: Griffins

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1. GRAPHICAL USER INTERFACES

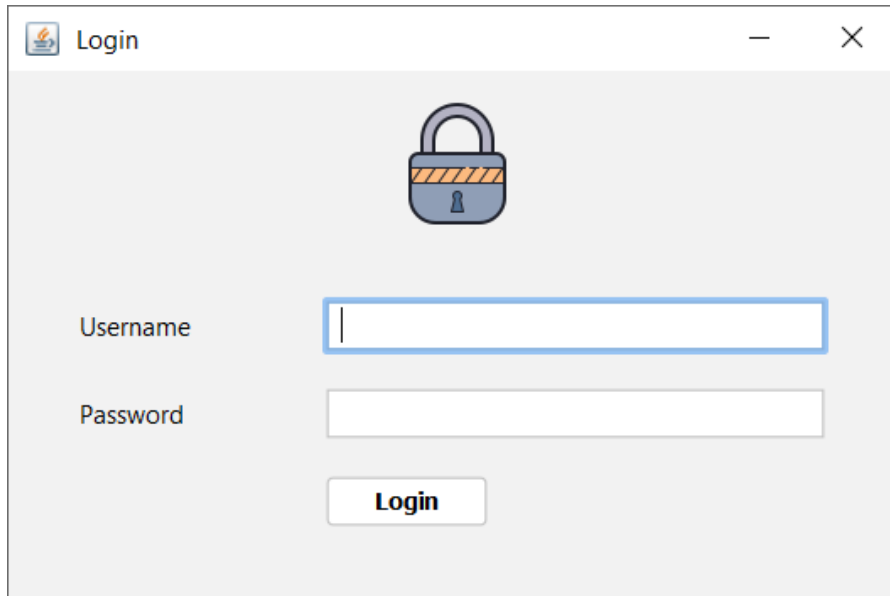
  		GRAPHICAL USER INTERFACES H7E1 04/EX/03 FORM NO: H7E1 04/EX/03/FRM-01
1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha	2. GUI No : 1	
3. Name of relevant use case :		
4. Title of the GUI : Splash Screen		
		
01. Brief Description of the GUI: We use this interface to display the loading of this System.		

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 2

3. Name of relevant use case : User Management

4. Title of the GUI : Login Form



01. Brief Description of the GUI:

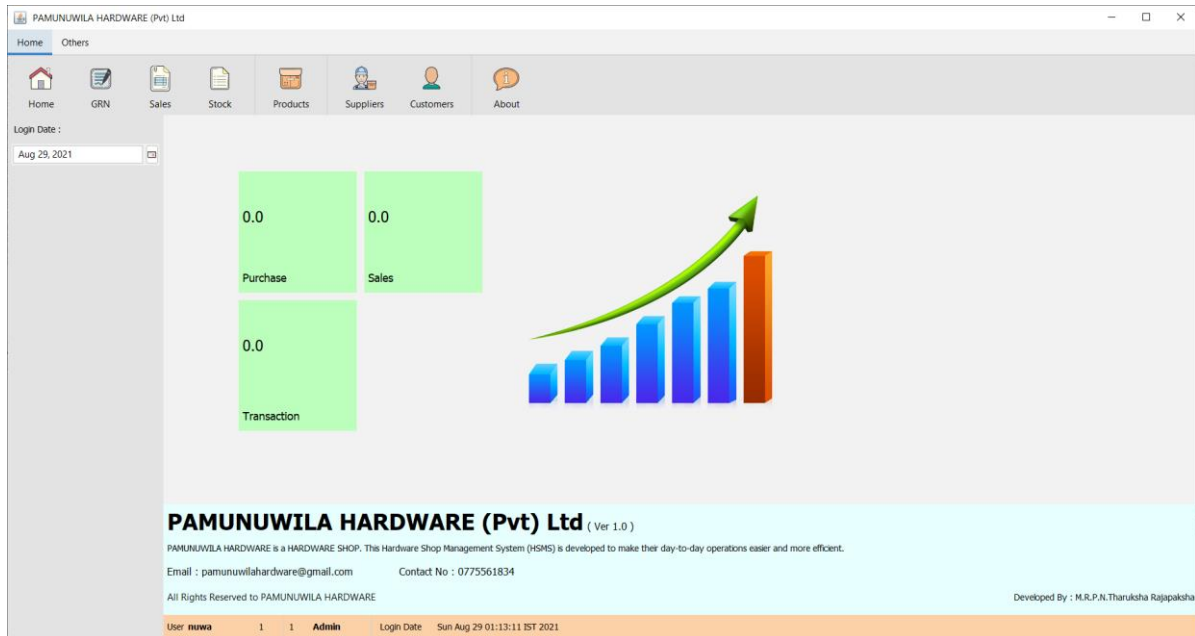
We use this interface to provide the main access to the system. We use the "Login" button to verify the username and the password that enters by the user and give the user main access to the system.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 3

3. Name of relevant use case : User Management

4. Title of the GUI : Home Page



01. Brief Description of the GUI:

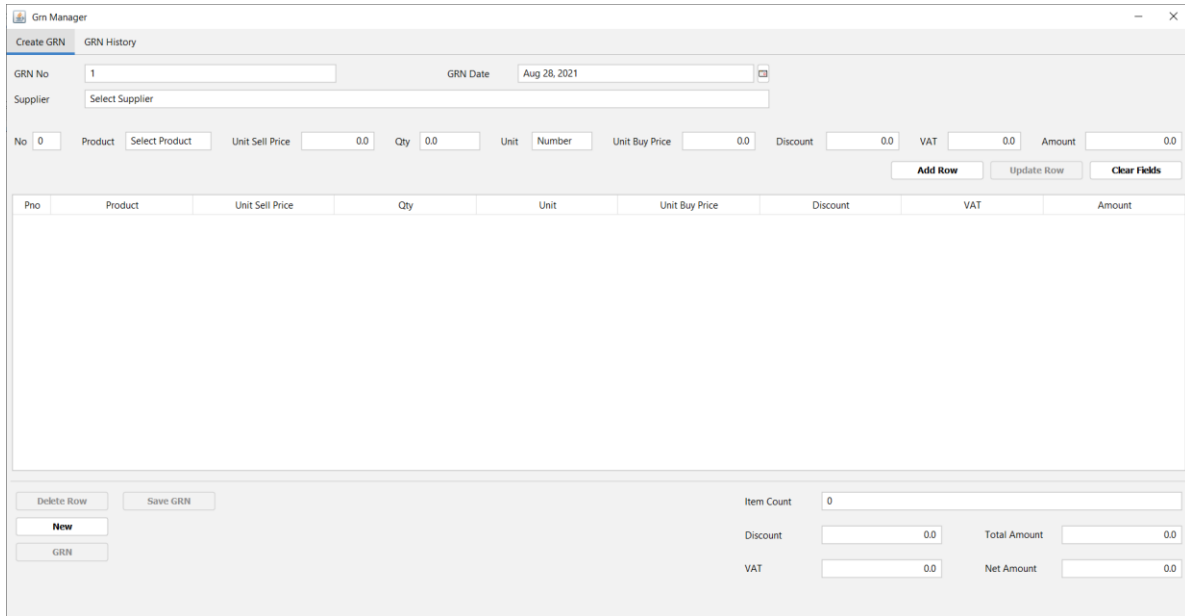
This is the first interface visible to anyone who accesses this software application with a username and password. This interface is the main interface of this software application. We use this interface to provide access to other interfaces. This interface also displays login details, purchase details, sales details, and transaction details of this system.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 4

3. Name of relevant use case : GRN Management

4. Title of the GUI : GRN Manager Create GRN



01. Brief Description of the GUI:

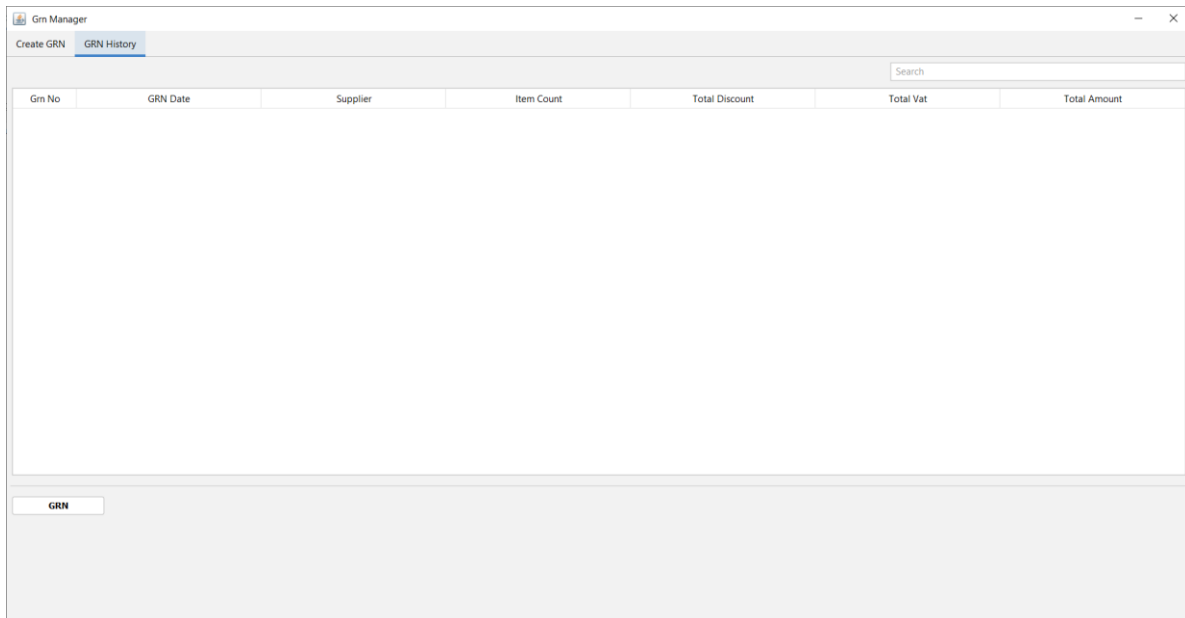
We use this interface to create GRNs, save GRNs, and generate GRN reports. We select a supplier by clicking on the Supplier text field and we select a product by clicking on the Pno text field or the Product text field. When values are entered into text fields, the values in the text fields are calculated. We use the "Add Row" button to add the details of a purchased product to the table as a row. We use the "Update Row" button to update the data in a table row. To delete a table row, we use the "Delete Row" button. We use the "Save GRN" button to save a GRN in our system and we use the "GRN" button to generate the GRN report saved in our system. To clear the text fields we use the "Clear Fields" button and to open a new GRN we use the "New" button.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 5

3. Name of relevant use case : GRN Management

4. Title of the GUI : GRN Manager GRN History



The screenshot shows a web application window titled 'Grn Manager'. It has two tabs: 'Create GRN' and 'GRN History', with 'GRN History' being the active tab. At the top right of the 'GRN History' tab is a search bar labeled 'Search'. Below the search bar is a table with the following columns: 'Grn No', 'GRN Date', 'Supplier', 'Item Count', 'Total Discount', 'Total Vat', and 'Total Amount'. The table body is currently empty. At the bottom left of the window, there is a button labeled 'GRN'.

01. Brief Description of the GUI:

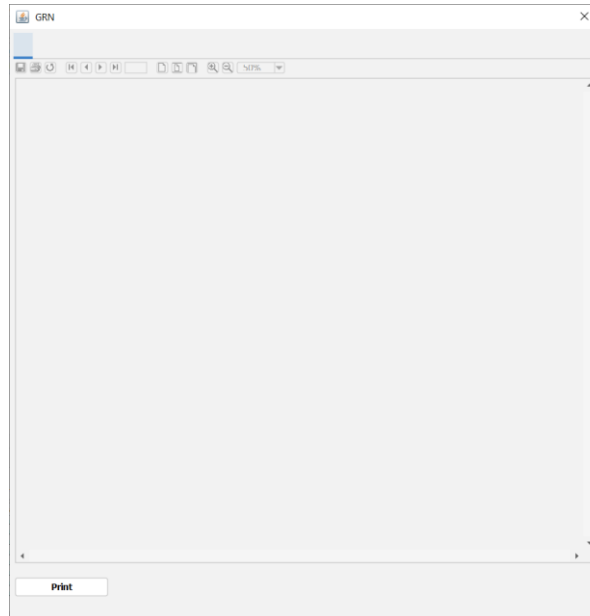
We use this interface to display the GRN history, search for the GRN, select a GRN and generate its GRN report. We enter a keyword on the Search text field and search for the desired GRN. We will use the "GRN" button to select the desired GRN from the table and generate the GRN report.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 6

3. Name of relevant use case : GRN Management

4. Title of the GUI : Generate GRN Report



01. Brief Description of the GUI:

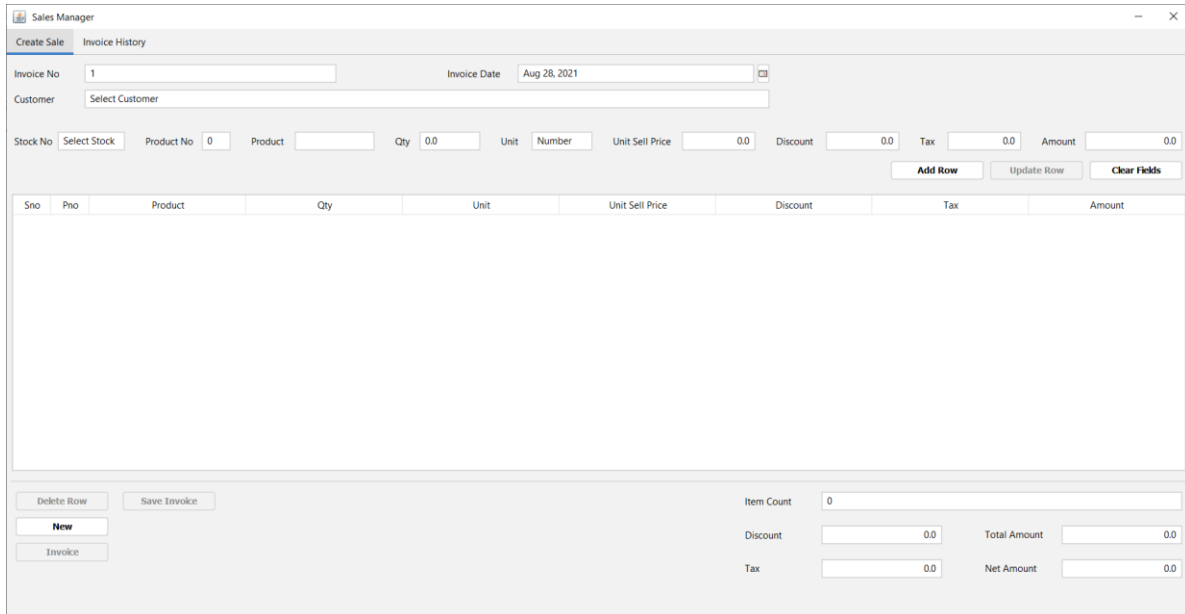
We use this interface to generate, display and print GRN reports. We can print the GRN report that generates/displays on the interface by the "Print" button.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 7

3. Name of relevant use case : Sales Management

4. Title of the GUI : Sales Manager Create Sale



01. Brief Description of the GUI:

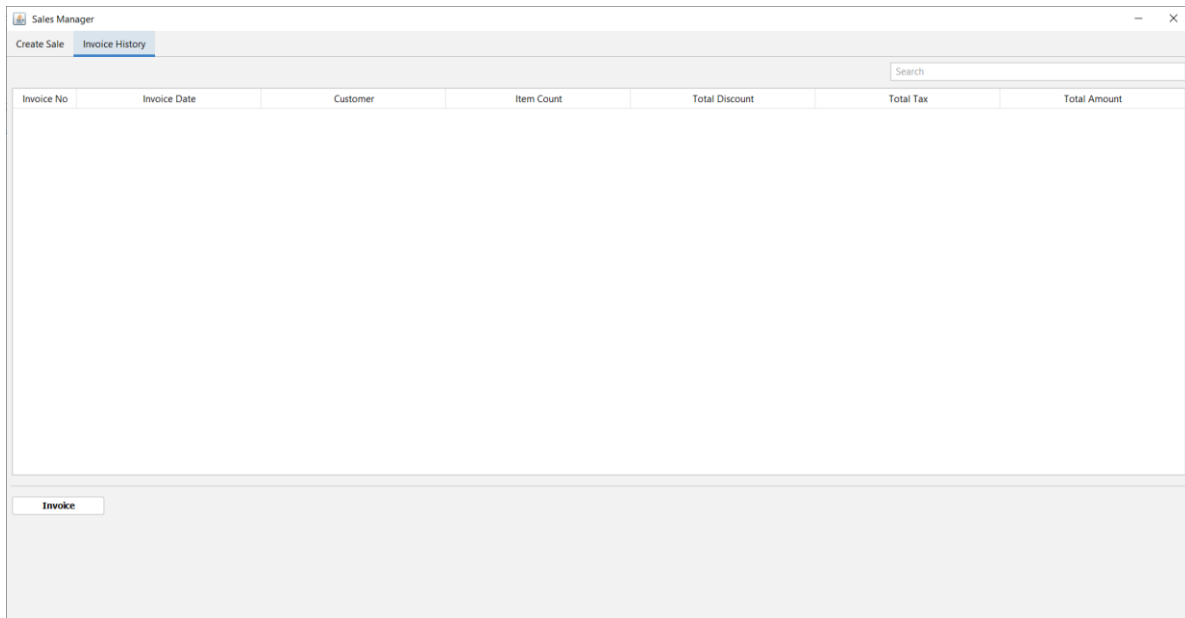
We use this interface to create sales, save sales, and generate invoice reports. We select a customer by clicking on the Customer text field and we select a product stock by clicking on the Stock No text field. When values are entered into text fields, the values in the text fields are calculated. We use the "Add Row" button to add the details of a product we are selling to the table as a row. We use the "Update Row" button to update the data in a table row. To delete a table row, we use the "Delete row" button. We use the "Save Invoice" button to save an invoice in our system and we use the "Invoice" button to generate the invoice saved in our system. To clear the text fields we use the "Clear Fields" button and to open a new invoice we use the "New" button.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 8

3. Name of relevant use case : Sales Management

4. Title of the GUI : Sales Manager Invoice History



01. Brief Description of the GUI:

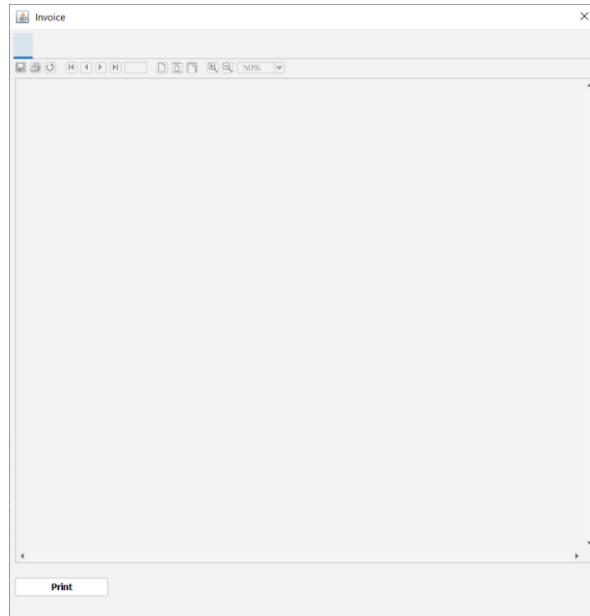
We use this interface to display the invoice history, search for the invoice, select an invoice and generate its invoice report. We enter a keyword on the Search text field and search for the desired invoice. We will use the "Invoice" button to select the desired invoice from the table and generate the invoice report.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 9

3. Name of relevant use case : Sales Management

4. Title of the GUI : Generate Invoice History Report



01. Brief Description of the GUI:

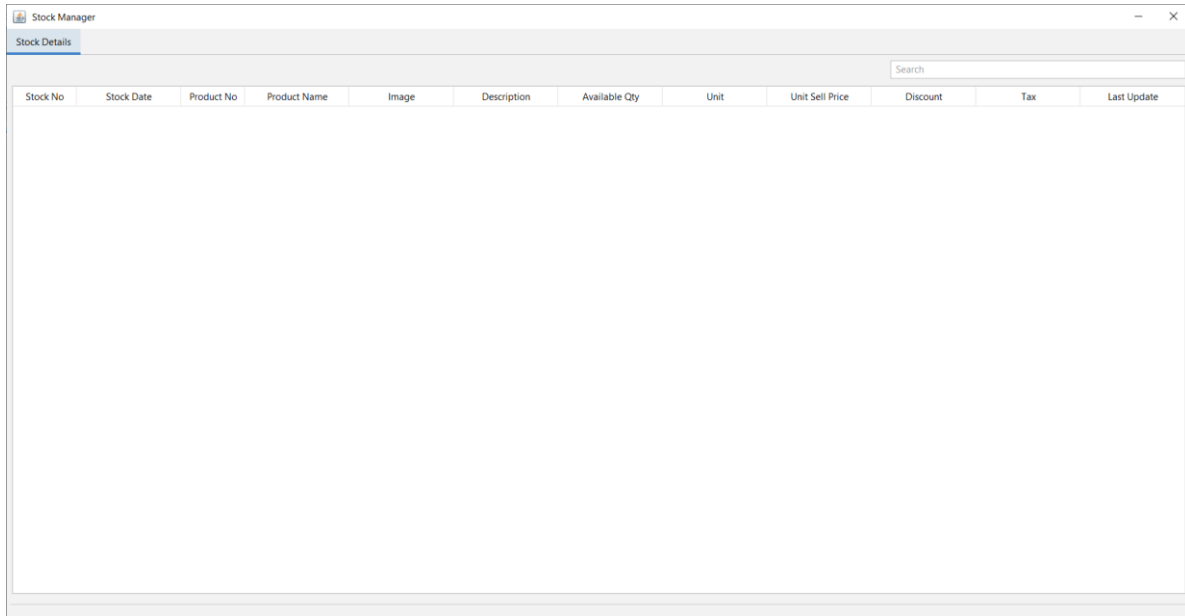
We use this interface to generate, display and print invoice reports. We can print the invoice report that generates/displays on the interface by the "Print" button.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 10

3. Name of relevant use case : GRN Management, Sales Management

4. Title of the GUI : Stock Manager Stock Details



01. Brief Description of the GUI:

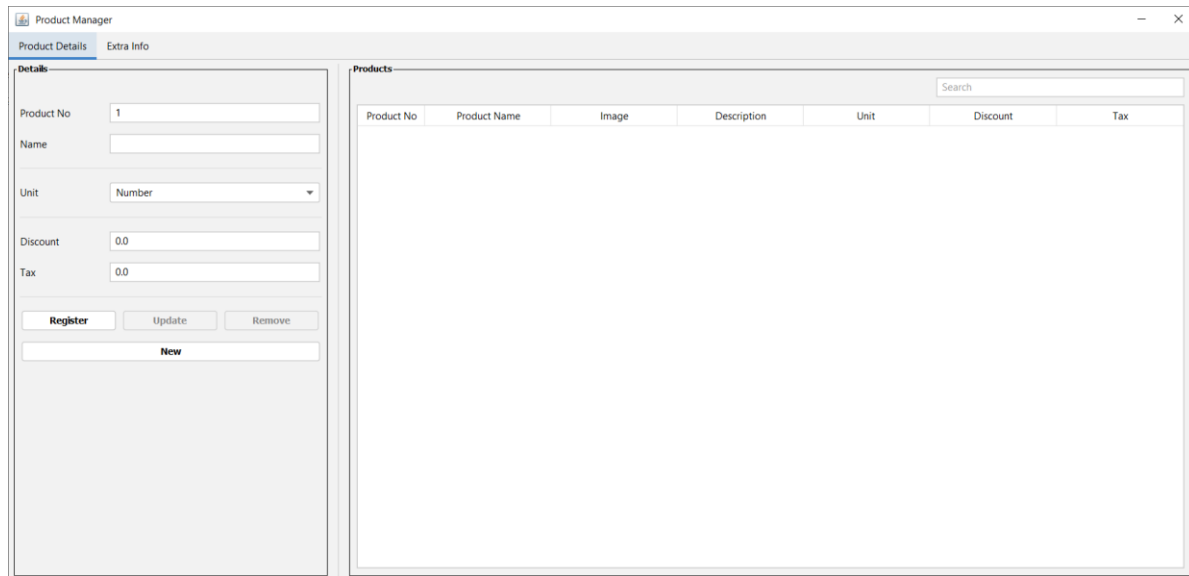
We use this interface to display and search for product stocks registered in the system. We enter a keyword on the Search text field and search for the desired product stock.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 11

3. Name of relevant use case : Product Management

4. Title of the GUI : Product Manager Product Details



The screenshot shows a web application titled "Product Manager". It has two tabs: "Product Details" (active) and "Extra Info". The "Product Details" tab contains a form with the following fields: "Product No" (text input with value "1"), "Name" (text input), "Unit" (dropdown menu with "Number" selected), "Discount" (text input with value "0.0"), and "Tax" (text input with value "0.0"). Below these fields are three buttons: "Register", "Update", and "Remove". At the bottom of the form is a "New" button. The "Products" tab is also visible, showing a table with columns: "Product No", "Product Name", "Image", "Description", "Unit", "Discount", and "Tax". There is a search bar above the table.

01. Brief Description of the GUI:

We use this interface to register products, update products, remove products, and search products. We use the "Register" button to register product details in our system and we use the "Update" button to update product details. The "Remove" button is used to remove a product from the system. To search for product details in the system, we enter a keyword on the Search text field and search for the desired product details. We use the "New" button to register a new product.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 12

3. Name of relevant use case : Product Management

4. Title of the GUI : Product Manager Extra Info

01. Brief Description of the GUI:

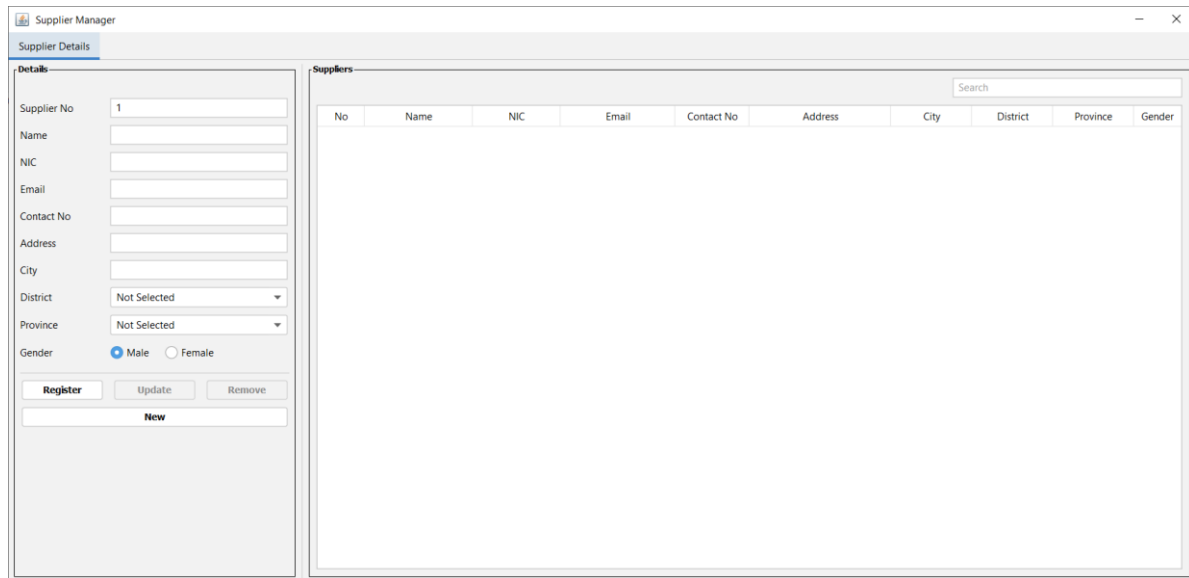
We use this interface to save products extra information. To select a product image, we click on the image label or use the "Browse" button. We use the "Save" button to save the product's extra information in the system. We use the "New" button to save new extra information.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 13

3. Name of relevant use case : Supplier Management

4. Title of the GUI : Supplier Manager Supplier Details



The screenshot shows a web application window titled "Supplier Manager". It has two main sections: "Supplier Details" on the left and "Suppliers" on the right.

Supplier Details Section:

- Supplier No: 1
- Name: [Text Field]
- NIC: [Text Field]
- Email: [Text Field]
- Contact No: [Text Field]
- Address: [Text Field]
- City: [Text Field]
- District: [Dropdown Menu - Not Selected]
- Province: [Dropdown Menu - Not Selected]
- Gender: ☒ Male ☐ Female
- Buttons: Register, Update, Remove
- Buttons: New

Suppliers Section:

- Search: [Text Field]
- Table Headers: No, Name, NIC, Email, Contact No, Address, City, District, Province, Gender

01. Brief Description of the GUI:

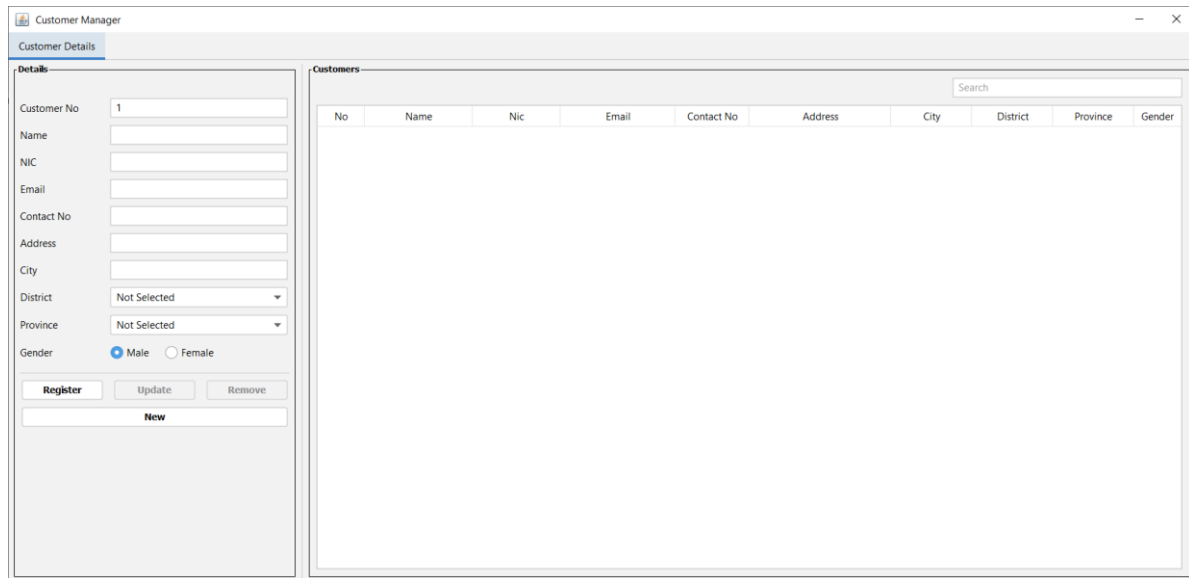
We use this interface to register suppliers, update suppliers, remove suppliers, and search suppliers. We use the "Register" button to register supplier details in our system and we use the "Update" button to update supplier details. The "Remove" button is used to remove a supplier from the system. To search for supplier details in the system, we enter a keyword on the Search text field and search for the desired supplier details. We use the "New" button to register a new supplier.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 14

3. Name of relevant use case : Customer Management

4. Title of the GUI : Customer Manager Customer Details



The screenshot shows a window titled "Customer Manager" with a tab labeled "Customer Details". The window is divided into two main sections: "Details" on the left and "Customers" on the right.

Details Section:

- Customer No: 1
- Name: [Text Field]
- NIC: [Text Field]
- Email: [Text Field]
- Contact No: [Text Field]
- Address: [Text Field]
- City: [Text Field]
- District: [Dropdown Menu] (Not Selected)
- Province: [Dropdown Menu] (Not Selected)
- Gender: ☒ Male ☐ Female
- Buttons: Register, Update, Remove
- Buttons: New

Customers Section:

A table with columns: No, Name, Nic, Email, Contact No, Address, City, District, Province, Gender. The table is currently empty.

01. Brief Description of the GUI:

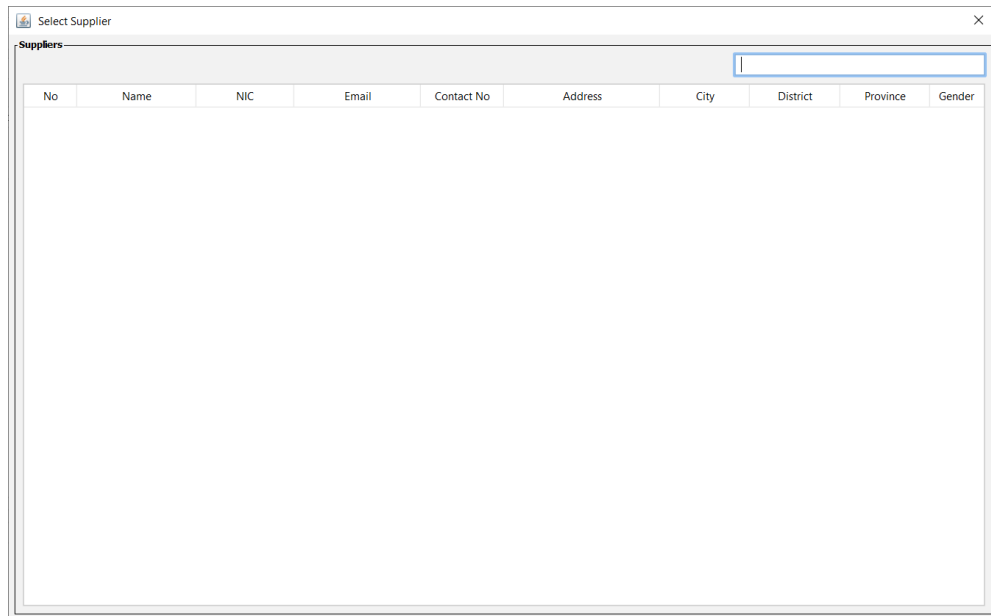
We use this interface to register customers, update customers, remove customers, and search customers. We use the "Register" button to register customer details in our system and we use the "Update" button to update customer details. The "Remove" button is used to remove a customer from the system. To search for customer details in the system, we enter a keyword on the Search text field and search for the desired customer details. We use the "New" button to register a new customer.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 15

3. Name of relevant use case : Supplier Management

4. Title of the GUI : Load Supplier



01. Brief Description of the GUI:

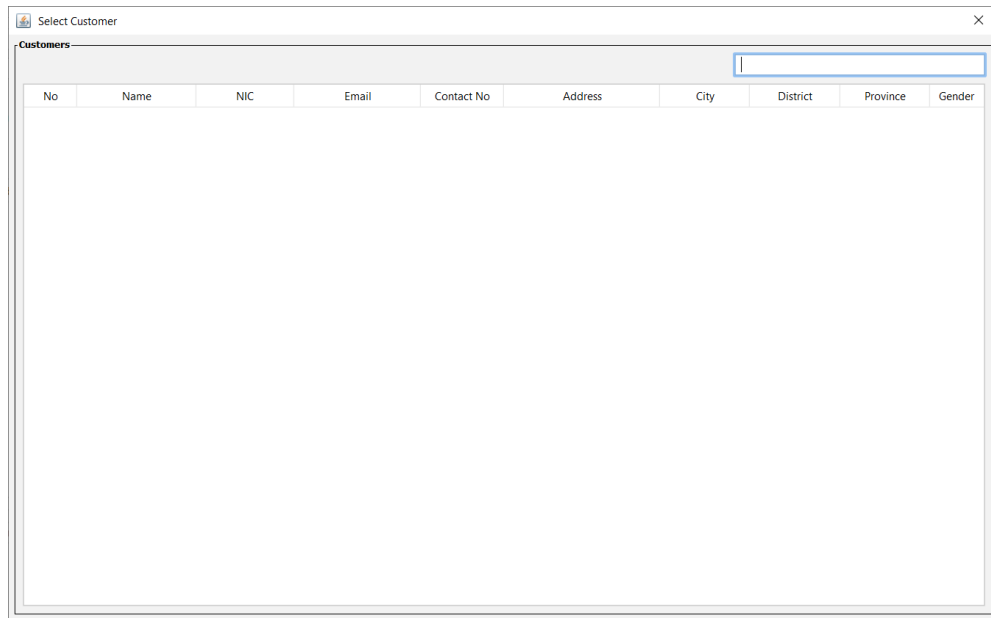
We use this interface to display and search for suppliers registered in the system and to pass the details of a selected supplier into the GRN Manager interface. We enter a keyword on the Search text field and search for the desired supplier and we click on a row in the table and select a supplier.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 16

3. Name of relevant use case : Customer Management

4. Title of the GUI : Load Customer



01. Brief Description of the GUI:

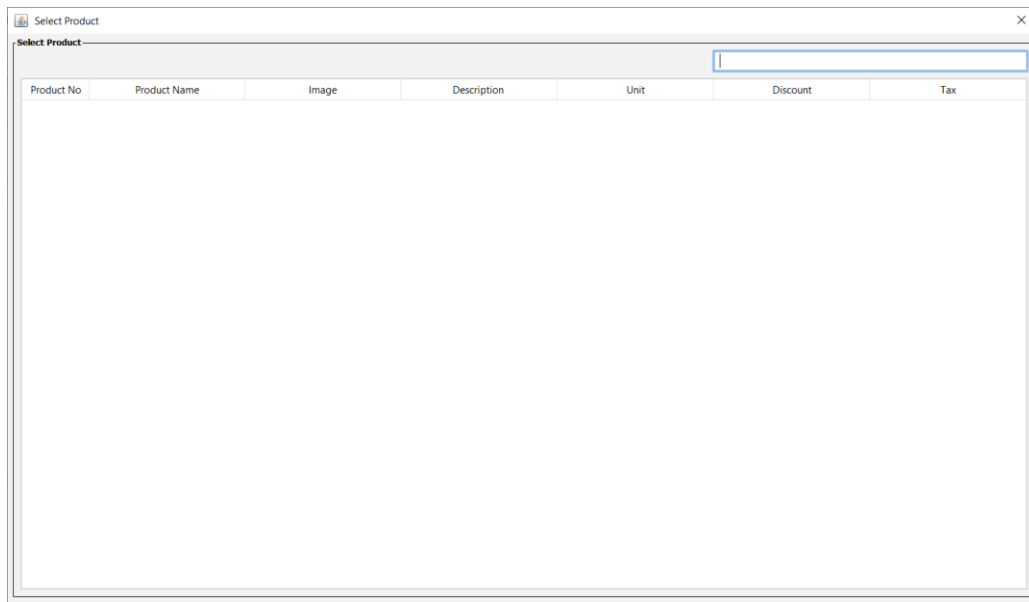
We use this interface to display and search for customers registered in the system and to pass the details of a selected customer into the Sales Manager interface. We enter a keyword on the Search text field and search for the desired customer and we click on a row in the table and select a customer.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 17

3. Name of relevant use case : Product Management

4. Title of the GUI : Load Product



01. Brief Description of the GUI:

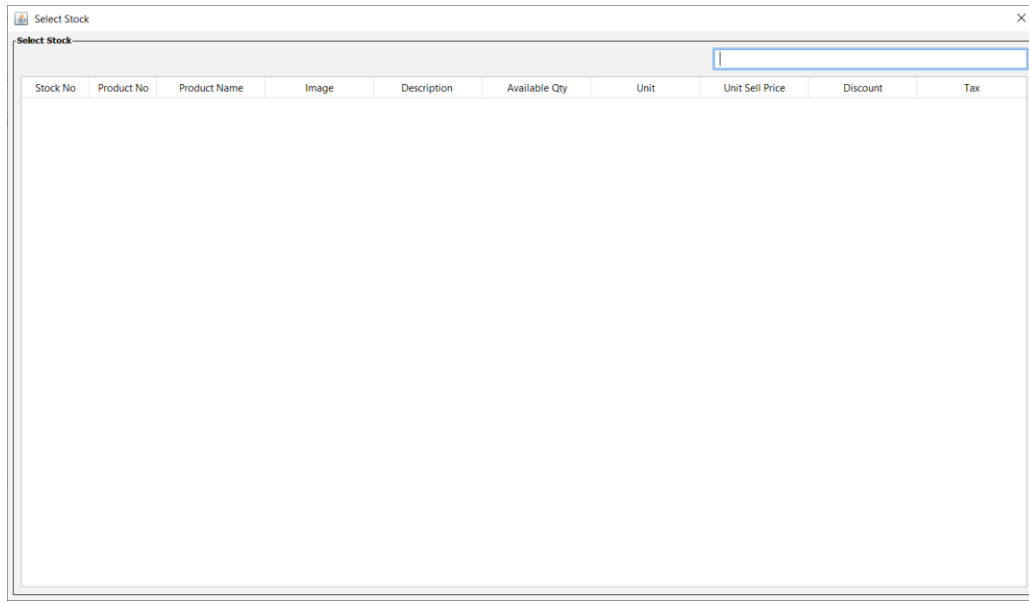
We use this interface to display and search for products registered in the system and to pass the details of a selected product into the GRN Manager interface. We enter a keyword on the Search text field and search for the desired product and we click on a row in the table and select a product.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 18

3. Name of relevant use case : Sales Management

4. Title of the GUI : Load Stock



01. Brief Description of the GUI:

We use this interface to display and search for product stocks registered in the system and to pass the details of a selected product stock into the Sales Manager interface. We enter a keyword on the Search text field and search for the desired product stock and we click on a row in the table and select a product stock.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 19

3. Name of relevant use case :

4. Title of the GUI : Backup and Restore

01. Brief Description of the GUI:

We use this interface to backup and restore the database of this system. We use the "Browse" buttons to select the backup path or the restore path. We use the "Backup" button to back up the database and We use the "Restore" button to restore the database.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 20

3. Name of relevant use case :




4. Title of the GUI : About



01. Brief Description of the GUI:

We use this interface to display some of the information about this system. We use the "Close" buttons to dispose of this interface.

2. BUSINESS REPORTS

   <div style="float: right; text-align: right;"> BUSINESS REPORTS H7E1 04/EX/03 FORM NO: H7E1 04/EX/03/FRM-02 </div>																																									
1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha	2. Report No : 1																																								
4. Title of the Report : GRN Invoice																																									
KPI Name (1 mark) : Purchase Invoice																																									
<div style="border: 1px solid black; padding: 10px; margin: 0 auto; width: 80%;"> <p>PAMUNUWILA HARDWARE PURCHASE INVOICE</p> <hr/> <div style="display: flex; justify-content: space-between;"> GRN No : 1 Date : August 30, </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Supplier No : 1 Supplier Name : Kamal </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>Pno</th> <th>Product</th> <th>Qty</th> <th>Unit</th> <th>Unit Buy Price</th> <th>Discount</th> <th>VAT</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PVC</td> <td>100.0</td> <td>Number</td> <td>50.0</td> <td>5.0</td> <td>2.0</td> <td>4700.0</td> </tr> <tr> <td>2</td> <td>Tap</td> <td>100.0</td> <td>Number</td> <td>60.0</td> <td>0.0</td> <td>0.0</td> <td>6000.0</td> </tr> <tr> <td>3</td> <td>LED Bulb</td> <td>50.0</td> <td>Number</td> <td>300.0</td> <td>10.0</td> <td>5.0</td> <td>14750.0</td> </tr> <tr> <td>4</td> <td>Tape</td> <td>50.0</td> <td>Number</td> <td>400.0</td> <td>0.0</td> <td>0.0</td> <td>20000.0</td> </tr> </tbody> </table> <div style="text-align: center; margin-top: 10px;"> <p>Thank You ! Come Again !</p> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div> Item Count : 4 Discount : 1000.0 Vat : 450.0 </div> <div> Total Amount : 45450.0 Net Amount : 45450.0 </div> </div> <div style="display: flex; justify-content: space-between; font-size: small; margin-top: 10px;"> Email : pamunuwilahardware@gmail.com Contact No : 0775561834 </div> </div>		Pno	Product	Qty	Unit	Unit Buy Price	Discount	VAT	Amount	1	PVC	100.0	Number	50.0	5.0	2.0	4700.0	2	Tap	100.0	Number	60.0	0.0	0.0	6000.0	3	LED Bulb	50.0	Number	300.0	10.0	5.0	14750.0	4	Tape	50.0	Number	400.0	0.0	0.0	20000.0
Pno	Product	Qty	Unit	Unit Buy Price	Discount	VAT	Amount																																		
1	PVC	100.0	Number	50.0	5.0	2.0	4700.0																																		
2	Tap	100.0	Number	60.0	0.0	0.0	6000.0																																		
3	LED Bulb	50.0	Number	300.0	10.0	5.0	14750.0																																		
4	Tape	50.0	Number	400.0	0.0	0.0	20000.0																																		
<p>01. Description of the KPI:</p> <p><i>This business has two main parts as buying products and selling products. Suppliers supply products when purchasing products. At that point, the user accepts the products and inserts them into the system as a GRN. Here an invoice with the data of the products purchased by the business is printed and issued to the supplier. This invoice generates every time the business purchases products and it contains the data of all the products purchased. The supplier keeps this invoice with him as proof of the transaction. In this case, the invoice is printed as the GRN that is included in the system to accept the relevant products.</i></p>																																									
<p>02. Description of the Report:</p> <p><i>The main objective of this invoice is to display the GRN number, the invoice issued date, details of the supplier who supplied the products to the business (supplier number, supplier name), product details supplied (quantity purchased, unit buy price, discount on each product, VAT on each product, product amount), item count, total discount, total VAT, total amount and net amount.</i></p>																																									

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. Report No : 2

4. Title of the Report : Invoice Report

KPI Name (1 mark) : Invoice

PAMUNUWILA HARDWARE
INVOICE

Invoice No : 1

 Customer No : 1
 Customer Name : Nimal

Date : August 30,

Pro	Product	Qty	Unit	Unit Sell Price	Discount	Tax	Amount
1	PVC	10.0	Number	80.0	2.0	0.0	780.0
2	Tap	5.0	Number	150.0	10.0	5.0	725.0
3	LED Bulb	2.0	Number	500.0	0.0	0.0	1000.0
4	Tape	1.0	Number	600.0	0.0	0.0	600.0

Thank You !
 Come Again !

Item Count : 4

 Discount : 70.0

 Tax : 25.0

Total Amount : 3105.0

 Net Amount : 3105.0

Email : pamunuwilahardware@gmail.com

Contact No : 0775561834

01. Description of the KPI:

This business has two main parts as buying products and selling products. Customers buy products when selling products. At that point, the user issues the products and inserts them into the system as an invoice. Here an invoice with the data of the products sold by the business is printed and issued to the customer. This invoice generates every time the business sells products and it contains the data of all the products sold. The customer keeps this invoice with him as proof of the transaction. In this case, the invoice is printed as the invoice that is included in the system to sell the relevant products.

02. Description of the Report:

The main objective of this invoice is to display the invoice number, the invoice issued date, details of the customer who bought the products in the business (customer number, customer name), product details bought (the quantity bought, unit buy price, discount on each product, tax on each product, product amount), item count, total discount, total tax, total amount and net amount.


```

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */

@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    progressLabel = new javax.swing.JLabel();
    progressBar = new javax.swing.JProgressBar();

    setDefaultCloseOperation(javax.swing.WindowConstants.DO_NOTHING_ON_CLOSE);
    setAlwaysOnTop(true);
    setUndecorated(true);
    setResizable(false);

    jPanel1.setBackground(new java.awt.Color(224, 161, 116));

    jLabel1.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/3918 [Converted].jpg"))); //
    NOI18N

    progressLabel.setForeground(new java.awt.Color(255, 255, 255));
    progressLabel.setText("0%");

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);

```

```

jPanel1.setLayout(jPanel1Layout);

jPanel1Layout.setHorizontalGroup(

    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

        .addComponent(progressBar, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

        .addGroup(jPanel1Layout.createSequentialGroup())

            .addContainerGap()

            .addComponent(progressLabel)

            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

);

jPanel1Layout.setVerticalGroup(

    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel1Layout.createSequentialGroup())

            .addComponent(jLabel1)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(progressLabel)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(progressBar, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))

);

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

);

```

```

layout.setVerticalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    );

```

```

pack();

setLocationRelativeTo(null);

} // </editor-fold>

```

```

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */

    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

    // try {

```

```
//      for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

//          if ("Nimbus".equals(info.getName())) {

//              javax.swing.UIManager.setLookAndFeel(info.getClassName());

//              break;

//          }

//      }

//  } catch (ClassNotFoundException ex) {

//      java.util.logging.Logger.getLogger(SplashScreen.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  } catch (InstantiationException ex) {

//      java.util.logging.Logger.getLogger(SplashScreen.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  } catch (IllegalAccessException ex) {

//      java.util.logging.Logger.getLogger(SplashScreen.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//      java.util.logging.Logger.getLogger(SplashScreen.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  }

//</editor-fold>
```

```
/* Create and display the form */
```

```
java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        new SplashScreen().setVisible(true);

    }

});

}
```

```
// Variables declaration - do not modify
```

```

private javax.swing.JLabel jLabel1;

private javax.swing.JPanel jPanel1;

public javax.swing.JProgressBar progressBar;

public javax.swing.JLabel progressLabel;

// End of variables declaration
}

```

3.2 LoginForm.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;
import java.util.Date;
import javax.swing.JOptionPane;
import javax.swing.UIManager;
import model.LoginFormModel;
import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class LoginForm extends javax.swing.JFrame {

```

```

/**
 * Creates new form LoginForm
 */

private LoginFormModel loginFormModel;

static Logger logger = Logger.getLogger(LoginForm.class.getName());


int userNo;

String usernameChecked;

int jobroleNo;

String jobroleName;


public LoginForm() {
    initComponents();

    logger.debug("Access to LoginForm.java");


    loginFormModel = new LoginFormModel();


    this.addWindowListener(new WindowAdapter() {

        @Override

        public void windowClosing(WindowEvent e) {

            Exit();

        }

    });

}


void Exit() {

```

```

        int a = JOptionPane.showConfirmDialog(rootPane, "Do you Want to exit ?", "Message",
JOptionPane.YES_NO_OPTION);

        if (a == JOptionPane.YES_OPTION) {

            logger.debug("Exit of PAMUNUWILA HARDWARE (Pvt) Ltd software application [END]");

            logger.debug("Logout: "+new Date()+" [DATE/Time]");

            System.exit(0);

        }
    }

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    jPanel2 = new javax.swing.JPanel();
    usernameField = new javax.swing.JTextField();
    passwordField = new javax.swing.JPasswordField();
    jLabel2 = new javax.swing.JLabel();
    jLabel3 = new javax.swing.JLabel();
    loginButton = new javax.swing.JButton();
    messageLabel = new javax.swing.JLabel();

    setDefaultCloseOperation(javax.swing.WindowConstants.DO_NOTHING_ON_CLOSE);

```



```

setTitle("Login");

setAlwaysOnTop(true);

setResizable(false);


jLabel1.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);

jLabel1.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-lock-100.png"))); //
NOI18N

jLabel2.setText("Username");

jLabel3.setText("Password");


loginButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
loginButton.setText("Login");
loginButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        loginButtonActionPerformed(evt);
    }
});

javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
jPanel2.setLayout(jPanel2Layout);
jPanel2Layout.setHorizontalGroup(
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel2Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE, 126, Short.MAX_VALUE)
            .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

```

```

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 18, Short.MAX_VALUE)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

                .addComponent(usernameField)

                .addComponent(passwordField, javax.swing.GroupLayout.DEFAULT_SIZE, 300,
Short.MAX_VALUE))

            .addComponent(loginButton, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addContainerGap())
    );

    jPanel2Layout.setVerticalGroup(

        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel2Layout.createSequentialGroup())

        .addContainerGap()

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(usernameField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE))

        .addGap(18, 18, 18)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(passwordField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addGap(18, 18, 18)

        .addComponent(loginButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

    messageLabel.setForeground(new java.awt.Color(255, 0, 0));

    messageLabel.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);

```

```

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);

jPanel1.setLayout(jPanel1Layout);

jPanel1Layout.setHorizontalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(216, 216, 216)
            .addComponent(jLabel1)
            .addGap(36, 36, 36)
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(messageLabel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))))
            .addGap(36, Short.MAX_VALUE))
    );

jPanel1Layout.setVerticalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(16, 16, 16)
            .addComponent(jLabel1)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(messageLabel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(0, 0, 0)
            .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

```

```

        .addContainerGap(35, Short.MAX_VALUE)

    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);

    layout.setHorizontalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    );

    layout.setVerticalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    );

    pack();

    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void loginButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    String username = usernameField.getText();

    String password = passwordField.getText();

    if (username.equals("")) {

        messageLabel.setText("Please Enter The Userame !");

        logger.error("Error: Username not enterd");

        usernameField.requestFocus(true);

    } else if (password.equals("")) {

```

```

messageLabel.setText("Please Enter The Password !");

logger.error("Error: Password not entered");

passwordField.requestFocus(true);
} else {

    Object[] userData = loginFormModel.getUserData(username, password);

    int loginStatus = (int) userData[0];

    userNo = (int) userData[1];

    usernameChecked = (String) userData[2];

    jobroleNo = (int) userData[3];

    jobroleName = (String) userData[4];

    if (loginStatus == 0) {

        messageLabel.setText("Invalid Username !");

        logger.error("Error: Invalid Username !");

    } else if (loginStatus == 1) {

        new HomePage(userNo, usernameChecked, jobroleNo, jobroleName).setVisible(true);

        logger.debug("Login to PAMUNUWILA HARDWARE (Pvt) Ltd Software Application");

        logger.debug("Login: "+new Date()+" [DATE/Time]");

        this.dispose();

        logger.debug("Dispose of LoginForm.java");

    } else if (loginStatus == 2) {

        messageLabel.setText("Incorrect Password !");

        logger.error("Error: Incorrect Password !");

    }

}

}

```

```

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    <!--<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
    * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
    */
    try {
        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);
    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");
    }

    //    try {
    //        for (javax.swing.UIManager.LookAndFeelInfo info :
    javax.swing.UIManager.getInstalledLookAndFeels()) {
    //            if ("Windows".equals(info.getName())) {
    //                javax.swing.UIManager.setLookAndFeel(info.getClassName());
    //                break;
    //            }
    //        }
    //    } catch (ClassNotFoundException ex) {
    //        java.util.logging.Logger.getLogger(LoginForm.class.getName()).log(java.util.logging.Level.SEVERE, null,
    ex);

```

```
//    } catch (InstantiationException ex) {

//        java.util.logging.Logger.getLogger(LoginForm.class.getName()).log(java.util.logging.Level.SEVERE, null,
//ex);

//    } catch (IllegalAccessException ex) {

//        java.util.logging.Logger.getLogger(LoginForm.class.getName()).log(java.util.logging.Level.SEVERE, null,
//ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//        java.util.logging.Logger.getLogger(LoginForm.class.getName()).log(java.util.logging.Level.SEVERE, null,
//ex);

//    }

//</editor-fold>

//</editor-fold>
```

```
SplashScreen s = new SplashScreen();

s.setVisible(true);

try {

    for (int i = 0; i <= 100; i++) {

        Thread.sleep(40);

        s.progressLabel.setText(i+"%");

        s.progressBar.setValue(i);

    }

} catch (Exception e) {

    logger.error("Exception: " + e.getMessage());

}

s.dispose();

logger.debug("Dispose of SplashScreen.java");

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {
```

```

        new LoginForm().setVisible(true);

        logger.debug("Run of PAMUNUWILA HARDWARE (Pvt) Ltd software application");
    }

});

}

// Variables declaration - do not modify

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JButton loginButton;

private javax.swing.JLabel messageLabel;

private javax.swing.JPasswordField passwordField;

private javax.swing.JTextField usernameField;

// End of variables declaration
}

```

3.3 LoginFormModel.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package model;

import java.sql.Connection;

import java.sql.PreparedStatement;

```



```

import java.sql.ResultSet;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class LoginFormModel {

    private Connection dbConnection;

    static Logger logger = Logger.getLogger(LoginFormModel.class.getName());

    public LoginFormModel() {

        dbConnection = database.DBConnection.getConnection();

    }

    public Object[] getUserData(String username, String password) {

        String query = "SELECT * FROM user INNER JOIN jobrole ON user.jobrole_no = jobrole.jobrole_no WHERE user_username = ? AND user_status = ?";

        logger.debug("SQL query String: " + query);

        try {

            PreparedStatement psm = dbConnection.prepareStatement(query);

            psm.setString(1, username);

            psm.setInt(2, 1);

            ResultSet rs = psm.executeQuery();

            logger.debug("Query execution done");

            Object[] rowData = null;

```

```

int loggingStatus = 0;

int userNo = 0;

String usernameChecked = null;

String passwordChecked = null;

int jobroleNo = 0;

String jobroleName = null;


while (rs.next()) {

    userNo = rs.getInt("user_no");

    usernameChecked = rs.getString("user_username");

    passwordChecked = rs.getString("user_password");

    jobroleNo = rs.getInt("user.jobrole_no");

    jobroleName = rs.getString("jobrole_name");


    logger.debug("Check validation of username & password");

    if (usernameChecked.equals(username) && passwordChecked.equals(password)) {

        loggingStatus = 1;

    } else {

        loggingStatus = 2;

    }

    logger.debug("Set login status");

}

rowData = new Object[]{loggingStatus, userNo, usernameChecked, jobroleNo, jobroleName};

logger.debug("return rowData");

return rowData;

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

```

```

        logger.debug("return null");

        return null;
    }
}

```

3.4 HomePage.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;
import java.util.Date;
import javax.swing.JOptionPane;
import javax.swing.UIManager;
import model.HomeModel;
import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class HomePage extends javax.swing.JFrame {

    /**

```

```

* Creates new form HomePage

*/

private HomeModel homeModel;

static Logger logger = Logger.getLogger(HomePage.class.getName());

int userNoThis;

String usernameCheckedThis;

int jobroleNoThis;

String jobroleNameThis;

public HomePage(int userNo, String usernameChecked, int jobroleNo, String jobroleName) {

    initComponents();

    logger.debug("Access to HomePage.java");

    setExtendedState(MAXIMIZED_BOTH);

    homeModel = new HomeModel();

    userNoThis = userNo;

    usernameCheckedThis = usernameChecked;

    jobroleNoThis = jobroleNo;

    jobroleNameThis = jobroleName;

    logger.debug("Give user access");

    userNoLabel.setText(String.valueOf(userNoThis));

    usernameLabel.setText(usernameCheckedThis);

    jobroleNoLabel.setText(String.valueOf(jobroleNoThis));

    jobroleNameLabel.setText(jobroleNameThis);

    datetimeLabel.setText(new Date().toString());

    jDateChooser1.setDate(new Date());

```

```
double purchaseAmount = homeModel.getPurchaseAmount();  
purchaseAmountLabel.setText(new String(purchaseAmount + ""));  
logger.debug("Set purchase amount");
```

```
double salesAmount = homeModel.getSalesAmount();  
salesAmountLabel.setText(new String(salesAmount + ""));  
logger.debug("Set sales amount");
```

```
double transaction = salesAmount - purchaseAmount;  
transactionLabel.setText(String.valueOf(transaction));  
logger.debug("Set transaction");
```

```
this.addWindowListener(new WindowAdapter() {  
    @Override  
    public void windowClosing(WindowEvent e) {  
        Exit();  
    }  
});  
}
```

```
private HomePage() {  
    throw new UnsupportedOperationException("Not supported yet."); //To change body of generated  
    methods, choose Tools | Templates.  
}
```

```
void Exit() {  
    int a = JOptionPane.showConfirmDialog(rootPane, "Do you Want to exit ?", "Message",  
    JOptionPane.YES_NO_OPTION);
```

```

if (a == JOptionPane.YES_OPTION) {

    logger.debug("Exit of PAMUNUWILA HARDWARE (Pvt) Ltd software application [END]");

    logger.debug("Logout: "+new Date()+" [DATE/Time]");

    System.exit(0);

}

}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */

@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jTabbedPane1 = new javax.swing.JTabbedPane();

    jPanel1 = new javax.swing.JPanel();

    homeButton = new javax.swing.JButton();

    grnButton = new javax.swing.JButton();

    salesButton = new javax.swing.JButton();

    stockButton = new javax.swing.JButton();

    productButton = new javax.swing.JButton();

    supplierButton = new javax.swing.JButton();

    customerButton = new javax.swing.JButton();

    aboutButton = new javax.swing.JButton();

    jSeparator1 = new javax.swing.JSeparator();

    jSeparator2 = new javax.swing.JSeparator();

    jSeparator3 = new javax.swing.JSeparator();

```

```
jPanel3 = new javax.swing.JPanel();

backupRestoreButton = new javax.swing.JButton();

jPanel4 = new javax.swing.JPanel();

jLabel1 = new javax.swing.JLabel();

jDateChooser1 = new com.toedter.calendar.JDateChooser();

jPanel5 = new javax.swing.JPanel();

jPanel7 = new javax.swing.JPanel();

purchaseAmountLabel = new javax.swing.JLabel();

jLabel9 = new javax.swing.JLabel();

jLabel10 = new javax.swing.JLabel();

jPanel9 = new javax.swing.JPanel();

transactionLabel = new javax.swing.JLabel();

jLabel13 = new javax.swing.JLabel();

jPanel10 = new javax.swing.JPanel();

salesAmountLabel = new javax.swing.JLabel();

jLabel15 = new javax.swing.JLabel();

jPanel6 = new javax.swing.JPanel();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

jLabel4 = new javax.swing.JLabel();

jLabel5 = new javax.swing.JLabel();

jLabel6 = new javax.swing.JLabel();

jPanel8 = new javax.swing.JPanel();

jLabel7 = new javax.swing.JLabel();

usernameLabel = new javax.swing.JLabel();

userNoLabel = new javax.swing.JLabel();

jSeparator7 = new javax.swing.JSeparator();

jobroleNoLabel = new javax.swing.JLabel();

jobroleNameLabel = new javax.swing.JLabel();
```

```

jSeparator8 = new javax.swing.JSeparator();

jLabel8 = new javax.swing.JLabel();

datetimeLabel = new javax.swing.JLabel();

jLabel11 = new javax.swing.JLabel();

jLabel12 = new javax.swing.JLabel();


setDefaultCloseOperation(javax.swing.WindowConstants.DO_NOTHING_ON_CLOSE);

setTitle("PAMUNUWILA HARDWARE (Pvt) Ltd");


jPanel1.setBackground(new java.awt.Color(227, 227, 227));


homeButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-home-page-50.png"))); // NOI18N

homeButton.setText("Home");

homeButton.setContentAreaFilled(false);

homeButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);

homeButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);

homeButton.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseEntered(java.awt.event.MouseEvent evt) {

        homeButtonMouseEntered(evt);

    }

    public void mouseExited(java.awt.event.MouseEvent evt) {

        homeButtonMouseExited(evt);

    }

});

homeButton.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        homeButtonActionPerformed(evt);

    }

}

```



```
});
```

```
grnButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-goodnotes-50.png"))); // NOI18N
```

```
grnButton.setText("GRN");
```

```
grnButton.setContentAreaFilled(false);
```

```
grnButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);
```

```
grnButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);
```

```
grnButton.addMouseListener(new java.awt.event.MouseAdapter() {
```

```
    public void mouseEntered(java.awt.event.MouseEvent evt) {
```

```
        grnButtonMouseEntered(evt);
```

```
    }
```

```
    public void mouseExited(java.awt.event.MouseEvent evt) {
```

```
        grnButtonMouseExited(evt);
```

```
    }
```

```
});
```

```
grnButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        grnButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
salesButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-invoice-50.png"))); // NOI18N
```

```
salesButton.setText("Sales");
```

```
salesButton.setContentAreaFilled(false);
```

```
salesButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);
```

```
salesButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);
```

```
salesButton.addMouseListener(new java.awt.event.MouseAdapter() {
```

```
    public void mouseEntered(java.awt.event.MouseEvent evt) {
```

```

        salesButtonMouseEntered(evt);
    }

    public void mouseExited(java.awt.event.MouseEvent evt) {
        salesButtonMouseExited(evt);
    }
});

salesButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        salesButtonActionPerformed(evt);
    }
});

```

```

        stockButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-list-view-50.png"))); // NOI18N

```

```

        stockButton.setText("Stock");
        stockButton.setContentAreaFilled(false);
        stockButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);
        stockButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);
        stockButton.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseEntered(java.awt.event.MouseEvent evt) {
                stockButtonMouseEntered(evt);
            }

            public void mouseExited(java.awt.event.MouseEvent evt) {
                stockButtonMouseExited(evt);
            }
        });

        stockButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                stockButtonActionPerformed(evt);
            }
        });

```

```
}  
});
```

```
productButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-product-  
50.png"))); // NOI18N
```

```
productButton.setText("Products");  
productButton.setContentAreaFilled(false);  
productButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);  
productButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);  
productButton.addMouseListener(new java.awt.event.MouseAdapter() {  
    public void mouseEntered(java.awt.event.MouseEvent evt) {  
        productButtonMouseEntered(evt);  
    }  
    public void mouseExited(java.awt.event.MouseEvent evt) {  
        productButtonMouseExited(evt);  
    }  
});  
productButton.addActionListener(new java.awt.event.ActionListener() {  
    public void actionPerformed(java.awt.event.ActionEvent evt) {  
        productButtonActionPerformed(evt);  
    }  
});
```

```
supplierButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-supplier-  
50.png"))); // NOI18N
```

```
supplierButton.setText("Suppliers");  
supplierButton.setContentAreaFilled(false);  
supplierButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);  
supplierButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);  
supplierButton.addMouseListener(new java.awt.event.MouseAdapter() {
```

```

public void mouseEntered(java.awt.event.MouseEvent evt) {
    supplierButtonMouseEntered(evt);
}

public void mouseExited(java.awt.event.MouseEvent evt) {
    supplierButtonMouseExited(evt);
}

});

supplierButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        supplierButtonActionPerformed(evt);
    }
});

customerButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-customer-50.png"))); // NOI18N

customerButton.setText("Customers");
customerButton.setContentAreaFilled(false);
customerButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);
customerButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);
customerButton.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseEntered(java.awt.event.MouseEvent evt) {
        customerButtonMouseEntered(evt);
    }

    public void mouseExited(java.awt.event.MouseEvent evt) {
        customerButtonMouseExited(evt);
    }
});

customerButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {

```

```
        customerButtonActionPerformed(evt);  
    }  
});
```

```
        aboutButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-about-  
50.png"))); // NOI18N
```

```
        aboutButton.setText("About");  
        aboutButton.setContentAreaFilled(false);  
        aboutButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);  
        aboutButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);  
        aboutButton.addMouseListener(new java.awt.event.MouseAdapter() {  
            public void mouseEntered(java.awt.event.MouseEvent evt) {  
                aboutButtonMouseEntered(evt);  
            }  
            public void mouseExited(java.awt.event.MouseEvent evt) {  
                aboutButtonMouseExited(evt);  
            }  
        });  
        aboutButton.addActionListener(new java.awt.event.ActionListener() {  
            public void actionPerformed(java.awt.event.ActionEvent evt) {  
                aboutButtonActionPerformed(evt);  
            }  
        });
```

```
jSeparator1.setOrientation(javax.swing.SwingConstants.VERTICAL);
```

```
jSeparator2.setOrientation(javax.swing.SwingConstants.VERTICAL);
```

```
jSeparator3.setOrientation(javax.swing.SwingConstants.VERTICAL);
```

```

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
jPanel1.setLayout(jPanel1Layout);
jPanel1Layout.setHorizontalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addComponent(homeButton)
            .addGap(10, 10, 10)
            .addComponent(grnButton)
            .addGap(10, 10, 10)
            .addComponent(salesButton)
            .addGap(10, 10, 10)
            .addComponent(stockButton)
            .addGap(10, 10, 10)
            .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE,
                javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(10, 10, 10)
            .addComponent(productButton)
            .addGap(10, 10, 10)
            .addComponent(jSeparator2, javax.swing.GroupLayout.PREFERRED_SIZE,
                javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(10, 10, 10)
            .addComponent(supplierButton)
            .addGap(10, 10, 10)
            .addComponent(customerButton)
            .addGap(10, 10, 10)
            .addComponent(jSeparator3, javax.swing.GroupLayout.PREFERRED_SIZE,
                javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(10, 10, 10)
        )
    )

```

```

        .addComponent(aboutButton)

        .addContainerGap(1179, Short.MAX_VALUE))

);

jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jSeparator1)

.addComponent(jSeparator2)

.addGroup(jPanel1Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addComponent(grnButton, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 80, Short.MAX_VALUE)

    .addComponent(homeButton, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(salesButton, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 80, Short.MAX_VALUE)

    .addComponent(stockButton, javax.swing.GroupLayout.DEFAULT_SIZE, 80, Short.MAX_VALUE)

    .addComponent(productButton, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 80, Short.MAX_VALUE)

    .addComponent(supplierButton, javax.swing.GroupLayout.DEFAULT_SIZE, 80, Short.MAX_VALUE)

    .addComponent(customerButton, javax.swing.GroupLayout.DEFAULT_SIZE, 80, Short.MAX_VALUE)

    .addComponent(aboutButton, javax.swing.GroupLayout.DEFAULT_SIZE, 80, Short.MAX_VALUE))

.addContainerGap())

.addComponent(jSeparator3)

);

jTabbedPane1.addTab("Home", jPanel1);

jPanel3.setBackground(new java.awt.Color(227, 227, 227));

backupRestoreButton.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/icons8-cloud-

```

```

backupRestoreButton.setText("Backup & Restore");

backupRestoreButton.setContentAreaFilled(false);

backupRestoreButton.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);

backupRestoreButton.setVerticalTextPosition(javax.swing.SwingConstants.BOTTOM);

backupRestoreButton.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseEntered(java.awt.event.MouseEvent evt) {

        backupRestoreButtonMouseEntered(evt);

    }

    public void mouseExited(java.awt.event.MouseEvent evt) {

        backupRestoreButtonMouseExited(evt);

    }

});

backupRestoreButton.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        backupRestoreButtonActionPerformed(evt);

    }

});

javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
jPanel3.setLayout(jPanel3Layout);
jPanel3Layout.setHorizontalGroup(
    jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel3Layout.createSequentialGroup()
            .addGap(1770, 1770, Short.MAX_VALUE)
            .addContainerGap()
            .addComponent(backupRestoreButton)
            .addContainerGap(1770, Short.MAX_VALUE)
        )
);

jPanel3Layout.setVerticalGroup(

```



```

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel3Layout.createSequentialGroup())

.addContainerGap()

.addComponent(backupRestoreButton, javax.swing.GroupLayout.DEFAULT_SIZE, 80,
Short.MAX_VALUE)

.addContainerGap())

);

JTabbedPane1.addTab("Others", jPanel3);

jPanel4.setBackground(new java.awt.Color(227, 227, 227));

jLabel1.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel1.setText(" Login Date :");

javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
jPanel4.setLayout(jPanel4Layout);
jPanel4Layout.setHorizontalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel4Layout.createSequentialGroup())

            .addContainerGap()

                .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                    .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                    .addComponent(jDateChooser1, javax.swing.GroupLayout.DEFAULT_SIZE, 236, Short.MAX_VALUE))

                .addContainerGap())

        );

jPanel4Layout.setVerticalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel4Layout.createSequentialGroup())

```

```

        .addContainerGap()

        .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(jDateChooser1, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    );

jPanel7.setBackground(new java.awt.Color(188, 255, 188));

purchaseAmountLabel.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
purchaseAmountLabel.setText("0.00");
purchaseAmountLabel.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);

jLabel9.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel9.setText("Purchase");

javax.swing.GroupLayout jPanel7Layout = new javax.swing.GroupLayout(jPanel7);
jPanel7.setLayout(jPanel7Layout);
jPanel7Layout.setHorizontalGroup(
    jPanel7Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel7Layout.createSequentialGroup()
            .addContainerGap()
            .addGroup(jPanel7Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(purchaseAmountLabel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jLabel9, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addContainerGap())
        )
);

```

```

jPanel7Layout.setVerticalGroup(

    jPanel7Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel7Layout.createSequentialGroup())

            .addGap(52, 52, 52)

            .addComponent(purchaseAmountLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 40,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 61, Short.MAX_VALUE)

            .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addContainerGap())

);

jLabel10.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);

jLabel10.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/bar-chart-grap-of-a-
function.png"))); // NOI18N

jPanel9.setBackground(new java.awt.Color(188, 255, 188));

transactionLabel.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
transactionLabel.setText("0.00");
transactionLabel.setHorizontalTextPosition(javax.swing.SwingConstants.CENTER);

jLabel13.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel13.setText("Transaction");

javax.swing.GroupLayout jPanel9Layout = new javax.swing.GroupLayout(jPanel9);
jPanel9.setLayout(jPanel9Layout);
jPanel9Layout.setHorizontalGroup(

    jPanel9Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel9Layout.createSequentialGroup())

```

```

        .addContainerGap()

        .addGroup(jPanel9Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(transactionLabel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(jLabel13, javax.swing.GroupLayout.DEFAULT_SIZE, 176, Short.MAX_VALUE))

        .addContainerGap())
    );

    jPanel9Layout.setVerticalGroup(

        jPanel9Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel9Layout.createSequentialGroup())

            .addGap(52, 52, 52)

            .addComponent(transactionLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 40,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(jLabel13, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addContainerGap())
    );

    jPanel10.setBackground(new java.awt.Color(188, 255, 188));

    salesAmountLabel.setFont(new java.awt.Font("Tahoma", 0, 24)); // NOI18N
    salesAmountLabel.setText("0.00");
    salesAmountLabel.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);

    jLabel15.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel15.setText("Sales");

    javax.swing.GroupLayout jPanel10Layout = new javax.swing.GroupLayout(jPanel10);
    jPanel10.setLayout(jPanel10Layout);

```

```

jPanel10Layout.setHorizontalGroup(

jPanel10Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel10Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel10Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(salesAmountLabel, javax.swing.GroupLayout.DEFAULT_SIZE, 176,
Short.MAX_VALUE)

.addComponent(jLabel15, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addContainerGap())
);

jPanel10Layout.setVerticalGroup(

jPanel10Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel10Layout.createSequentialGroup())

.addGap(52, 52, 52)

.addComponent(salesAmountLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 40,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jLabel15, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addContainerGap())
);

javax.swing.GroupLayout jPanel5Layout = new javax.swing.GroupLayout(jPanel5);
jPanel5.setLayout(jPanel5Layout);
jPanel5Layout.setHorizontalGroup(

jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel5Layout.createSequentialGroup())

.addGap(120, 120, 120)

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

```

```

        .addComponent(jPanel9, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

        .addComponent(jPanel7, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addComponent(jPanel10, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 503,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(597, Short.MAX_VALUE))
);

jPanel5Layout.setVerticalGroup(

jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel5Layout.createSequentialGroup())

.addGap(90, 90, 90)

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

.addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 413,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(jPanel5Layout.createSequentialGroup())

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)

.addComponent(jPanel7, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jPanel10, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(jPanel9, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))

.addContainerGap(117, Short.MAX_VALUE))
);

jPanel6.setBackground(new java.awt.Color(231, 255, 255));

```

```
jLabel2.setFont(new java.awt.Font("Tahoma", 1, 36)); // NOI18N
```

```
jLabel2.setText("PAMUNUWILA HARDWARE (Pvt) Ltd");
```

```
jLabel3.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
jLabel3.setText("PAMUNUWILA HARDWARE is a HARDWARE SHOP. This Hardware Shop Management  
System (HSMS) is developed to make their day-to-day operations easier and more efficient.");
```

```
jLabel4.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
```

```
jLabel4.setText("Email : pamunuwilahardware@gmail.com");
```

```
jLabel5.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
```

```
jLabel5.setText("Contact No : 0775561834");
```

```
jLabel6.setText("All Rights Reserved to PAMUNUWILA HARDWARE");
```

```
jPanel8.setBackground(new java.awt.Color(252, 209, 167));
```

```
jLabel7.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
jLabel7.setText("User");
```

```
usernameLabel.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
userNoLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
jSeparator7.setOrientation(javax.swing.SwingConstants.VERTICAL);
```

```
jobroleNoLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
jobroleNameLabel.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
jSeparator8.setOrientation(javax.swing.SwingConstants.VERTICAL);
```

```
jLabel8.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
jLabel8.setText("Login Date");
```

```
datetimeLabel.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
javax.swing.GroupLayout jPanel8Layout = new javax.swing.GroupLayout(jPanel8);
```

```
jPanel8.setLayout(jPanel8Layout);
```

```
jPanel8Layout.setHorizontalGroup(
```

```
    jPanel8Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel8Layout.createSequentialGroup()
```

```
            .addGap(10, 10, 10)
```

```
            .addComponent(jLabel7)
```

```
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
            .addComponent(usernameLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 107,  
                javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
            .addComponent(userNoLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 32,  
                javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
            .addComponent(jSeparator7, javax.swing.GroupLayout.PREFERRED_SIZE,  
                javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
            .addComponent(jobroleNoLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 32,  
                javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
            .addComponent(jobroleNameLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 85,  
                javax.swing.GroupLayout.PREFERRED_SIZE)
```



```

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(jSeparator8, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 85,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(datetimeLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 474,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
);

jPanel8Layout.setVerticalGroup(

jPanel8Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jSeparator7, javax.swing.GroupLayout.Alignment.TRAILING)

.addComponent(jSeparator8)

.addGroup(jPanel8Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel8Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(userNoLabel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(usernameLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jobroleNoLabel, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jobroleNameLabel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jLabel8, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jLabel7, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(datetimeLabel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addContainerGap())

```

```
);
```

```
jLabel11.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
```

```
jLabel11.setText("Developed By : M.R.P.N.Tharuksha Rajapaksha");
```

```
jLabel12.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
```

```
jLabel12.setText("( Ver 1.0 )");
```

```
javax.swing.GroupLayout jPanel6Layout = new javax.swing.GroupLayout(jPanel6);
```

```
jPanel6.setLayout(jPanel6Layout);
```

```
jPanel6Layout.setHorizontalGroup(
```

```
    jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel6Layout.createSequentialGroup()
```

```
            .addGap(10, 10, 10)
```

```
            .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addGroup(jPanel6Layout.createSequentialGroup()
```

```
                    .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                        .addGroup(jPanel6Layout.createSequentialGroup()
```

```
                            .addComponent(jLabel2)
```

```
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
                            .addComponent(jLabel12))
```

```
                    .addComponent(jLabel3)
```

```
                    .addGroup(jPanel6Layout.createSequentialGroup()
```

```
                        .addComponent(jLabel4)
```

```
                        .addGap(73, 73, 73)
```

```
                        .addComponent(jLabel5)))
```

```
                .addGap(0, 558, Short.MAX_VALUE))
```

```
            .addGroup(jPanel6Layout.createSequentialGroup()
```

```
                .addComponent(jLabel6)
```

```

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

        .addComponent(jLabel11)))

    .addContainerGap()

    .addComponent(jPanel8, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

);

jPanel6Layout.setVerticalGroup(

jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel6Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel2)

.addComponent(jLabel12))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(jLabel3)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGap(12, 12, 12)

.addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel6)

.addComponent(jLabel11))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 18, Short.MAX_VALUE)

.addComponent(jPanel8, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))

);

```

```

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 0, Short.MAX_VALUE)

        .addGroup(layout.createParallelGroup())

            .addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(0, 0, 0)

            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addComponent(jPanel5, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jPanel6, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))

    );

layout.setVerticalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(layout.createParallelGroup())

            .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 136,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(0, 0, 0)

            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addGroup(layout.createParallelGroup())

                    .addComponent(jPanel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                    .addGap(0, 0, 0)

                    .addComponent(jPanel6, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))

                .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))

    );

```

```
pack();

setLocationRelativeTo(null);

} // </editor-fold>
```

```
private void homeButtonMouseEntered(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    homeButton.setContentAreaFilled(true);

}
```

```
private void homeButtonMouseExited(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    homeButton.setContentAreaFilled(false);

}
```

```
private void grnButtonMouseEntered(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    grnButton.setContentAreaFilled(true);

}
```

```
private void grnButtonMouseExited(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    grnButton.setContentAreaFilled(false);

}
```

```
private void salesButtonMouseEntered(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    salesButton.setContentAreaFilled(true);

}
```

```
private void salesButtonMouseExited(java.awt.event.MouseEvent evt) {  
    // TODO add your handling code here:  
    salesButton.setContentAreaFilled(false);  
}
```

```
private void stockButtonMouseEntered(java.awt.event.MouseEvent evt) {  
    // TODO add your handling code here:  
    stockButton.setContentAreaFilled(true);  
}
```

```
private void stockButtonMouseExited(java.awt.event.MouseEvent evt) {  
    // TODO add your handling code here:  
    stockButton.setContentAreaFilled(false);  
}
```

```
private void productButtonMouseEntered(java.awt.event.MouseEvent evt) {  
    // TODO add your handling code here:  
    productButton.setContentAreaFilled(true);  
}
```

```
private void productButtonMouseExited(java.awt.event.MouseEvent evt) {  
    // TODO add your handling code here:  
    productButton.setContentAreaFilled(false);  
}
```

```
private void supplierButtonMouseEntered(java.awt.event.MouseEvent evt) {  
    // TODO add your handling code here:  
    supplierButton.setContentAreaFilled(true);  
}
```

```
private void supplierButtonMouseExited(java.awt.event.MouseEvent evt) {  
  
    // TODO add your handling code here:  
  
    supplierButton.setContentAreaFilled(false);  
  
}
```

```
private void customerButtonMouseEntered(java.awt.event.MouseEvent evt) {  
  
    // TODO add your handling code here:  
  
    customerButton.setContentAreaFilled(true);  
  
}
```

```
private void customerButtonMouseExited(java.awt.event.MouseEvent evt) {  
  
    // TODO add your handling code here:  
  
    customerButton.setContentAreaFilled(false);  
  
}
```

```
private void aboutButtonMouseEntered(java.awt.event.MouseEvent evt) {  
  
    // TODO add your handling code here:  
  
    aboutButton.setContentAreaFilled(true);  
  
}
```

```
private void aboutButtonMouseExited(java.awt.event.MouseEvent evt) {  
  
    // TODO add your handling code here:  
  
    aboutButton.setContentAreaFilled(false);  
  
}
```

```
private void homeButtonActionPerformed(java.awt.event.ActionEvent evt) {  
  
    // TODO add your handling code here:  
  
    new HomePage(userNoThis, usernameCheckedThis, jobroleNoThis, jobroleNameThis).setVisible(true);  
  
}
```

```
    this.dispose();  
}
```

```
private void grnButtonActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    new GrnManager().setVisible(true);  
}
```

```
private void salesButtonActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    new SalesManager().setVisible(true);  
}
```

```
private void stockButtonActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    new StockManager().setVisible(true);  
}
```

```
private void productButtonActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    new ProductManager().setVisible(true);  
}
```

```
private void supplierButtonActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    new SupplierManager().setVisible(true);  
}
```

```
private void customerButtonActionPerformed(java.awt.event.ActionEvent evt) {
```



```

// TODO add your handling code here:

new CustomerManager().setVisible(true);
}

private void aboutButtonActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

new About().setVisible(true);
}

private void backupRestoreButtonMouseEntered(java.awt.event.MouseEvent evt) {

// TODO add your handling code here:

backupRestoreButton.setContentAreaFilled(true);
}

private void backupRestoreButtonMouseExited(java.awt.event.MouseEvent evt) {

// TODO add your handling code here:

backupRestoreButton.setContentAreaFilled(false);
}

private void backupRestoreButtonActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

new BackupAndRestore().setVisible(true);
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

/* Set the Nimbus look and feel */

```

```

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
 * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
 */

try {

    UIManager.setLookAndFeel(new FlatIntelliJLaf());

    UIManager.put("Table.showHorizontalLines", true);

    UIManager.put("Table.showVerticalLines", true);

    UIManager.put("ScrollBar.showButtons", true);

    UIManager.put("ScrollBar.width", 16);

} catch (Exception ex) {

    System.err.println("Failed to initialize LaF");

}

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
// javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//        java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.logging.Level.SEVERE,
// null, ex);

//    } catch (InstantiationException ex) {

//        java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.logging.Level.SEVERE,
// null, ex);

//    } catch (IllegalAccessException ex) {

//        java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.logging.Level.SEVERE,
// null, ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

```

```

//      java.util.logging.Logger.getLogger(HomePage.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    }

//</editor-fold>

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        new HomePage().setVisible(true);

    }

});
}

// Variables declaration - do not modify

private javax.swing.JButton aboutButton;

private javax.swing.JButton backupRestoreButton;

private javax.swing.JButton customerButton;

private javax.swing.JLabel datetimeLabel;

private javax.swing.JButton grnButton;

private javax.swing.JButton homeButton;

private com.toedter.calendar.JDateChooser jDateChooser1;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel10;

private javax.swing.JLabel jLabel11;

private javax.swing.JLabel jLabel12;

private javax.swing.JLabel jLabel13;

private javax.swing.JLabel jLabel15;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

```

```
private javax.swing.JLabel jLabel4;
private javax.swing.JLabel jLabel5;
private javax.swing.JLabel jLabel6;
private javax.swing.JLabel jLabel7;
private javax.swing.JLabel jLabel8;
private javax.swing.JLabel jLabel9;
private javax.swing.JPanel jPanel1;
private javax.swing.JPanel jPanel10;
private javax.swing.JPanel jPanel3;
private javax.swing.JPanel jPanel4;
private javax.swing.JPanel jPanel5;
private javax.swing.JPanel jPanel6;
private javax.swing.JPanel jPanel7;
private javax.swing.JPanel jPanel8;
private javax.swing.JPanel jPanel9;
private javax.swing.JSeparator jSeparator1;
private javax.swing.JSeparator jSeparator2;
private javax.swing.JSeparator jSeparator3;
private javax.swing.JSeparator jSeparator7;
private javax.swing.JSeparator jSeparator8;
private javax.swing.JTabbedPane jTabbedPane1;
private javax.swing.JLabel jobroleNameLabel;
private javax.swing.JLabel jobroleNoLabel;
private javax.swing.JButton productButton;
private javax.swing.JLabel purchaseAmountLabel;
private javax.swing.JLabel salesAmountLabel;
private javax.swing.JButton salesButton;
private javax.swing.JButton stockButton;
private javax.swing.JButton supplierButton;
```

```

private javax.swing.JLabel transactionLabel;

private javax.swing.JLabel userNoLabel;

private javax.swing.JLabel usernameLabel;

// End of variables declaration
}

```

3.5 HomeModel.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package model;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.util.Date;
import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class HomeModel {

    private Connection dbConnection;

    static Logger logger = Logger.getLogger(HomeModel.class.getName());

    public HomeModel() {

```

```

        dbConnection = database.DBConnection.getConnection();
    }

    public double getPurchaseAmount(){

        String query = "SELECT SUM(grn_amount) FROM grn" ;

        logger.debug("SQL query String: " + query);

        try {

            PreparedStatement psm = dbConnection.prepareStatement(query);

            ResultSet rs = psm.executeQuery();

            logger.debug("Query execution done");

            double purchaseAmount = 0;

            while (rs.next()) {

                purchaseAmount = rs.getDouble("SUM(grn_amount)");

                logger.debug("return purchaseAmount");

                return purchaseAmount;

            }

        } catch (Exception e) {

            e.printStackTrace();

            logger.error("Exception: " + e.getMessage());

        }

        logger.debug("return 0");

        return 0;

    }

    public double getSalesAmount(){

        String query = "SELECT SUM(customer_invoice_amount) FROM customer_invoice;" ;

        logger.debug("SQL query String: " + query);

```

```

try {

    PreparedStatement psm = dbConnection.prepareStatement(query);

    ResultSet rs = psm.executeQuery();

    logger.debug("Query execution done");

    double salesAmount = 0;

    while (rs.next()) {

        salesAmount = rs.getDouble("SUM(customer_invoice_amount)");

        logger.debug("return salesAmount");

        return salesAmount;

    }

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

logger.debug("return null");

return 0;

}

}

```

3.6 GrnManager.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

```

```

import java.awt.event.KeyEvent;

import java.util.Date;

import java.util.regex.Matcher;

import java.util.regex.Pattern;

import javax.swing.JOptionPane;

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import model.GrnModel;

import org.apache.log4j.Logger;


/**
 *
 * @author EZIO AUDITORY
 */
public class GrnManager extends javax.swing.JFrame {


    /**
     * Creates new form GrnManager
     */
    private GrnModel grnModel;

    private LoadSupplierDialog loadSupplierDialog;

    private LoadProductDialog loadProductDialog;

    static Logger logger = Logger.getLogger(GrnManager.class.getName());


    DefaultTableModel grnTableModel;

    DefaultTableModel grnHistoryTableModel;


    int supplierNo;

    int selectedRow;

```



```

public GrnManager() {

    initComponents();

    logger.debug("Access to GrnManager.java");


    grnTableModel = (DefaultTableModel) grnTable.getModel();
    grnHistoryTableModel = (DefaultTableModel) grnHistoryTable.getModel();


    grnModel = new GrnModel();

    loadSupplierDialog = new LoadSupplierDialog(this, rootPaneCheckingEnabled);
    loadProductDialog = new LoadProductDialog(this, rootPaneCheckingEnabled);


    grnNoLoad();

    loadGrnHistoryTable("");


    grnDateChooser.setDate(new java.util.Date());

}


/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jTablebedPane1 = new javax.swing.JTabbedPane();

```

```
jPanel1 = new javax.swing.JPanel();

jPanel4 = new javax.swing.JPanel();

grnNoField = new javax.swing.JTextField();

grnDateChooser = new com.toedter.calendar.JDateChooser();

supplierNameField = new javax.swing.JTextField();

jLabel1 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

jScrollPane1 = new javax.swing.JScrollPane();

grnTable = new javax.swing.JTable();

jPanel5 = new javax.swing.JPanel();

totalDiscountField = new javax.swing.JTextField();

totalAmountField = new javax.swing.JTextField();

netAmountField = new javax.swing.JTextField();

totalVatField = new javax.swing.JTextField();

itemCountField = new javax.swing.JTextField();

jLabel4 = new javax.swing.JLabel();

jLabel5 = new javax.swing.JLabel();

jLabel6 = new javax.swing.JLabel();

jLabel7 = new javax.swing.JLabel();

jLabel8 = new javax.swing.JLabel();

jSeparator1 = new javax.swing.JSeparator();

jPanel6 = new javax.swing.JPanel();

deleteRowButton = new javax.swing.JButton();

saveGrnButton = new javax.swing.JButton();

newGrnButton = new javax.swing.JButton();

GrnButton = new javax.swing.JButton();

jPanel3 = new javax.swing.JPanel();

jLabel9 = new javax.swing.JLabel();
```

```

productNameField = new javax.swing.JTextField();

jLabel10 = new javax.swing.JLabel();

unitSellPriceField = new javax.swing.JTextField();

jLabel11 = new javax.swing.JLabel();

qtyField = new javax.swing.JTextField();

jLabel12 = new javax.swing.JLabel();

unitNameField = new javax.swing.JTextField();

jLabel13 = new javax.swing.JLabel();

unitBuyPriceField = new javax.swing.JTextField();

jLabel14 = new javax.swing.JLabel();

discountField = new javax.swing.JTextField();

jLabel15 = new javax.swing.JLabel();

vatField = new javax.swing.JTextField();

jLabel16 = new javax.swing.JLabel();

amountField = new javax.swing.JTextField();

addRowButton = new javax.swing.JButton();

updateRowButton = new javax.swing.JButton();

jLabel17 = new javax.swing.JLabel();

productNoField = new javax.swing.JTextField();

clearFiledButton = new javax.swing.JButton();

jPanel2 = new javax.swing.JPanel();

keywordField = new javax.swing.JTextField();

jScrollPane3 = new javax.swing.JScrollPane();

grnHistoryTable = new javax.swing.JTable();

jSeparator2 = new javax.swing.JSeparator();

grnButton1 = new javax.swing.JButton();


setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

setTitle("Grn Manager");

```

```
setResizable(false);
```

```
grnNoField.addKeyListener(new java.awt.event.KeyAdapter() {  
    public void keyPressed(java.awt.event.KeyEvent evt) {  
        grnNoFieldKeyPressed(evt);  
    }  
    public void keyReleased(java.awt.event.KeyEvent evt) {  
        grnNoFieldKeyReleased(evt);  
    }  
});
```

```
grnDateChooser.addKeyListener(new java.awt.event.KeyAdapter() {  
    public void keyPressed(java.awt.event.KeyEvent evt) {  
        grnDateChooserKeyPressed(evt);  
    }  
    public void keyReleased(java.awt.event.KeyEvent evt) {  
        grnDateChooserKeyReleased(evt);  
    }  
});
```

```
supplierNameField.setText("Select Supplier");
```

```
supplierNameField.addMouseListener(new java.awt.event.MouseAdapter() {  
    public void mouseClicked(java.awt.event.MouseEvent evt) {  
        supplierNameFieldMouseClicked(evt);  
    }  
});
```

```
supplierNameField.addKeyListener(new java.awt.event.KeyAdapter() {  
    public void keyPressed(java.awt.event.KeyEvent evt) {  
        supplierNameFieldKeyPressed(evt);  
    }  
});
```

```

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        supplierNameFieldKeyReleased(evt);

    }

});

jLabel1.setText("GRN No");

jLabel2.setText("Supplier");

jLabel3.setText("GRN Date");

javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
jPanel4.setLayout(jPanel4Layout);
jPanel4Layout.setHorizontalGroup(
    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(18, 18, 18)
            .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE, 90, Short.MAX_VALUE))
            .addGap(18, 18, 18)
            .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(grnNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 400, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 90, javax.swing.GroupLayout.PREFERRED_SIZE))
        )
    );

```

```

        .addGap(18, 18, 18)

        .addComponent(grnDateChooser, javax.swing.GroupLayout.PREFERRED_SIZE, 400,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addComponent(supplierNameField))

        .addGap(654, 654, 654))

    );

    jPanel4Layout.setVerticalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addGroup(jPanel4Layout.createSequentialGroup())

    .addContainerGap()

    .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel4Layout.createSequentialGroup())

    .addGap(0, 0, Short.MAX_VALUE)

    .addComponent(grnNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

    .addComponent(grnDateChooser, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jLabel1, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jLabel3, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

    .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(supplierNameField, javax.swing.GroupLayout.DEFAULT_SIZE, 34,
Short.MAX_VALUE))

    .addContainerGap())

    );

    grnTable.setFont(new java.awt.Font("Tahoma", 0, 15)); // NOI18N

    grnTable.setModel(new javax.swing.table.DefaultTableModel(

```

```

new Object [][] {

},

new String [] {

    "Pno", "Product", "Unit Sell Price", "Qty", "Unit", "Unit Buy Price", "Discount", "VAT", "Amount"

}

){

    Class[] types = new Class [] {

        java.lang.Object.class, java.lang.String.class, java.lang.Double.class, java.lang.Double.class,
        java.lang.String.class, java.lang.Double.class, java.lang.Double.class, java.lang.Double.class,
        java.lang.Double.class

    };

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false, false, false

    };

    public Class getColumnClass(int columnIndex) {

        return types [columnIndex];

    }

    public boolean isCellEditable(int rowIndex, int columnIndex) {

        return canEdit [columnIndex];

    }

});

grnTable.setCursor(new java.awt.Cursor(java.awt.Cursor.DEFAULT_CURSOR));

grnTable.setDragEnabled(true);

grnTable.setRowHeight(30);

grnTable.setSelectionBackground(new java.awt.Color(204, 204, 204));

grnTable.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseClicked(java.awt.event.MouseEvent evt) {

```

```

        grnTableMouseClicked(evt);
    }
});

jScrollPane1.setViewportViewView(grnTable);

if (grnTable.getColumnModel().getColumnCount() > 0) {
    grnTable.getColumnModel().getColumn(0).setMinWidth(60);
    grnTable.getColumnModel().getColumn(0).setMaxWidth(60);
}

totalDiscountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
totalDiscountField.setText("0.0");
totalDiscountField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        totalDiscountFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        totalDiscountFieldKeyReleased(evt);
    }
});

totalAmountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
totalAmountField.setText("0.0");
totalAmountField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        totalAmountFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        totalAmountFieldKeyReleased(evt);
    }
});

```



```
});
```

```
netAmountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
```

```
netAmountField.setText("0.0");
```

```
netAmountField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyPressed(java.awt.event.KeyEvent evt) {
```

```
        netAmountFieldKeyPressed(evt);
```

```
    }
```

```
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```
        netAmountFieldKeyReleased(evt);
```

```
    }
```

```
});
```

```
totalVatField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
```

```
totalVatField.setText("0.0");
```

```
totalVatField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyPressed(java.awt.event.KeyEvent evt) {
```

```
        totalVatFieldKeyPressed(evt);
```

```
    }
```

```
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```
        totalVatFieldKeyReleased(evt);
```

```
    }
```

```
});
```

```
itemCountField.setText("0");
```

```
itemCountField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyPressed(java.awt.event.KeyEvent evt) {
```

```
        itemCountFieldKeyPressed(evt);
```

```
    }
```

```

public void keyReleased(java.awt.event.KeyEvent evt) {

    itemCountFieldKeyReleased(evt);

}

});

jLabel4.setText("Item Count");

jLabel5.setText("Discount");

jLabel6.setText("VAT");

jLabel7.setText("Total Amount");

jLabel8.setText("Net Amount");

javax.swing.GroupLayout jPanel5Layout = new javax.swing.GroupLayout(jPanel5);
jPanel5.setLayout(jPanel5Layout);
jPanel5Layout.setHorizontalGroup(
    jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel5Layout.createSequentialGroup()
            .addContainerGap()
            .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel5, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE, 100, Short.MAX_VALUE)
                .addComponent(jLabel6, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addGap(18, 18, 18)
            .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

```

```

        .addGroup(jPanel5Layout.createSequentialGroup())

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(totalVatField, javax.swing.GroupLayout.PREFERRED_SIZE, 194,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(totalDiscountField, javax.swing.GroupLayout.PREFERRED_SIZE, 194,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 65,
Short.MAX_VALUE)

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)

            .addComponent(jLabel7, javax.swing.GroupLayout.DEFAULT_SIZE, 100, Short.MAX_VALUE)

            .addComponent(jLabel8, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addGap(18, 18, 18)

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(totalAmountField, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 194, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(netAmountField, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 194, javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addComponent(itemCountField))

    .addContainerGap())

);

jPanel5Layout.setVerticalGroup(

jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel5Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

.addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(itemCountField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE))

.addGap(18, 18, 18)

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

```

```

        .addComponent(jLabel5, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 34, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

        .addComponent(totalAmountField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(totalDiscountField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addGap(18, 18, 18)

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

        .addComponent(totalVatField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(netAmountField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
);

```

```

deleteRowButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N

```

```

deleteRowButton.setText("Delete Row");

```

```

deleteRowButton.setEnabled(false);

```

```

deleteRowButton.addActionListener(new java.awt.event.ActionListener() {

```

```

    public void actionPerformed(java.awt.event.ActionEvent evt) {

```

```

        deleteRowButtonActionPerformed(evt);

```

```

    }

```

```

});

```

```

saveGrnButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N

```

```

saveGrnButton.setText("Save GRN");

saveGrnButton.setEnabled(false);

saveGrnButton.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        saveGrnButtonActionPerformed(evt);

    }

});

newGrnButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
newGrnButton.setText("New");

newGrnButton.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        newGrnButtonActionPerformed(evt);

    }

});

GrnButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
GrnButton.setText("GRN");
GrnButton.setEnabled(false);

GrnButton.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        GrnButtonActionPerformed(evt);

    }

});

javax.swing.GroupLayout jPanel6Layout = new javax.swing.GroupLayout(jPanel6);
jPanel6.setLayout(jPanel6Layout);
jPanel6Layout.setHorizontalGroup(

    jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

```

```

        .addGroup(jPanel6Layout.createSequentialGroup())

        .addContainerGap()

        .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(newGrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(GrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGroup(jPanel6Layout.createSequentialGroup())

            .addComponent(deleteRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(18, 18, 18)

            .addComponent(saveGrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
);

jPanel6Layout.setVerticalGroup(

jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel6Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(deleteRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(saveGrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(newGrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(GrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addContainerGap(35, Short.MAX_VALUE))

);

```

```

jLabel9.setText("Product");

productNameField.setText("Select Product");
productNameField.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        productNameFieldMouseClicked(evt);
    }
});

productNameField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        productNameFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        productNameFieldKeyReleased(evt);
    }
});

jLabel10.setText("Unit Sell Price");

unitSellPriceField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
unitSellPriceField.setText("0.0");
unitSellPriceField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        unitSellPriceFieldFocusLost(evt);
    }
});

unitSellPriceField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {

```

```

        unitSellPriceFieldKeyPressed(evt);
    }

    public void keyReleased(java.awt.event.KeyEvent evt) {
        unitSellPriceFieldKeyReleased(evt);
    }
});

jLabel11.setText("Qty");

qtyField.setText("0.0");

qtyField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        qtyFieldFocusLost(evt);
    }
});

qtyField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        qtyFieldKeyPressed(evt);
    }

    public void keyReleased(java.awt.event.KeyEvent evt) {
        qtyFieldKeyReleased(evt);
    }
});

jLabel12.setText("Unit");

unitNameField.setText("Number");

unitNameField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {

```



```

        unitNameFieldKeyPressed(evt);
    }

    public void keyReleased(java.awt.event.KeyEvent evt) {
        unitNameFieldKeyReleased(evt);
    }
});

jLabel13.setText("Unit Buy Price");

unitBuyPriceField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
unitBuyPriceField.setText("0.0");
unitBuyPriceField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        unitBuyPriceFieldFocusLost(evt);
    }
});
unitBuyPriceField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        unitBuyPriceFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        unitBuyPriceFieldKeyReleased(evt);
    }
});

jLabel14.setText("Discount");

discountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
discountField.setText("0.0");

```

```

discountField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        discountFieldFocusLost(evt);
    }
});

discountField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        discountFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        discountFieldKeyReleased(evt);
    }
});

```

```

jLabel15.setText("VAT");

```

```

vatField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
vatField.setText("0.0");
vatField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        vatFieldFocusLost(evt);
    }
});

vatField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        vatFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        vatFieldKeyReleased(evt);
    }
});

```

```

    }
});

jLabel16.setText("Amount");

amountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
amountField.setText("0.0");
amountField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        amountFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        amountFieldKeyReleased(evt);
    }
});

addRowButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
addRowButton.setText("Add Row");
addRowButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        addRowButtonActionPerformed(evt);
    }
});

updateRowButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
updateRowButton.setText("Update Row");
updateRowButton.setEnabled(false);
updateRowButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {

```

```

        updateRowButtonActionPerformed(evt);
    }
});

jLabel17.setText("No");

productNoField.setText("0");
productNoField.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        productNoFieldMouseClicked(evt);
    }
});
productNoField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        productNoFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        productNoFieldKeyReleased(evt);
    }
});

clearFiledButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
clearFiledButton.setText("Clear Fields");
clearFiledButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        clearFiledButtonActionPerformed(evt);
    }
});

```

```

javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);

jPanel3.setLayout(jPanel3Layout);

jPanel3Layout.setHorizontalGroup(

    jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel3Layout.createSequentialGroup()

            .addGap(10, 10, 10)

            .addComponent(jLabel17, javax.swing.GroupLayout.PREFERRED_SIZE, 20,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(productNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(productNameField, javax.swing.GroupLayout.PREFERRED_SIZE, 140,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(unitSellPriceField, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(jLabel11, javax.swing.GroupLayout.PREFERRED_SIZE, 30,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(qtyField, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

            .addComponent(jLabel12, javax.swing.GroupLayout.PREFERRED_SIZE, 40,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(10, 10, 10)

        )

    )
);

```

```

        .addComponent(unitNameField, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(30, 30, 30)

        .addComponent(jLabel13, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(unitBuyPriceField, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(30, 30, 30)

        .addComponent(jLabel14, javax.swing.GroupLayout.PREFERRED_SIZE, 70,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel3Layout.createSequentialGroup())

        .addGap(0, 0, Short.MAX_VALUE)

        .addComponent(addRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(updateRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(clearFiledButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGroup(jPanel3Layout.createSequentialGroup())

        .addComponent(discountField, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(30, 30, 30)

        .addComponent(jLabel15, javax.swing.GroupLayout.PREFERRED_SIZE, 35,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(vatField, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(30, 30, 30)

```

```

        .addComponent(jLabel16, javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(amountField, javax.swing.GroupLayout.DEFAULT_SIZE, 137,
Short.MAX_VALUE)))

        .addContainerGap()

    );

    jPanel3Layout.setVerticalGroup(

        jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel3Layout.createSequentialGroup())

        .addContainerGap()

        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(amountField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(productNameField, javax.swing.GroupLayout.DEFAULT_SIZE, 34,
Short.MAX_VALUE)

            .addComponent(jLabel9, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(unitSellPriceField, javax.swing.GroupLayout.DEFAULT_SIZE, 34,
Short.MAX_VALUE)

            .addComponent(qtyField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(unitNameField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(unitBuyPriceField, javax.swing.GroupLayout.DEFAULT_SIZE, 34,
Short.MAX_VALUE)

            .addComponent(discountField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel14, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel16, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel10, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel11, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel12, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel13, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(vatField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

            .addComponent(jLabel15, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

```

```

        .addComponent(productNoField)

        .addComponent(jLabel17, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

            .addComponent(addRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(updateRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(clearFieldsButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    );

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .add(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(jPanel1Layout.createSequentialGroup()
                        .add(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .add(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                            .addGroup(jPanel1Layout.createSequentialGroup()
                                .add(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                    .add(jPanel6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                    .addGap(18, 18, 18)
                                    .add(jPanel5, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .add(separator1)
                                    .add(scrollPane1)
                                    .add(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE,

```



```

javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addContainerGap()

    );

    jPanel1Layout.setVerticalGroup(

        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel1Layout.createSequentialGroup()

            .addContainerGap()

            .addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(20, 20, 20)

            .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 439,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

            .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

                .addComponent(jPanel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addComponent(jPanel6, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))

            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    );

    jTabbedPane1.addTab("Create GRN", jPanel1);

    keywordField.setForeground(new java.awt.Color(153, 153, 153));

    keywordField.setText("Search");

```

```

keywordField.setToolTipText("Search");

keywordField.addFocusListener(new java.awt.event.FocusAdapter() {

    public void focusGained(java.awt.event.FocusEvent evt) {

        keywordFieldFocusGained(evt);

    }

    public void focusLost(java.awt.event.FocusEvent evt) {

        keywordFieldFocusLost(evt);

    }

});

keywordField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyReleased(java.awt.event.KeyEvent evt) {

        keywordFieldKeyReleased(evt);

    }

});

grnHistoryTable.setModel(new javax.swing.table.DefaultTableModel(

    new Object [][] {

        },

    new String [] {

        "Grn No", "GRN Date", "Supplier", "Item Count", "Total Discount", "Total Vat", "Total Amount"

    }

) {

    Class[] types = new Class [] {

        java.lang.Object.class, java.lang.Object.class, java.lang.Object.class, java.lang.Object.class,

        java.lang.Double.class, java.lang.Double.class, java.lang.Double.class

    };

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false

    };

```

```

};

public Class getColumnClass(int columnIndex) {
    return types [columnIndex];
}

public boolean isCellEditable(int rowIndex, int columnIndex) {
    return canEdit [columnIndex];
}
});

grnHistoryTable.setRowHeight(25);
jScrollPane3.setViewportViewView(grnHistoryTable);
if (grnHistoryTable.getColumnModel().getColumnCount() > 0) {
    grnHistoryTable.getColumnModel().getColumn(0).setMinWidth(100);
    grnHistoryTable.getColumnModel().getColumn(0).setMaxWidth(100);
}

grnButton1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
grnButton1.setText("GRN");
grnButton1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        grnButton1ActionPerformed(evt);
    }
});

javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
jPanel2.setLayout(jPanel2Layout);
jPanel2Layout.setHorizontalGroup(
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

```

```

.addGroup(jPanel2Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 1831, Short.MAX_VALUE)

.addGroup(jPanel2Layout.createSequentialGroup())

.addGap(0, 0, Short.MAX_VALUE)

.addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 469,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addComponent(jSeparator2)

.addGroup(jPanel2Layout.createSequentialGroup())

.addComponent(grnButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(0, 0, Short.MAX_VALUE)))

.addContainerGap())

);

jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createSequentialGroup())

.addContainerGap()

.addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED_SIZE, 613,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(jSeparator2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(grnButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addContainerGap(163, Short.MAX_VALUE))

```

```
);
```

```
jTabbedPane1.addTab("GRN History", jPanel2);
```

```
javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
```

```
getContentPane().setLayout(layout);
```

```
layout.setHorizontalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 1860,  
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
);
```

```
layout.setVerticalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addComponent(jTabbedPane1)
```

```
);
```

```
pack();
```

```
setLocationRelativeTo(null);
```

```
}// </editor-fold>
```

```
private void supplierNameFieldMouseClicked(java.awt.event.MouseEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    loadSupplierDialog.setVisible(true);
```

```
    Object[] supplierData = loadSupplierDialog.getSupplierData();
```

```
    supplierNo = (int) supplierData[0];
```

```
    logger.debug("Select supplier");
```

```
    supplierNameField.setText((String) supplierData[1]);
```

```
    logger.debug("Set selected supplier data to text fields");
```

```
}
```

```
private void productNoFieldMouseClicked(java.awt.event.MouseEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    loadProductDialog.setVisible(true);
```

```
    Object[] productData = loadProductDialog.getProductData();
```

```
    String productNoo = new String(productData[0] + "");
```

```
    String productName = (String) productData[1];
```

```
    String productUnitName = (String) productData[2];
```

```
    logger.debug("Select product");
```

```
    productNoField.setText(productNoo);
```

```
    productNameField.setText(productName);
```

```
    unitNameField.setText(productUnitName);
```

```
    logger.debug("Set selected product data to text fields");
```

```
    calculateValues();
```

```
}
```

```
private void productNameFieldMouseClicked(java.awt.event.MouseEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    loadProductDialog.setVisible(true);
```

```
    Object[] productData = loadProductDialog.getProductData();
```

```
    String productNoo = new String(productData[0] + "");
```

```
    String productName = (String) productData[1];
```

```
    String productUnitName = (String) productData[2];
```

```
    logger.debug("Select product");
```

```

productNoField.setText(productNo);

productNameField.setText(productName);

unitNameField.setText(productUnitName);

logger.debug("Set selected product data to text fields");

calculateValues();
}

private void addRowButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Add row");

    String productNo = productNoField.getText();

    String productName = productNameField.getText();

    String unitSellPrice = unitSellPriceField.getText();

    String qty = qtyField.getText();

    String unitName = unitNameField.getText();

    String unitBuyPrice = unitBuyPriceField.getText();

    String discount = discountField.getText();

    String vat = vatField.getText();

    String amount = amountField.getText();


    String PATTERN = "^([0]{0,100}[.][0]{0,100})$";

    Pattern p = Pattern.compile(PATTERN);

    Matcher m1 = p.matcher(unitSellPrice);

    Matcher m2 = p.matcher(qty);

    Matcher m3 = p.matcher(unitBuyPrice);


    logger.debug("Check validations");

    if (supplierNo == 0 || supplierNameField.equals("Select Supplier")) {

        logger.error("Supplier not selected");
    }
}

```

```

loadSupplierDialog.setVisible(true);

Object[] supplierData = loadSupplierDialog.getSupplierData();

supplierNo = (int) supplierData[0];

logger.debug("Select supplier");

supplierNameField.setText((String) supplierData[1]);

logger.debug("Set selected supplier data to text fields");

} else if (productNo.equals("0") || productName.equals("Select Product")) {

    logger.error("Product not selected");

    loadProductDialog.setVisible(true);

    Object[] productData = loadProductDialog.getProductData();

    String productNoo = new String(productData[0] + "");

    String productNameSet = (String) productData[1];

    String productUnitName = (String) productData[2];

    logger.debug("Select product");

    productNoField.setText(productNoo);

    productNameField.setText(productNameSet);

    unitNameField.setText(productUnitName);

    logger.debug("Set selected product data to text fields");

} else if (m1.matches()) {

    unitSellPriceField.requestFocus(true);

    logger.error("unit sell price not entered");

} else if (m2.matches()) {

    qtyField.requestFocus(true);

    logger.error("qty not entered");

} else if (m3.matches()) {

    unitBuyPriceField.requestFocus(true);

```



```

        logger.error("unit buy price not entered");
    } else {

        grnTableModel.addRow(new Object[]{Integer.parseInt(productNo), productName,
Double.parseDouble(unitSellPrice), Double.parseDouble(qty), unitName,

        Double.parseDouble(unitBuyPrice), Double.parseDouble(discount), Double.parseDouble(vat),
Double.parseDouble(amount)}));

        logger.debug("Add row successful");

        saveGrnButton.setEnabled(true);

        itemCountField.setText(String.valueOf(grnTableModel.getRowCount()));

        calculateValues();

        clearFields();
    }

    calculateValues();
}

```

```

private void updateRowButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Update selected row");

    String productNo = productNoField.getText();

    String productName = productNameField.getText();

    String unitSellPrice = unitSellPriceField.getText();

    String qty = qtyField.getText();

    String unitName = unitNameField.getText();

    String unitBuyPrice = unitBuyPriceField.getText();

    String discount = discountField.getText();

    String vat = vatField.getText();

    String amount = amountField.getText();

    String PATTERN = "^([0]{0,100})\\.([0]{0,100})$";

    Pattern p = Pattern.compile(PATTERN);

```

```

Matcher m1 = p.matcher(unitSellPrice);

Matcher m2 = p.matcher(qty);

Matcher m3 = p.matcher(unitBuyPrice);


logger.debug("Check validations");

if (m1.matches()) {

    unitSellPriceField.requestFocus(true);

    logger.error("unit sell price not entered");

} else if (m2.matches()) {

    qtyField.requestFocus(true);

    logger.error("qty not entered");

} else if (m3.matches()) {

    unitBuyPriceField.requestFocus(true);

    logger.error("unit buy price not entered");

} else {

    Object[] addrow = new Object[]{Integer.parseInt(productNo), productName,
Double.parseDouble(unitSellPrice), Double.parseDouble(qty), unitName,

        Double.parseDouble(unitBuyPrice), Double.parseDouble(discount), Double.parseDouble(vat),
Double.parseDouble(amount)};


    grnTableModel.setValueAt(addrow[0], selectedRow, 0);

    grnTableModel.setValueAt(addrow[1], selectedRow, 1);

    grnTableModel.setValueAt(addrow[2], selectedRow, 2);

    grnTableModel.setValueAt(addrow[3], selectedRow, 3);

    grnTableModel.setValueAt(addrow[4], selectedRow, 4);

    grnTableModel.setValueAt(addrow[5], selectedRow, 5);

    grnTableModel.setValueAt(addrow[6], selectedRow, 6);

    grnTableModel.setValueAt(addrow[7], selectedRow, 7);

    grnTableModel.setValueAt(addrow[8], selectedRow, 8);

    logger.debug("Update selected row successful");

```

```

        saveGrnButton.setEnabled(true);

        itemCountField.setText(String.valueOf(grnTableModel.getRowCount()));

        calculateValues();

        clearFields();
    }

    calculateValues();
}

```

```

private void deleteRowButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Delete selected row");

    int rowCount = grnTable.getRowCount();

    int selectedRow = grnTable.getSelectedRow();

    int selectedRowCount = grnTable.getSelectedRowCount();

    if (selectedRowCount == 1) {

        grnTableModel.removeRow(selectedRow);

        logger.debug("Delete selected row successful");

        clearFields();

        if (rowCount == 1) {

            saveGrnButton.setEnabled(false);

        }

    } else {

        JOptionPane.showConfirmDialog(rootPane, "Please Select Any Single Row !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        logger.error("Error: Please Select Any Single Row !");

    }

    calculateValues();
}

```

```

private void saveGrnButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    calculateValues();

    int rowCount = grnTableModel.getRowCount();

    String grnNo = grnNoField.getText();

    Date grnDate = grnDateChooser.getDate();

    //supplierNo in hear

    String itemCount = itemCountField.getText();

    String totalDiscount = totalDiscountField.getText();

    String totalVat = totalVatField.getText();

    String totalAmount = totalAmountField.getText();

    logger.debug("Save grn");

    String grnResult = grnModel.saveGrn(grnNo, grnDate, supplierNo, itemCount, totalDiscount, totalVat,
totalAmount);

    String grnItemResult = null;

    String stockResult = null;

    for (int i = 0; i < rowCount; i++) {

        int productNo = (int) grnTableModel.getValueAt(i, 0);

        double unitSellPrice = (double) grnTableModel.getValueAt(i, 2);

        double qty = (double) grnTableModel.getValueAt(i, 3);

        double unitBuyPrice = (double) grnTableModel.getValueAt(i, 5);

        double discount = (double) grnTableModel.getValueAt(i, 6);

        double vat = (double) grnTableModel.getValueAt(i, 7);

        double amount = (double) grnTableModel.getValueAt(i, 8);

```

```

        logger.debug("Save grn item");

        grnItemResult = grnModel.saveGrnItem(productNo, unitSellPrice, qty, unitBuyPrice, discount, vat,
amount, grnNo);

        logger.debug("Update stock");

        stockResult = grnModel.updateStock(grnDate, productNo, qty, unitSellPrice);

    }

    if (grnResult.equals("Save Successful") && grnItemResult.equals("Save Successful") &&
stockResult.equals("Save Successful")) {

        JOptionPane.showConfirmDialog(rootPane, "Save Successful", "Message", -1, 1);

        GrnButton.setEnabled(true);

        clearFields();

        addRowButton.setEnabled(false);

        updateRowButton.setEnabled(false);

        clearFiledButton.setEnabled(false);

        grnTable.setEnabled(false);

        grnTable.clearSelection();

        deleteRowButton.setEnabled(false);

        saveGrnButton.setEnabled(false);

        loadGrnHistoryTable("");

        logger.debug("Message: Save Successful");

    } else {

        JOptionPane.showConfirmDialog(rootPane, "Save Error !", "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: Save Error !");

    }

}

private void grnTableMouseClicked(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    selectedRow = grnTable.getSelectedRow();

```

```

try {

    productNoField.setText(new String(grnTableModel.getValueAt(selectedRow, 0) + ""));

    productNameField.setText((String) grnTableModel.getValueAt(selectedRow, 1));

    unitSellPriceField.setText(new String(grnTableModel.getValueAt(selectedRow, 2) + ""));

    qtyField.setText(new String(grnTableModel.getValueAt(selectedRow, 3) + ""));

    unitNameField.setText((String) grnTableModel.getValueAt(selectedRow, 4));

    unitBuyPriceField.setText(new String(grnTableModel.getValueAt(selectedRow, 5) + ""));

    discountField.setText(new String(grnTableModel.getValueAt(selectedRow, 6) + ""));

    vatField.setText(new String(grnTableModel.getValueAt(selectedRow, 7) + ""));

    amountField.setText(new String(grnTableModel.getValueAt(selectedRow, 8) + ""));

    logger.debug("Load selected row data to relevant text fields");


    addRowButton.setEnabled(false);

    updateRowButton.setEnabled(true);

    deleteRowButton.setEnabled(true);

} catch (ArrayIndexOutOfBoundsException e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

private void clearFiledButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    clearFields();

}

private void newGrnButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

```

```

int rowCount = grnTableModel.getRowCount();

grnNoLoad();

supplierNo = 0;

supplierNameField.setText("Select Supplier");

grnDateChooser.setDate(new java.util.Date());


clearFields();

clearFiledButton.setEnabled(true);


for (int i = rowCount - 1; i >= 0; i--) {

    grnTableModel.removeRow(i);

}


grnTable.setEnabled(true);

saveGrnButton.setEnabled(false);

GrnButton.setEnabled(false);


itemCountField.setText("0");

totalDiscountField.setText("0.0");

totalVatField.setText("0.0");

totalAmountField.setText("0.0");

netAmountField.setText("0.0");


logger.debug("Open new grn");

}


private void GrnButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

```

```
int grnNo = Integer.parseInt(grnNoField.getText());  
new GenerateGrnDialog(this, true, grnNo).setVisible(true);  
}
```

```
private void grnNoFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    grnNoField.setEditable(false);  
}
```

```
private void grnDateChooserKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
}
```

```
private void supplierNameFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    supplierNameField.setEditable(false);  
}
```

```
private void productNoFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    productNoField.setEditable(false);  
}
```

```
private void productNameFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    productNameField.setEditable(false);  
}
```



```

private void unitSellPriceFieldKeyPressed(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String unitSellPrice = unitSellPriceField.getText();

    char c = evt.getKeyChar();

    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {

        unitSellPriceField.setEditable(true);

    } else {

        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

            unitSellPriceField.setEditable(true);

        } else {

            unitSellPriceField.setEditable(false);

        }

    }

}

```

```

private void qtyFieldKeyPressed(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String qty = qtyField.getText();

    char c = evt.getKeyChar();

    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {

        qtyField.setEditable(true);

    } else {

        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

            qtyField.setEditable(true);

        } else {

            qtyField.setEditable(false);

        }

    }

}

```

```
}
```

```
private void unitNameFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    unitNameField.setEditable(false);
```

```
}
```

```
private void unitBuyPriceFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    String unitBuyPrice = unitBuyPriceField.getText();
```

```
    char c = evt.getKeyChar();
```

```
    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {
```

```
        unitBuyPriceField.setEditable(true);
```

```
    } else {
```

```
        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==  
        KeyEvent.VK_DELETE) {
```

```
            unitBuyPriceField.setEditable(true);
```

```
        } else {
```

```
            unitBuyPriceField.setEditable(false);
```

```
        }
```

```
    }
```

```
}
```

```
private void discountFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    String discount = discountField.getText();
```

```
    char c = evt.getKeyChar();
```

```
    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {
```

```
        discountField.setEditable(true);
```

```

    } else {

        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

            discountField.setEditable(true);

        } else {

            discountField.setEditable(false);

        }

    }

}

```

```

private void vatFieldKeyPressed(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String vat = vatField.getText();

    char c = evt.getKeyChar();

    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {

        vatField.setEditable(true);

    } else {

        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

            vatField.setEditable(true);

        } else {

            vatField.setEditable(false);

        }

    }

}

```

```

private void amountFieldKeyPressed(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    amountField.setEditable(false);

}

```

```
private void itemCountFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    itemCountField.setEditable(false);  
}
```

```
private void totalDiscountFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    totalDiscountField.setEditable(false);  
}
```

```
private void totalVatFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    totalVatField.setEditable(false);  
}
```

```
private void totalAmountFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    totalAmountField.setEditable(false);  
}
```

```
private void netAmountFieldKeyPressed(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    netAmountField.setEditable(false);  
}
```

```
private void grnNoFieldKeyReleased(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    grnNoField.setEditable(true);  
}
```

```
}
```

```
private void grnDateChooserKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
}
```

```
private void supplierNameFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    supplierNameField.setEditable(true);
```

```
}
```

```
private void productNoFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    productNoField.setEditable(true);
```

```
}
```

```
private void productNameFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    productNameField.setEditable(true);
```

```
}
```

```
private void unitSellPriceFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    unitSellPriceField.setEditable(true);
```

```
}
```

```
private void qtyFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    qtyField.setEditable(true);
```

```

        calculateValues();
    }

    private void unitNameFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        unitNameField.setEditable(true);
    }

    private void unitBuyPriceFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        unitBuyPriceField.setEditable(true);
        calculateValues();
    }

    private void discountFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        discountField.setEditable(true);
        calculateValues();
    }

    private void vatFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        vatField.setEditable(true);
        calculateValues();
    }

    private void amountFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        amountField.setEditable(true);
    }

```

```
}
```

```
private void itemCountFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    itemCountField.setEditable(true);
```

```
}
```

```
private void totalDiscountFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    totalDiscountField.setEditable(true);
```

```
}
```

```
private void totalVatFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    totalVatField.setEditable(true);
```

```
}
```

```
private void totalAmountFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    totalAmountField.setEditable(true);
```

```
}
```

```
private void netAmountFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    netAmountField.setEditable(true);
```

```
}
```

```
private void unitSellPriceFieldFocusLost(java.awt.event.FocusEvent evt) {
```

```
    // TODO add your handling code here:
```

```

String unitSellPrice = unitSellPriceField.getText();

String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";

Pattern p = Pattern.compile(PATTERN);

Matcher m = p.matcher(unitSellPrice);

if (unitSellPrice.equals("")) {

    unitSellPriceField.setText("0.0");

} else if (!m.matches()) {

    unitSellPriceField.setText(unitSellPrice + ".0");

}

calculateValues();
}

```

```

private void qtyFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    String qty = qtyField.getText();

    String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";

    Pattern p = Pattern.compile(PATTERN);

    Matcher m = p.matcher(qty);

    if (qty.equals("")) {

        qtyField.setText("0.0");

    } else if (!m.matches()) {

        qtyField.setText(qty + ".0");

    }

    calculateValues();

}

```

```

private void unitBuyPriceFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    String unitBuyPrice = unitBuyPriceField.getText();

```



```

String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";

Pattern p = Pattern.compile(PATTERN);

Matcher m = p.matcher(unitBuyPrice);

if (unitBuyPrice.equals("")) {

    unitBuyPriceField.setText("0.0");

} else if (!m.matches()) {

    unitBuyPriceField.setText(unitBuyPrice + ".0");

}

calculateValues();
}

```

```

private void discountFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    String discount = discountField.getText();

    String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";

    Pattern p = Pattern.compile(PATTERN);

    Matcher m = p.matcher(discount);

    System.out.println(m.matches());

    if (discount.equals("")) {

        discountField.setText("0.0");

    } else if (!m.matches()) {

        discountField.setText(discount + ".0");

    }

    calculateValues();

}

```

```

private void vatFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    String vat = vatField.getText();

```

```

String PATTERN = "^[0-9]{0,100}[.][0-9]{0,100}$";

Pattern p = Pattern.compile(PATTERN);

Matcher m = p.matcher(vat);

System.out.println(m.matches());

if (vat.equals("")) {
    vatField.setText("0.0");
} else if (!m.matches()) {
    vatField.setText(vat + ".0");
}

calculateValues();
}

private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {
    // TODO add your handling code here:

    if (keywordField.getText().equals("Search")) {
        keywordField.setText("");
        keywordField.setForeground(new Color(0, 0, 0));
    }
}

private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {
    // TODO add your handling code here:

    if (keywordField.getText().equals("")) {
        keywordField.setText("Search");
        keywordField.setForeground(new Color(153, 153, 153));
    }
}

private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {

```

```

// TODO add your handling code here:

String keyword = keywordField.getText();

logger.debug("Search grn data");

loadGrnHistoryTable(keyword);
}

private void grnButton1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

int rowCount = grnHistoryTable.getRowCount();

int selectedRow = grnHistoryTable.getSelectedRow();

int selectedRowCount = grnHistoryTable.getSelectedRowCount();

if (selectedRowCount == 1) {

    int grnNo = (int) grnHistoryTableModel.getValueAt(selectedRow, 0);

    new GenerateGrnDialog(this, true, grnNo).setVisible(true);

} else {

    if (rowCount == 0) {

        JOptionPane.showConfirmDialog(rootPane, "Table is Empty !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        logger.error("Error: Table is Empty !");

    } else {

        JOptionPane.showConfirmDialog(rootPane, "Please Select Any Single Row !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        logger.error("Error: Please Select Any Single Row !");

    }

}

}

private void grnNoLoad() {

int grnNo = grnModel.getGrnNo();

```

```

    grnNo++;

    grnNoField.setText(new String(grnNo + ""));

    logger.debug("Set Grn No");
}

private void calculateValues() {
    try {
        int rowCount = grnTableModel.getRowCount();

        double productQty = Double.parseDouble(qtyField.getText());
        double productUnitBuyPrice = Double.parseDouble(unitBuyPriceField.getText());
        double productDiscount = Double.parseDouble(discountField.getText());
        double productVat = Double.parseDouble(vatField.getText());
        double productAmount = (productUnitBuyPrice - productDiscount + productVat) * productQty;

        amountField.setText(String.valueOf(productAmount));

        itemCountField.setText(String.valueOf(rowCount));

        double totalDiscount = 0;
        double totalVat = 0;
        double totalAmount = 0;

        for (int i = 0; i < rowCount; i++) {
            double rowQty = (double) grnTableModel.getValueAt(i, 3);

            double rowDiscount = (double) grnTableModel.getValueAt(i, 6);
            totalDiscount += rowDiscount * rowQty;

```

```

        double rowVat = (double) grnTableModel.getValueAt(i, 7);

        totalVat += rowVat * rowQty;

        double rowAmount = (double) grnTableModel.getValueAt(i, 8);

        totalAmount += rowAmount;
    }

    totalDiscountField.setText(String.valueOf(totalDiscount));

    totalVatField.setText(String.valueOf(totalVat));

    totalAmountField.setText(String.valueOf(totalAmount));

    netAmountField.setText(String.valueOf(totalAmount));

    logger.debug("Calculate values");
} catch (NumberFormatException e) {

    logger.error("Exception: " + e.getMessage());

}

}

private void clearFields() {

    productNoField.setText("0");

    productNameField.setText("Select Product");

    unitSellPriceField.setText("0.0");

    qtyField.setText("0.0");

    unitNameField.setText("Number");

    unitBuyPriceField.setText("0.0");

    discountField.setText("0.0");

    vatField.setText("0.0");

    amountField.setText("0.0");

    addRowButton.setEnabled(true);

```

```

updateRowButton.setEnabled(false);

deleteRowButton.setEnabled(false);


logger.debug("Clear fields");
}

private void loadGrnHistoryTable(String keyword) {

    grnModel.loadGrnHistoryTable(keyword, grnHistoryTableModel);

    logger.debug("Load grn history table");
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }
}

```

```

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//        java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    } catch (InstantiationException ex) {

//        java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    } catch (IllegalAccessException ex) {

//        java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//        java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    }

//</editor-fold>

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        new GrnManager().setVisible(true);

    }

});

}

```

```

// Variables declaration - do not modify

private javax.swing.JButton GrnButton;

private javax.swing.JButton addRowButton;

private javax.swing.JTextField amountField;

private javax.swing.JButton clearFiledButton;

private javax.swing.JButton deleteRowButton;

private javax.swing.JTextField discountField;

private javax.swing.JButton grnButton1;

private com.toedter.calendar.JDateChooser grnDateChooser;

private javax.swing.JTable grnHistoryTable;

private javax.swing.JTextField grnNoField;

private javax.swing.JTable grnTable;

private javax.swing.JTextField itemCountField;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel10;

private javax.swing.JLabel jLabel11;

private javax.swing.JLabel jLabel12;

private javax.swing.JLabel jLabel13;

private javax.swing.JLabel jLabel14;

private javax.swing.JLabel jLabel15;

private javax.swing.JLabel jLabel16;

private javax.swing.JLabel jLabel17;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel5;

private javax.swing.JLabel jLabel6;

private javax.swing.JLabel jLabel7;

private javax.swing.JLabel jLabel8;

```



```
private javax.swing.JLabel jLabel9;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JPanel jPanel3;

private javax.swing.JPanel jPanel4;

private javax.swing.JPanel jPanel5;

private javax.swing.JPanel jPanel6;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JScrollPane jScrollPane3;

private javax.swing.JSeparator jSeparator1;

private javax.swing.JSeparator jSeparator2;

private javax.swing.JTabbedPane jTabbedPane1;

private javax.swing.JTextField keywordField;

private javax.swing.JTextField netAmountField;

private javax.swing.JButton newGrnButton;

private javax.swing.JTextField productNameField;

private javax.swing.JTextField productNoField;

private javax.swing.JTextField qtyField;

private javax.swing.JButton saveGrnButton;

private javax.swing.JTextField supplierNameField;

private javax.swing.JTextField totalAmountField;

private javax.swing.JTextField totalDiscountField;

private javax.swing.JTextField totalVatField;

private javax.swing.JTextField unitBuyPriceField;

private javax.swing.JTextField unitNameField;

private javax.swing.JTextField unitSellPriceField;

private javax.swing.JButton updateRowButton;

private javax.swing.JTextField vatField;

// End of variables declaration
```

```
}
```

3.7 GrnModel.java

```
/*  
 * To change this license header, choose License Headers in Project Properties.  
 * To change this template file, choose Tools | Templates  
 * and open the template in the editor.  
 */  
  
package model;  
  
  
  
import java.sql.Connection;  
import java.sql.PreparedStatement;  
import java.sql.ResultSet;  
import java.util.Date;  
import javax.swing.table.DefaultTableModel;  
import org.apache.log4j.Logger;  
  
  
/**  
 *  
 * @author EZIO AUDITORY  
 */  
  
public class GrnModel {  
  
    private Connection dbConnection;  
  
    static Logger logger = Logger.getLogger(GrnModel.class.getName());  
  
    public GrnModel() {  
        dbConnection = database.DBConnection.getConnection();  
    }  
}
```

```

public int getGrnNo() {

    String query = "SELECT * FROM grn ORDER BY grn_no DESC LIMIT 1";

    logger.debug("SQL query String: " + query);


    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        int grnNo = 0;

        while (rs.next()) {

            grnNo = rs.getInt("grn_no");

            logger.debug("return grnNo");

            return grnNo;

        }

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

    }

    logger.debug("return 0");

    return 0;

}

```

```

public String saveGrn(String grnNo, Date grnDate, int supplierNo, String itemCount, String totalDiscount,
String totalVat, String totalAmount) {

    String query = "INSERT INTO grn(grn_no, grn_date, supplier_no, grn_item_count, grn_discount, grn_vat,
grn_amount)"

        + "VALUE(?,?,?,?,?,?,?)";

    logger.debug("SQL query String: " + query);

```

```

try {

    PreparedStatement psm = dbConnection.prepareStatement(query);

    psm.setString(1, grnNo);

    psm.setDate(2, new java.sql.Date(grnDate.getTime()));

    psm.setInt(3, supplierNo);

    psm.setString(4, itemCount);

    psm.setString(5, totalDiscount);

    psm.setString(6, totalVat);

    psm.setString(7, totalAmount);

    psm.execute();

    logger.debug("Query execution done");

    logger.debug("return result");

    return "Save Successful";

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

    logger.error("return result");

    return "Save Error !";

}

}

```

```

public String saveGrnItem(int productNo, double unitSellPrice, double qty, double unitBuyPrice, double discount, double vat, double amount, String grnNo) {

```

```

    String query = "INSERT INTO grn_item(product_no, grn_item_quantity, grn_item_unit_buy_price, grn_item_discount, grn_item_vat, grn_item_amount, grn_no) VALUE(?,?,?,?,?,?,?)";

```

```

    logger.debug("SQL query String: " + query);

```

```

try {

```

```

    PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

    psm.setInt(1, productNo);

```

```

        psm.setDouble(2, qty);

        psm.setDouble(3, unitBuyPrice);

        psm.setDouble(4, discount);

        psm.setDouble(5, vat);

        psm.setDouble(6, amount);

        psm.setString(7, grnNo);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Save Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Save Error !";

    }

}

```

```

public String updateStock(Date grnDate, int productNo, double qty, double unitSellPrice) {

    String query = "INSERT INTO stock(stock_date, product_no, stock_quantity, stock_unit_sell_price,
stock_last_update, stock_status) VALUE(?,?,?,?,?,?)";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setDate(1, new java.sql.Date(grnDate.getTime()));

        psm.setDouble(2, productNo);

        psm.setDouble(3, qty);

        psm.setDouble(4, unitSellPrice);

```

```

psm.setDate(5, new java.sql.Date(grnDate.getTime()));

psm.setInt(6, 1);

psm.execute();

logger.debug("Query execution done");

logger.debug("return result");

return "Save Successful";

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

    logger.error("return result");

    return "Save Error !";

}

}

```

```

public void loadGrnHistoryTable(String keyword, DefaultTableModel grnHistoryTableModel) {

    String query = "SELECT * FROM grn INNER JOIN supplier "

        + "ON grn.supplier_no = supplier.supplier_no "

        + "WHERE grn_no LIKE ? OR grn_date LIKE ? OR supplier_name LIKE ? ORDER BY grn_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, "%" + keyword + "%");

        psm.setString(2, "%" + keyword + "%");

        psm.setString(3, "%" + keyword + "%");

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        grnHistoryTableModel.setRowCount(0);
    }
}

```

```

while (rs.next()) {

    int grnNo = rs.getInt("grn_no");

    Date date = rs.getDate("grn_date");

    String supplierName = rs.getString("supplier_name");

    int itemCount = rs.getInt("grn_item_count");

    double totatlDiscount = rs.getDouble("grn_discount");

    double totatlVat = rs.getDouble("grn_vat");

    double totatlAmount = rs.getDouble("grn_amount");

    rowData = new Object[]{grnNo, date, supplierName, itemCount, totatlDiscount, totatlVat,
totatlAmount};

    grnHistoryTableModel.addRow(rowData);

    logger.debug("grnHistoryTable [addRow]");

}

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

}

```

3.8 GenerateGrnDialog.java

```

/*

* To change this license header, choose License Headers in Project Properties.

* To change this template file, choose Tools | Templates

* and open the template in the editor.

*/

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.util.HashMap;

```

```

import java.util.Map;

import javax.swing.UIManager;

import net.sf.jasperreports.engine.JasperFillManager;

import net.sf.jasperreports.engine.JasperPrint;

import net.sf.jasperreports.engine.JasperPrintManager;

import net.sf.jasperreports.swing.JRViewer;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class GenerateGrnDialog extends javax.swing.JDialog {

    /**
     * Creates new form GenerateGrnDialog
     */
    static Logger logger = Logger.getLogger(GenerateGrnDialog.class.getName());

    String reportPath = "reports\\pamunuwila_hardware_salesdepartment_grn.jasper";

    Map m = new HashMap();

    int grnNumber;

    public GenerateGrnDialog(java.awt.Frame parent, boolean modal, int grnNo) {

        super(parent, modal);

        initComponents();

        logger.debug("Access to GenerateGrnDialog.java");

        grnNumber = grnNo;
    }

```



```

m.put("grn_no", grnNumber);

try {

    JasperPrint jp = JasperFillManager.fillReport(reportPath, m,database.DBConnection.getConnection());

    JRViewer jv = new JRViewer(jp);

    jv.setZoomRatio((float) 0.5);

    jTabbedPane1.add(jv);

    logger.debug("View report");

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

/**

 * This method is called from within the constructor to initialize the form.

 * WARNING: Do NOT modify this code. The content of this method is always

 * regenerated by the Form Editor.

 */

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

    jPanel1 = new javax.swing.JPanel();

    jTabbedPane1 = new javax.swing.JTabbedPane();

    printButton = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

    setTitle("GRN");

    setResizable(false);

```

```

printButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
printButton.setText("Print");
printButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        printButtonActionPerformed(evt);
    }
});

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
jPanel1.setLayout(jPanel1Layout);
jPanel1Layout.setHorizontalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 913, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(15, 15, Short.MAX_VALUE))
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addComponent(printButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(0, 0, Short.MAX_VALUE))
        .addContainerGap()
);
jPanel1Layout.setVerticalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 831, javax.swing.GroupLayout.PREFERRED_SIZE)

```

```

        .addGap(18, 18, 18)

        .addComponent(printButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(32, Short.MAX_VALUE))

    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);

    layout.setHorizontalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    );

    layout.setVerticalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    );

    pack();

    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void printButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    m.put("grn_no", grnNumber);

    try {

        JasperPrint jp = JasperFillManager.fillReport(reportPath, m,database.DBConnection.getConnection());

        JasperPrintManager.printReport(jp, true);

        logger.debug("Print report");
    }
}

```

```

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

    }

}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */

    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

    //    try {

    //        for (javax.swing.UIManager.LookAndFeelInfo info :
    javax.swing.UIManager.getInstalledLookAndFeels()) {

    //            if ("Windows".equals(info.getName())) {

    //                javax.swing.UIManager.setLookAndFeel(info.getClassName());

```

```

//      break;

//      }

//      }

//      } catch (ClassNotFoundException ex) {

//
java.util.logging.Logger.getLogger(GenerateGrnDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//      } catch (InstantiationException ex) {

//
java.util.logging.Logger.getLogger(GenerateGrnDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//      } catch (IllegalAccessException ex) {

//
java.util.logging.Logger.getLogger(GenerateGrnDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//      } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//
java.util.logging.Logger.getLogger(GenerateGrnDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//      }

//</editor-fold>
//</editor-fold>
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//</editor-fold>
```

```
//</editor-fold>
```

```
/* Create and display the dialog */
```

```
java.awt.EventQueue.invokeLater(new Runnable() {  
    public void run() {  
        int grnNo = 0;  
  
        GenerateGrnDialog dialog = new GenerateGrnDialog(new javax.swing.JFrame(), true, grnNo);  
        dialog.addWindowListener(new java.awt.event.WindowAdapter() {  
            @Override  
            public void windowClosing(java.awt.event.WindowEvent e) {  
                System.exit(0);  
            }  
        });  
        dialog.setVisible(true);  
    }  
});  
}
```

```
// Variables declaration - do not modify
```

```
private javax.swing.JPanel jPanel1;  
private javax.swing.JTabbedPane jTabbedPane1;  
private javax.swing.JButton printButton;  
  
// End of variables declaration  
}
```

3.9 SalesManager.java

```
/*
 * To change this license header, choose License Headers in Project Properties.
 *
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
```

```
package gui;
```

```
import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import java.awt.event.KeyEvent;

import java.util.Date;

import java.util.regex.Matcher;

import java.util.regex.Pattern;

import javax.swing.JOptionPane;

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import model.SalesModel;

import org.apache.log4j.Logger;
```

```
/**
 *
 * @author EZIO AUDITORY
 */
```

```
public class SalesManager extends javax.swing.JFrame {
```

```
/**
 * Creates new form GrnManager
 */
```

```

private SalesModel salesModel;

private LoadCustomerDialog loadCustomerDialog;

private LoadStockDialog loadStockDialog;

static Logger logger = Logger.getLogger(SalesManager.class.getName());


DefaultTableModel invoiceTableModel;

DefaultTableModel invoiceHistoryTableModel;


int customerNo;

int selectedRow;


public SalesManager() {

    initComponents();

    logger.debug("Access to InvoiceManager.java");


    invoiceTableModel = (DefaultTableModel) invoiceTable.getModel();

    invoiceHistoryTableModel = (DefaultTableModel) invoiceHistoryTable.getModel();


    salesModel = new SalesModel();

    loadCustomerDialog = new LoadCustomerDialog(this, rootPaneCheckingEnabled);

    loadStockDialog = new LoadStockDialog(this, rootPaneCheckingEnabled);


    invoiceNoLoad();

    loadInvoiceHistoryTable("");


    invoiceDateChooser.setDate(new java.util.Date());

}

```



```

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */

@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jTabbedPane1 = new javax.swing.JTabbedPane();
    jPanel1 = new javax.swing.JPanel();
    jPanel4 = new javax.swing.JPanel();
    invoiceNoField = new javax.swing.JTextField();
    invoiceDateChooser = new com.toedter.calendar.JDateChooser();
    customerNameField = new javax.swing.JTextField();
    jLabel1 = new javax.swing.JLabel();
    jLabel2 = new javax.swing.JLabel();
    jLabel3 = new javax.swing.JLabel();
    jScrollPane1 = new javax.swing.JScrollPane();
    invoiceTable = new javax.swing.JTable();
    jPanel5 = new javax.swing.JPanel();
    totalDiscountField = new javax.swing.JTextField();
    totalAmountField = new javax.swing.JTextField();
    netAmountField = new javax.swing.JTextField();
    totalTaxField = new javax.swing.JTextField();
    itemCountField = new javax.swing.JTextField();
    jLabel4 = new javax.swing.JLabel();
    jLabel5 = new javax.swing.JLabel();
    jLabel6 = new javax.swing.JLabel();

```

```
jLabel7 = new javax.swing.JLabel();

jLabel8 = new javax.swing.JLabel();

jSeparator1 = new javax.swing.JSeparator();

jPanel6 = new javax.swing.JPanel();

deleteRowButton = new javax.swing.JButton();

saveInvoiceButton = new javax.swing.JButton();

newGrnButton = new javax.swing.JButton();

invoiceButton = new javax.swing.JButton();

jPanel3 = new javax.swing.JPanel();

jLabel9 = new javax.swing.JLabel();

productNoField = new javax.swing.JTextField();

jLabel10 = new javax.swing.JLabel();

productNameField = new javax.swing.JTextField();

jLabel11 = new javax.swing.JLabel();

qtyField = new javax.swing.JTextField();

jLabel12 = new javax.swing.JLabel();

unitNameField = new javax.swing.JTextField();

jLabel13 = new javax.swing.JLabel();

unitSellPriceField = new javax.swing.JTextField();

jLabel14 = new javax.swing.JLabel();

discountField = new javax.swing.JTextField();

jLabel15 = new javax.swing.JLabel();

taxField = new javax.swing.JTextField();

jLabel16 = new javax.swing.JLabel();

amountField = new javax.swing.JTextField();

addRowButton = new javax.swing.JButton();

updateRowButton = new javax.swing.JButton();

jLabel17 = new javax.swing.JLabel();

stockNoField = new javax.swing.JTextField();
```

```

clearFiledButton = new javax.swing.JButton();

jPanel2 = new javax.swing.JPanel();

keywordField = new javax.swing.JTextField();

jScrollPane3 = new javax.swing.JScrollPane();

invoiceHistoryTable = new javax.swing.JTable();

jSeparator2 = new javax.swing.JSeparator();

invoiceButton1 = new javax.swing.JButton();


setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

setTitle("Sales Manager");

setResizable(false);


invoiceNoField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        invoiceNoFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        invoiceNoFieldKeyReleased(evt);

    }

});


invoiceDateChooser.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        invoiceDateChooserKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        invoiceDateChooserKeyReleased(evt);

    }

});

```

```
customerNameField.setText("Select Customer");

customerNameField.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseClicked(java.awt.event.MouseEvent evt) {

        customerNameFieldMouseClicked(evt);

    }

});

customerNameField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        customerNameFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        customerNameFieldKeyReleased(evt);

    }

});

jLabel1.setText("Invoice No");


jLabel2.setText("Customer");


jLabel3.setText("Invoice Date");


javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);

jPanel4.setLayout(jPanel4Layout);

jPanel4Layout.setHorizontalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel4Layout.createSequentialGroup()

            .add(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .add(jLabel1)

                .add(jLabel2)

                .add(jLabel3)

            )

            .addContainerGap())

        .addGroup(jPanel4Layout.createSequentialGroup()

            .add(customerNameField)

            .addContainerGap())

        .addGroup(jPanel4Layout.createSequentialGroup()

            .add(button1)

            .addContainerGap())

    );

jPanel4Layout.setVerticalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .add(jLabel1)

        .add(jLabel2)

        .add(jLabel3)

        .add(customerNameField)

        .add(button1)

    );
```

```

        .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

        .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE, 90, Short.MAX_VALUE))

    .addGap(18, 18, 18)

    .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel4Layout.createSequentialGroup()

            .addComponent(invoiceNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 400,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 90,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(18, 18, 18)

            .addComponent(invoiceDateChooser, javax.swing.GroupLayout.PREFERRED_SIZE, 400,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addComponent(customerNameField))

    .addGap(654, 654, 654))
);

jPanel4Layout.setVerticalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addGroup(jPanel4Layout.createSequentialGroup()

        .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addGroup(jPanel4Layout.createSequentialGroup()

                .addContainerGap()

                .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel4Layout.createSequentialGroup()

                        .addGap(0, 0, Short.MAX_VALUE)

                        .addComponent(invoiceNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addComponent(invoiceDateChooser, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

                .addComponent(jLabel1, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addComponent(jLabel3, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addContainerGap())
        .addContainerGap())
    );

```

```

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(customerNameField, javax.swing.GroupLayout.DEFAULT_SIZE, 34,
Short.MAX_VALUE))

        .addContainerGap())

    );

invoiceTable.setFont(new java.awt.Font("Tahoma", 0, 15)); // NOI18N
invoiceTable.setModel(new javax.swing.table.DefaultTableModel(

    new Object [][] {

        },

    new String [] {

        "Sno", "Pno", "Product", "Qty", "Unit", "Unit Sell Price", "Discount", "Tax", "Amount"

    }

) {

    Class[] types = new Class [] {

        java.lang.Object.class, java.lang.Object.class, java.lang.String.class, java.lang.Double.class,
java.lang.String.class, java.lang.Double.class, java.lang.Double.class, java.lang.Double.class,
java.lang.Double.class

    };

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false, false, false

    };

    public Class getColumnClass(int columnIndex) {

        return types [columnIndex];

    }
}

```

```

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});

invoiceTable.setCursor(new java.awt.Cursor(java.awt.Cursor.DEFAULT_CURSOR));

invoiceTable.setDragEnabled(true);

invoiceTable.setRowHeight(30);

invoiceTable.setSelectionBackground(new java.awt.Color(204, 204, 204));

invoiceTable.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        invoiceTableMouseClicked(evt);
    }
});

jScrollPane1.setViewportViewView(invoiceTable);

if (invoiceTable.getColumnModel().getColumnCount() > 0) {
    invoiceTable.getColumnModel().getColumn(0).setMinWidth(60);
    invoiceTable.getColumnModel().getColumn(0).setMaxWidth(60);
    invoiceTable.getColumnModel().getColumn(1).setMinWidth(60);
    invoiceTable.getColumnModel().getColumn(1).setMaxWidth(60);
}

totalDiscountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);

totalDiscountField.setText("0.0");

totalDiscountField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        totalDiscountFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        totalDiscountFieldKeyReleased(evt);
    }
});

```

```

    }

});

totalAmountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);

totalAmountField.setText("0.0");

totalAmountField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        totalAmountFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        totalAmountFieldKeyReleased(evt);

    }

});

```

```

netAmountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);

netAmountField.setText("0.0");

netAmountField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        netAmountFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        netAmountFieldKeyReleased(evt);

    }

});

```

```

totalTaxField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);

totalTaxField.setText("0.0");

totalTaxField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

```



```

        totalTaxFieldKeyPressed(evt);
    }

    public void keyReleased(java.awt.event.KeyEvent evt) {
        totalTaxFieldKeyReleased(evt);
    }
});

itemCountField.setText("0");
itemCountField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        itemCountFieldKeyPressed(evt);
    }

    public void keyReleased(java.awt.event.KeyEvent evt) {
        itemCountFieldKeyReleased(evt);
    }
});

jLabel4.setText("Item Count");

jLabel5.setText("Discount");

jLabel6.setText("Tax");

jLabel7.setText("Total Amount");

jLabel8.setText("Net Amount");

javax.swing.GroupLayout jPanel5Layout = new javax.swing.GroupLayout(jPanel5);
jPanel5.setLayout(jPanel5Layout);

```

```

jPanel5Layout.setHorizontalGroup(

jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel5Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)

.addComponent(jLabel5, javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jLabel4, javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.DEFAULT_SIZE, 100, Short.MAX_VALUE)

.addComponent(jLabel6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addGap(18, 18, 18)

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel5Layout.createSequentialGroup())

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(totalTaxField, javax.swing.GroupLayout.PREFERRED_SIZE, 194,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(totalDiscountField, javax.swing.GroupLayout.PREFERRED_SIZE, 194,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 65,
Short.MAX_VALUE)

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)

.addComponent(jLabel7, javax.swing.GroupLayout.DEFAULT_SIZE, 100, Short.MAX_VALUE)

.addComponent(jLabel8, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addGap(18, 18, 18)

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(totalAmountField, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 194, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(netAmountField, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 194, javax.swing.GroupLayout.PREFERRED_SIZE)))

.addComponent(itemCountField))

```

```

        .addContainerGap())

    );

    jPanel5Layout.setVerticalGroup(

        jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel5Layout.createSequentialGroup())

        .addContainerGap()

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(itemCountField, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE))

        .addGap(18, 18, 18)

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jLabel5, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 34, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

                .addComponent(totalAmountField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(totalDiscountField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addGap(18, 18, 18)

        .addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

            .addComponent(totalTaxField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(netAmountField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    );

```

```

deleteRowButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
deleteRowButton.setText("Delete Row");
deleteRowButton.setEnabled(false);
deleteRowButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        deleteRowButtonActionPerformed(evt);
    }
});

```

```

saveInvoiceButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
saveInvoiceButton.setText("Save Invoice");
saveInvoiceButton.setEnabled(false);
saveInvoiceButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        saveInvoiceButtonActionPerformed(evt);
    }
});

```

```

newGrnButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
newGrnButton.setText("New");
newGrnButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        newGrnButtonActionPerformed(evt);
    }
});

```

```

invoiceButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
invoiceButton.setText("Invoice");

```

```

invoiceButton.setEnabled(false);

invoiceButton.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        invoiceButtonActionPerformed(evt);

    }

});

javax.swing.GroupLayout jPanel6Layout = new javax.swing.GroupLayout(jPanel6);
jPanel6.setLayout(jPanel6Layout);
jPanel6Layout.setHorizontalGroup(

    jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel6Layout.createSequentialGroup()

            .addGap(18, 18, 18)

            .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addComponent(newGrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(invoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGroup(jPanel6Layout.createSequentialGroup()

                    .addComponent(deleteRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(18, 18, 18)

                    .addComponent(saveInvoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)))

            .addGap(18, 18, 18)

        )

        .addGroup(jPanel6Layout.createSequentialGroup()

            .addGap(18, 18, 18)

            .addComponent(deleteRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(18, 18, 18)

            .addComponent(saveInvoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(18, 18, 18)

    )
    .addContainerGap(18, Short.MAX_VALUE)
);

jPanel6Layout.setVerticalGroup(

    jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel6Layout.createSequentialGroup()

            .addGap(18, 18, 18)

            .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addComponent(newGrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addGroup(jPanel6Layout.createSequentialGroup()

                    .addComponent(invoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(18, 18, 18)

                    .addComponent(deleteRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(18, 18, 18)

                    .addComponent(saveInvoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE))

                .addGap(18, 18, 18)

            )

            .addGap(18, 18, 18)

        )

        .addGroup(jPanel6Layout.createSequentialGroup()

            .addGap(18, 18, 18)

            .addComponent(deleteRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(18, 18, 18)

            .addComponent(saveInvoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addGap(18, 18, 18)

    )
    .addContainerGap(18, Short.MAX_VALUE)
);

```

```
.addComponent(deleteRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,  
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
.addComponent(saveInvoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,  
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
.addComponent(newGrnButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,  
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
.addComponent(invoiceButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,  
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
.addContainerGap(35, Short.MAX_VALUE))
```

```
);
```

```
jLabel9.setText("Product No");
```

```
productNoField.setText("0");
```

```
productNoField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyPressed(java.awt.event.KeyEvent evt) {
```

```
        productNoFieldKeyPressed(evt);
```

```
    }
```

```
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```
        productNoFieldKeyReleased(evt);
```

```
    }
```

```
});
```

```
jLabel10.setText("Product");
```

```
productNameField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyPressed(java.awt.event.KeyEvent evt) {
```

```
        productNameFieldKeyPressed(evt);
```

```
    }
```

```

    public void keyReleased(java.awt.event.KeyEvent evt) {
        productNameFieldKeyReleased(evt);
    }
});

jLabel11.setText("Qty");

qtyField.setText("0.0");
qtyField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        qtyFieldFocusLost(evt);
    }
});
qtyField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        qtyFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        qtyFieldKeyReleased(evt);
    }
});

jLabel12.setText("Unit");

unitNameField.setText("Number");
unitNameField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        unitNameFieldKeyPressed(evt);
    }
}

```

```

    public void keyReleased(java.awt.event.KeyEvent evt) {
        unitNameFieldKeyReleased(evt);
    }
});

jLabel13.setText("Unit Sell Price");

unitSellPriceField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
unitSellPriceField.setText("0.0");
unitSellPriceField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        unitSellPriceFieldFocusLost(evt);
    }
});
unitSellPriceField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        unitSellPriceFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        unitSellPriceFieldKeyReleased(evt);
    }
});

jLabel14.setText("Discount");

discountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
discountField.setText("0.0");
discountField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {

```



```

        discountFieldFocusLost(evt);
    }
});

discountField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        discountFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        discountFieldKeyReleased(evt);
    }
});

jLabel15.setText("Tax");

taxField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
taxField.setText("0.0");
taxField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusLost(java.awt.event.FocusEvent evt) {
        taxFieldFocusLost(evt);
    }
});

taxField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        taxFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        taxFieldKeyReleased(evt);
    }
});

```

```
jLabel16.setText("Amount");
```

```
amountField.setHorizontalAlignment(javax.swing.JTextField.RIGHT);
```

```
amountField.setText("0.0");
```

```
amountField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyPressed(java.awt.event.KeyEvent evt) {
```

```
        amountFieldKeyPressed(evt);
```

```
    }
```

```
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```
        amountFieldKeyReleased(evt);
```

```
    }
```

```
});
```

```
addRowButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
addRowButton.setText("Add Row");
```

```
addRowButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        addRowButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
updateRowButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
updateRowButton.setText("Update Row");
```

```
updateRowButton.setEnabled(false);
```

```
updateRowButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        updateRowButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
jLabel17.setText("Stock No");
```

```
stockNoField.setText("Select Stock");
```

```
stockNoField.addMouseListener(new java.awt.event.MouseAdapter() {
```

```
    public void mouseClicked(java.awt.event.MouseEvent evt) {
```

```
        stockNoFieldMouseClicked(evt);
```

```
    }
```

```
});
```

```
stockNoField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyPressed(java.awt.event.KeyEvent evt) {
```

```
        stockNoFieldKeyPressed(evt);
```

```
    }
```

```
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```
        stockNoFieldKeyReleased(evt);
```

```
    }
```

```
});
```

```
clearFiledButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
clearFiledButton.setText("Clear Fields");
```

```
clearFiledButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        clearFiledButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
```

```
jPanel3.setLayout(jPanel3Layout);
```

```

jPanel3Layout.setHorizontalGroup(

jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel3Layout.createSequentialGroup())

.addContainerGap()

.addComponent(jLabel17, javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(stockNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 110,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(30, 30, 30)

.addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 80,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(productNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(30, 30, 30)

.addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(productNameField, javax.swing.GroupLayout.PREFERRED_SIZE, 130,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(30, 30, 30)

.addComponent(jLabel11, javax.swing.GroupLayout.PREFERRED_SIZE, 30,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(qtyField, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(30, 30, 30)

.addComponent(jLabel12, javax.swing.GroupLayout.PREFERRED_SIZE, 40,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(unitNameField, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

```

```

.addGap(30, 30, 30)

.addComponent(jLabel13, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(unitSellPriceField, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(30, 30, 30)

.addComponent(jLabel14, javax.swing.GroupLayout.PREFERRED_SIZE, 70,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel3Layout.createSequentialGroup())

.addGap(0, 0, Short.MAX_VALUE)

.addComponent(addGroupButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(updateRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(clearFiledButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(jPanel3Layout.createSequentialGroup())

.addComponent(discountField, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(30, 30, 30)

.addComponent(jLabel15, javax.swing.GroupLayout.PREFERRED_SIZE, 35,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(taxField, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(30, 30, 30)

.addComponent(jLabel16, javax.swing.GroupLayout.PREFERRED_SIZE, 60,
javax.swing.GroupLayout.PREFERRED_SIZE)

```

```

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(amountField, javax.swing.GroupLayout.DEFAULT_SIZE, 137,
Short.MAX_VALUE)))

        .addContainerGap()

    );

    jPanel3Layout.setVerticalGroup(

    jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addGroup(jPanel3Layout.createSequentialGroup())

    .addContainerGap()

    .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addComponent(amountField)

    .addComponent(jLabel9, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

    .addComponent(productNameField)

    .addComponent(qtyField)

    .addComponent(unitNameField)

    .addComponent(unitSellPriceField)

    .addComponent(discountField)

    .addComponent(jLabel14, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jLabel16, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jLabel11, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jLabel12, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jLabel13, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(taxField)

    .addComponent(jLabel15, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jLabel17, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

```

```

        .addComponent(stockNoField)

        .addComponent(productNoField)

        .addComponent(jLabel10, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

            .addComponent(addGroupButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(updateRowButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(clearFiledButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addContainerGap())
    };

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .add(jPanel1Layout.createSequentialGroup()
                        .addContainerGap()
                        .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                            .addGroup(jPanel1Layout.createSequentialGroup()
                                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup()
                                    .addComponent(jPanel6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                    .addGap(18, 18, 18)
                                    .addComponent(jPanel5, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addComponent(jSeparator1)
                                .addComponent(jScrollPane1)

```

```

        .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addContainerGap())

    );

    JPanel1Layout.setVerticalGroup(

    JPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addGroup(jPanel1Layout.createSequentialGroup())

    .addContainerGap()

    .addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

    .addGap(20, 20, 20)

    .addComponent(jPanel3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

    .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 439,
javax.swing.GroupLayout.PREFERRED_SIZE)

    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

    .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

    .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(jPanel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(jPanel6, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))

    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    );

    JTabbedPane1.addTab("Create Sale", jPanel1);

    keywordField.setForeground(new java.awt.Color(153, 153, 153));

    keywordField.setText("Search");

```



```

keywordField.setToolTipText("Search");

keywordField.addFocusListener(new java.awt.event.FocusAdapter() {

    public void focusGained(java.awt.event.FocusEvent evt) {

        keywordFieldFocusGained(evt);

    }

    public void focusLost(java.awt.event.FocusEvent evt) {

        keywordFieldFocusLost(evt);

    }

});

keywordField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyReleased(java.awt.event.KeyEvent evt) {

        keywordFieldKeyReleased(evt);

    }

});

invoiceHistoryTable.setModel(new javax.swing.table.DefaultTableModel(

    new Object [][] {

        },

    new String [] {

        "Invoice No", "Invoice Date", "Customer", "Item Count", "Total Discount", "Total Tax", "Total
Amount"

    }

) {

    Class[] types = new Class [] {

        java.lang.Object.class, java.lang.Object.class, java.lang.Object.class, java.lang.Object.class,
java.lang.Double.class, java.lang.Double.class, java.lang.Double.class

    };

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false


```

```

};

public Class getColumnClass(int columnIndex) {
    return types [columnIndex];
}

public boolean isCellEditable(int rowIndex, int columnIndex) {
    return canEdit [columnIndex];
}
});

invoiceHistoryTable.setRowHeight(25);

jScrollPane3.setViewportViewView(invoiceHistoryTable);

if (invoiceHistoryTable.getColumnModel().getColumnCount() > 0) {
    invoiceHistoryTable.getColumnModel().getColumn(0).setMinWidth(100);
    invoiceHistoryTable.getColumnModel().getColumn(0).setMaxWidth(100);
}

invoiceButton1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
invoiceButton1.setText("Invoice");
invoiceButton1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        invoiceButton1ActionPerformed(evt);
    }
});

javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
jPanel2.setLayout(jPanel2Layout);
jPanel2Layout.setHorizontalGroup(
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

```

```

.addGroup(jPanel2Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 1831, Short.MAX_VALUE)

.addGroup(jPanel2Layout.createSequentialGroup())

.addGap(0, 0, Short.MAX_VALUE)

.addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 469,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addComponent(jSeparator2)

.addGroup(jPanel2Layout.createSequentialGroup())

.addComponent(invoiceButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(0, 0, Short.MAX_VALUE)))

.addContainerGap())
);

jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createSequentialGroup())

.addContainerGap()

.addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED_SIZE, 613,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(jSeparator2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(invoiceButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addContainerGap(163, Short.MAX_VALUE))

```

```
);
```

```
jTabbedPane1.addTab("Invoice History", jPanel2);
```

```
javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
```

```
getContentPane().setLayout(layout);
```

```
layout.setHorizontalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 1860,  
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
);
```

```
layout.setVerticalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addComponent(jTabbedPane1)
```

```
);
```

```
pack();
```

```
setLocationRelativeTo(null);
```

```
}// </editor-fold>
```

```
private void customerNameFieldMouseClicked(java.awt.event.MouseEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    loadCustomerDialog.setVisible(true);
```

```
    Object[] customerData = loadCustomerDialog.getCustomerData();
```

```
    customerNo = (int) customerData[0];
```

```
    logger.debug("Select customer");
```

```
    customerNameField.setText((String) customerData[1]);
```

```
    logger.debug("Set selected customer data to text fields");
```

```

}

private void stockNoFieldMouseClicked(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    loadStockDialog.setVisible(true);

    Object[] stockData = loadStockDialog.getStockData();

    String stockNoo = new String(stockData[0] + "");
    String productNoo = new String(stockData[1] + "");
    String productNameSet = (String) stockData[2];
    String availableQty = new String(stockData[3] + "");
    String productUnitName = (String) stockData[4];
    String stockUnitSellPrice = new String(stockData[5] + "");
    String productDiscount = new String(stockData[6] + "");
    String productTax = new String(stockData[7] + "");

    logger.debug("Select stock");

    stockNoField.setText(stockNoo);
    productNoField.setText(productNoo);
    productNameField.setText(productNameSet);
    qtyField.setText(availableQty);
    unitNameField.setText(productUnitName);
    unitSellPriceField.setText(stockUnitSellPrice);
    discountField.setText(productDiscount);
    taxField.setText(productTax);

    logger.debug("Set selected stock data to text fields");

    calculateValues();
}

```

```

private void addRowButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Add row");

    String stockNo = stockNoField.getText();

    String productNo = productNoField.getText();

    String productName = productNameField.getText();

    String qty = qtyField.getText();

    String unitName = unitNameField.getText();

    String unitSellPrice = unitSellPriceField.getText();

    String discount = discountField.getText();

    String tax = taxField.getText();

    String amount = amountField.getText();


    double availableStockQty = salesModel.getAvailableStockQty(stockNo);


    String PATTERN = "^[0]{0,100}[.][0]{0,100}$";

    Pattern p = Pattern.compile(PATTERN);

    Matcher m1 = p.matcher(qty);

    Matcher m2 = p.matcher(unitSellPrice);


    logger.debug("Check validations");

    if (customerNo == 0 || customerNameField.equals("Select Customer")) {

        logger.error("Customer not selected");

        loadCustomerDialog.setVisible(true);

        Object[] customerData = loadCustomerDialog.getCustomerData();

        customerNo = (int) customerData[0];

        logger.debug("Select customer");

        customerNameField.setText((String) customerData[1]);

        logger.debug("Set selected customer data to text fields");
    }
}

```

```

} else if (stockNo.equals("Select Stock")) {

    logger.error("Stock not selected");

    loadStockDialog.setVisible(true);

    Object[] stockData = loadStockDialog.getStockData();

    String stockNoo = new String(stockData[0] + "");

    String productNoo = new String(stockData[1] + "");

    String productNameSet = (String) stockData[2];

    String availableQty = new String(stockData[3] + "");

    String productUnitName = (String) stockData[4];

    String stockUnitSellPrice = new String(stockData[5] + "");

    String productDiscount = new String(stockData[6] + "");

    String productTax = new String(stockData[7] + "");

    logger.debug("Select stock");

    stockNoField.setText(stockNoo);

    productNoField.setText(productNoo);

    productNameField.setText(productNameSet);

    qtyField.setText(availableQty);

    unitNameField.setText(productUnitName);

    unitSellPriceField.setText(stockUnitSellPrice);

    discountField.setText(productDiscount);

    taxField.setText(productTax);

    logger.debug("Set selected stock data to text fields");

} else if (m1.matches()) {

    qtyField.requestFocus(true);

    logger.error("qty not entered");

} else if (m2.matches()) {

```

```

        unitSellPriceField.requestFocus(true);

        logger.error("unit sell price not entered");

    } else if (Double.parseDouble(qty) > availableStockQty) {

        //JOptionPane.showConfirmDialog(rootPane, String.valueOf(availableStockQty) + " of quantity available
only", "Warning", -1, 1);

        //qtyField.setText(String.valueOf(availableStockQty));

    } else {

        invoiceTableModel.addRow(new Object[]{Integer.parseInt(stockNo), Integer.parseInt(productNo),
productName, Double.parseDouble(qty), unitName,

            Double.parseDouble(unitSellPrice), Double.parseDouble(discount), Double.parseDouble(tax),
Double.parseDouble(amount)});

        logger.debug("Add row successful");

        saveInvoiceButton.setEnabled(true);

        itemCountField.setText(String.valueOf(invoiceTableModel.getRowCount()));

        calculateValues();

        clearFields();

    }

    calculateValues();
}

```

```

private void updateRowButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Update selected row");

    String stockNo = stockNoField.getText();

    String productNo = productNoField.getText();

    String productName = productNameField.getText();

    String qty = qtyField.getText();

    String unitName = unitNameField.getText();

    String unitSellPrice = unitSellPriceField.getText();

    String discount = discountField.getText();

```



```

String tax = taxField.getText();

String amount = amountField.getText();


double availableStockQty = salesModel.getAvailableStockQty(stockNo);


String PATTERN = "^[0]{0,100}[.][0]{0,100}$";

Pattern p = Pattern.compile(PATTERN);

Matcher m1 = p.matcher(qty);

Matcher m2 = p.matcher(unitSellPrice);


logger.debug("Check validations");

if (m1.matches()) {

    qtyField.requestFocus(true);

    logger.error("qty not entered");

} else if (m2.matches()) {

    unitSellPriceField.requestFocus(true);

    logger.error("unit sell price not entered");

} else if (Double.parseDouble(qty) > availableStockQty) {

    //JOptionPane.showConfirmDialog(rootPane, String.valueOf(availableStockQty) + " of quantity available
only", "Warning", -1, 1);

    //qtyField.setText(String.valueOf(availableStockQty));

} else {

    Object[] addrow = new Object[]{Integer.parseInt(stockNo), Integer.parseInt(productNo), productName,
Double.parseDouble(qty), unitName,

    Double.parseDouble(unitSellPrice), Double.parseDouble(discount), Double.parseDouble(tax),
Double.parseDouble(amount)};

    invoiceTableModel.setValueAt(addrow[0], selectedRow, 0);

    invoiceTableModel.setValueAt(addrow[1], selectedRow, 1);

    invoiceTableModel.setValueAt(addrow[2], selectedRow, 2);

```

```

        invoiceTableModel.setValueAt(addrow[3], selectedRow, 3);
        invoiceTableModel.setValueAt(addrow[4], selectedRow, 4);
        invoiceTableModel.setValueAt(addrow[5], selectedRow, 5);
        invoiceTableModel.setValueAt(addrow[6], selectedRow, 6);
        invoiceTableModel.setValueAt(addrow[7], selectedRow, 7);
        invoiceTableModel.setValueAt(addrow[8], selectedRow, 8);
        logger.debug("Update selected row successful");
        saveInvoiceButton.setEnabled(true);
        itemCountField.setText(String.valueOf(invoiceTableModel.getRowCount()));
        calculateValues();
        clearFields();
    }
    calculateValues();
}

private void deleteRowButtonActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    logger.debug("Delete selected row");
    int rowCount = invoiceTable.getRowCount();
    int selectedRow = invoiceTable.getSelectedRow();
    int selectedRowCount = invoiceTable.getSelectedRowCount();

    if (selectedRowCount == 1) {
        invoiceTableModel.removeRow(selectedRow);
        logger.debug("Delete selected row successful");
        clearFields();
        if (rowCount == 1) {
            saveInvoiceButton.setEnabled(false);
        }
    }
}

```

```

    } else {

        JOptionPane.showConfirmDialog(rootPane, "Please Select Any Single Row !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        logger.error("Error: Please Select Any Single Row !");

    }

    calculateValues();

}

private void saveInvoiceButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    calculateValues();

    int rowCount = invoiceTableModel.getRowCount();

    String invoiceNo = invoiceNoField.getText();

    Date invoiceDate = invoiceDateChooser.getDate();

    //customerNo in hear

    String itemCount = itemCountField.getText();

    String totalDiscount = totalDiscountField.getText();

    String totalTax = totalTaxField.getText();

    String totalAmount = totalAmountField.getText();

    logger.debug("Save invoice");

    String invoiceResult = salesModel.saveInvoice(invoiceNo, invoiceDate, customerNo, itemCount,
totalDiscount, totalTax, totalAmount);

    String salesResult = null;

    String stockResult = "Save Successful";

    for (int i = 0; i < rowCount; i++) {

        int stockNo = (int) invoiceTableModel.getValueAt(i, 0);

        int productNo = (int) invoiceTableModel.getValueAt(i, 1);

```

```

double qty = (double) invoiceTableModel.getValueAt(i, 3);

double unitSellPrice = (double) invoiceTableModel.getValueAt(i, 5);

double discount = (double) invoiceTableModel.getValueAt(i, 6);

double tax = (double) invoiceTableModel.getValueAt(i, 7);

double amount = (double) invoiceTableModel.getValueAt(i, 8);


logger.debug("Save sales");

salesResult = salesModel.saveSales(productNo, qty, unitSellPrice, discount, tax, amount, invoiceNo);

logger.debug("Update stock");

stockResult = salesModel.updateStock(stockNo, qty, invoiceDate);
}

```

```

if (invoiceResult.equals("Save Successful") && salesResult.equals("Save Successful") &&
stockResult.equals("Save Successful")) {

```

```

    JOptionPane.showConfirmDialog(rootPane, "Save Successful", "Message", -1, 1);

    invoiceButton.setEnabled(true);

    clearFields();

    addRowButton.setEnabled(false);

    updateRowButton.setEnabled(false);

    clearFiledButton.setEnabled(false);

    invoiceTable.setEnabled(false);

    invoiceTable.clearSelection();

    deleteRowButton.setEnabled(false);

    saveInvoiceButton.setEnabled(false);

    loadInvoiceHistoryTable("");

    loadStockDialog.loadStockTable("");

    logger.debug("Message: Save Successful");

} else {

    JOptionPane.showConfirmDialog(rootPane, "Save Error !", "Error", -1, JOptionPane.ERROR_MESSAGE);

```

```

        logger.error("Error: Save Error !");
    }
}

private void invoiceTableMouseClicked(java.awt.event.MouseEvent evt) {
    // TODO add your handling code here:

    selectedRow = invoiceTable.getSelectedRow();

    try {
        stockNoField.setText(new String(invoiceTableModel.getValueAt(selectedRow, 0) + ""));
        productNoField.setText(new String(invoiceTableModel.getValueAt(selectedRow, 1) + ""));
        productNameField.setText((String) invoiceTableModel.getValueAt(selectedRow, 2));
        qtyField.setText(new String(invoiceTableModel.getValueAt(selectedRow, 3) + ""));
        unitNameField.setText((String) invoiceTableModel.getValueAt(selectedRow, 4));
        unitSellPriceField.setText(new String(invoiceTableModel.getValueAt(selectedRow, 5) + ""));
        discountField.setText(new String(invoiceTableModel.getValueAt(selectedRow, 6) + ""));
        taxField.setText(new String(invoiceTableModel.getValueAt(selectedRow, 7) + ""));
        amountField.setText(new String(invoiceTableModel.getValueAt(selectedRow, 8) + ""));
        logger.debug("Load selected row data to relevant text fields");

        addRowButton.setEnabled(false);
        updateRowButton.setEnabled(true);
        deleteRowButton.setEnabled(true);
    } catch (ArrayIndexOutOfBoundsException e) {
        e.printStackTrace();
        logger.error("Exception: " + e.getMessage());
    }
}
}

```

```
private void clearFiledButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    clearFields();

}
```

```
private void newGrnButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    int rowCount = invoiceTableModel.getRowCount();

    invoiceNoLoad();

    customerNo = 0;

    customerNameField.setText("");

    invoiceDateChooser.setDate(new java.util.Date());

    clearFields();

    clearFiledButton.setEnabled(true);

    for (int i = rowCount - 1; i >= 0; i--) {

        invoiceTableModel.removeRow(i);

    }

    invoiceTable.setEnabled(true);

    saveInvoiceButton.setEnabled(false);

    invoiceButton.setEnabled(false);

    itemCountField.setText("0");

    totalDiscountField.setText("0.0");

    totalTaxField.setText("0.0");

    totalAmountField.setText("0.0");

}
```

```

netAmountField.setText("0.0");

logger.debug("Open new invoice");
}

private void invoiceButtonActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    int invoiceNo = Integer.parseInt(invoiceNoField.getText());
    new GenerateInvoiceDialog(this, true, invoiceNo).setVisible(true);
}

private void invoiceNoFieldKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    invoiceNoField.setEditable(false);
}

private void invoiceDateChooserKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
}

private void customerNameFieldKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    customerNameField.setEditable(false);
}

private void stockNoFieldKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:
    stockNoField.setEditable(false);
}

```

```
private void productNoFieldKeyPressed(java.awt.event.KeyEvent evt) {  
  
    // TODO add your handling code here:  
  
    productNoField.setEditable(false);  
  
}
```

```
private void productNameFieldKeyPressed(java.awt.event.KeyEvent evt) {  
  
    // TODO add your handling code here:  
  
    productNameField.setEditable(false);  
  
}
```

```
private void qtyFieldKeyPressed(java.awt.event.KeyEvent evt) {  
  
    // TODO add your handling code here:  
  
    String qty = qtyField.getText();  
  
    char c = evt.getKeyChar();  
  
    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {  
  
        qtyField.setEditable(true);  
  
    } else {  
  
        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==  
KeyEvent.VK_DELETE) {  
  
            qtyField.setEditable(true);  
  
        } else {  
  
            qtyField.setEditable(false);  
  
        }  
  
    }  
  
}
```

```
private void unitNameFieldKeyPressed(java.awt.event.KeyEvent evt) {  
  
    // TODO add your handling code here:
```



```

        unitNameField.setEditable(false);
    }

    private void unitSellPriceFieldKeyPressed(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:

        String unitSellPrice = unitSellPriceField.getText();

        char c = evt.getKeyChar();

        if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {

            unitSellPriceField.setEditable(true);

        } else {

            if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

                unitSellPriceField.setEditable(true);

            } else {

                unitSellPriceField.setEditable(false);

            }

        }

    }

    private void discountFieldKeyPressed(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:

        String discount = discountField.getText();

        char c = evt.getKeyChar();

        if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {

            discountField.setEditable(true);

        } else {

            if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

                discountField.setEditable(true);

            } else {

```

```

        discountField.setEditable(false);
    }
}

```

```

private void taxFieldKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:

    String tax = taxField.getText();

    char c = evt.getKeyChar();

    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9' || evt.getKeyChar() == '.') {

        taxField.setEditable(true);

    } else {

        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

            taxField.setEditable(true);

        } else {

            taxField.setEditable(false);

        }

    }
}

```

```

private void amountFieldKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:

    amountField.setEditable(false);
}

```

```

private void itemCountFieldKeyPressed(java.awt.event.KeyEvent evt) {
    // TODO add your handling code here:

    itemCountField.setEditable(false);
}

```

```
}
```

```
private void totalDiscountFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    totalDiscountField.setEditable(false);
```

```
}
```

```
private void totalTaxFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    totalTaxField.setEditable(false);
```

```
}
```

```
private void totalAmountFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    totalAmountField.setEditable(false);
```

```
}
```

```
private void netAmountFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    netAmountField.setEditable(false);
```

```
}
```

```
private void invoiceNoFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    invoiceNoField.setEditable(true);
```

```
}
```

```
private void invoiceDateChooserKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
}
```

```
private void customerNameFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    customerNameField.setEditable(true);
```

```
}
```

```
private void stockNoFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    stockNoField.setEditable(true);
```

```
}
```

```
private void productNoFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    productNoField.setEditable(true);
```

```
}
```

```
private void productNameFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    productNameField.setEditable(true);
```

```
}
```

```
private void qtyFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    qtyField.setEditable(true);
```

```
    calculateValues();
```

```
}
```

```
private void unitNameFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```

// TODO add your handling code here:

unitNameField.setEditable(true);
}

private void unitSellPriceFieldKeyReleased(java.awt.event.KeyEvent evt) {

// TODO add your handling code here:

unitSellPriceField.setEditable(true);

calculateValues();
}

private void discountFieldKeyReleased(java.awt.event.KeyEvent evt) {

// TODO add your handling code here:

discountField.setEditable(true);

calculateValues();
}

private void taxFieldKeyReleased(java.awt.event.KeyEvent evt) {

// TODO add your handling code here:

taxField.setEditable(true);

calculateValues();
}

private void amountFieldKeyReleased(java.awt.event.KeyEvent evt) {

// TODO add your handling code here:

amountField.setEditable(true);
}

private void itemCountFieldKeyReleased(java.awt.event.KeyEvent evt) {

// TODO add your handling code here:

```

```

        itemCountField.setEditable(true);
    }

    private void totalDiscountFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        totalDiscountField.setEditable(true);
    }

    private void totalTaxFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        totalTaxField.setEditable(true);
    }

    private void totalAmountFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        totalAmountField.setEditable(true);
    }

    private void netAmountFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        netAmountField.setEditable(true);
    }

    private void qtyFieldFocusLost(java.awt.event.FocusEvent evt) {
        // TODO add your handling code here:
        String qty = qtyField.getText();
        String stockNo = stockNoField.getText();
        double availableStockQty = salesModel.getAvailableStockQty(stockNo);
    }

```

```

String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";

Pattern p = Pattern.compile(PATTERN);

Matcher m = p.matcher(qty);

if (qty.equals("")) {

    qtyField.setText("0.0");

} else if (!m.matches()) {

    qtyField.setText(qty + ".0");

}

if (Double.parseDouble(qty) > availableStockQty) {

    JOptionPane.showConfirmDialog(rootPane, String.valueOf(availableStockQty) + " of quantity available only", "Warning", -1, 1);

    qtyField.setText(String.valueOf(availableStockQty));

}

calculateValues();

}

private void unitSellPriceFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    String unitSellPrice = unitSellPriceField.getText();

    String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";

    Pattern p = Pattern.compile(PATTERN);

    Matcher m = p.matcher(unitSellPrice);

    if (unitSellPrice.equals("")) {

        unitSellPriceField.setText("0.0");

    } else if (!m.matches()) {

        unitSellPriceField.setText(unitSellPrice + ".0");

    }

    calculateValues();

```

```
}
```

```
private void discountFieldFocusLost(java.awt.event.FocusEvent evt) {  
  
    // TODO add your handling code here:  
  
    String discount = discountField.getText();  
  
    String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";  
  
    Pattern p = Pattern.compile(PATTERN);  
  
    Matcher m = p.matcher(discount);  
  
    System.out.println(m.matches());  
  
    if (discount.equals("")) {  
  
        discountField.setText("0.0");  
  
    } else if (!m.matches()) {  
  
        discountField.setText(discount + ".0");  
  
    }  
  
    calculateValues();  
  
}
```

```
private void taxFieldFocusLost(java.awt.event.FocusEvent evt) {  
  
    // TODO add your handling code here:  
  
    String tax = taxField.getText();  
  
    String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";  
  
    Pattern p = Pattern.compile(PATTERN);  
  
    Matcher m = p.matcher(tax);  
  
    System.out.println(m.matches());  
  
    if (tax.equals("")) {  
  
        taxField.setText("0.0");  
  
    } else if (!m.matches()) {  
  
        taxField.setText(tax + ".0");  
  
    }  
  
}
```



```

        calculateValues();
    }

    private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {
        // TODO add your handling code here:
        if (keywordField.getText().equals("Search")) {
            keywordField.setText("");
            keywordField.setForeground(new Color(0, 0, 0));
        }
    }
}

```

```

    private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {
        // TODO add your handling code here:
        if (keywordField.getText().equals("")) {
            keywordField.setText("Search");
            keywordField.setForeground(new Color(153, 153, 153));
        }
    }
}

```

```

    private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        String keyword = keywordField.getText();
        logger.debug("Search invoice data");
        loadInvoiceHistoryTable(keyword);
    }
}

```

```

    private void invoiceButton1ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        int rowCount = invoiceHistoryTable.getRowCount();
    }
}

```

```

int selectedRow = invoiceHistoryTable.getSelectedRow();

int selectedRowCount = invoiceHistoryTable.getSelectedRowCount();

if (selectedRowCount == 1) {

    int invoiceNo = (int) invoiceHistoryTableModel.getValueAt(selectedRow, 0);

    new GenerateInvoiceDialog(this, true, invoiceNo).setVisible(true);

} else {

    if (rowCount == 0) {

        JOptionPane.showConfirmDialog(rootPane, "Table is Empty !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        logger.error("Error: Table is Empty !");

    } else {

        JOptionPane.showConfirmDialog(rootPane, "Please Select Any Single Row !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        logger.error("Error: Please Select Any Single Row !");

    }

}

}

private void invoiceNoLoad() {

    int invoiceNo = salesModel.getInvoiceNo();

    invoiceNo++;

    invoiceNoField.setText(new String(invoiceNo + ""));

    logger.debug("Set Invoice No");

}

private void calculateValues() {

    try {

        int rowCount = invoiceTableModel.getRowCount();

```

```
double productQty = Double.parseDouble(qtyField.getText());

double productUnitSellPrice = Double.parseDouble(unitSellPriceField.getText());

double productDiscount = Double.parseDouble(discountField.getText());

double productTax = Double.parseDouble(taxField.getText());

double productAmount = (productUnitSellPrice - productDiscount + productTax) * productQty;

amountField.setText(String.valueOf(productAmount));

itemCountField.setText(String.valueOf(rowCount));

double totalDiscount = 0;

double totalTax = 0;

double totalAmount = 0;

for (int i = 0; i < rowCount; i++) {

    double rowQty = (double) invoiceTableModel.getValueAt(i, 3);

    double rowDiscount = (double) invoiceTableModel.getValueAt(i, 6);

    totalDiscount += rowDiscount * rowQty;

    double rowVat = (double) invoiceTableModel.getValueAt(i, 7);

    totalTax += rowVat * rowQty;

    double rowAmount = (double) invoiceTableModel.getValueAt(i, 8);

    totalAmount += rowAmount;

}

totalDiscountField.setText(String.valueOf(totalDiscount));

totalTaxField.setText(String.valueOf(totalTax));

totalAmountField.setText(String.valueOf(totalAmount));
```

```

        netAmountField.setText(String.valueOf(totalAmount));

        logger.debug("Calculate values");
    } catch (NumberFormatException e) {
        logger.error("Exception: " + e.getMessage());
    }
}

private void clearFields() {
    stockNoField.setText("Select Stock");
    productNoField.setText("0");
    productNameField.setText("");
    qtyField.setText("0.0");
    unitNameField.setText("Number");
    unitSellPriceField.setText("0.0");
    discountField.setText("0.0");
    taxField.setText("0.0");
    amountField.setText("0.0");

    addRowButton.setEnabled(true);
    updateRowButton.setEnabled(false);
    deleteRowButton.setEnabled(false);

    logger.debug("Clear fields");
}

private void loadInvoiceHistoryTable(String keyword) {
    salesModel.loadInvoiceHistoryTable(keyword, invoiceHistoryTableModel);
    logger.debug("Load invoice history table");
}

```

```

}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        UIManager.setLookAndFeel(new FlatIntelliJLaf());
        UIManager.put("Table.showHorizontalLines", true);
        UIManager.put("Table.showVerticalLines", true);
        UIManager.put("ScrollBar.showButtons", true);
        UIManager.put("ScrollBar.width", 16);
    } catch (Exception ex) {
        System.err.println("Failed to initialize LaF");
    }

    // try {
    //     for (javax.swing.UIManager.LookAndFeelInfo info :
    javax.swing.UIManager.getInstalledLookAndFeels()) {
    //         if ("Windows".equals(info.getName())) {
    //             javax.swing.UIManager.setLookAndFeel(info.getClassName());
    //             break;
    //         }
    //     }
    // } catch (ClassNotFoundException ex) {

```

```
//      java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    } catch (InstantiationException ex) {

//      java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    } catch (IllegalAccessException ex) {

//      java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//      java.util.logging.Logger.getLogger(GrnManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//    }

//</editor-fold>
```

```
/* Create and display the form */
```

```
java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        new SalesManager().setVisible(true);

    }

});

}
```

```
// Variables declaration - do not modify
```

```
private javax.swing.JButton addRowButton;

private javax.swing.JTextField amountField;

private javax.swing.JButton clearFiledButton;

private javax.swing.JTextField customerNameField;

private javax.swing.JButton deleteRowButton;

private javax.swing.JTextField discountField;

private javax.swing.JButton invoiceButton;

private javax.swing.JButton invoiceButton1;
```

```
private com.toedter.calendar.JDateChooser invoiceDateChooser;

private javax.swing.JTable invoiceHistoryTable;

private javax.swing.JTextField invoiceNoField;

private javax.swing.JTable invoiceTable;

private javax.swing.JTextField itemCountField;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel10;

private javax.swing.JLabel jLabel11;

private javax.swing.JLabel jLabel12;

private javax.swing.JLabel jLabel13;

private javax.swing.JLabel jLabel14;

private javax.swing.JLabel jLabel15;

private javax.swing.JLabel jLabel16;

private javax.swing.JLabel jLabel17;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel5;

private javax.swing.JLabel jLabel6;

private javax.swing.JLabel jLabel7;

private javax.swing.JLabel jLabel8;

private javax.swing.JLabel jLabel9;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JPanel jPanel3;

private javax.swing.JPanel jPanel4;

private javax.swing.JPanel jPanel5;

private javax.swing.JPanel jPanel6;

private javax.swing.JScrollPane jScrollPane1;
```

```

private javax.swing.JScrollPane jScrollPane3;

private javax.swing.JSeparator jSeparator1;

private javax.swing.JSeparator jSeparator2;

private javax.swing.JTabbedPane jTabbedPane1;

private javax.swing.JTextField keywordField;

private javax.swing.JTextField netAmountField;

private javax.swing.JButton newGrnButton;

private javax.swing.JTextField productNameField;

private javax.swing.JTextField productNoField;

private javax.swing.JTextField qtyField;

private javax.swing.JButton saveInvoiceButton;

private javax.swing.JTextField stockNoField;

private javax.swing.JTextField taxField;

private javax.swing.JTextField totalAmountField;

private javax.swing.JTextField totalDiscountField;

private javax.swing.JTextField totalTaxField;

private javax.swing.JTextField unitNameField;

private javax.swing.JTextField unitSellPriceField;

private javax.swing.JButton updateRowButton;

// End of variables declaration
}

```

3.10 SalesModel.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package model;

```



```

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.util.Date;

import javax.swing.table.DefaultTableModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class SalesModel {

    private Connection dbConnection;

    static Logger logger = Logger.getLogger(SalesModel.class.getName());

    public SalesModel() {

        dbConnection = database.DBConnection.getConnection();

    }

    public int getInvoiceNo() {

        String query = "SELECT * FROM customer_invoice ORDER BY customer_invoice_no DESC LIMIT 1";

        logger.debug("SQL query String: " + query);

        try {

            PreparedStatement psm = dbConnection.prepareStatement(query);

            ResultSet rs = psm.executeQuery();

            logger.debug("Query execution done");

```

```

int invoiceNo = 0;

while (rs.next()) {

    invoiceNo = rs.getInt("customer_invoice_no");

    logger.debug("return invoiceNo");

    return invoiceNo;

}

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

logger.debug("return 0");

return 0;

}

```

```

public String saveInvoice(String invoiceNo, Date invoiceDate, int customerNo, String itemCount, String
totalDiscount, String totalTax, String totalAmount) {

```

```

    String query = "INSERT INTO customer_invoice(customer_invoice_no, customer_invoice_date,
customer_no, customer_invoice_item_count, customer_invoice_discount, customer_invoice_tax,
customer_invoice_amount)"

```

```

        + "VALUE(?,?,?,?,?,?)";

```

```

    logger.debug("SQL query String: " + query);

```

```

    try {

```

```

        PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

        psm.setString(1, invoiceNo);

```

```

        psm.setDate(2, new java.sql.Date(invoiceDate.getTime()));

```

```

        psm.setInt(3, customerNo);

```

```

        psm.setString(4, itemCount);

```

```

        psm.setString(5, totalDiscount);

```

```

        psm.setString(6, totalTax);

```

```

        psm.setString(7, totalAmount);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Save Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Save Error !";

    }

}

```

```

public String saveSales(int productNo, double qty, double unitSellPrice, double discount, double tax, double
amount, String invoiceNo) {

```

```

    String query = "INSERT INTO sales(product_no, sales_quantity, sales_unit_sell_price, sales_discount,
sales_tax, sales_amount, customer_invoice_no) VALUE(?,?,?,?,?,?,?)";

```

```

    logger.debug("SQL query String: " + query);

```

```

try {

```

```

    PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

    psm.setInt(1, productNo);

```

```

    psm.setDouble(2, qty);

```

```

    psm.setDouble(3, unitSellPrice);

```

```

    psm.setDouble(4, discount);

```

```

    psm.setDouble(5, tax);

```

```

    psm.setDouble(6, amount);

```

```

    psm.setString(7, invoiceNo);

```

```

    psm.execute();

```

```

    logger.debug("Query execution done");

```

```

        logger.debug("return result");

        return "Save Successful";
    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Save Error !";
    }
}

```

```

public String updateStock(int stockNo, double qty, Date invoiceDate) {

    String query1 = "SELECT * FROM stock WHERE stock_no = ?";

    String query2 = "UPDATE stock SET stock_quantity = ?, stock_last_update = ? WHERE stock_no = ?";

    String query3 = "UPDATE stock SET stock_quantity = ?, stock_last_update = ?, stock_status = ? WHERE stock_no = ?";

    logger.debug("SQL query String: " + query1);

    logger.debug("SQL query String: " + query2);

    logger.debug("SQL query String: " + query3);

    try {

        PreparedStatement psm1 = dbConnection.prepareStatement(query1);

        psm1.setInt(1, stockNo);

        ResultSet rs = psm1.executeQuery();

        logger.debug("Query1 execution done");

        double availableQty = 0;

        while (rs.next()) {

            availableQty = rs.getDouble("stock_quantity") - qty;

        }

        if (availableQty != 0) {

            PreparedStatement psm2 = dbConnection.prepareStatement(query2);

```

```

        psm2.setDouble(1, availableQty);

        psm2.setDate(2, new java.sql.Date(invoiceDate.getTime()));

        psm2.setInt(3, stockNo);

        psm2.execute();

        logger.debug("Query2 execution done");
    } else {

        PreparedStatement psm3 = dbConnection.prepareStatement(query3);

        psm3.setDouble(1, availableQty);

        psm3.setDate(2, new java.sql.Date(invoiceDate.getTime()));

        psm3.setInt(3, 0);

        psm3.setInt(4, stockNo);

        psm3.execute();

        logger.debug("Query3 execution done");
    }

    logger.debug("return result");

    return "Save Successful";
} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

    logger.error("return result");

    return "Save Error !";
}
}

```

```

public double getAvailableStockQty(String stockNo) {

    String query = "SELECT * FROM stock WHERE stock_no = ?";

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, stockNo);
    }
}

```

```

ResultSet rs = psm.executeQuery();

logger.debug("Query1 execution done");

while (rs.next()) {

    double availableStockQty = rs.getDouble("stock_quantity");

    logger.debug("return available stock qty");

    return availableStockQty;

}

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

logger.debug("return 0");

return 0;

}

```

```

public void loadInvoiceHistoryTable(String keyword, DefaultTableModel invoiceHistoryTableModel) {

    String query = "SELECT * FROM customer_invoice INNER JOIN customer "

        + "ON customer_invoice.customer_no = customer.customer_no "

        + "WHERE customer_invoice_no LIKE ? OR customer_invoice_date LIKE ? OR customer_name LIKE ? "
ORDER BY customer_invoice_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, "%" + keyword + "%");

        psm.setString(2, "%" + keyword + "%");

        psm.setString(3, "%" + keyword + "%");

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

```

```

Object[] rowData = null;

invoiceHistoryTableModel.setRowCount(0);

while (rs.next()) {

    int invoiceNo = rs.getInt("customer_invoice_no");

    Date date = rs.getDate("customer_invoice_date");

    String customerName = rs.getString("customer_name");

    int itemCount = rs.getInt("customer_invoice_item_count");

    double totalDiscount = rs.getDouble("customer_invoice_discount");

    double totalTax = rs.getDouble("customer_invoice_tax");

    double totalAmount = rs.getDouble("customer_invoice_amount");

    rowData = new Object[]{invoiceNo, date, customerName, itemCount, totalDiscount, totalTax,
totalAmount};

    invoiceHistoryTableModel.addRow(rowData);

    logger.debug("loadInvoiceHistoryTable [addRow]");

}

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

}

```

3.11 GenerateInvoiceDialog.java

```

/*

* To change this license header, choose License Headers in Project Properties.

* To change this template file, choose Tools | Templates

* and open the template in the editor.

*/

package gui;

```

```

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.util.HashMap;

import java.util.Map;

import javax.swing.UIManager;

import net.sf.jasperreports.engine.JasperFillManager;

import net.sf.jasperreports.engine.JasperPrint;

import net.sf.jasperreports.engine.JasperPrintManager;

import net.sf.jasperreports.swing.JRViewer;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */

public class GenerateInvoiceDialog extends javax.swing.JDialog {

    /**
     * Creates new form GenerateInvoiceDialog
     */

    static Logger logger = Logger.getLogger(GenerateInvoiceDialog.class.getName());

    String reportPath = "reports\\pamunuwila_hardware_salesdepartment_invoice.jasper";

    Map m = new HashMap();

    int invoiceNumber;

    public GenerateInvoiceDialog(java.awt.Frame parent, boolean modal, int invoiceNo) {

        super(parent, modal);

        initComponents();

        logger.debug("Access to GenerateInvoiceDialog.java");
    }

```



```

invoiceNumber = invoiceNo;

m.put("incoiceNo", invoiceNumber);

try {

    JasperPrint jp = JasperFillManager.fillReport(reportPath, m,database.DBConnection.getConnection());

    JRViewer jv = new JRViewer(jp);

    jv.setZoomRatio((float) 0.5);

    jTabbedPane1.add(jv);

    logger.debug("View report");

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */

@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();

    jTabbedPane1 = new javax.swing.JTabbedPane();

    printButton = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

```

```
setTitle("Invoice");
```

```
setResizable(false);
```

```
printButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
printButton.setText("Print");
```

```
printButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        printButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
```

```
jPanel1.setLayout(jPanel1Layout);
```

```
jPanel1Layout.setHorizontalGroup(
```

```
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel1Layout.createSequentialGroup()
```

```
            .addGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
            .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 913,
```

```
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addGap())
```

```
        .addGroup(jPanel1Layout.createSequentialGroup()
```

```
            .addGap())
```

```
            .addComponent(printButton, javax.swing.GroupLayout.PREFERRED_SIZE, 150,
```

```
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
            .addGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
```

```
);
```

```
jPanel1Layout.setVerticalGroup(
```

```
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel1Layout.createSequentialGroup()
```

```
            .addGap())
```

```

        .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 831,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addComponent(printButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(32, Short.MAX_VALUE))

    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);

    layout.setHorizontalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    );

    layout.setVerticalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    );

    pack();

    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void printButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    m.put("incoiceNo", invoiceNumber);

    try {

        JasperPrint jp = JasperFillManager.fillReport(reportPath, m,database.DBConnection.getConnection());

        JasperPrintManager.printReport(jp, true);
    }
}

```

```

        logger.debug("Print report");
    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());
    }
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);
    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");
    }

    //    try {

    //        for (javax.swing.UIManager.LookAndFeelInfo info :
    javax.swing.UIManager.getInstalledLookAndFeels()) {

    //            if ("Windows".equals(info.getName())) {

```

```

//      javax.swing.UIManager.setLookAndFeel(info.getClassName());
//      break;
//  }
//  }

//  } catch (ClassNotFoundException ex) {

//
java.util.logging.Logger.getLogger(GenerateInvoiceDialog.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  } catch (InstantiationException ex) {

//
java.util.logging.Logger.getLogger(GenerateInvoiceDialog.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  } catch (IllegalAccessException ex) {

//
java.util.logging.Logger.getLogger(GenerateInvoiceDialog.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//
java.util.logging.Logger.getLogger(GenerateInvoiceDialog.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//  }

//</editor-fold>
//</editor-fold>
//</editor-fold>
//</editor-fold>

/* Create and display the dialog */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        int invoiceNo = 0;

        GenerateInvoiceDialog dialog = new GenerateInvoiceDialog(new javax.swing.JFrame(), true,
invoiceNo);

        dialog.addWindowListener(new java.awt.event.WindowAdapter() {

```

```

        @Override

        public void windowClosing(java.awt.event.WindowEvent e) {

            System.exit(0);

        }

    });

    dialog.setVisible(true);

}

});

}

```

```

// Variables declaration - do not modify

private javax.swing.JPanel jPanel1;

private javax.swing.JTabbedPane jTabbedPane1;

private javax.swing.JButton printButton;

// End of variables declaration

}

```

3.12 StockManager.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import java.awt.Component;

import javax.swing.JTable;

```

```

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import javax.swing.table.TableCellRenderer;

import model.StockModel;

import org.apache.log4j.Logger;


/**
 *
 * @author EZIO AUDITORY
 */
class StockTableRenderer implements TableCellRenderer {

    @Override

    public Component getTableCellRendererComponent(JTable table, Object value, boolean isSelected, boolean
hasFocus, int row, int column) {

        return (Component) value;

    }

}

public class StockManager extends javax.swing.JFrame {


    /**
     * Creates new form StockManager
     */

    private StockModel stockModel;

    static Logger logger = Logger.getLogger(LoadStockDialog.class.getName());

    DefaultTableModel stockTableModel;

    public StockManager() {

        initComponents();

        logger.debug("Access to StockManager.java");
    }

```

```

stockTableSettings(stockTable);

stockTableModel = (DefaultTableModel) stockTable.getModel();

stockModel = new StockModel();

loadStockTableMain("");
}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jTabbedPane1 = new javax.swing.JTabbedPane();
    jPanel1 = new javax.swing.JPanel();
    keywordField = new javax.swing.JTextField();
    jScrollPane3 = new javax.swing.JScrollPane();
    stockTable = new javax.swing.JTable();
    jSeparator1 = new javax.swing.JSeparator();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);
    setTitle("Stock Manager");
    setResizable(false);

```



```

keywordField.setForeground(new java.awt.Color(153, 153, 153));

keywordField.setText("Search");

keywordField.setToolTipText("Search");

keywordField.addFocusListener(new java.awt.event.FocusAdapter() {

    public void focusGained(java.awt.event.FocusEvent evt) {

        keywordFieldFocusGained(evt);

    }

    public void focusLost(java.awt.event.FocusEvent evt) {

        keywordFieldFocusLost(evt);

    }

});

keywordField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyReleased(java.awt.event.KeyEvent evt) {

        keywordFieldKeyReleased(evt);

    }

});

stockTable.setModel(new javax.swing.table.DefaultTableModel(

    new Object [][] {

        },

    new String [] {

        "Stock No", "Stock Date", "Product No", "Product Name", "Image", "Description", "Available Qty",
"Unit", "Unit Sell Price", "Discount", "Tax", "Last Update"

    }

) {

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false, false, false, false, false, false

    }

});

```

```

        public boolean isCellEditable(int rowIndex, int columnIndex) {

            return canEdit [columnIndex];

        }

    });

    stockTable.setRowHeight(25);

    jScrollPane3.setViewportViewView(stockTable);

    if (stockTable.getColumnModel().getColumnCount() > 0) {

        stockTable.getColumnModel().getColumn(0).setMinWidth(100);

        stockTable.getColumnModel().getColumn(0).setMaxWidth(100);

        stockTable.getColumnModel().getColumn(2).setMinWidth(100);

        stockTable.getColumnModel().getColumn(2).setMaxWidth(100);

    }


    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jSeparator1)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 1831, Short.MAX_VALUE)
                .addContainerGap()
            )
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 469,
                    javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(10, 10, 10)
    );

```

```

jPanel1Layout.setVerticalGroup(

    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel1Layout.createSequentialGroup())

            .addContainerGap()

            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 803, Short.MAX_VALUE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

            .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(20, 20, 20))

);

JTabbedPane1.addTab("Stock Details", jPanel1);

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);

layout.setHorizontalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(JTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 1860,
javax.swing.GroupLayout.PREFERRED_SIZE)

);

layout.setVerticalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(JTabbedPane1)

);

pack();

setLocationRelativeTo(null);

```

```
}// </editor-fold>
```

```
private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {  
    // TODO add your handling code here:  
    if (keywordField.getText().equals("Search")) {  
        keywordField.setText("");  
        keywordField.setForeground(new Color(0, 0, 0));  
    }  
}
```

```
private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {  
    // TODO add your handling code here:  
    if (keywordField.getText().equals("")) {  
        keywordField.setText("Search");  
        keywordField.setForeground(new Color(153, 153, 153));  
    }  
}
```

```
private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {  
    // TODO add your handling code here:  
    String keyword = keywordField.getText();  
    logger.debug("Search stock data");  
    loadStockTableMain(keyword);  
}
```

```
public void stockTableSettings(JTable jtable) {  
    jtable.setRowHeight(100);  
    jtable.getColumnModel().setCellRenderer(new StockTableRenderer());  
    jtable.getColumnModel().getColumn(0).setPreferredWidth(100);  
}
```

```

}

private void loadStockTableMain(String keyword){

    stockModel.loadStockTableMain(keyword, stockTableModel);

    logger.debug("Load stock table");

}

/**
 * @param args the command line arguments
 */

public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */

    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

    //    try {

    //        for (javax.swing.UIManager.LookAndFeelInfo info :
    javax.swing.UIManager.getInstalledLookAndFeels()) {

    //            if ("Nimbus".equals(info.getName())) {

    //                javax.swing.UIManager.setLookAndFeel(info.getClassName());

```

```

//      break;

//      }

//      }

//      } catch (ClassNotFoundException ex) {

//      java.util.logging.Logger.getLogger(StockManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//      } catch (InstantiationException ex) {

//      java.util.logging.Logger.getLogger(StockManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//      } catch (IllegalAccessException ex) {

//      java.util.logging.Logger.getLogger(StockManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//      } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//      java.util.logging.Logger.getLogger(StockManager.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

//      }

//</editor-fold>

```

```

/* Create and display the form */

```

```

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        new StockManager().setVisible(true);

    }

});

}

```

```

// Variables declaration - do not modify

```

```

private javax.swing.JPanel jPanel1;

private javax.swing.JScrollPane jScrollPane3;

private javax.swing.JSeparator jSeparator1;

private javax.swing.JTabbedPane jTabbedPane1;

```

```

private javax.swing.JTextField keywordField;

private javax.swing.JTable stockTable;

// End of variables declaration
}

```

3.13 StockModel.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package model;

import java.awt.Image;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.util.Date;
import javax.swing.ImageIcon;
import javax.swing.JLabel;
import javax.swing.table.DefaultTableModel;
import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class StockModel {

```

```

private Connection dbConnection;

static Logger logger = Logger.getLogger(ProductModel.class.getName());

public StockModel() {

    dbConnection = database.DBConnection.getConnection();

}

public void loadStockTable(String keyword, DefaultTableModel stockTableModel) {

    String query = "SELECT * FROM stock INNER JOIN product INNER JOIN unit "

        + "ON stock.product_no = product.product_no AND product.unit_no = unit.unit_no "

        + "WHERE (stock_no LIKE ? OR stock.product_no LIKE ? OR product_name LIKE ?) AND stock_status = "
        + "? ORDER BY stock_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, "%" + keyword + "%");

        psm.setString(2, "%" + keyword + "%");

        psm.setString(3, "%" + keyword + "%");

        psm.setInt(4, 1);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        stockTableModel.setRowCount(0);

        while (rs.next()) {

            int stockNo = rs.getInt("stock_no");

            int productNo = rs.getInt("stock.product_no");

            String productName = rs.getString("product_name");

            String image = rs.getString("product_image_url");

```



```

        ImageIcon ii = new ImageIcon(new ImageIcon(image).getImage().getScaledInstance(160, 100,
Image.SCALE_SMOOTH));

        JLabel imageLabel = new JLabel();

        imageLabel.setIcon(ii);


        String description = rs.getString("product_description");

        double availableQty = rs.getDouble("stock_quantity");

        String unitName = rs.getString("unit_name");

        double stockUnitSellPrice = rs.getDouble("stock_unit_sell_price");

        double discount = rs.getDouble("product_discount");

        double tax = rs.getDouble("product_tax");

        rowData = new Object[]{stockNo, productNo, productName, imageLabel, description, availableQty,
unitName, stockUnitSellPrice, discount, tax};

        stockTableModel.addRow(rowData);

        logger.debug("loadStockTable [addRow]");

    }

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

public Object[] getSelectedStockData(int stockNo) {

    String query = "SELECT * FROM stock INNER JOIN product INNER JOIN unit ON stock.product_no =
product.product_no AND product.unit_no = unit.unit_no WHERE stock_no = ?";

    logger.debug("SQL query String: " + query);


    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

psm.setInt(1, stockNo);

ResultSet rs = psm.executeQuery();

logger.debug("Query execution done");

Object[] rowData = null;

while (rs.next()) {

    int stockNoo = rs.getInt("stock_no");

    int productNoo = rs.getInt("stock.product_no");

    String productName = rs.getString("product_name");

    double availableQty = rs.getDouble("stock_quantity");

    String unitName = rs.getString("unit_name");

    double stockUnitSellPrice = rs.getDouble("stock_unit_sell_price");

    double discount = rs.getDouble("product_discount");

    double tax = rs.getDouble("product_tax");

    rowData = new Object[]{stockNoo, productNoo, productName, availableQty, unitName,
stockUnitSellPrice, discount, tax};

    logger.debug("return rowData");

    return rowData;

}

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

logger.debug("return null");

return null;

}

```

```

public void loadStockTableMain(String keyword, DefaultTableModel stockTableModel) {

    String query = "SELECT * FROM stock INNER JOIN product INNER JOIN unit "

        + "ON stock.product_no = product.product_no AND product.unit_no = unit.unit_no "

```

```

        + "WHERE (stock_no LIKE ? OR stock_date LIKE ? OR stock.product_no LIKE ? OR product_name LIKE
?) AND stock_status = ? ORDER BY stock_no";

        logger.debug("SQL query String: " + query);

try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, "%" + keyword + "%");

        psm.setString(2, "%" + keyword + "%");

        psm.setString(3, "%" + keyword + "%");

        psm.setString(4, "%" + keyword + "%");

        psm.setInt(5, 1);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        stockTableModel.setRowCount(0);

        while (rs.next()) {

                int stockNo = rs.getInt("stock_no");

                Date stockDate = rs.getDate("stock_date");

                int productNo = rs.getInt("stock.product_no");

                String productName = rs.getString("product_name");

                String image = rs.getString("product_image_url");


                ImageIcon ii = new ImageIcon(new ImageIcon(image).getImage().getScaledInstance(160, 100,
Image.SCALE_SMOOTH));

                JLabel imageLabel = new JLabel();

                imageLabel.setIcon(ii);


                String description = rs.getString("product_description");

                double availableQty = rs.getDouble("stock_quantity");

                String unitName = rs.getString("unit_name");

```

```

        double stockUnitSellPrice = rs.getDouble("stock_unit_sell_price");

        double discount = rs.getDouble("product_discount");

        double tax = rs.getDouble("product_tax");

        Date lastUpdate = rs.getDate("stock_last_update");

        rowData = new Object[]{stockNo, stockDate, productNo, productName, imageLabel, description,
        availableQty, unitName, stockUnitSellPrice, discount, tax, lastUpdate};

        stockTableModel.addRow(rowData);

        logger.debug("loadStockTableMain [addRow]");

    }

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

}

```

3.14 ProductManager.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import java.awt.Component;

import java.awt.Image;

import java.awt.event.KeyEvent;

import java.io.File;

```

```

import java.util.Vector;

import java.util.regex.Matcher;

import java.util.regex.Pattern;

import javax.swing.DefaultComboBoxModel;

import javax.swing.ImageIcon;

import javax.swing.JFileChooser;

import javax.swing.JOptionPane;

import javax.swing.JTable;

import javax.swing.UIManager;

import javax.swing.filechooser.FileNameExtensionFilter;

import javax.swing.table.DefaultTableModel;

import javax.swing.table.TableCellRenderer;

import model.ComboBoxLoadModel;

import model.ProductModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
class ProductTableRenderer implements TableCellRenderer {

    @Override

    public Component getTableCellRendererComponent(JTable table, Object value, boolean isSelected, boolean
hasFocus, int row, int column) {

        return (Component) value;

    }

}

public class ProductManager extends javax.swing.JFrame {

```

```

/**
 * Creates new form ProductManager
 */

private ProductModel productModel;

private ComboBoxLoadModel comboBoxLoadModel;

static Logger logger = Logger.getLogger(ProductManager.class.getName());


DefaultTableModel productTableModel;

DefaultTableModel productTableModelFull;


DefaultComboBoxModel unitComboBoxModel;


public ProductManager() {

    initComponents();

    logger.debug("Access to ProductManager.java");


    productTableSettings(productTable);

    productTableModel = (DefaultTableModel) productTable.getModel();


    productModel = new ProductModel();

    comboBoxLoadModel = new ComboBoxLoadModel();


    loadProductTable("");

    productNoLoad();


    Vector vDistrict = comboBoxLoadModel.unitComboBoxLoad();

    unitComboBoxModel = new DefaultComboBoxModel(vDistrict);

    unitComboBox.setModel(unitComboBoxModel);

```

```

unitComboBox.setSelectedIndex(0);

imageIconLoad("");
}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jTabbedPane1 = new javax.swing.JTabbedPane();
    jPanel1 = new javax.swing.JPanel();
    jPanel4 = new javax.swing.JPanel();
    productNoField = new javax.swing.JTextField();
    nameField = new javax.swing.JTextField();
    discountField = new javax.swing.JTextField();
    taxField = new javax.swing.JTextField();
    unitComboBox = new javax.swing.JComboBox<>();
    jLabel1 = new javax.swing.JLabel();
    jLabel2 = new javax.swing.JLabel();
    jLabel5 = new javax.swing.JLabel();
    jLabel6 = new javax.swing.JLabel();
    jLabel8 = new javax.swing.JLabel();
    jSeparator1 = new javax.swing.JSeparator();
    registerButton = new javax.swing.JButton();

```

```
updateButton = new javax.swing.JButton();
removeButton = new javax.swing.JButton();
newButton = new javax.swing.JButton();
jSeparator3 = new javax.swing.JSeparator();
jSeparator4 = new javax.swing.JSeparator();
jSeparator2 = new javax.swing.JSeparator();
jPanel5 = new javax.swing.JPanel();
jScrollPane1 = new javax.swing.JScrollPane();
productTable = new javax.swing.JTable();
keywordField = new javax.swing.JTextField();
jPanel2 = new javax.swing.JPanel();
jPanel6 = new javax.swing.JPanel();
imageField = new javax.swing.JTextField();
jLabel9 = new javax.swing.JLabel();
jLabel10 = new javax.swing.JLabel();
jSeparator5 = new javax.swing.JSeparator();
saveButton1 = new javax.swing.JButton();
newButton1 = new javax.swing.JButton();
jScrollPane2 = new javax.swing.JScrollPane();
descriptionArea = new javax.swing.JTextArea();
productImageLabel = new javax.swing.JLabel();
browseButton = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);
setTitle("Product Manager");
setResizable(false);
```

```
jPanel4.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Details", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
```



```
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N
```

```
productNoField.setCursor(new java.awt.Cursor(java.awt.Cursor.TEXT_CURSOR));

productNoField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        productNoFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        productNoFieldKeyReleased(evt);

    }

});
```

```
discountField.setText("0.0");

discountField.addFocusListener(new java.awt.event.FocusAdapter() {

    public void focusLost(java.awt.event.FocusEvent evt) {

        discountFieldFocusLost(evt);

    }

});
```

```
discountField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        discountFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        discountFieldKeyReleased(evt);

    }

});
```

```
taxField.setText("0.0");

taxField.addFocusListener(new java.awt.event.FocusAdapter() {
```

```

    public void focusLost(java.awt.event.FocusEvent evt) {
        taxFieldFocusLost(evt);
    }
});

taxField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        taxFieldKeyPressed(evt);
    }
    public void keyReleased(java.awt.event.KeyEvent evt) {
        taxFieldKeyReleased(evt);
    }
});

jLabel1.setText("Product No");

jLabel2.setText("Name");

jLabel5.setText("Discount");

jLabel6.setText("Tax");

jLabel8.setText("Unit");

registerButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
registerButton.setText("Register");
registerButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        registerButtonActionPerformed(evt);
    }
}

```

```
});
```

```
updateButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
updateButton.setText("Update");
```

```
updateButton.setEnabled(false);
```

```
updateButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        updateButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
removeButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
removeButton.setText("Remove");
```

```
removeButton.setEnabled(false);
```

```
removeButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        removeButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
newButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
newButton.setText("New");
```

```
newButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        newButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
```

```

jPanel4.setLayout(jPanel4Layout);

jPanel4Layout.setHorizontalGroup(

jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel4Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(newButton, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jSeparator3)

.addComponent(jSeparator4)

.addComponent(jSeparator1)

.addGroup(jPanel4Layout.createSequentialGroup())

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGap(18, 18, 18)

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(discountField)

.addComponent(taxField)))

.addGroup(jPanel4Layout.createSequentialGroup())

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGap(18, 18, 18)

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(productNoField)

.addComponent(nameField)))

```

```

        .addGroup(jPanel4Layout.createSequentialGroup())

        .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addComponent(unitComboBox, javax.swing.GroupLayout.PREFERRED_SIZE, 318,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGroup(jPanel4Layout.createSequentialGroup())

        .addComponent(registerButton, javax.swing.GroupLayout.PREFERRED_SIZE, 145,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(updateButton, javax.swing.GroupLayout.PREFERRED_SIZE, 145,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(removeButton, javax.swing.GroupLayout.PREFERRED_SIZE, 145,
javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addContainerGap())

    );

    jPanel4Layout.setVerticalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

    .addGroup(jPanel4Layout.createSequentialGroup())

    .addGap(38, 38, 38)

    .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

    .addComponent(productNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

    .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(nameField)

    .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

    .addGap(18, 18, 18)

```

```

        .addComponent(jSeparator3, javax.swing.GroupLayout.PREFERRED_SIZE, 2,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(unitComboBox)

            .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(18, 18, 18)

        .addComponent(jSeparator4, javax.swing.GroupLayout.PREFERRED_SIZE, 2,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(discountField)

            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(taxField)

            .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(18, 18, 18)

        .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE, 2,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

            .addComponent(registerButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(updateButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(removeButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addComponent(newButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,

```

```

javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

);

jSeparator2.setOrientation(javax.swing.SwingConstants.VERTICAL);

jPanel5.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Products", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N

productTable.setModel(new javax.swing.table.DefaultTableModel(

    new Object [][] {

        },

    new String [] {

        "Product No", "Product Name", "Image", "Description", "Unit ", "Discount", "Tax"

    }

) {

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false

    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {

        return canEdit [columnIndex];

    }

});

productTable.setRowHeight(25);

productTable.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseClicked(java.awt.event.MouseEvent evt) {

```

```

        productTableMouseClicked(evt);
    }
});

jScrollPane1.setViewportViewView(productTable);

if (productTable.getColumnModel().getColumnCount() > 0) {
    productTable.getColumnModel().getColumn(0).setMinWidth(100);
    productTable.getColumnModel().getColumn(0).setMaxWidth(100);
}

keywordField.setForeground(new java.awt.Color(153, 153, 153));
keywordField.setText("Search");
keywordField.setToolTipText("Search");
keywordField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusGained(java.awt.event.FocusEvent evt) {
        keywordFieldFocusGained(evt);
    }
    public void focusLost(java.awt.event.FocusEvent evt) {
        keywordFieldFocusLost(evt);
    }
});
keywordField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyReleased(java.awt.event.KeyEvent evt) {
        keywordFieldKeyReleased(evt);
    }
});

javax.swing.GroupLayout jPanel5Layout = new javax.swing.GroupLayout(jPanel5);
jPanel5.setLayout(jPanel5Layout);
jPanel5Layout.setHorizontalGroup(

```



```

jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel5Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 1228, Short.MAX_VALUE)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel5Layout.createSequentialGroup())

.addGap(0, 0, Short.MAX_VALUE)

.addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 374,
javax.swing.GroupLayout.PREFERRED_SIZE)))

.addContainerGap()

);

jPanel5Layout.setVerticalGroup(

jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel5Layout.createSequentialGroup())

.addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 693, Short.MAX_VALUE)

.addContainerGap()

);

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
jPanel1.setLayout(jPanel1Layout);
jPanel1Layout.setHorizontalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel1Layout.createSequentialGroup())

.addContainerGap()

.addComponent(jPanel4, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

```

```

        .addComponent(jSeparator2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addComponent(jPanel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

        .addContainerGap())

);

jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup())

.addContainerGap()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addComponent(jSeparator2)

.addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jPanel5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addContainerGap())

);

jTabbedPane1.addTab("Product Details", jPanel1);

jPanel6.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Extra Information", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N

jLabel9.setText("Image");

jLabel10.setText("Description");

saveButton1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N

```

```
saveButton1.setText("Save");

saveButton1.setEnabled(false);

saveButton1.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        saveButton1ActionPerformed(evt);

    }

});
```

```
newButton1.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N

newButton1.setText("New");

newButton1.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        newButton1ActionPerformed(evt);

    }

});
```

```
descriptionArea.setColumns(20);

descriptionArea.setRows(5);

jScrollPane2.setViewportView(descriptionArea);
```

```
productImageLabel.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/basic-design-
picture-image-icon-260nw-1475351210.jpg"))); // NOI18N

productImageLabel.setBorder(javax.swing.BorderFactory.createLineBorder(new java.awt.Color(0, 0, 0)));

productImageLabel.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseClicked(java.awt.event.MouseEvent evt) {

        productImageLabelMouseClicked(evt);

    }

});
```

[illegible]

```

jPanel6Layout.createSequentialGroup()

        .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

.addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(productImageLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 330,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGroup(jPanel6Layout.createSequentialGroup()

                .addComponent(imageField, javax.swing.GroupLayout.PREFERRED_SIZE, 591,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

                .addComponent(browseButton, javax.swing.GroupLayout.PREFERRED_SIZE, 145,
javax.swing.GroupLayout.PREFERRED_SIZE))))

        .addGap(0, 863, Short.MAX_VALUE)))

.addContainerGap()

);

jPanel6Layout.setVerticalGroup(

jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel6Layout.createSequentialGroup()

        .addContainerGap()

        .addComponent(productImageLabel, javax.swing.GroupLayout.PREFERRED_SIZE, 230,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

                .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

                        .addComponent(imageField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addComponent(browseButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

                .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(33, 33, 33)

```

```

        .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED_SIZE, 210,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(32, 32, 32)

        .addComponent(jSeparator5, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addGroup(jPanel6Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

            .addComponent(saveButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(newButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addContainerGap(122, Short.MAX_VALUE)

    );

    javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
    jPanel2.setLayout(jPanel2Layout);
    jPanel2Layout.setHorizontalGroup(

        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel2Layout.createSequentialGroup())

        .addContainerGap()

        .addComponent(jPanel6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

        .addContainerGap())

    );

    jPanel2Layout.setVerticalGroup(

        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel2Layout.createSequentialGroup())

        .addContainerGap()

```

```
        .addComponent(jPanel6, javax.swing.GroupLayout.DEFAULT_SIZE,  
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
        .addContainerGap()
```

```
    );
```

```
jTabbedPane1.addTab("Extra Info", jPanel2);
```

```
javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
```

```
getContentPane().setLayout(layout);
```

```
layout.setHorizontalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(layout.createSequentialGroup()
```

```
            .addComponent(jTabbedPane1)
```

```
            .addGap(0, 0, 0))
```

```
    );
```

```
layout.setVerticalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(layout.createSequentialGroup()
```

```
            .addComponent(jTabbedPane1)
```

```
            .addGap(0, 0, 0))
```

```
    );
```

```
pack();
```

```
setLocationRelativeTo(null);
```

```
// </editor-fold>
```

```
private void registerButtonActionPerformed(java.awt.event.ActionEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    logger.debug("Register product");
```

```

String productNo = productNoField.getText();

String name = nameField.getText();

int unitNo = unitComboBox.getSelectedIndex() + 1;

String discount = discountField.getText();

String tax = taxField.getText();

String image = imageField.getText();

String description = descriptionArea.getText();


logger.debug("Check validations");

if (name.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The Name !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

    nameField.requestFocus(true);

    logger.error("product Name not entered");

} else {

    String result = productModel.registerProduct(productNo, name, unitNo, discount, tax, image,
description);

    if (result.equals("Register Successful")) {

        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

        clearFields();

        loadProductTable("");

        logger.debug("Message: " + result);

    } else {

        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: " + result);

    }

}

}

private void updateButtonActionPerformed(java.awt.event.ActionEvent evt) {

```



```

// TODO add your handling code here:

logger.debug("Update product");

String productNo = productNoField.getText();

String name = nameField.getText();

int unitNo = unitComboBox.getSelectedIndex() + 1;

String discount = discountField.getText();

String tax = taxField.getText();


logger.debug("Check validations");

if (name.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The Name !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

    nameField.requestFocus(true);

    logger.error("product Name not entered");

} else {

    String result = productModel.updateProduct(productNo, name, unitNo, discount, tax);

    if (result.equals("Update Successful")) {

        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

        loadProductTable("");

        logger.debug("Message: " + result);

    } else {

        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: " + result);

    }

}

}

private void removeButtonActionPerformed(java.awt.event.ActionEvent evt) {

```

```

// TODO add your handling code here:

logger.debug("Remove product");

String productNo = productNoField.getText();


int response = JOptionPane.showConfirmDialog(this, "Do You Want To Remove ?", "Confirm",
JOptionPane.YES_NO_OPTION, JOptionPane.QUESTION_MESSAGE);


if (response == JOptionPane.YES_OPTION) {

    String result = productModel.removeProduct(productNo);

    if (result.equals("Remove Successful")) {

        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

        clearFields();

        loadProductTable("");

        logger.debug("Message: " + result);

    } else {

        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: " + result);

    }

}

}

private void newButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    clearFields();

}

private void productNoFieldKeyPressed(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

```

```

        productNoField.setEditable(false);
    }

    private void productNoFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        productNoField.setEditable(true);
    }

    private void discountFieldKeyPressed(java.awt.event.KeyEvent evt) {
        String qty = discountField.getText();
        char c = evt.getKeyChar();
        if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9') {
            discountField.setEditable(true);
        } else {
            if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {
                discountField.setEditable(true);
            } else {
                discountField.setEditable(false);
            }
        }
    }

    private void discountFieldKeyReleased(java.awt.event.KeyEvent evt) {
        // TODO add your handling code here:
        discountField.setEditable(true);
    }

    private void discountFieldFocusLost(java.awt.event.FocusEvent evt) {

```

```

// TODO add your handling code here:

String discount = discountField.getText();

String PATTERN = "^([0-9]{0,100}[.][0-9]{0,100})$";

Pattern p = Pattern.compile(PATTERN);

Matcher m = p.matcher(discount);

System.out.println(m.matches());

if (discount.equals("")) {

    discountField.setText("0.0");

} else if (!m.matches()) {

    discountField.setText(discount + ".0");

}

}

private void taxFieldKeyPressed(java.awt.event.KeyEvent evt) {

    String qty = taxField.getText();

    char c = evt.getKeyChar();

    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9') {

        taxField.setEditable(true);

    } else {

        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

            taxField.setEditable(true);

        } else {

            taxField.setEditable(false);

        }

    }

}

private void taxFieldKeyReleased(java.awt.event.KeyEvent evt) {

```

```

// TODO add your handling code here:

taxField.setEditable(true);
}

private void taxFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    String tax = taxField.getText();

    String PATTERN = "^([0-9]{0,100})\\.([0-9]{0,100})$";

    Pattern p = Pattern.compile(PATTERN);

    Matcher m = p.matcher(tax);

    System.out.println(m.matches());

    if (tax.equals("")) {

        taxField.setText("0.0");

    } else if (!m.matches()) {

        taxField.setText(tax + ".0");

    }

}

private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    if (keywordField.getText().equals("Search")) {

        keywordField.setText("");

        keywordField.setForeground(new Color(0, 0, 0));

    }

}

private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    if (keywordField.getText().equals("")) {

```

```
keywordField.setText("Search");

keywordField.setForeground(new Color(153, 153, 153));

}

}
```

```
private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String keyword = keywordField.getText();

    logger.debug("Search product data");

    loadProductTable(keyword);

}
```

```
private void productTableMouseClicked(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    clearFields();

    int row = productTable.getSelectedRow();

    int productNo = (int) productTableModel.getValueAt(row, 0);

    Object[] productData = productModel.getSelectedProductData(productNo);

    productNoField.setText(new String(productData[0] + ""));

    nameField.setText((String) productData[1]);

    unitComboBox.setSelectedItem(productData[2]);

    discountField.setText(new String(productData[3] + ""));

    taxField.setText(new String(productData[4] + ""));

    imageField.setText((String) productData[5]);

    descriptionArea.setText((String) productData[6]);

    String path = (String) productData[5];
```

```
imageIconLoad(path);
```

```
logger.debug("Load selected row data to relevant fields");
```

```
registerButton.setEnabled(false);
```

```
updateButton.setEnabled(true);
```

```
removeButton.setEnabled(true);
```

```
saveButton1.setEnabled(true);
```

```
}
```

```
private void productImageLabelMouseClicked(java.awt.event.MouseEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    try {
```

```
        JFileChooser chooser = new JFileChooser();
```

```
        FileNameExtensionFilter filter = new FileNameExtensionFilter("All pic", "png", "jpg", "jpeg", "gif");
```

```
        chooser.addChoosableFileFilter(filter);
```

```
        chooser.showOpenDialog(null);
```

```
        File file = chooser.getSelectedFile();
```

```
        String path = file.getAbsolutePath();
```

```
        imageField.setText(path);
```

```
        Image getAbsolutePath = null;
```

```
        imageIconLoad(path);
```

```
        logger.debug("Load image icon: "+path);
```

```
    } catch (NullPointerException e) {
```

```
        e.printStackTrace();
```

```

        logger.error("Exception: " + e.getMessage());
    }
}

```

```

private void browseButtonActionPerformed(java.awt.event.ActionEvent evt) {

    try {

        JFileChooser chooser = new JFileChooser();

        FileNameExtensionFilter filter = new FileNameExtensionFilter("All pic", "png", "jpg", "jpeg", "gif");
        chooser.addChoosableFileFilter(filter);

        chooser.showOpenDialog(null);

        File file = chooser.getSelectedFile();
        String path = file.getAbsolutePath();

        imageField.setText(path);

        Image getAbsolutePath = null;

        imageIconLoad(path);

        logger.debug("Load image icon: "+path);
    } catch (NullPointerException e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());
    }
}

```

```

private void saveButton1ActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Save product");

    String productNo = productNoField.getText();

```



```

String image = imageField.getText();

String description = descriptionArea.getText();


String result = productModel.saveProduct(productNo, image, description);

if (result.equals("Save Successful")) {

    JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

    loadProductTable("");

    logger.debug("Message: " + result);

} else {

    JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

    logger.error("Error: " + result);

}

}

private void newButton1ActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    imageField.setText("");

    descriptionArea.setText("");

    imageIconLoad("");


    logger.debug("Clear fields tab 2");


    //saveButton1.setEnabled(false);

}

private void productNoLoad() {

    int productNo = productModel.getProductNo();

    productNo++;

    productNoField.setText(new String(productNo + ""));

```

```

        logger.debug("Set Product No");
    }

    public void productTableSettings(JTable jtable) {

        jtable.setRowHeight(100);

        jtable.getColumnModel().setCellRenderer(new ProductTableRenderer());

        jtable.getColumnModel().getColumn(0).setPreferredWidth(100);
    }

    private void loadProductTable(String keyword) {

        productModel.loadProductTable(keyword, productTableModel);

        logger.debug("Load product table");
    }

    private void clearFields() {

        productNoLoad();

        nameField.setText("");

        discountField.setText("0.0");

        taxField.setText("0.0");

        unitComboBox.setSelectedIndex(0);

        imageField.setText("");

        descriptionArea.setText("");

        imageIconLoad("");

        registerButton.setEnabled(true);

        updateButton.setEnabled(false);

        removeButton.setEnabled(false);

        logger.debug("Clear fields");
    }

```

```

}

private void imageIconLoad(String path) {

    if (path.length() > 0) {

        ImageIcon icon = new ImageIcon(path);

        Image image = icon.getImage().getScaledInstance(productImageLabel.getWidth(),
productImageLabel.getHeight(), Image.SCALE_SMOOTH);

        ImageIcon icon1 = new ImageIcon(image);

        productImageLabel.setIcon(icon1);

        logger.debug("Set image icon: "+icon1);

    } else {

        ImageIcon icon = new ImageIcon("C:\\Users\\EZIO
AUDITORY\\Documents\\NetBeansProjects\\Pamunuwila_Hardware\\src\\images\\basic-design-picture-
image-icon-260nw-1475351210.jpg");

        Image image = icon.getImage().getScaledInstance(productImageLabel.getWidth(),
productImageLabel.getHeight(), Image.SCALE_SMOOTH);

        ImageIcon icon1 = new ImageIcon(image);

        productImageLabel.setIcon(icon1);

        logger.debug("Set image icon: "+icon1);

    }

}

}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

    * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

```

```

    */

    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
//            javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

//        java.util.logging.Logger.getLogger(ProductManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (InstantiationException ex) {

//

//        java.util.logging.Logger.getLogger(ProductManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (IllegalAccessException ex) {

//

//        java.util.logging.Logger.getLogger(ProductManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

```

```

java.util.logging.Logger.getLogger(ProductManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    }

//</editor-fold>

//</editor-fold>

//</editor-fold>

//</editor-fold>

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        new ProductManager().setVisible(true);

    }

});

}

// Variables declaration - do not modify

private javax.swing.JButton browseButton;

private javax.swing.JTextArea descriptionArea;

private javax.swing.JTextField discountField;

private javax.swing.JTextField imageField;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel10;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel5;

private javax.swing.JLabel jLabel6;

private javax.swing.JLabel jLabel8;

private javax.swing.JLabel jLabel9;

private javax.swing.JPanel jPanel1;

```

```
private javax.swing.JPanel jPanel2;

private javax.swing.JPanel jPanel4;

private javax.swing.JPanel jPanel5;

private javax.swing.JPanel jPanel6;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JScrollPane jScrollPane2;

private javax.swing.JSeparator jSeparator1;

private javax.swing.JSeparator jSeparator2;

private javax.swing.JSeparator jSeparator3;

private javax.swing.JSeparator jSeparator4;

private javax.swing.JSeparator jSeparator5;

private javax.swing.JTabbedPane jTabbedPane1;

private javax.swing.JTextField keywordField;

private javax.swing.JTextField nameField;

private javax.swing.JButton newButton;

private javax.swing.JButton newButton1;

private javax.swing.JLabel productImageLabel;

private javax.swing.JTextField productNoField;

private javax.swing.JTable productTable;

private javax.swing.JButton registerButton;

private javax.swing.JButton removeButton;

private javax.swing.JButton saveButton1;

private javax.swing.JTextField taxField;

private javax.swing.JComboBox<String> unitComboBox;

private javax.swing.JButton updateButton;

// End of variables declaration

}
```

3.15 ProductModel.java

```
/*  
 * To change this license header, choose License Headers in Project Properties.  
 * To change this template file, choose Tools | Templates  
 * and open the template in the editor.  
 */  
  
package model;  
  
  
import java.awt.Image;  
  
import java.sql.Connection;  
  
import java.sql.PreparedStatement;  
  
import java.sql.ResultSet;  
  
import javax.swing.ImageIcon;  
  
import javax.swing.JLabel;  
  
import javax.swing.table.DefaultTableModel;  
  
import org.apache.log4j.Logger;  
  
  
/**  
 *  
 * @author EZIO AUDITORY  
 */  
  
public class ProductModel {  
  
    private Connection dbConnection;  
  
    static Logger logger = Logger.getLogger(ProductModel.class.getName());  
  
    public ProductModel() {  
        dbConnection = database.DBConnection.getConnection();  
    }  
}
```

```

public int getProductNo() {

    String query = "SELECT * FROM product ORDER BY product_no DESC LIMIT 1";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        int productNo = 0;

        while (rs.next()) {

            productNo = rs.getInt("product_no");

            logger.debug("return productNo");

            return productNo;

        }

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

    }

    logger.debug("return 0");

    return 0;

}

```

```

public String registerProduct(String productNo, String name, int unitNo, String discount, String tax, String
image, String description) {

    String query = "INSERT INTO product(product_no, product_name, product_image_url,
product_description, unit_no, product_discount, product_tax, product_status)"

        + "VALUE(?,?,?,?,?,?,?,?)";

    logger.debug("SQL query String: " + query);

```



```

try {

    PreparedStatement psm = dbConnection.prepareStatement(query);

    psm.setString(1, productNo);

    psm.setString(2, name);

    psm.setString(3, image);

    psm.setString(4, description);

    psm.setInt(5, unitNo);

    psm.setString(6, discount);

    psm.setString(7, tax);

    psm.setInt(8, 1);

    psm.execute();

    logger.debug("Query execution done");

    logger.debug("return result");

    return "Register Successful";

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

    logger.error("return result");

    return "Register Error !";

}

}

```

```

public String updateProduct(String productNo, String name, int unitNo, String discount, String tax) {

    String query = "UPDATE product SET product_name = ?, unit_no = ?, product_discount = ?, product_tax =
? "

        + "WHERE product_no = ?";

    logger.debug("SQL query String: " + query);

    try {

```

```

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, name);

        psm.setInt(2, unitNo);

        psm.setString(3, discount);

        psm.setString(4, tax);

        psm.setString(5, productNo);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Update Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Update Error !";

    }

}

```

```

public String saveProduct(String productNo, String image, String description) {

    String query = "UPDATE product SET product_image_url = ?, product_description = ? WHERE product_no = ?";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, image);

        psm.setString(2, description);

        psm.setString(3, productNo);

        psm.execute();
    }
}

```

```

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Save Successful";
    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Save Error !";
    }
}

```

```

public String removeProduct(String productNo) {

    String query = "UPDATE product SET product_status = ? WHERE product_no = ?";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setInt(1, 0);

        psm.setString(2, productNo);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Remove Successful";
    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Remove Error !";
    }
}

```

```
}
```

```
public void loadProductTable(String keyword, DefaultTableModel productTableModel) {

    String query = "SELECT * FROM product INNER JOIN unit "

        + "ON product.unit_no = unit.unit_no "

        + "WHERE (product_no LIKE ? OR product_name LIKE ?) AND product_status = ? ORDER BY
product_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, "%" + keyword + "%");

        psm.setString(2, "%" + keyword + "%");

        psm.setInt(3, 1);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        productTableModel.setRowCount(0);

        while (rs.next()) {

            int productNo = rs.getInt("product_no");

            String productName = rs.getString("product_name");

            String image = rs.getString("product_image_url");

            ImageIcon ii = new ImageIcon(new ImageIcon(image).getImage().getScaledInstance(160, 100,
Image.SCALE_SMOOTH));

            JLabel imageLabel = new JLabel();

            imageLabel.setIcon(ii);

            String description = rs.getString("product_description");

            String unitName = rs.getString("unit_name");
```

```

        double discount = rs.getDouble("product_discount");

        double tax = rs.getDouble("product_tax");

        rowData = new Object[]{productNo, productName, imageLable, description, unitName, discount,
tax};

        productTableModel.addRow(rowData);

        logger.debug("loadProductTable [addRow]");

    }

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

```

```

public Object[] getSelectedProductData(int productNo) {

    String query = "SELECT * FROM product INNER JOIN unit ON product.unit_no = unit.unit_no WHERE
product_no = ?";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setInt(1, productNo);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        while (rs.next()) {

            int productNoo = rs.getInt("product_no");

            String productName = rs.getString("product_name");

            String unitName = rs.getString("unit_name");

            double discount = rs.getDouble("product_discount");

            double tax = rs.getDouble("product_tax");

```

```

        String image = rs.getString("product_image_url");

        String description = rs.getString("product_description");

        rowData = new Object[]{productNoo, productName, unitName, discount, tax, image, description};

        logger.debug("return rowData");

        return rowData;
    }
} catch (Exception e) {
    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());
}

logger.debug("return null");

return null;
}
}

```

3.16 SupplierManager.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import java.awt.event.KeyEvent;

import java.util.Vector;

import java.util.regex.Matcher;

import java.util.regex.Pattern;

```

```

import javax.swing.DefaultComboBoxModel;

import javax.swing.JOptionPane;

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import model.ComboBoxLoadModel;

import model.SupplierModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class SupplierManager extends javax.swing.JFrame {

    /**
     * Creates new form SupplierManager
     */
    private SupplierModel supplierModel;

    private ComboBoxLoadModel comboBoxLoadModel;

    static Logger logger = Logger.getLogger(SupplierManager.class.getName());

    DefaultTableModel supplierTableModel;

    DefaultComboBoxModel districtComboBoxModel;

    DefaultComboBoxModel provinceComboBoxModel;

    DefaultComboBoxModel companyComboBoxModel;

    public SupplierManager() {

        initComponents();
    }

```

```

logger.debug("Access to SupplierManager.java");

supplierTableModel = (DefaultTableModel) supplierTable.getModel();

supplierModel = new SupplierModel();
comboBoxLoadModel = new ComboBoxLoadModel();

supplierNoLoad();
loadSupplierTable("");

Vector vDistrict = comboBoxLoadModel.districtComboBoxLoad();
districtComboBoxModel = new DefaultComboBoxModel(vDistrict);
districtComboBox.setModel(districtComboBoxModel);
districtComboBox.setSelectedIndex(0);

Vector vProvince = comboBoxLoadModel.provinceComboBoxLoad();
provinceComboBoxModel = new DefaultComboBoxModel(vProvince);
provinceComboBox.setModel(provinceComboBoxModel);
provinceComboBox.setSelectedIndex(0);

}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">

```



```
private void initComponents() {

    buttonGroup1 = new javax.swing.ButtonGroup();

    jTabbedPane1 = new javax.swing.JTabbedPane();

    jPanel1 = new javax.swing.JPanel();

    jPanel2 = new javax.swing.JPanel();

    supplierNoField = new javax.swing.JTextField();

    nameField = new javax.swing.JTextField();

    nicField = new javax.swing.JTextField();

    emailField = new javax.swing.JTextField();

    contactNoField = new javax.swing.JTextField();

    addressField = new javax.swing.JTextField();

    cityField = new javax.swing.JTextField();

    districtComboBox = new javax.swing.JComboBox<>();

    provinceComboBox = new javax.swing.JComboBox<>();

    jLabel1 = new javax.swing.JLabel();

    jLabel2 = new javax.swing.JLabel();

    jLabel3 = new javax.swing.JLabel();

    jLabel4 = new javax.swing.JLabel();

    jLabel5 = new javax.swing.JLabel();

    jLabel6 = new javax.swing.JLabel();

    jLabel7 = new javax.swing.JLabel();

    jLabel8 = new javax.swing.JLabel();

    jLabel9 = new javax.swing.JLabel();

    jSeparator1 = new javax.swing.JSeparator();

    registerButton = new javax.swing.JButton();

    updateButton = new javax.swing.JButton();

    removeButton = new javax.swing.JButton();

    newButton = new javax.swing.JButton();

}
```

```
jLabel10 = new javax.swing.JLabel();

maleRadioButton = new javax.swing.JRadioButton();

femaleRadioButton = new javax.swing.JRadioButton();

jSeparator2 = new javax.swing.JSeparator();

jPanel4 = new javax.swing.JPanel();

jScrollPane1 = new javax.swing.JScrollPane();

supplierTable = new javax.swing.JTable();

keywordField = new javax.swing.JTextField();
```

```
setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

setTitle("Supplier Manager");

setResizable(false);
```

```
jPanel2.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Details", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N
```

```
supplierNoField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        supplierNoFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        supplierNoFieldKeyReleased(evt);

    }

});
```

```
contactNoField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        contactNoFieldKeyPressed(evt);

    }

});
```

```

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {
        contactNoFieldKeyReleased(evt);
    }
});

jLabel1.setText("Supplier No");

jLabel2.setText("Name");

jLabel3.setText("NIC");

jLabel4.setText("Email");

jLabel5.setText("Contact No");

jLabel6.setText("Address");

jLabel7.setText("City");

jLabel8.setText("District");

jLabel9.setText("Province");

registerButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
registerButton.setText("Register");
registerButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        registerButtonActionPerformed(evt);
    }
});

```

```

    }

});

updateButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
updateButton.setText("Update");
updateButton.setEnabled(false);
updateButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        updateButtonActionPerformed(evt);
    }
});

removeButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
removeButton.setText("Remove");
removeButton.setEnabled(false);
removeButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        removeButtonActionPerformed(evt);
    }
});

newButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
newButton.setText("New");
newButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        newButtonActionPerformed(evt);
    }
});

```

```
jLabel10.setText("Gender");
```

```
buttonGroup1.add(maleRadioButton);
```

```
maleRadioButton.setSelected(true);
```

```
maleRadioButton.setText("Male");
```

```
buttonGroup1.add(femaleRadioButton);
```

```
femaleRadioButton.setText("Female");
```

```
javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
```

```
jPanel2.setLayout(jPanel2Layout);
```

```
jPanel2Layout.setHorizontalGroup(
```

```
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel2Layout.createSequentialGroup()
```

```
            .addGap(10, 10, 10)
```

```
            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addComponent(jSeparator1)
```

```
                .addGroup(jPanel2Layout.createSequentialGroup()
```

```
                    .addComponent(registerButton, javax.swing.GroupLayout.PREFERRED_SIZE, 125,
```

```
                    javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
```

```
                    .addComponent(updateButton, javax.swing.GroupLayout.PREFERRED_SIZE, 125,
```

```
                    javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
```

```
                    javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
                    .addComponent(removeButton, javax.swing.GroupLayout.PREFERRED_SIZE, 125,
```

```
                    javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
        .addGroup(jPanel2Layout.createSequentialGroup()
```

```
            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addComponent(newButton, javax.swing.GroupLayout.PREFERRED_SIZE, 399,
```

```
                javax.swing.GroupLayout.PREFERRED_SIZE)
```

```

        .addGroup(jPanel2Layout.createSequentialGroup())

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(18, 18, 18)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(cityField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

            .addComponent(addressField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

            .addComponent(contactNoField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

            .addComponent(emailField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

            .addComponent(nicField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

            .addComponent(nameField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

```

```

        .addComponent(districtComboBox, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

        .addComponent(provinceComboBox, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

        .addComponent(supplierNoField)))

    .addGroup(jPanel2Layout.createSequentialGroup())

        .addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addComponent(maleRadioButton)

        .addGap(18, 18, 18)

        .addComponent(femaleRadioButton)))

    .addGap(0, 0, Short.MAX_VALUE)))

    .addContainerGap())

);

jPanel2Layout.setVerticalGroup(

    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel2Layout.createSequentialGroup())

            .addGap(30, 30, 30)

            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

                .addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addComponent(supplierNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

                .addComponent(nameField)

                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

```

```

        .addComponent(nicField)

        .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(emailField)

            .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(contactNoField)

            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(addressField)

            .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(cityField)

            .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(districtComboBox)

            .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(provinceComboBox)

```



```

        .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

            .addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(maleRadioButton)

            .addComponent(femaleRadioButton))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

            .addComponent(registerButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(updateButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(removeButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(newButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(217, Short.MAX_VALUE))

    );

    jSeparator2.setOrientation(javax.swing.SwingConstants.VERTICAL);

jPanel4.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Suppliers", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N

supplierTable.setModel(new javax.swing.table.DefaultTableModel(

```

```

new Object [][] {

},

new String [] {

    "No", "Name", "NIC", "Email", "Contact No", "Address", "City", "District", "Province", "Gender"

}

){

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false, false, false, false

    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {

        return canEdit [columnIndex];

    }

});

supplierTable.setRowHeight(25);

supplierTable.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseClicked(java.awt.event.MouseEvent evt) {

        supplierTableMouseClicked(evt);

    }

});

jScrollPane1.setViewportViewView(supplierTable);

if (supplierTable.getColumnModel().getColumnCount() > 0) {

    supplierTable.getColumnModel().getColumn(0).setMinWidth(60);

    supplierTable.getColumnModel().getColumn(0).setPreferredWidth(60);

    supplierTable.getColumnModel().getColumn(1).setMinWidth(150);

    supplierTable.getColumnModel().getColumn(1).setPreferredWidth(150);

    supplierTable.getColumnModel().getColumn(2).setMinWidth(120);

    supplierTable.getColumnModel().getColumn(2).setPreferredWidth(120);

```

```

supplierTable.getColumnModel().getColumn(3).setMinWidth(160);
supplierTable.getColumnModel().getColumn(3).setPreferredWidth(160);
supplierTable.getColumnModel().getColumn(4).setMinWidth(100);
supplierTable.getColumnModel().getColumn(4).setPreferredWidth(100);
supplierTable.getColumnModel().getColumn(5).setMinWidth(200);
supplierTable.getColumnModel().getColumn(5).setPreferredWidth(200);
supplierTable.getColumnModel().getColumn(6).setMinWidth(110);
supplierTable.getColumnModel().getColumn(6).setPreferredWidth(110);
supplierTable.getColumnModel().getColumn(7).setMinWidth(110);
supplierTable.getColumnModel().getColumn(7).setPreferredWidth(110);
supplierTable.getColumnModel().getColumn(8).setMinWidth(110);
supplierTable.getColumnModel().getColumn(8).setPreferredWidth(110);
supplierTable.getColumnModel().getColumn(9).setMinWidth(60);
supplierTable.getColumnModel().getColumn(9).setPreferredWidth(60);
}

```

```

keywordField.setForeground(new java.awt.Color(153, 153, 153));
keywordField.setText("Search");
keywordField.setToolTipText("Search");
keywordField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusGained(java.awt.event.FocusEvent evt) {
        keywordFieldFocusGained(evt);
    }
    public void focusLost(java.awt.event.FocusEvent evt) {
        keywordFieldFocusLost(evt);
    }
});
keywordField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyReleased(java.awt.event.KeyEvent evt) {

```

```

        keywordFieldKeyReleased(evt);
    }
});

javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
jPanel4.setLayout(jPanel4Layout);
jPanel4Layout.setHorizontalGroup(
    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jScrollPane1, javax.swing.GroupLayout.Alignment.TRAILING,
                    javax.swing.GroupLayout.DEFAULT_SIZE, 1288, Short.MAX_VALUE)
                .addGroup(jPanel4Layout.createSequentialGroup()
                    .addGap(10, 10, 10)
                    .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 345,
                        javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(10, 10, 10))
            .addContainerGap(10, true))
);
jPanel4Layout.setVerticalGroup(
    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
                    javax.swing.GroupLayout.PREFERRED_SIZE)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jScrollPane1)
                .addGap(10, 10, 10))
            .addContainerGap(10, true))
);

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);

```

```

jPanel1.setLayout(jPanel1Layout);

jPanel1Layout.setHorizontalGroup(

    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel1Layout.createSequentialGroup()

            .addContainerGap()

            .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(jSeparator2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addContainerGap())

        );

jPanel1Layout.setVerticalGroup(

    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup())

        .addContainerGap()

        .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jSeparator2)

            .addComponent(jPanel2, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(jPanel4, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addContainerGap())

    );

JTabbedPane1.addTab("Supplier Details", jPanel1);

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

```

```

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jTabbedPane1)

);

layout.setVerticalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addComponent(jTabbedPane1)

);

pack();

setLocationRelativeTo(null);

} // </editor-fold>

```

```

private void registerButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Register supplier");

    String supplierNo = supplierNoField.getText();

    String name = nameField.getText();

    String nic = nicField.getText();

    String email = emailField.getText();

    String contactNo = contactNoField.getText();

    String address = addressField.getText();

    String city = cityField.getText();

    int distictNo = districtComboBox.getSelectedIndex() + 1;

    int provinceNo = provinceComboBox.getSelectedIndex() + 1;

    String gender = null;

    if (maleRadioButton.isSelected()) {

```

```

        gender = "Male";
    } else if (femaleRadioButton.isSelected()) {
        gender = "Female";
    }

    logger.debug("Check validations");

    if (name.equals("")) {
        JOptionPane.showConfirmDialog(rootPane, "Please Enter The Name !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        nameField.requestFocus(true);

        logger.error("Supplier Name not entered");
    } else if (contactNo.equals("")) {
        JOptionPane.showConfirmDialog(rootPane, "Please Enter The Contact No !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        contactNoField.requestFocus(true);

        logger.error("Contact No not entered");
    } else if (city.equals("")) {
        JOptionPane.showConfirmDialog(rootPane, "Please Enter The City !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        cityField.requestFocus(true);

        logger.error("City not entered");
    } else if (email.length() > 0) {
        String PATTERN = "^[a-zA-Z0-9-./]{0,50}{@[a-zA-Z]{0,10}[.][a-zA-Z]{0,5}}$";

        Pattern p = Pattern.compile(PATTERN);

        Matcher m = p.matcher(email);

        if (!m.matches()) {
            JOptionPane.showConfirmDialog(rootPane, "Email is Wrong !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

            emailField.requestFocus(true);

            logger.error("Email pattern not matched");
        } else {

```

```

        String result = supplierModel.registerSupplier(supplierNo, name, nic, email, contactNo, address, city,
distictNo, provinceNo, gender);

        if (result.equals("Register Successful")) {

            JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

            clearFields();

            loadSupplierTable("");

            logger.debug("Message: " + result);

        } else {

            JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

            logger.error("Error: " + result);

        }

    }

} else {

    String result = supplierModel.registerSupplier(supplierNo, name, nic, email, contactNo, address, city,
distictNo, provinceNo, gender);

    if (result.equals("Register Successful")) {

        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

        clearFields();

        loadSupplierTable("");

        logger.debug("Message: " + result);

    } else {

        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: " + result);

    }

}

}

private void updateButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Update supplier");

```



```

String supplierNo = supplierNoField.getText();

String name = nameField.getText();

String nic = nicField.getText();

String email = emailField.getText();

String contactNo = contactNoField.getText();

String address = addressField.getText();

String city = cityField.getText();

int distictNo = districtComboBox.getSelectedIndex() + 1;

int provinceNo = provinceComboBox.getSelectedIndex() + 1;

String gender = null;

if (maleRadioButton.isSelected()) {

    gender = "Male";

} else if (femaleRadioButton.isSelected()) {

    gender = "Female";

}

logger.debug("Check validations");

if (name.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The Name !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

    nameField.requestFocus(true);

    logger.error("Supplier Name not entered");

} else if (contactNo.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The Contact No !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

    contactNoField.requestFocus(true);

    logger.error("Contact No not entered");

} else if (city.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The City !", "Error", -1,

```

```

JOptionPane.ERROR_MESSAGE);

    cityField.requestFocus(true);

    logger.error("City not entered");
} else if (email.length() > 0) {

    String PATTERN = "^([a-zA-Z0-9./]{0,50}){0,10}[a-zA-Z]{0,10}[a-zA-Z]{0,5}$";

    Pattern p = Pattern.compile(PATTERN);

    Matcher m = p.matcher(email);

    if (!m.matches()) {

        JOptionPane.showConfirmDialog(rootPane, "Email is Wrong !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        emailField.requestFocus(true);

        logger.error("Email pattern wrong");

    } else {

        String result = supplierModel.updateSupplier(supplierNo, name, nic, email, contactNo, address, city,
distictNo, provinceNo, gender);

        if (result.equals("Update Successful")) {

            JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

            loadSupplierTable("");

            logger.debug("Message: " + result);

        } else {

            JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

            logger.error("Error: " + result);

        }

    }

} else {

    String result = supplierModel.updateSupplier(supplierNo, name, nic, email, contactNo, address, city,
distictNo, provinceNo, gender);

    if (result.equals("Update Successful")) {

        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

        loadSupplierTable("");

```

```

        logger.debug("Message: " + result);
    } else {
        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);
        logger.error("Error: " + result);
    }
}
}
}

```

```

private void removeButtonActionPerformed(java.awt.event.ActionEvent evt) {

```

```

    // TODO add your handling code here:

```

```

    logger.debug("Remove supplier");

```

```

    String supplierNo = supplierNoField.getText();

```

```

    int response = JOptionPane.showConfirmDialog(this, "Do You Want To Remove ?", "Confirm",
JOptionPane.YES_NO_OPTION, JOptionPane.QUESTION_MESSAGE);

```

```

    if (response == JOptionPane.YES_OPTION) {

```

```

        String result = supplierModel.removeSupplier(supplierNo);

```

```

        if (result.equals("Remove Successful")) {

```

```

            JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

```

```

            clearFields();

```

```

            loadSupplierTable("");

```

```

            logger.debug("Message: " + result);

```

```

        } else {

```

```

            JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

```

```

            logger.error("Error: " + result);

```

```

        }

```

```

    }

```

```
}
```

```
private void newButtonActionPerformed(java.awt.event.ActionEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    clearFields();
```

```
}
```

```
private void supplierNoFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    supplierNoField.setEditable(false);
```

```
}
```

```
private void supplierNoFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    supplierNoField.setEditable(true);
```

```
}
```

```
private void contactNoFieldKeyPressed(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    String contactNo = contactNoField.getText();
```

```
    int length = contactNo.length();
```

```
    char c = evt.getKeyChar();
```

```
    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9') {
```

```
        if (length < 10) {
```

```
            contactNoField.setEditable(true);
```

```
        } else {
```

```
            contactNoField.setEditable(false);
```

```
        }
```

```

    } else {

        if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

            contactNoField.setEditable(true);

        } else {

            contactNoField.setEditable(false);

        }

    }

}

```

```

private void contactNoFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    contactNoField.setEditable(true);

}

```

```

private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    if (keywordField.getText().equals("Search")) {

        keywordField.setText("");

        keywordField.setForeground(new Color(0, 0, 0));

    }

}

```

```

private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    if (keywordField.getText().equals("")) {

        keywordField.setText("Search");

        keywordField.setForeground(new Color(153, 153, 153));

    }

}

```

```
}
```

```
private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    String keyword = keywordField.getText();
```

```
    logger.debug("Search supplier data");
```

```
    loadSupplierTable(keyword);
```

```
}
```

```
private void supplierTableMouseClicked(java.awt.event.MouseEvent evt) {
```

```
    // TODO add your handling code here:
```

```
    clearFields();
```

```
    int row = supplierTable.getSelectedRow();
```

```
    int supplierNo = (int) supplierTableModel.getValueAt(row, 0);
```

```
    Object[] supplierData = supplierModel.getSelectedSupplierData(supplierNo);
```

```
    supplierNoField.setText(new String(supplierData[0] + ""));
```

```
    nameField.setText((String) supplierData[1]);
```

```
    nicField.setText((String) supplierData[2]);
```

```
    emailField.setText((String) supplierData[3]);
```

```
    contactNoField.setText((String) supplierData[4]);
```

```
    addressField.setText((String) supplierData[5]);
```

```
    cityField.setText((String) supplierData[6]);
```

```
    districtComboBox.setSelectedIndex((int) supplierData[7] - 1);
```

```
    provinceComboBox.setSelectedIndex((int) supplierData[8] - 1);
```

```
    String gender = (String) supplierData[9];
```

```
    if (gender.equals("Male")) {
```

```

        maleRadioButton.setSelected(true);
    } else if (gender.equals("Female")) {
        femaleRadioButton.setSelected(true);
    }

    logger.debug("Load selected row data to relevant fields");

    registerButton.setEnabled(false);
    updateButton.setEnabled(true);
    removeButton.setEnabled(true);

}

private void supplierNoLoad() {
    int supplierNo = supplierModel.getSupplierNo();
    supplierNo++;
    supplierNoField.setText(new String(supplierNo + ""));
    logger.debug("Set Supplier No");
}

private void loadSupplierTable(String keyword) {
    supplierModel.loadSupplierTable(keyword, supplierTableModel);
    logger.debug("Load supplier table");
}

private void clearFields() {
    supplierNoLoad();
    nameField.setText("");
    nicField.setText("");
    emailField.setText("");
}

```

```

contactNoField.setText("");

addressField.setText("");

cityField.setText("");

districtComboBox.setSelectedIndex(0);

provinceComboBox.setSelectedIndex(0);

maleRadioButton.setSelected(true);


registerButton.setEnabled(true);

updateButton.setEnabled(false);

removeButton.setEnabled(false);


logger.debug("Clear fields");
}


/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

```



```

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

java.util.logging.Logger.getLogger(SupplierManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (InstantiationException ex) {

//

java.util.logging.Logger.getLogger(SupplierManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (IllegalAccessException ex) {

//

java.util.logging.Logger.getLogger(SupplierManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

java.util.logging.Logger.getLogger(SupplierManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    }

//</editor-fold>

//</editor-fold>

//</editor-fold>

//</editor-fold>

```

```

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        new SupplierManager().setVisible(true);

    }

});
}

// Variables declaration - do not modify

private javax.swing.JTextField addressField;

private javax.swing.ButtonGroup buttonGroup1;

private javax.swing.JTextField cityField;

private javax.swing.JTextField contactNoField;

private javax.swing.JComboBox<String> districtComboBox;

private javax.swing.JTextField emailField;

private javax.swing.JRadioButton femaleRadioButton;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel10;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel5;

private javax.swing.JLabel jLabel6;

private javax.swing.JLabel jLabel7;

private javax.swing.JLabel jLabel8;

private javax.swing.JLabel jLabel9;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JPanel jPanel4;

```

```

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JSeparator jSeparator1;

private javax.swing.JSeparator jSeparator2;

private javax.swing.JTabbedPane jTabbedPane1;

private javax.swing.JTextField keywordField;

private javax.swing.JRadioButton maleRadioButton;

private javax.swing.JTextField nameField;

private javax.swing.JButton newButton;

private javax.swing.JTextField nicField;

private javax.swing.JComboBox<String> provinceComboBox;

private javax.swing.JButton registerButton;

private javax.swing.JButton removeButton;

private javax.swing.JTextField supplierNoField;

private javax.swing.JTable supplierTable;

private javax.swing.JButton updateButton;

// End of variables declaration
}

```

3.17 SupplierModel.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package model;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

```

```

import java.util.Vector;

import javax.swing.table.DefaultTableModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class SupplierModel {

    private Connection dbConnection;

    static Logger logger = Logger.getLogger(SupplierModel.class.getName());

    public SupplierModel() {

        dbConnection = database.DBConnection.getConnection();

    }

    public int getSupplierNo() {

        String query = "SELECT * FROM supplier ORDER BY supplier_no DESC LIMIT 1";

        logger.debug("SQL query String: " + query);

        try {

            PreparedStatement psm = dbConnection.prepareStatement(query);

            ResultSet rs = psm.executeQuery();

            logger.debug("Query execution done");

            int supplierNo = 0;

            while (rs.next()) {

                supplierNo = rs.getInt("supplier_no");

                logger.debug("return supplierNo");
            }
        }
    }
}

```

```

        return supplierNo;
    }
} catch (Exception e) {
    e.printStackTrace();
    logger.error("Exception: " + e.getMessage());
}
logger.debug("return 0");
return 0;
}

```

```

public String registerSupplier(String supplierNo, String name, String nic, String email, String contactNo,
String address, String city, int distictNo, int provinceNo, String gender) {

```

```

    String query = "INSERT INTO supplier(supplier_no, supplier_name, supplier_nic, supplier_email,
supplier_contact_no, supplier_address, supplier_city, district_no, province_no, supplier_gender,
supplier_status)"

```

```

        + "VALUE(?,?,?,?,?,?,?,?,?,?)";

```

```

    logger.debug("SQL query String: " + query);

```

```

    try {

```

```

        PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

        psm.setString(1, supplierNo);

```

```

        psm.setString(2, name);

```

```

        psm.setString(3, nic);

```

```

        psm.setString(4, email);

```

```

        psm.setString(5, contactNo);

```

```

        psm.setString(6, address);

```

```

        psm.setString(7, city);

```

```

        psm.setInt(8, distictNo);

```

```

        psm.setInt(9, provinceNo);

```

```

        psm.setString(10, gender);

```

```

        psm.setInt(11, 1);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Register Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Register Error !";

    }

}

```

```

public String updateSupplier(String supplierNo, String name, String nic, String email, String contactNo, String
address, String city, int distictNo, int provinceNo, String gender) {

```

```

    String query = "UPDATE supplier SET supplier_name = ?, supplier_nic = ?, supplier_email = ?,
supplier_contact_no = ?, supplier_address = ?, supplier_city = ?, "

```

```

        + "district_no = ?, province_no = ?, supplier_gender = ? WHERE supplier_no = ?";

```

```

    logger.debug("SQL query String: " + query);

```

```

    try {

```

```

        PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

        psm.setString(1, name);

```

```

        psm.setString(2, nic);

```

```

        psm.setString(3, email);

```

```

        psm.setString(4, contactNo);

```

```

        psm.setString(5, address);

```

```

        psm.setString(6, city);

```

```

        psm.setInt(7, distictNo);

```

```

        psm.setInt(8, provinceNo);

```

```

        psm.setString(9, gender);

        psm.setString(10, supplierNo);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Update Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Update Error !";

    }

}

```

```

public String removeSupplier(String supplierNo) {

    String query = "UPDATE supplier SET supplier_status = ? WHERE supplier_no = ?";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setInt(1, 0);

        psm.setString(2, supplierNo);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Remove Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

    }
}

```

```

        logger.error("return result");

        return "Remove Error !";
    }
}

```

```

public void loadSupplierTable(String keyword, DefaultTableModel supplierTableModel) {

    String query = "SELECT * FROM supplier INNER JOIN district INNER JOIN province "

        + "ON supplier.district_no = district.district_no AND supplier.province_no = province.province_no "

        + "WHERE (supplier_no LIKE ? OR supplier_name LIKE ? OR supplier_nic LIKE ? OR "
supplier_contact_no LIKE ? OR supplier_city LIKE ?) AND supplier_status = ? ORDER BY supplier_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, "%" + keyword + "%");

        psm.setString(2, "%" + keyword + "%");

        psm.setString(3, "%" + keyword + "%");

        psm.setString(4, "%" + keyword + "%");

        psm.setString(5, "%" + keyword + "%");

        psm.setInt(6, 1);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        supplierTableModel.setRowCount(0);

        while (rs.next()) {

            int supplierNo = rs.getInt("supplier_no");

            String name = rs.getString("supplier_name");

            String nic = rs.getString("supplier_nic");

            String email = rs.getString("supplier_email");

```



```

        String contactNo = rs.getString("supplier_contact_no");

        String address = rs.getString("supplier_address");

        String city = rs.getString("supplier_city");

        String district = rs.getString("district_name");

        String province = rs.getString("province_name");

        String gender = rs.getString("supplier_gender");

        rowData = new Object[]{supplierNo, name, nic, email, contactNo, address, city, district, province,
gender};

        supplierTableModel.addRow(rowData);

        logger.debug("loadSupplierTable [addRow]");

    }

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

```

```

public Object[] getSelectedSupplierData(int supplierNo) {

    String query = "SELECT * FROM supplier WHERE supplier_no = ?";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setInt(1, supplierNo);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        while (rs.next()) {

            int supplierNoo = rs.getInt("supplier_no");

```

```

        String name = rs.getString("supplier_name");

        String nic = rs.getString("supplier_nic");

        String email = rs.getString("supplier_email");

        String contactNo = rs.getString("supplier_contact_no");

        String address = rs.getString("supplier_address");

        String city = rs.getString("supplier_city");

        int districtNo = rs.getInt("district_no");

        int provinceNo = rs.getInt("province_no");

        String gender = rs.getString("supplier_gender");

        rowData = new Object[]{supplierNoo, name, nic, email, contactNo, address, city, districtNo,
provinceNo, gender};

        logger.debug("return rowData");

        return rowData;

    }

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

logger.debug("return null");

return null;

}

}

```

3.18 CustomerManager.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

```

```

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import java.awt.event.KeyEvent;

import java.util.Vector;

import java.util.regex.Matcher;

import java.util.regex.Pattern;

import javax.swing.DefaultComboBoxModel;

import javax.swing.JOptionPane;

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import model.ComboBoxLoadModel;

import model.CustomerModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */

public class CustomerManager extends javax.swing.JFrame {

    /**
     * Creates new form CustomerManager
     */

    private CustomerModel customerModel;

    private ComboBoxLoadModel comboBoxLoadModel;

    static Logger logger = Logger.getLogger(CustomerManager.class.getName());

    DefaultTableModel customerTableModel;

```

```

DefaultComboBoxModel districtComboBoxModel;

DefaultComboBoxModel provinceComboBoxModel;


public CustomerManager() {

    initComponents();

    logger.debug("Access to CustomerManager.java");


    customerTableModel = (DefaultTableModel) customerTable.getModel();


    customerModel = new CustomerModel();

    comboBoxLoadModel = new ComboBoxLoadModel();


    customerNoLoad();

    loadCustomerTable("");


    Vector vDistrict = comboBoxLoadModel.districtComboBoxLoad();

    districtComboBoxModel = new DefaultComboBoxModel(vDistrict);

    districtComboBox.setModel(districtComboBoxModel);

    districtComboBox.setSelectedIndex(0);


    Vector vProvince = comboBoxLoadModel.provinceComboBoxLoad();

    provinceComboBoxModel = new DefaultComboBoxModel(vProvince);

    provinceComboBox.setModel(provinceComboBoxModel);

    provinceComboBox.setSelectedIndex(0);

}


/**

* This method is called from within the constructor to initialize the form.

```

```
* WARNING: Do NOT modify this code. The content of this method is always
* regenerated by the Form Editor.
*/
```

```
@SuppressWarnings("unchecked")
```

```
// <editor-fold defaultstate="collapsed" desc="Generated Code">
```

```
private void initComponents() {
```

```
    buttonGroup1 = new javax.swing.ButtonGroup();
```

```
    jTabbedPane1 = new javax.swing.JTabbedPane();
```

```
    jPanel1 = new javax.swing.JPanel();
```

```
    jPanel2 = new javax.swing.JPanel();
```

```
    customerNoField = new javax.swing.JTextField();
```

```
    nameField = new javax.swing.JTextField();
```

```
    nicField = new javax.swing.JTextField();
```

```
    emailField = new javax.swing.JTextField();
```

```
    contactNoField = new javax.swing.JTextField();
```

```
    addressField = new javax.swing.JTextField();
```

```
    cityField = new javax.swing.JTextField();
```

```
    districtComboBox = new javax.swing.JComboBox<>();
```

```
    provinceComboBox = new javax.swing.JComboBox<>();
```

```
    jLabel1 = new javax.swing.JLabel();
```

```
    jLabel2 = new javax.swing.JLabel();
```

```
    jLabel3 = new javax.swing.JLabel();
```

```
    jLabel4 = new javax.swing.JLabel();
```

```
    jLabel5 = new javax.swing.JLabel();
```

```
    jLabel6 = new javax.swing.JLabel();
```

```
    jLabel7 = new javax.swing.JLabel();
```

```
    jLabel8 = new javax.swing.JLabel();
```

```
    jLabel9 = new javax.swing.JLabel();
```

```

jSeparator1 = new javax.swing.JSeparator();

registerButton = new javax.swing.JButton();

updateButton = new javax.swing.JButton();

removeButton = new javax.swing.JButton();

newButton = new javax.swing.JButton();

jLabel10 = new javax.swing.JLabel();

maleRadioButton = new javax.swing.JRadioButton();

femaleRadioButton = new javax.swing.JRadioButton();

jSeparator2 = new javax.swing.JSeparator();

jPanel4 = new javax.swing.JPanel();

jScrollPane1 = new javax.swing.JScrollPane();

customerTable = new javax.swing.JTable();

keywordField = new javax.swing.JTextField();

```

```

setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

setTitle("Customer Manager");

setResizable(false);

```

```

jPanel2.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Details", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N

```

```

customerNoField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyPressed(java.awt.event.KeyEvent evt) {

        customerNoFieldKeyPressed(evt);

    }

    public void keyReleased(java.awt.event.KeyEvent evt) {

        customerNoFieldKeyReleased(evt);

    }
}

```

```
});
```

```
contactNoField.addKeyListener(new java.awt.event.KeyAdapter() {  
    public void keyPressed(java.awt.event.KeyEvent evt) {  
        contactNoFieldKeyPressed(evt);  
    }  
    public void keyReleased(java.awt.event.KeyEvent evt) {  
        contactNoFieldKeyReleased(evt);  
    }  
});
```

```
jLabel1.setText("Customer No");
```

```
jLabel2.setText("Name");
```

```
jLabel3.setText("NIC");
```

```
jLabel4.setText("Email");
```

```
jLabel5.setText("Contact No");
```

```
jLabel6.setText("Address");
```

```
jLabel7.setText("City");
```

```
jLabel8.setText("District");
```

```
jLabel9.setText("Province");
```

```
registerButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
registerButton.setText("Register");
registerButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        registerButtonActionPerformed(evt);
    }
});
```

```
updateButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
updateButton.setText("Update");
updateButton.setEnabled(false);
updateButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        updateButtonActionPerformed(evt);
    }
});
```

```
removeButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
removeButton.setText("Remove");
removeButton.setEnabled(false);
removeButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        removeButtonActionPerformed(evt);
    }
});
```

```
newButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
newButton.setText("New");
newButton.addActionListener(new java.awt.event.ActionListener() {
```



```

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        newButtonActionPerformed(evt);

    }

});

jLabel10.setText("Gender");


buttonGroup1.add(maleRadioButton);

maleRadioButton.setSelected(true);

maleRadioButton.setText("Male");


buttonGroup1.add(femaleRadioButton);

femaleRadioButton.setText("Female");


javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
jPanel2.setLayout(jPanel2Layout);
jPanel2Layout.setHorizontalGroup(
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel2Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(registerButton, javax.swing.GroupLayout.PREFERRED_SIZE, 125,
                    javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(updateButton, javax.swing.GroupLayout.PREFERRED_SIZE, 125,
                    javax.swing.GroupLayout.PREFERRED_SIZE)
            )
            .addContainerGap(10, Short.MAX_VALUE))
        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(10, 10, 10)
                .addComponent(jSeparator1)
                .addContainerGap())
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(10, 10, 10)
                .addComponent(jLabel10)
                .addContainerGap())
        )
    );

```

```

        .addComponent(removeButton, javax.swing.GroupLayout.PREFERRED_SIZE, 125,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGroup(jPanel2Layout.createSequentialGroup())

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(newButton, javax.swing.GroupLayout.PREFERRED_SIZE, 399,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGroup(jPanel2Layout.createSequentialGroup())

            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE))

            .addGap(18, 18, 18)

            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

                .addComponent(cityField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

                .addComponent(addressField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

                .addComponent(contactNoField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,

```

```

Short.MAX_VALUE)

        .addComponent(emailField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

        .addComponent(nicField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

        .addComponent(nameField, javax.swing.GroupLayout.DEFAULT_SIZE, 268,
Short.MAX_VALUE)

        .addComponent(districtComboBox, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

        .addComponent(provinceComboBox, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

        .addComponent(customerNoField)))

    .addGroup(jPanel2Layout.createSequentialGroup())

        .addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 113,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

        .addComponent(maleRadioButton)

        .addGap(18, 18, 18)

        .addComponent(femaleRadioButton)))

    .addGap(0, 0, Short.MAX_VALUE)))

    .addContainerGap())

);

jPanel2Layout.setVerticalGroup(

jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(jPanel2Layout.createSequentialGroup())

.addGap(30, 30, 30)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

.addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(customerNoField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

```

```

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(nameField)

    .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(nicField)

    .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(emailField)

    .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(contactNoField)

    .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(addressField)

    .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

    .addComponent(cityField)

    .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

```

```

        .addComponent(districtComboBox)

        .addComponent(jLabel8, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

        .addComponent(provinceComboBox)

        .addComponent(jLabel9, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

        .addComponent(jLabel10, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(maleRadioButton)

        .addComponent(femaleRadioButton))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

        .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

        .addComponent(registerButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(updateButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(removeButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(newButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    );

jSeparator2.setOrientation(javax.swing.SwingConstants.VERTICAL);

```

```
jPanel4.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Customers", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N
```

```
customerTable.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {
        "No", "Name", "Nic", "Email", "Contact No", "Address", "City", "District", "Province", "Gender"
    }
) {
    boolean[] canEdit = new boolean [] {
        false, false, false, false, false, false, false, false, false, false
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});

customerTable.setRowHeight(25);

customerTable.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        customerTableMouseClicked(evt);
    }
});

jScrollPane1.setViewportViewView(customerTable);

if (customerTable.getColumnModel().getColumnCount() > 0) {
```

```

customerTable.getColumnModel().getColumn(0).setMinWidth(60);
customerTable.getColumnModel().getColumn(0).setPreferredWidth(60);
customerTable.getColumnModel().getColumn(1).setMinWidth(150);
customerTable.getColumnModel().getColumn(1).setPreferredWidth(150);
customerTable.getColumnModel().getColumn(2).setMinWidth(120);
customerTable.getColumnModel().getColumn(2).setPreferredWidth(120);
customerTable.getColumnModel().getColumn(3).setMinWidth(160);
customerTable.getColumnModel().getColumn(3).setPreferredWidth(160);
customerTable.getColumnModel().getColumn(4).setMinWidth(100);
customerTable.getColumnModel().getColumn(4).setPreferredWidth(100);
customerTable.getColumnModel().getColumn(5).setMinWidth(200);
customerTable.getColumnModel().getColumn(5).setPreferredWidth(200);
customerTable.getColumnModel().getColumn(6).setMinWidth(110);
customerTable.getColumnModel().getColumn(6).setPreferredWidth(110);
customerTable.getColumnModel().getColumn(7).setMinWidth(110);
customerTable.getColumnModel().getColumn(7).setPreferredWidth(110);
customerTable.getColumnModel().getColumn(8).setMinWidth(110);
customerTable.getColumnModel().getColumn(8).setPreferredWidth(110);
customerTable.getColumnModel().getColumn(9).setMinWidth(60);
customerTable.getColumnModel().getColumn(9).setPreferredWidth(60);
}

```

```

keywordField.setForeground(new java.awt.Color(153, 153, 153));
keywordField.setText("Search");
keywordField.setToolTipText("Search");
keywordField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusGained(java.awt.event.FocusEvent evt) {
        keywordFieldFocusGained(evt);
    }
}

```

```

    public void focusLost(java.awt.event.FocusEvent evt) {

        keywordFieldFocusLost(evt);

    }

});

keywordField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyReleased(java.awt.event.KeyEvent evt) {

        keywordFieldKeyReleased(evt);

    }

});

javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
jPanel4.setLayout(jPanel4Layout);
jPanel4Layout.setHorizontalGroup(
    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 1288, Short.MAX_VALUE)
            .addGap(10, 10, 10)
            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 345,
                javax.swing.GroupLayout.PREFERRED_SIZE))
            .addContainerGap(10, Short.MAX_VALUE))
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(10, Short.MAX_VALUE))
);
jPanel4Layout.setVerticalGroup(
    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 1288, Short.MAX_VALUE)
            .addGap(10, 10, 10)
            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(10, Short.MAX_VALUE))
);

```



```

        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 693,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap())

);

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
jPanel1.setLayout(jPanel1Layout);
jPanel1Layout.setHorizontalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addContainerGap()

            .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(jSeparator2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addContainerGap())
        );
jPanel1Layout.setVerticalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createParallelGroup(
                javax.swing.GroupLayout.Alignment.LEADING)
                .addContainerGap()

                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addComponent(jSeparator2)

                    .addComponent(jPanel2, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                    .addComponent(jPanel4, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            )
        );

```

```

        .addContainerGap())
    );

    jTabbedPane1.addTab("Customer Details", jPanel1);

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jTabbedPane1)
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jTabbedPane1)
    );

    pack();
    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void registerButtonActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    logger.debug("Register customer");
    String customerNo = customerNoField.getText();
    String name = nameField.getText();
    String nic = nicField.getText();
    String email = emailField.getText();
    String contactNo = contactNoField.getText();
    String address = addressField.getText();
}

```

```

String city = cityField.getText();

int distictNo = districtComboBox.getSelectedIndex() + 1;

int provinceNo = provinceComboBox.getSelectedIndex() + 1;

String gender = null;

if (maleRadioButton.isSelected()) {

    gender = "Male";

} else if (femaleRadioButton.isSelected()) {

    gender = "Female";

}

logger.debug("Check validations");

if (name.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The Name !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

    nameField.requestFocus(true);

    logger.error("Customer Name not entered");

} else if (contactNo.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The Contact No !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

    contactNoField.requestFocus(true);

    logger.error("Contact No not entered");

} else if (city.equals("")) {

    JOptionPane.showConfirmDialog(rootPane, "Please Enter The City !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

    cityField.requestFocus(true);

    logger.error("City not entered");

} else if (email.length() > 0) {

    String PATTERN = "^([a-zA-Z0-9-./]{0,50})[@]([a-zA-Z]{0,10})[.][a-zA-Z]{0,5}$";

    Pattern p = Pattern.compile(PATTERN);

```

```

    Matcher m = p.matcher(email);

    if (!m.matches()) {

        JOptionPane.showConfirmDialog(rootPane, "Email is Wrong !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        emailField.requestFocus(true);

        logger.error("Email pattern not matched");

    } else {

        String result = customerModel.registerCustomer(customerNo, name, nic, email, contactNo, address,
city, distictNo, provinceNo, gender);

        if (result.equals("Register Successful")) {

            JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

            clearFields();

            loadCustomerTable("");

            logger.debug("Message: " + result);

        } else {

            JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

            logger.error("Error: " + result);

        }

    }

} else {

    String result = customerModel.registerCustomer(customerNo, name, nic, email, contactNo, address,
city, distictNo, provinceNo, gender);

    if (result.equals("Register Successful")) {

        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

        clearFields();

        loadCustomerTable("");

        logger.debug("Message: " + result);

    } else {

        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: " + result);

    }

}

```

```
    }  
}  
}
```

```
private void updateButtonActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    logger.debug("Update customer");  
    String customerNo = customerNoField.getText();  
    String name = nameField.getText();  
    String nic = nicField.getText();  
    String email = emailField.getText();  
    String contactNo = contactNoField.getText();  
    String address = addressField.getText();  
    String city = cityField.getText();  
    int distictNo = districtComboBox.getSelectedIndex() + 1;  
    int provinceNo = provinceComboBox.getSelectedIndex() + 1;  
    String gender = null;  
  
    if (maleRadioButton.isSelected()) {  
        gender = "Male";  
    } else if (femaleRadioButton.isSelected()) {  
        gender = "Female";  
    }  
  
    logger.debug("Check validations");  
    if (name.equals("")) {  
        JOptionPane.showConfirmDialog(rootPane, "Please Enter The Name !", "Error", -1,  
JOptionPane.ERROR_MESSAGE);  
        nameField.requestFocus(true);  
    }  
}
```

```

        logger.error("Customer Name not entered");

    } else if (contactNo.equals("")) {

        JOptionPane.showConfirmDialog(rootPane, "Please Enter The Contact No !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        contactNoField.requestFocus(true);

        logger.error("Contact No not entered");

    } else if (city.equals("")) {

        JOptionPane.showConfirmDialog(rootPane, "Please Enter The City !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

        cityField.requestFocus(true);

        logger.error("City not entered");

    } else if (email.length() > 0) {

        String PATTERN = "[a-zA-Z0-9./]{0,50}[@][a-zA-Z]{0,10}[.][a-zA-Z]{0,5}$";

        Pattern p = Pattern.compile(PATTERN);

        Matcher m = p.matcher(email);

        if (!m.matches()) {

            JOptionPane.showConfirmDialog(rootPane, "Email is Wrong !", "Error", -1,
JOptionPane.ERROR_MESSAGE);

            emailField.requestFocus(true);

            logger.error("Email pattern not matched");

        } else {

            String result = customerModel.updateCustomer(customerNo, name, nic, email, contactNo, address,
city, distictNo, provinceNo, gender);

            if (result.equals("Update Successful")) {

                JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

                loadCustomerTable("");

                logger.debug("Message: " + result);

            } else {

                JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

                logger.error("Error: " + result);

            }

        }

    }

```

```

    }

    } else {

        String result = customerModel.updateCustomer(customerNo, name, nic, email, contactNo, address,
city, distictNo, provinceNo, gender);

        if (result.equals("Update Successful")) {

            JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

            loadCustomerTable("");

            logger.debug("Message: " + result);

        } else {

            JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

            logger.error("Error: " + result);

        }

    }

}
}

```

```

private void removeButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Remove customer");

    String customerNo = customerNoField.getText();

    int response = JOptionPane.showConfirmDialog(this, "Do You Want To Remove ?", "Confirm",
JOptionPane.YES_NO_OPTION, JOptionPane.QUESTION_MESSAGE);

    if (response == JOptionPane.YES_OPTION) {

        String result = customerModel.removeCustomer(customerNo);

        if (result.equals("Remove Successful")) {

            JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

            clearFields();

            loadCustomerTable("");

            logger.debug("Message: " + result);

```

```

    } else {

        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: " + result);

    }

}

}

```

```

private void newButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    clearFields();

}

```

```

private void customerNoFieldKeyPressed(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    customerNoField.setEditable(false);

}

```

```

private void customerNoFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    customerNoField.setEditable(true);

}

```

```

private void contactNoFieldKeyPressed(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String contactNo = contactNoField.getText();

    int length = contactNo.length();

    char c = evt.getKeyChar();

    if (evt.getKeyChar() >= '0' && evt.getKeyChar() <= '9') {

        if (length < 10) {

```



```

        contactNoField.setEditable(true);

    } else {

        contactNoField.setEditable(false);

    }

} else {

    if (evt.getExtendedKeyCode() == KeyEvent.VK_BACK_SPACE || evt.getExtendedKeyCode() ==
KeyEvent.VK_DELETE) {

        contactNoField.setEditable(true);

    } else {

        contactNoField.setEditable(false);

    }

}

}

```

```

private void contactNoFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    contactNoField.setEditable(true);

}

```

```

private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    if (keywordField.getText().equals("Search")) {

        keywordField.setText("");

        keywordField.setForeground(new Color(0, 0, 0));

    }

}

```

```

private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

```

```

if (keywordField.getText().equals("")) {

    keywordField.setText("Search");

    keywordField.setForeground(new Color(153, 153, 153));

}

}

```

```

private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String keyword = keywordField.getText();

    logger.debug("Search customer data");

    loadCustomerTable(keyword);

}

```

```

private void customerTableMouseClicked(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    clearFields();

    int row = customerTable.getSelectedRow();

    int customerNo = (int) customerTableModel.getValueAt(row, 0);

    Object[] customerData = customerModel.getSelectedCustomerData(customerNo);

    customerNoField.setText(new String(customerData[0] + ""));

    nameField.setText((String) customerData[1]);

    nicField.setText((String) customerData[2]);

    emailField.setText((String) customerData[3]);

    contactNoField.setText((String) customerData[4]);

    addressField.setText((String) customerData[5]);

    cityField.setText((String) customerData[6]);

    districtComboBox.setSelectedIndex((int) customerData[7] - 1);

```

```

provinceComboBox.setSelectedIndex((int) customerData[8] - 1);

String gender = (String) customerData[9];

if(gender.equals("Male")){
    maleRadioButton.setSelected(true);
}else if(gender.equals("Female")){
    femaleRadioButton.setSelected(true);
}

logger.debug("Load selected row data to relevant fields");

registerButton.setEnabled(false);
updateButton.setEnabled(true);
removeButton.setEnabled(true);

}

private void customerNoLoad() {
    int customerNo = customerModel.getCustomerNo();
    customerNo++;
    customerNoField.setText(new String(customerNo + ""));
    logger.debug("Set Customer No");
}

private void loadCustomerTable(String keyword){
    customerModel.loadCustomerTable(keyword, customerTableModel);
    logger.debug("Load customer table");
}

```

```

private void clearFields() {

    customerNoLoad();

    nameField.setText("");

    nicField.setText("");

    emailField.setText("");

    contactNoField.setText("");

    addressField.setText("");

    cityField.setText("");

    districtComboBox.setSelectedIndex(0);

    provinceComboBox.setSelectedIndex(0);

    maleRadioButton.setSelected(true);


    registerButton.setEnabled(true);

    updateButton.setEnabled(false);

    removeButton.setEnabled(false);


    logger.debug("Clear fields");
}


/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */

    try {

```

```

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
//            javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

//        java.util.logging.Logger.getLogger(CustomerManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (InstantiationException ex) {

//

//        java.util.logging.Logger.getLogger(CustomerManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (IllegalAccessException ex) {

//

//        java.util.logging.Logger.getLogger(CustomerManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

//        java.util.logging.Logger.getLogger(CustomerManager.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    }

```

```
//</editor-fold>
```

```
//</editor-fold>
```

```
/* Create and display the form */
```

```
java.awt.EventQueue.invokeLater(new Runnable() {  
    public void run() {  
        new CustomerManager().setVisible(true);  
    }  
});  
}
```

```
// Variables declaration - do not modify
```

```
private javax.swing.JTextField addressField;  
private javax.swing.ButtonGroup buttonGroup1;  
private javax.swing.JTextField cityField;  
private javax.swing.JTextField contactNoField;  
private javax.swing.JTextField customerNoField;  
private javax.swing.JTable customerTable;  
private javax.swing.JComboBox<String> districtComboBox;  
private javax.swing.JTextField emailField;  
private javax.swing.JRadioButton femaleRadioButton;  
private javax.swing.JLabel jLabel1;  
private javax.swing.JLabel jLabel10;  
private javax.swing.JLabel jLabel2;  
private javax.swing.JLabel jLabel3;  
private javax.swing.JLabel jLabel4;  
private javax.swing.JLabel jLabel5;  
private javax.swing.JLabel jLabel6;  
private javax.swing.JLabel jLabel7;
```

```

private javax.swing.JLabel jLabel8;

private javax.swing.JLabel jLabel9;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JPanel jPanel4;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JSeparator jSeparator1;

private javax.swing.JSeparator jSeparator2;

private javax.swing.JTabbedPane jTabbedPane1;

private javax.swing.JTextField keywordField;

private javax.swing.JRadioButton maleRadioButton;

private javax.swing.JTextField nameField;

private javax.swing.JButton newButton;

private javax.swing.JTextField nicField;

private javax.swing.JComboBox<String> provinceComboBox;

private javax.swing.JButton registerButton;

private javax.swing.JButton removeButton;

private javax.swing.JButton updateButton;

// End of variables declaration
}

```

3.19 CustomerModel.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package model;

```

```

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.util.Vector;

import javax.swing.table.DefaultTableModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class CustomerModel {

    private Connection dbConnection;

    static Logger logger = Logger.getLogger(CustomerModel.class.getName());

    public CustomerModel() {

        dbConnection = database.DBConnection.getConnection();

    }

    public int getCustomerNo() {

        String query = "SELECT * FROM customer ORDER BY customer_no DESC LIMIT 1";

        logger.debug("SQL query String: " + query);

        try {

            PreparedStatement psm = dbConnection.prepareStatement(query);

            ResultSet rs = psm.executeQuery();

            logger.debug("Query execution done");

            int customerNo = 0;

```



```

while (rs.next()) {

    customerNo = rs.getInt("customer_no");

    logger.debug("return customerNo");

    return customerNo;

}

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

logger.debug("return 0");

return 0;

}

```

```

public String registerCustomer(String customerNo, String name, String nic, String email, String contactNo,
String address, String city, int distictNo, int provinceNo, String gender) {

```

```

    String query = "INSERT INTO customer(customer_no, customer_name, customer_nic, customer_email,
customer_contact_no, customer_address, customer_city, district_no, province_no, customer_gender,
customer_status)"

```

```

        + "VALUE(?,?,?,?,?,?,?,?,?)";

```

```

    logger.debug("SQL query String: " + query);

```

```

try {

```

```

    PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

    psm.setString(1, customerNo);

```

```

    psm.setString(2, name);

```

```

    psm.setString(3, nic);

```

```

    psm.setString(4, email);

```

```

    psm.setString(5, contactNo);

```

```

    psm.setString(6, address);

```

```

    psm.setString(7, city);

```

```

        psm.setInt(8, distictNo);

        psm.setInt(9, provinceNo);

        psm.setString(10, gender);

        psm.setInt(11, 1);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Register Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Register Error !";

    }

}

```

```

public String updateCustomer(String customerNo, String name, String nic, String email, String contactNo,
String address, String city, int distictNo, int provinceNo, String gender) {

```

```

    String query = "UPDATE customer SET customer_name = ?, customer_nic = ?, customer_email = ?,
customer_contact_no = ?, customer_address = ?, customer_city = ?, "

```

```

        + "district_no = ?, province_no = ?, customer_gender = ? WHERE customer_no = ?";

```

```

    logger.debug("SQL query String: " + query);

```

```

    try {

```

```

        PreparedStatement psm = dbConnection.prepareStatement(query);

```

```

        psm.setString(1, name);

```

```

        psm.setString(2, nic);

```

```

        psm.setString(3, email);

```

```

        psm.setString(4, contactNo);

```

```

        psm.setString(5, address);

```

```

        psm.setString(6, city);

        psm.setInt(7, distictNo);

        psm.setInt(8, provinceNo);

        psm.setString(9, gender);

        psm.setString(10, customerNo);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Update Successful";

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Update Error !";

    }

}

```

```

public String removeCustomer(String customerNo) {

    String query = "UPDATE customer SET customer_status = ? WHERE customer_no = ?";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setInt(1, 0);

        psm.setString(2, customerNo);

        psm.execute();

        logger.debug("Query execution done");

        logger.debug("return result");

        return "Remove Successful";

    }
}

```

```

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

        logger.error("return result");

        return "Remove Error !";

    }

}

public void loadCustomerTable(String keyword, DefaultTableModel customerTableModel) {

    String query = "SELECT * FROM customer INNER JOIN district INNER JOIN province "

        + "ON customer.district_no = district.district_no AND customer.province_no = province.province_no

        + "WHERE (customer_no LIKE ? OR customer_name LIKE ? OR customer_nic LIKE ? OR
customer_contact_no LIKE ? OR customer_city LIKE ?) AND customer_status = ? ORDER BY customer_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setString(1, "%" + keyword + "%");

        psm.setString(2, "%" + keyword + "%");

        psm.setString(3, "%" + keyword + "%");

        psm.setString(4, "%" + keyword + "%");

        psm.setString(5, "%" + keyword + "%");

        psm.setInt(6, 1);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Object[] rowData = null;

        customerTableModel.setRowCount(0);

        while (rs.next()) {

            int customerNo = rs.getInt("customer_no");

```

```

        String name = rs.getString("customer_name");

        String nic = rs.getString("customer_nic");

        String email = rs.getString("customer_email");

        String contactNo = rs.getString("customer_contact_no");

        String address = rs.getString("customer_address");

        String city = rs.getString("customer_city");

        String district = rs.getString("district_name");

        String province = rs.getString("province_name");

        String gender = rs.getString("customer_gender");

        rowData = new Object[]{customerNo, name, nic, email, contactNo, address, city, district, province,
gender};

        customerTableModel.addRow(rowData);

        logger.debug("loadCustomerTable [addRow]");

    }

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

}

public Object[] getSelectedCustomerData(int customerNo) {

    String query = "SELECT * FROM customer WHERE customer_no = ?";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        psm.setInt(1, customerNo);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

```

```

Object[] rowData = null;

while (rs.next()) {

    int customerNoo = rs.getInt("customer_no");

    String name = rs.getString("customer_name");

    String nic = rs.getString("customer_nic");

    String email = rs.getString("customer_email");

    String contactNo = rs.getString("customer_contact_no");

    String address = rs.getString("customer_address");

    String city = rs.getString("customer_city");

    int districtNo = rs.getInt("district_no");

    int provinceNo = rs.getInt("province_no");

    String gender = rs.getString("customer_gender");

    rowData = new
Object[]{customerNoo,name,nic,email,contactNo,address,city,districtNo,provinceNo,gender};

    logger.debug("return rowData");

    return rowData;

}

} catch (Exception e) {

    e.printStackTrace();

    logger.error("Exception: " + e.getMessage());

}

logger.debug("return null");

return null;

}

}

```

3.20 LoadSupplierDialog.java

/*

* To change this license header, choose License Headers in Project Properties.

* To change this template file, choose Tools | Templates

* and open the template in the editor.

*/

```
package gui;
```

```
import com.formdev.flatlaf.FlatIntelliJLaf;
```

```
import java.awt.Color;
```

```
import javax.swing.UIManager;
```

```
import javax.swing.table.DefaultTableModel;
```

```
import model.SupplierModel;
```

```
import org.apache.log4j.Logger;
```

```
/**
```

```
*
```

```
* @author EZIO AUDITORY
```

```
*/
```

```
public class LoadSupplierDialog extends javax.swing.JDialog {
```

```
/**
```

```
* Creates new form LoadSupplierDialog
```

```
*/
```

```
private SupplierModel supplierModel;
```

```
static Logger logger = Logger.getLogger(LoadSupplierDialog.class.getName());
```

```
DefaultTableModel supplierTableModel;
```

```
int supplierNoo;
```

```
String supplierName = "Select Supplier";
```

```
public LoadSupplierDialog(java.awt.Frame parent, boolean modal) {
```

```
    super(parent, modal);
```

```

initComponents();

logger.debug("Access to LoadSupplierDialog.java");


supplierTableModel = (DefaultTableModel) supplierTable.getModel();

supplierModel = new SupplierModel();


loadSupplierTable("");
}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel4 = new javax.swing.JPanel();
    jScrollPane1 = new javax.swing.JScrollPane();
    supplierTable = new javax.swing.JTable();
    keywordField = new javax.swing.JTextField();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

    setTitle("Select Supplier");

    setAlwaysOnTop(true);

    setResizable(false);

```



```
jPanel4.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Suppliers", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N
```

```
supplierTable.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {
        "No", "Name", "NIC", "Email", "Contact No", "Address", "City", "District", "Province", "Gender"
    }
){
    boolean[] canEdit = new boolean [] {
        false, false, false, false, false, false, false, false, false, false
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});

supplierTable.setRowHeight(25);

supplierTable.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        supplierTableMouseClicked(evt);
    }
});

jScrollPane1.setViewportViewView(supplierTable);

if (supplierTable.getColumnModel().getColumnCount() > 0) {
    supplierTable.getColumnModel().getColumn(0).setMinWidth(60);
    supplierTable.getColumnModel().getColumn(0).setPreferredWidth(60);
}
```

```

supplierTable.getColumnModel().getColumn(1).setMinWidth(150);
supplierTable.getColumnModel().getColumn(1).setPreferredWidth(150);
supplierTable.getColumnModel().getColumn(2).setMinWidth(120);
supplierTable.getColumnModel().getColumn(2).setPreferredWidth(120);
supplierTable.getColumnModel().getColumn(3).setMinWidth(160);
supplierTable.getColumnModel().getColumn(3).setPreferredWidth(160);
supplierTable.getColumnModel().getColumn(4).setMinWidth(100);
supplierTable.getColumnModel().getColumn(4).setPreferredWidth(100);
supplierTable.getColumnModel().getColumn(5).setMinWidth(200);
supplierTable.getColumnModel().getColumn(5).setPreferredWidth(200);
supplierTable.getColumnModel().getColumn(6).setMinWidth(110);
supplierTable.getColumnModel().getColumn(6).setPreferredWidth(110);
supplierTable.getColumnModel().getColumn(7).setMinWidth(110);
supplierTable.getColumnModel().getColumn(7).setPreferredWidth(110);
supplierTable.getColumnModel().getColumn(8).setMinWidth(110);
supplierTable.getColumnModel().getColumn(8).setPreferredWidth(110);
supplierTable.getColumnModel().getColumn(9).setMinWidth(60);
supplierTable.getColumnModel().getColumn(9).setPreferredWidth(60);
}

```

```

keywordField.setForeground(new java.awt.Color(153, 153, 153));
keywordField.setText("Search");
keywordField.setToolTipText("Search");
keywordField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusGained(java.awt.event.FocusEvent evt) {
        keywordFieldFocusGained(evt);
    }
    public void focusLost(java.awt.event.FocusEvent evt) {
        keywordFieldFocusLost(evt);
    }
}

```

```

    }

});

keywordField.addKeyListener(new java.awt.event.KeyAdapter() {

    public void keyReleased(java.awt.event.KeyEvent evt) {

        keywordFieldKeyReleased(evt);

    }

});

javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
jPanel4.setLayout(jPanel4Layout);
jPanel4Layout.setHorizontalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel4Layout.createSequentialGroup()

            .addGap(10, 10, 10)

            .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addGroup(jPanel4Layout.createSequentialGroup()

                    .addGap(10, 10, 10)

                    .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 345,
javax.swing.GroupLayout.PREFERRED_SIZE))

                .addGroup(jPanel4Layout.createSequentialGroup()

                    .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 1288, Short.MAX_VALUE))

                .addGap(10, 10, 10))

            .addContainerGap(10, true))

);

jPanel4Layout.setVerticalGroup(

    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel4Layout.createSequentialGroup()

            .addGap(10, 10, 10)

            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 693, Short.MAX_VALUE)

            .addContainerGap(10, true))

);

```

```
);
```

```
javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
```

```
getContentPane().setLayout(layout);
```

```
layout.setHorizontalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGap(0, 1346, Short.MAX_VALUE)
```

```
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
            .addGroup(layout.createSequentialGroup()
```

```
                .addContainerGap()
```

```
                .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
```

```
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
                .addContainerGap()))
```

```
);
```

```
layout.setVerticalGroup(
```

```
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGap(0, 796, Short.MAX_VALUE)
```

```
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
            .addGroup(layout.createSequentialGroup()
```

```
                .addContainerGap()
```

```
                .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
```

```
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
                .addContainerGap()))
```

```
);
```

```
pack();
```

```
setLocationRelativeTo(null);
```

```
// </editor-fold>
```

```
private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {
```

```

// TODO add your handling code here:

if (keywordField.getText().equals("Search")) {

    keywordField.setText("");

    keywordField.setForeground(new Color(0, 0, 0));

}

}

private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    if (keywordField.getText().equals("")) {

        keywordField.setText("Search");

        keywordField.setForeground(new Color(153, 153, 153));

    }

}

private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String keyword = keywordField.getText();

    logger.debug("Search supplier data");

    loadSupplierTable(keyword);

}

private void supplierTableMouseClicked(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    int row = supplierTable.getSelectedRow();

    int supplierNo = (int) supplierTableModel.getValueAt(row, 0);

    Object[] supplierData = supplierModel.getSelectedSupplierData(supplierNo);

    supplierNoo = (int) supplierData[0];

```

```

supplierName = (String) supplierData[1];

logger.debug("Assign values to variables");

this.dispose();

logger.debug("LoadSupplierDialog.java Dispose");
}

```

```

Object[] getSupplierData() {

    Object[] rowdata = new Object[]{supplierNoo,supplierName};

    logger.debug("return rowData");

    return rowdata;

}

```

```

private void loadSupplierTable(String keyword){

    supplierModel.loadSupplierTable(keyword, supplierTableModel);

    logger.debug("Load supplier table");

}

```

```

/**

```

```

 * @param args the command line arguments

```

```

 */

```

```

public static void main(String args[]) {

```

```

    /* Set the Nimbus look and feel */

```

```

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

```

```

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

```

```

    * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

```

```

    */

```

```

    try {

```

```

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

```

```

        UIManager.put("Table.showHorizontalLines", true);

```

```

        UIManager.put("Table.showVerticalLines", true);

```

```

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);
    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
// javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

// java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    } catch (InstantiationException ex) {

//

// java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    } catch (IllegalAccessException ex) {

//

// java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

// java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    }

//</editor-fold>

//</editor-fold>

```

```

/* Create and display the dialog */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        LoadSupplierDialog dialog = new LoadSupplierDialog(new javax.swing.JFrame(), true);

        dialog.addWindowListener(new java.awt.event.WindowAdapter() {

            @Override

            public void windowClosing(java.awt.event.WindowEvent e) {

                System.exit(0);

            }

        });

        dialog.setVisible(true);

    }

});

}

// Variables declaration - do not modify

private javax.swing.JPanel jPanel4;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JTextField keywordField;

private javax.swing.JTable supplierTable;

// End of variables declaration

}

```

3.21 LoadCustomerDialog.java

```

/*

* To change this license header, choose License Headers in Project Properties.

* To change this template file, choose Tools | Templates

* and open the template in the editor.

*/

```



```

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import model.CustomerModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class LoadCustomerDialog extends javax.swing.JDialog {

    /**
     * Creates new form LoadSupplierDialog
     */
    private CustomerModel customerModel;

    static Logger logger = Logger.getLogger(LoadCustomerDialog.class.getName());

    DefaultTableModel customerTableModel;

    int customerNoo;

    String customerName = "Select Customer";

    public LoadCustomerDialog(java.awt.Frame parent, boolean modal) {

        super(parent, modal);

        initComponents();

        logger.debug("Access to LoadCustomerDialog.java");
    }

```

```

customerTableModel = (DefaultTableModel) customerTable.getModel();

customerModel = new CustomerModel();


loadCustomerTable("");
}


/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel4 = new javax.swing.JPanel();
    jScrollPane1 = new javax.swing.JScrollPane();
    customerTable = new javax.swing.JTable();
    keywordField = new javax.swing.JTextField();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

    setTitle("Select Customer");

    setAlwaysOnTop(true);

    setResizable(false);

    jPanel4.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Customers", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N

```

```

customerTable.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {
        "No", "Name", "NIC", "Email", "Contact No", "Address", "City", "District", "Province", "Gender"
    }
) {
    boolean[] canEdit = new boolean [] {
        false, false, false, false, false, false, false, false, false, false
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});

customerTable.setRowHeight(25);

customerTable.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        customerTableMouseClicked(evt);
    }
});

jScrollPane1.setViewportViewView(customerTable);

if (customerTable.getColumnModel().getColumnCount() > 0) {
    customerTable.getColumnModel().getColumn(0).setMinWidth(60);
    customerTable.getColumnModel().getColumn(0).setPreferredWidth(60);
    customerTable.getColumnModel().getColumn(1).setMinWidth(150);
    customerTable.getColumnModel().getColumn(1).setPreferredWidth(150);
}

```

```

customerTable.getColumnModel().getColumn(2).setMinWidth(120);
customerTable.getColumnModel().getColumn(2).setPreferredWidth(120);
customerTable.getColumnModel().getColumn(3).setMinWidth(160);
customerTable.getColumnModel().getColumn(3).setPreferredWidth(160);
customerTable.getColumnModel().getColumn(4).setMinWidth(100);
customerTable.getColumnModel().getColumn(4).setPreferredWidth(100);
customerTable.getColumnModel().getColumn(5).setMinWidth(200);
customerTable.getColumnModel().getColumn(5).setPreferredWidth(200);
customerTable.getColumnModel().getColumn(6).setMinWidth(110);
customerTable.getColumnModel().getColumn(6).setPreferredWidth(110);
customerTable.getColumnModel().getColumn(7).setMinWidth(110);
customerTable.getColumnModel().getColumn(7).setPreferredWidth(110);
customerTable.getColumnModel().getColumn(8).setMinWidth(110);
customerTable.getColumnModel().getColumn(8).setPreferredWidth(110);
customerTable.getColumnModel().getColumn(9).setMinWidth(60);
customerTable.getColumnModel().getColumn(9).setPreferredWidth(60);
}

```

```

keywordField.setForeground(new java.awt.Color(153, 153, 153));
keywordField.setText("Search");
keywordField.setToolTipText("Search");
keywordField.addFocusListener(new java.awt.event.FocusAdapter() {
    public void focusGained(java.awt.event.FocusEvent evt) {
        keywordFieldFocusGained(evt);
    }
    public void focusLost(java.awt.event.FocusEvent evt) {
        keywordFieldFocusLost(evt);
    }
});

```

```
keywordField.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyReleased(java.awt.event.KeyEvent evt) {
        keywordFieldKeyReleased(evt);
    }
});
```

```
javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
jPanel4.setLayout(jPanel4Layout);
jPanel4Layout.setHorizontalGroup(
    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 1288, Short.MAX_VALUE)
                .addGroup(jPanel4Layout.createSequentialGroup()
                    .addGap(10, 10, 10)
                    .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 345,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(10, 10, 10)
                )
            )
        )
);
jPanel4Layout.setVerticalGroup(
    jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel4Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(10, 10, 10)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 693, Short.MAX_VALUE)
            .addGap(10, 10, 10)
        )
);
```

```

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGap(0, 1346, Short.MAX_VALUE)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addContainerGap()

                .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addContainerGap()))

);

layout.setVerticalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGap(0, 796, Short.MAX_VALUE)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

                    .addContainerGap()

                    .addComponent(jPanel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                    .addContainerGap()))

);

pack();

setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

    if (keywordField.getText().equals("Search")) {

```

```
keywordField.setText("");  
  
keywordField.setForeground(new Color(0, 0, 0));  
  
}  
  
}
```

```
private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {  
  
    // TODO add your handling code here:  
  
    if (keywordField.getText().equals("")) {  
  
        keywordField.setText("Search");  
  
        keywordField.setForeground(new Color(153, 153, 153));  
  
    }  
  
}
```

```
private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {  
  
    // TODO add your handling code here:  
  
    String keyword = keywordField.getText();  
  
    logger.debug("Search customer data");  
  
    loadCustomerTable(keyword);  
  
}
```

```
private void customerTableMouseClicked(java.awt.event.MouseEvent evt) {  
  
    // TODO add your handling code here:  
  
    int row = customerTable.getSelectedRow();  
  
    int supplierNo = (int) customerTableModel.getValueAt(row, 0);  
  
    Object[] supplierData = customerModel.getSelectedCustomerData(supplierNo);  
  
  
    customerNoo = (int) supplierData[0];  
  
    customerName = (String) supplierData[1];  
  
    logger.debug("Assign values to variables");  
  

```

```

        this.dispose();

        logger.debug("LoadCustomerDialog.java Dispose");
    }

    Object[] getCustomerData() {
        Object[] rowdata = new Object[]{customerNoo, customerName};

        logger.debug("return rowData");

        return rowdata;
    }

    private void loadCustomerTable(String keyword){
        customerModel.loadCustomerTable(keyword, customerTableModel);

        logger.debug("Load customer table");
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */

        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            UIManager.setLookAndFeel(new FlatIntelliJLaf());

            UIManager.put("Table.showHorizontalLines", true);

            UIManager.put("Table.showVerticalLines", true);

            UIManager.put("ScrollBar.showButtons", true);

            UIManager.put("ScrollBar.width", 16);

```



```

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (InstantiationException ex) {

//

java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (IllegalAccessException ex) {

//

java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

java.util.logging.Logger.getLogger(LoadSupplierDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    }

//</editor-fold>

//</editor-fold>

/* Create and display the dialog */

java.awt.EventQueue.invokeLater(new Runnable() {

```

```

public void run() {

    LoadCustomerDialog dialog = new LoadCustomerDialog(new javax.swing.JFrame(), true);

    dialog.addWindowListener(new java.awt.event.WindowAdapter() {

        @Override

        public void windowClosing(java.awt.event.WindowEvent e) {

            System.exit(0);

        }

    });

    dialog.setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JTable customerTable;

private javax.swing.JPanel jPanel4;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JTextField keywordField;

// End of variables declaration

}

```

3.22 LoadProductDialog.java

```

/*

* To change this license header, choose License Headers in Project Properties.

* To change this template file, choose Tools | Templates

* and open the template in the editor.

*/

package gui;

```

```

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import java.awt.Component;

import javax.swing.JTable;

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import javax.swing.table.TableCellRenderer;

import model.ProductModel;

import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */

public class LoadProductDialog extends javax.swing.JDialog {

    /**
     * Creates new form LoadProductDialog
     */

    private ProductModel productModel;

    static Logger logger = Logger.getLogger(LoadProductDialog.class.getName());

    DefaultTableModel productTableModel;

    int productNoo;

    String productName = "Select Product";

    String productUnitName = "Number";

```

```

public LoadProductDialog(java.awt.Frame parent, boolean modal) {

    super(parent, modal);

    initComponents();

    logger.debug("Access to LoadProductDialog.java");


    productTableSettings(productTable);


    productTableModel = (DefaultTableModel) productTable.getModel();
    productModel = new ProductModel();


    loadProductTable("");
}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel3 = new javax.swing.JPanel();
    keywordField = new javax.swing.JTextField();
    jScrollPane3 = new javax.swing.JScrollPane();
    productTable = new javax.swing.JTable();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

    setTitle("Select Product");

```

```
setAlwaysOnTop(true);
```

```
setResizable(false);
```

```
jPanel3.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Select Product", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N
```

```
keywordField.setForeground(new java.awt.Color(153, 153, 153));
```

```
keywordField.setText("Search");
```

```
keywordField.setToolTipText("Search");
```

```
keywordField.addFocusListener(new java.awt.event.FocusAdapter() {
```

```
    public void focusGained(java.awt.event.FocusEvent evt) {
```

```
        keywordFieldFocusGained(evt);
```

```
    }
```

```
    public void focusLost(java.awt.event.FocusEvent evt) {
```

```
        keywordFieldFocusLost(evt);
```

```
    }
```

```
});
```

```
keywordField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```
        keywordFieldKeyReleased(evt);
```

```
    }
```

```
});
```

```
productTable.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
```

```
productTable.setModel(new javax.swing.table.DefaultTableModel(
```

```
    new Object [][] {
```

```
    },
```

```

new String [] {
    "Product No", "Product Name", "Image", "Description ", "Unit", "Discount", "Tax"
}
){
    boolean[] canEdit = new boolean [] {
        false, false, false, false, false, false, false
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});

productTable.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        productTableMouseClicked(evt);
    }
});

jScrollPane3.setViewportViewView(productTable);

if (productTable.getColumnModel().getColumnCount() > 0) {
    productTable.getColumnModel().getColumn(0).setMinWidth(100);
    productTable.getColumnModel().getColumn(0).setMaxWidth(100);
}

javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
jPanel3.setLayout(jPanel3Layout);
jPanel3Layout.setHorizontalGroup(
    jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel3Layout.createSequentialGroup()
            .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .add(jPanel3Layout.createSequentialGroup()
                    .addContainerGap()

```

```

        .addGroup(jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 1472, Short.MAX_VALUE)

            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel3Layout.createSequentialGroup())

            .addGap(0, 0, Short.MAX_VALUE)

            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 469,
javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addContainerGap()

    );

    jPanel3Layout.setVerticalGroup(

        jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel3Layout.createSequentialGroup())

            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

            .addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 739, Short.MAX_VALUE)

            .addContainerGap()

        );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);

    layout.setHorizontalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGap(0, 1530, Short.MAX_VALUE)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addGroup(layout.createSequentialGroup())

                .addContainerGap()

                .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addContainerGap())

        );

```

```

layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGap(0, 842, Short.MAX_VALUE)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addContainerGap()))
        );

pack();

setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {
    if (keywordField.getText().equals("Search")) {
        keywordField.setText("");
        keywordField.setForeground(new Color(0, 0, 0));
    }
}

```

```

private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {
    // TODO add your handling code here:
    if (keywordField.getText().equals("")) {
        keywordField.setText("Search");
        keywordField.setForeground(new Color(153, 153, 153));
    }
}

```



```

private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String keyword = keywordField.getText();

    logger.debug("Search product data");

    loadProductTable(keyword);

}

private void productTableMouseClicked(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    int row = productTable.getSelectedRow();

    int productNo = (int) productTableModel.getValueAt(row, 0);

    Object[] productData = productModel.getSelectedProductData(productNo);

    productNoo = (int) productData[0];

    productName = (String) productData[1];

    productUnitName = (String) productData[2];

    logger.debug("Assign values to variables");

    this.dispose();

    logger.debug("LoadProductDialog.java Dispose");

}

public void productTableSettings(JTable jtable) {

    jtable.setRowHeight(100);

    jtable.getColumnModel().setCellRenderer(new ProductTableRenderer());

    jtable.getColumnModel().getColumn(0).setPreferredWidth(100);

}

```

```

Object[] getProductData() {

    Object[] rowdata = new Object[]{productNoo, productName, productUnitName};

    logger.debug("return rowData");

    return rowdata;

}

private void loadProductTable(String keyword){

    productModel.loadProductTable(keyword, productTableModel);

    logger.debug("Load product table");

}

/**
 * @param args the command line arguments
 */

public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */

    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }
}

```

```

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

//        java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (InstantiationException ex) {

//

//        java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (IllegalAccessException ex) {

//

//        java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

//        java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    }

//</editor-fold>

//</editor-fold>

/* Create and display the dialog */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        LoadProductDialog dialog = new LoadProductDialog(new javax.swing.JFrame(), true);

        dialog.addWindowListener(new java.awt.event.WindowAdapter() {

```

```

        @Override

        public void windowClosing(java.awt.event.WindowEvent e) {

            System.exit(0);

        }

    });

    dialog.setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JPanel jPanel3;

private javax.swing.JScrollPane jScrollPane3;

private javax.swing.JTextField keywordField;

private javax.swing.JTable productTable;

// End of variables declaration

}

```

3.23 LoadStockDialog.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;

import java.awt.Color;

import java.awt.Component;

```

```

import javax.swing.JTable;

import javax.swing.UIManager;

import javax.swing.table.DefaultTableModel;

import javax.swing.table.TableCellRenderer;

import model.StockModel;

import org.apache.log4j.Logger;


/**
 *
 * @author EZIO AUDITORY
 */

public class LoadStockDialog extends javax.swing.JDialog {

    /**
     * Creates new form LoadProductDialog
     */

    private StockModel stockModel;

    static Logger logger = Logger.getLogger(LoadStockDialog.class.getName());

    DefaultTableModel stockTableModel;

    String stockNoo = "Select Stock";

    int productNoo;

    String productName;

    double availableQty;

    String productUnitName = "Number";

    double stockUnitSellPrice;

    double productDiscount;

```

```

double productTax;

public LoadStockDialog(java.awt.Frame parent, boolean modal) {

    super(parent, modal);

    initComponents();

    logger.debug("Access to LoadStockDialog.java");

    stockTableSettings(stockTable);

    stockTableModel = (DefaultTableModel) stockTable.getModel();

    stockModel = new StockModel();

    loadStockTable("");
}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel3 = new javax.swing.JPanel();

    keywordField = new javax.swing.JTextField();

    jScrollPane3 = new javax.swing.JScrollPane();

    stockTable = new javax.swing.JTable();

```

```
setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

setTitle("Select Stock");

setAlwaysOnTop(true);

setResizable(false);
```

```
jPanel3.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Select Stock", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N
```

```
jPanel3.setToolTipText("");
```

```
keywordField.setForeground(new java.awt.Color(153, 153, 153));
```

```
keywordField.setText("Search");
```

```
keywordField.setToolTipText("Search");
```

```
keywordField.addFocusListener(new java.awt.event.FocusAdapter() {
```

```
    public void focusGained(java.awt.event.FocusEvent evt) {
```

```
        keywordFieldFocusGained(evt);
```

```
    }
```

```
    public void focusLost(java.awt.event.FocusEvent evt) {
```

```
        keywordFieldFocusLost(evt);
```

```
    }
```

```
});
```

```
keywordField.addKeyListener(new java.awt.event.KeyAdapter() {
```

```
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```
        keywordFieldKeyReleased(evt);
```

```
    }
```

```
});
```

```
stockTable.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
```

```
stockTable.setModel(new javax.swing.table.DefaultTableModel(
```

```

new Object [][] {

},

new String [] {

    "Stock No", "Product No", "Product Name", "Image", "Description ", "Available Qty", "Unit", "Unit Sell
Price", "Discount", "Tax"

}

){

    boolean[] canEdit = new boolean [] {

        false, false, false, false, false, false, false, false, false, false

    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {

        return canEdit [columnIndex];

    }

});

stockTable.addMouseListener(new java.awt.event.MouseAdapter() {

    public void mouseClicked(java.awt.event.MouseEvent evt) {

        stockTableMouseClicked(evt);

    }

});

jScrollPane3.setViewportViewView(stockTable);

if (stockTable.getColumnModel().getColumnCount() > 0) {

    stockTable.getColumnModel().getColumn(0).setMinWidth(100);

    stockTable.getColumnModel().getColumn(0).setMaxWidth(100);

    stockTable.getColumnModel().getColumn(1).setMinWidth(100);

    stockTable.getColumnModel().getColumn(1).setMaxWidth(100);

}

```



```

javax.swing.GroupLayout jPanel3Layout = new javax.swing.GroupLayout(jPanel3);
jPanel3.setLayout(jPanel3Layout);
jPanel3Layout.setHorizontalGroup(
    jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel3Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(jScrollPane3)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 469,
                javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGap(10, 10, 10)
    );
jPanel3Layout.setVerticalGroup(
    jPanel3Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel3Layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 739, Short.MAX_VALUE)
            .addGap(10, 10, 10)
        );

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addComponent(keywordField, javax.swing.GroupLayout.PREFERRED_SIZE, 469,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jScrollPane3, javax.swing.GroupLayout.DEFAULT_SIZE, 739, Short.MAX_VALUE)
            .addGap(10, 10, 10)
        );

```

```

        .addGroup(layout.createSequentialGroup()

            .addContainerGap()

            .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addContainerGap()))

);

layout.setVerticalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGap(0, 842, Short.MAX_VALUE)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

            .addGroup(layout.createSequentialGroup()

                .addContainerGap()

                .addComponent(jPanel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addContainerGap()))

        );

pack();

setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void keywordFieldFocusGained(java.awt.event.FocusEvent evt) {

    if (keywordField.getText().equals("Search")) {

        keywordField.setText("");

        keywordField.setForeground(new Color(0, 0, 0));

    }

}

```

```

private void keywordFieldFocusLost(java.awt.event.FocusEvent evt) {

    // TODO add your handling code here:

```

```

if (keywordField.getText().equals("")) {

    keywordField.setText("Search");

    keywordField.setForeground(new Color(153, 153, 153));

}

}

private void keywordFieldKeyReleased(java.awt.event.KeyEvent evt) {

    // TODO add your handling code here:

    String keyword = keywordField.getText();

    logger.debug("Search stock data");

    loadStockTable(keyword);

}

private void stockTableMouseClicked(java.awt.event.MouseEvent evt) {

    // TODO add your handling code here:

    int row = stockTable.getSelectedRow();

    int stockNo = (int) stockTableModel.getValueAt(row, 0);

    Object[] stockData = stockModel.getSelectedStockData(stockNo);

    stockNoo = new String(stockData[0]+"");

    productNoo = (int) stockData[1];

    productName = (String) stockData[2];

    availableQty = (double) stockData[3];

    productUnitName = (String) stockData[4];

    stockUnitSellPrice = (double) stockData[5];

    productDiscount = (double) stockData[6];

    productTax = (double) stockData[7];

    logger.debug("Assign values to variables");

    this.dispose();

```

```

        logger.debug("LoadStockDialog.java Dispose");
    }

    public void stockTableSettings(JTable jtable) {

        jtable.setRowHeight(100);

        jtable.getColumnModel().setCellRenderer(new StockTableRenderer());

        jtable.getColumnModel().getColumn(0).setPreferredWidth(100);
    }

    Object[] getStockData() {

        Object[] rowdata = new Object[]{stockNoo, productNoo, productName, availableQty, productUnitName,
stockUnitSellPrice, productDiscount, productTax};

        logger.debug("return rowData");

        return rowdata;
    }

    public void loadStockTable(String Keyword){

        stockModel.loadStockTable(Keyword, stockTableModel);

        logger.debug("Load stock table");
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {

        /* Set the Nimbus look and feel */

        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
         * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

```

```

    */

    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
//            javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

//        java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (InstantiationException ex) {

//

//        java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (IllegalAccessException ex) {

//

//        java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
//            ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

```

```

java.util.logging.Logger.getLogger(LoadProductDialog.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

//    }

//</editor-fold>

//</editor-fold>

/* Create and display the dialog */

java.awt.EventQueue.invokeLater(new Runnable() {

    public void run() {

        LoadStockDialog dialog = new LoadStockDialog(new javax.swing.JFrame(), true);

        dialog.addWindowListener(new java.awt.event.WindowAdapter() {

            @Override

            public void windowClosing(java.awt.event.WindowEvent e) {

                System.exit(0);

            }

        });

        dialog.setVisible(true);

    }

});

}

// Variables declaration - do not modify

private javax.swing.JPanel jPanel3;

private javax.swing.JScrollPane jScrollPane3;

private javax.swing.JTextField keywordField;

private javax.swing.JTable stockTable;

// End of variables declaration

}

```

3.24 BackupAndRestore.java

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;
import java.io.File;
import java.text.SimpleDateFormat;
import java.util.Date;
import javax.swing.JFileChooser;
import javax.swing.JOptionPane;
import javax.swing.UIManager;
import model.BackupAndRestoreModel;
import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class BackupAndRestore extends javax.swing.JFrame {

    /**
     * Creates new form BackupAndRestore
     */
    private BackupAndRestoreModel backupAndRestoreModel;

    static Logger logger = Logger.getLogger(BackupAndRestore.class.getName());
```

```

public BackupAndRestore() {

    initComponents();

    logger.debug("Access to BackupAndRestore.java");

    backupAndRestoreModel = new BackupAndRestoreModel();
}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();

    backupPathField = new javax.swing.JTextField();

    backupPathBrowseButton = new javax.swing.JButton();

    backupButton = new javax.swing.JButton();

    jPanel2 = new javax.swing.JPanel();

    restorePathField = new javax.swing.JTextField();

    restorePathBrowseButton = new javax.swing.JButton();

    restoreButton = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);

    setTitle("Backup And Restore ");

    setAlwaysOnTop(true);

    setResizable(false);

```



```
jPanel1.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Backup", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N
```

```
backupPathBrowseButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
backupPathBrowseButton.setText("Browse");
```

```
backupPathBrowseButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        backupPathBrowseButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
backupButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
backupButton.setText("Backup");
```

```
backupButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        backupButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
```

```
jPanel1.setLayout(jPanel1Layout);
```

```
jPanel1Layout.setHorizontalGroup(
```

```
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel1Layout.createSequentialGroup()
```

```
            .addGap(10, 10, 10)
```

```
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addGroup(jPanel1Layout.createSequentialGroup()
```

```

        .addComponent(backupPathField, javax.swing.GroupLayout.PREFERRED_SIZE, 508,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(backupPathBrowseButton, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

        .addComponent(backupButton, javax.swing.GroupLayout.DEFAULT_SIZE, 642, Short.MAX_VALUE))

        .addContainerGap()

    );

    jPanel1Layout.setVerticalGroup(

        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addContainerGap()

        .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(backupPathField)

            .addComponent(backupPathBrowseButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(backupButton, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

        .addContainerGap()

    );

```

```

jPanel2.setBorder(javax.swing.BorderFactory.createTitledBorder(javax.swing.BorderFactory.createLineBorder(
new java.awt.Color(0, 0, 0)), "Restore", javax.swing.border.TitledBorder.DEFAULT_JUSTIFICATION,
javax.swing.border.TitledBorder.DEFAULT_POSITION, new java.awt.Font("Tahoma", 1, 13))); // NOI18N

```

```

restorePathBrowseButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N

restorePathBrowseButton.setText("Browse");

restorePathBrowseButton.addActionListener(new java.awt.event.ActionListener() {

    public void actionPerformed(java.awt.event.ActionEvent evt) {

        restorePathBrowseButtonActionPerformed(evt);
    }
});

```

```
}  
});
```

```
restoreButton.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
```

```
restoreButton.setText("Restore");
```

```
restoreButton.addActionListener(new java.awt.event.ActionListener() {
```

```
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        restoreButtonActionPerformed(evt);
```

```
    }
```

```
});
```

```
javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
```

```
jPanel2.setLayout(jPanel2Layout);
```

```
jPanel2Layout.setHorizontalGroup(
```

```
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel2Layout.createSequentialGroup()
```

```
            .addGap(10, 10, 10)
```

```
            .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                .addGroup(jPanel2Layout.createSequentialGroup()
```

```
                    .addComponent(restorePathField, javax.swing.GroupLayout.PREFERRED_SIZE, 508,  
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
                    .addComponent(restorePathBrowseButton, javax.swing.GroupLayout.DEFAULT_SIZE,  
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
```

```
                .addComponent(restoreButton, javax.swing.GroupLayout.DEFAULT_SIZE, 642, Short.MAX_VALUE))
```

```
            .addGap(10, 10, 10)
```

```
);
```

```
jPanel2Layout.setVerticalGroup(
```

```
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
        .addGroup(jPanel2Layout.createSequentialGroup()
```

```

        .addContainerGap()

        .addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

            .addComponent(restorePathField)

            .addComponent(restorePathBrowseButton, javax.swing.GroupLayout.PREFERRED_SIZE, 34,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

        .addComponent(restoreButton, javax.swing.GroupLayout.DEFAULT_SIZE, 34, Short.MAX_VALUE)

        .addContainerGap())
    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);

    layout.setHorizontalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(layout.createSequentialGroup()

            .addContainerGap()

            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addComponent(jPanel2, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

            .addContainerGap())

        );

    layout.setVerticalGroup(

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

        .addGroup(layout.createSequentialGroup()

            .addContainerGap()

            .addComponent(jPanel1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(18, 18, 18)

            .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,

```

```

javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    );

    pack();

    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void backupPathBrowseButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    JFileChooser backupPath = new JFileChooser();

    int returnValue = backupPath.showOpenDialog(this);

    String date = new SimpleDateFormat("YYYY-MM-dd_hh-mm-ss").format(new Date());

    if (returnValue == JFileChooser.APPROVE_OPTION) {

        File backupFile = backupPath.getSelectedFile();

        String backupLocation = backupFile.getAbsolutePath();

        String backupFilepath = backupLocation + "_" + date + ".sql";

        backupPathField.setText(backupFilepath);

        logger.debug("Set backup file path: "+backupFilepath);

    }

}

```

```

private void backupButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    logger.debug("Backup the database");

    String backupPath = backupPathField.getText();

```

```

if (backupPath.equals("")) {

    backupPathField.requestFocus();

} else {

    String result = backupAndRestoreModel.backup(backupPath);

    if (result.equals("Backup Successful")) {

        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);

        logger.debug("Message: "+result);

    } else {

        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);

        logger.error("Error: "+result);

    }

}

}

```

```

private void restorePathBrowseButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    JFileChooser restorePath = new JFileChooser();

    int returnValue = restorePath.showOpenDialog(this);

    if (returnValue == JFileChooser.APPROVE_OPTION) {

        File restoreFile = restorePath.getSelectedFile();

        String restoreFileLocation = restoreFile.getAbsolutePath();

        restorePathField.setText(restoreFileLocation);

        logger.debug("Set restore file path: "+restoreFileLocation);

    }

}

```

```

private void restoreButtonActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

```

```

logger.debug("Restore the database");

String restorePath = restorePathField.getText();

if (restorePath.equals("")) {
    restorePathField.requestFocus();
} else {
    String result = backupAndRestoreModel.restore(restorePath);

    if (result.equals("Restore Successful")) {
        JOptionPane.showConfirmDialog(rootPane, result, "Message", -1, 1);
        logger.debug("Message: "+result);
    } else {
        JOptionPane.showConfirmDialog(rootPane, result, "Error", -1, JOptionPane.ERROR_MESSAGE);
        logger.error("Error: "+result);
    }
}
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);
    }
}

```

```

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);
    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

//    try {

//        for (javax.swing.UIManager.LookAndFeelInfo info :
// javax.swing.UIManager.getInstalledLookAndFeels()) {

//            if ("Windows".equals(info.getName())) {

//                javax.swing.UIManager.setLookAndFeel(info.getClassName());

//                break;

//            }

//        }

//    } catch (ClassNotFoundException ex) {

//

// java.util.logging.Logger.getLogger(BackupAndRestore.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    } catch (InstantiationException ex) {

//

// java.util.logging.Logger.getLogger(BackupAndRestore.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    } catch (IllegalAccessException ex) {

//

// java.util.logging.Logger.getLogger(BackupAndRestore.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

//

// java.util.logging.Logger.getLogger(BackupAndRestore.class.getName()).log(java.util.logging.Level.SEVERE, null,
// ex);

//    }

//</editor-fold>

```



```

    /* Create and display the form */

    java.awt.EventQueue.invokeLater(new Runnable() {

        public void run() {

            new BackupAndRestore().setVisible(true);

        }

    });
}

// Variables declaration - do not modify

private javax.swing.JButton backupButton;

private javax.swing.JButton backupPathBrowseButton;

private javax.swing.JTextField backupPathField;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JButton restoreButton;

private javax.swing.JButton restorePathBrowseButton;

private javax.swing.JTextField restorePathField;

// End of variables declaration
}

```

3.25 BackupAndRestoreModel.java

```

/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

package model;

import org.apache.log4j.Logger;

```

```

/**
 *
 * @author EZIO AUDITORY
 */
public class BackupAndRestoreModel {

    static Logger logger = Logger.getLogger(BackupAndRestoreModel.class.getName());

    public String backup(String backupPath) {

        String msg = null;

        Process p = null;

        try {

            Runtime runtime = Runtime.getRuntime();

            p = runtime.exec("C:\\Program Files\\MySQL\\MySQL Server 8.0\\bin\\mysqldump.exe --
host=localhost --port=3307 -uroot -pass34 --add-drop-database -B
pamunuwila_hardware_salesdepartment_db -r" + backupPath);

            logger.debug(p);

            int processComplete = p.waitFor();

            if (processComplete == 0) {

                msg = "Backup Successful";

            } else {

                msg = "Backup Error !";

            }

            logger.debug("Set msg");

        } catch (Exception e) {

            e.printStackTrace();

            logger.error("Exception: " + e.getMessage());

        }

    }

}

```

```

        logger.debug("return msg");

        return msg;
    }

    public String restore(String restorePath) {

        String msg = null;

        String dbUserName = "root";

        String dbPassword = "ass34";

        String[] restoreCmd = new String[]{"C:\\Program Files\\MySQL\\MySQL Server 8.0\\bin\\mysql.exe", "--host=localhost", "--port=3307", "--user=" + dbUserName, "--password=" + dbPassword, "-e", "source " + restorePath};

        logger.debug(restoreCmd);

        Process runtimeProcess;

        try {

            runtimeProcess = Runtime.getRuntime().exec(restoreCmd);

            int processComplete = runtimeProcess.waitFor();

            System.out.println(processComplete);

            if (processComplete == 0) {

                msg = "Restore Successful";

            } else {

                msg = "Restore Error !";

            }

            logger.debug("Set msg");

        } catch (Exception ex) {

            ex.printStackTrace();

            logger.error("Exception: " + ex.getMessage());

        }

        logger.debug("return msg");
    }

```

```
        return msg;
    }
}
```

3.26 About.java

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package gui;

import com.formdev.flatlaf.FlatIntelliJLaf;
import javax.swing.UIManager;
import org.apache.log4j.Logger;

/**
 *
 * @author EZIO AUDITORY
 */
public class About extends javax.swing.JFrame {

    /**
     * Creates new form About
     */
    static Logger logger = Logger.getLogger(About.class.getName());

    public About() {
        initComponents();

        logger.debug("Access to About.java");
    }
}
```

```

}

/**
 * This method is called from within the constructor to initialize the form.
 * WARNING: Do NOT modify this code. The content of this method is always
 * regenerated by the Form Editor.
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    jSeparator1 = new javax.swing.JSeparator();
    jButton2 = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);
    setTitle("About ");
    setResizable(false);

    jLabel1.setHorizontalAlignment(javax.swing.SwingConstants.CENTER);
    jLabel1.setIcon(new javax.swing.ImageIcon(getClass().getResource("/images/AboutPic.jpg"))); // NOI18N
    jLabel1.setBorder(new javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));

    jButton2.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
    jButton2.setText("Close");
    jButton2.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton2ActionPerformed(evt);

```

```

    }

});

javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
jPanel1.setLayout(jPanel1Layout);
jPanel1Layout.setHorizontalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 540,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jSeparator1)
            )
            .addGap(10, 10, 10)
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)
            )
        )
);
jPanel1Layout.setVerticalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 400,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(10, 10, 10)
            .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(10, 10, 10)
            .addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 34,

```

```

javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

    );

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
    );

    pack();

    setLocationRelativeTo(null);
} // </editor-fold>

```

```

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

    // TODO add your handling code here:

    this.dispose();

    logger.debug("About.java Dispose");
}

```

```

/**
 * @param args the command line arguments
 */

```

```

public static void main(String args[]) {

    /* Set the Nimbus look and feel */

    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */

    try {

        UIManager.setLookAndFeel(new FlatIntelliJLaf());

        UIManager.put("Table.showHorizontalLines", true);

        UIManager.put("Table.showVerticalLines", true);

        UIManager.put("ScrollBar.showButtons", true);

        UIManager.put("ScrollBar.width", 16);

    } catch (Exception ex) {

        System.err.println("Failed to initialize LaF");

    }

    //    try {

    //        for (javax.swing.UIManager.LookAndFeelInfo info :
    javax.swing.UIManager.getInstalledLookAndFeels()) {

    //            if ("Windows".equals(info.getName())) {

    //                javax.swing.UIManager.setLookAndFeel(info.getClassName());

    //                break;

    //            }

    //        }

    //    } catch (ClassNotFoundException ex) {

    //        java.util.logging.Logger.getLogger(About.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

    //    } catch (InstantiationException ex) {

    //        java.util.logging.Logger.getLogger(About.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

    //    } catch (IllegalAccessException ex) {

    //        java.util.logging.Logger.getLogger(About.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

```



```
//    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
//        java.util.logging.Logger.getLogger(About.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
//    }
//</editor-fold>

/* Create and display the form */
java.awt.EventQueue.invokeLater(new Runnable() {
    public void run() {
        new About().setVisible(true);
    }
});
}

// Variables declaration - do not modify
private javax.swing.JButton jButton2;
private javax.swing.JLabel jLabel1;
private javax.swing.JPanel jPanel1;
private javax.swing.JSeparator jSeparator1;

// End of variables declaration
}
```

3.27 **ComboBoxLoadModel.java**

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package model;
```

```

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.util.Vector;

import org.apache.log4j.Logger;


/**
 *
 * @author EZIO AUDITORY
 */
public class ComboBoxLoadModel {

    private Connection dbConnection;

    static Logger logger = Logger.getLogger(ComboBoxLoadModel.class.getName());

    public ComboBoxLoadModel(){

        dbConnection = database.DBConnection.getConnection();

    }

    public Vector districtComboBoxLoad() {

        String query = "SELECT * FROM district ORDER BY district_no";

        logger.debug("SQL query String: " + query);

        try {

            PreparedStatement psm = dbConnection.prepareStatement(query);

            ResultSet rs = psm.executeQuery();

            logger.debug("Query execution done");

            Vector v = new Vector();

            while(rs.next()){

                v.add(rs.getString("district_name"));

            }

        }

    }

}

```

```

        logger.debug("return districtNameVector");

        return v;
    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());
    }

    logger.debug("return null");

    return null;
}

```

```

public Vector provinceComboBoxLoad() {

    String query = "SELECT * FROM province ORDER BY province_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Vector v = new Vector();

        while(rs.next()){

            v.add(rs.getString("province_name"));

        }

        logger.debug("return provinceNameVector");

        return v;

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

    }

    logger.debug("return null");

    return null;
}

```

```

}

public Vector unitComboBoxLoad() {

    String query = "SELECT * FROM unit ORDER BY unit_no";

    logger.debug("SQL query String: " + query);

    try {

        PreparedStatement psm = dbConnection.prepareStatement(query);

        ResultSet rs = psm.executeQuery();

        logger.debug("Query execution done");

        Vector v = new Vector();

        while(rs.next()){

            v.add(rs.getString("unit_name"));

        }

        logger.debug("return unitNameVector");

        return v;

    } catch (Exception e) {

        e.printStackTrace();

        logger.error("Exception: " + e.getMessage());

    }

    logger.debug("return null");

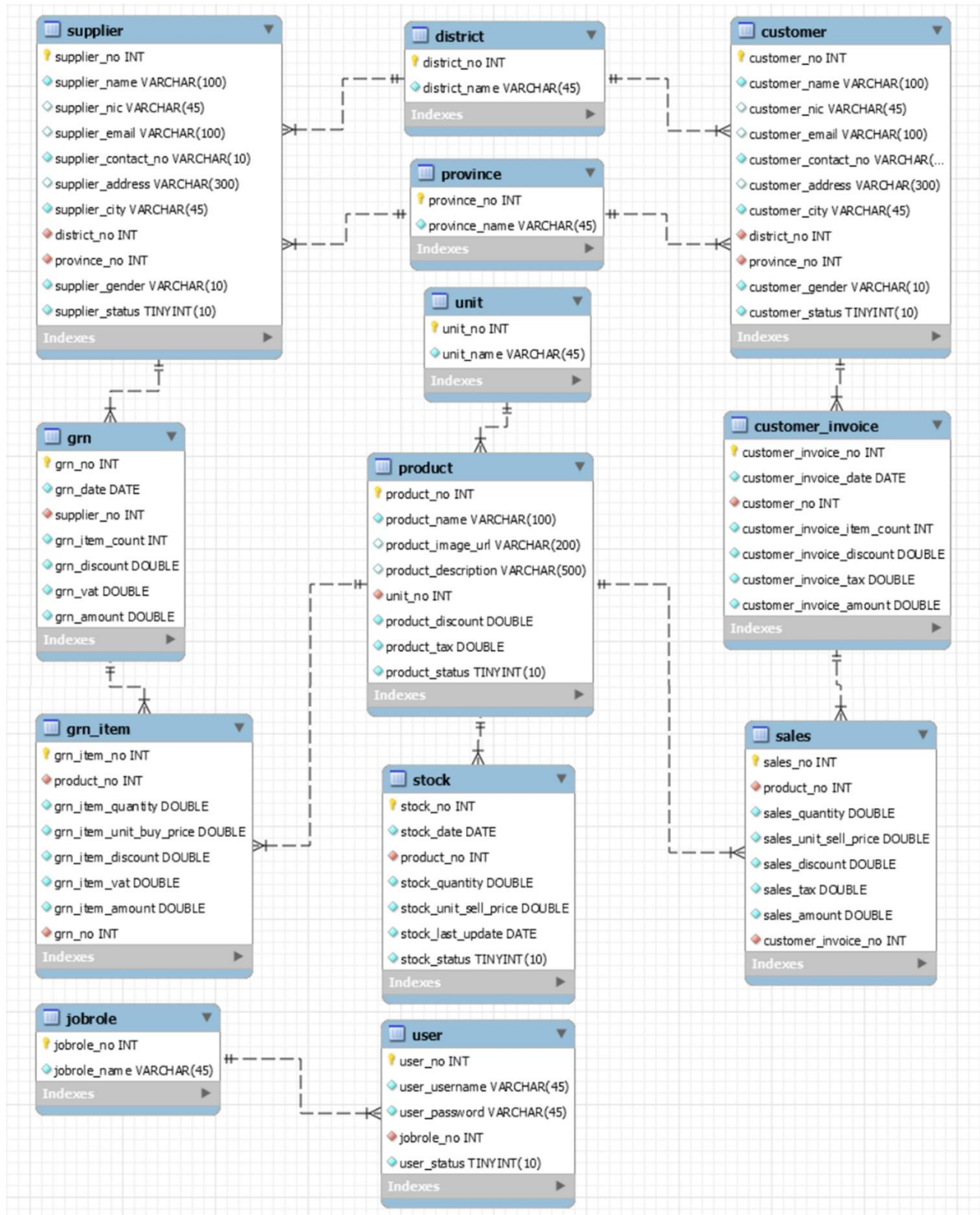
    return null;

}


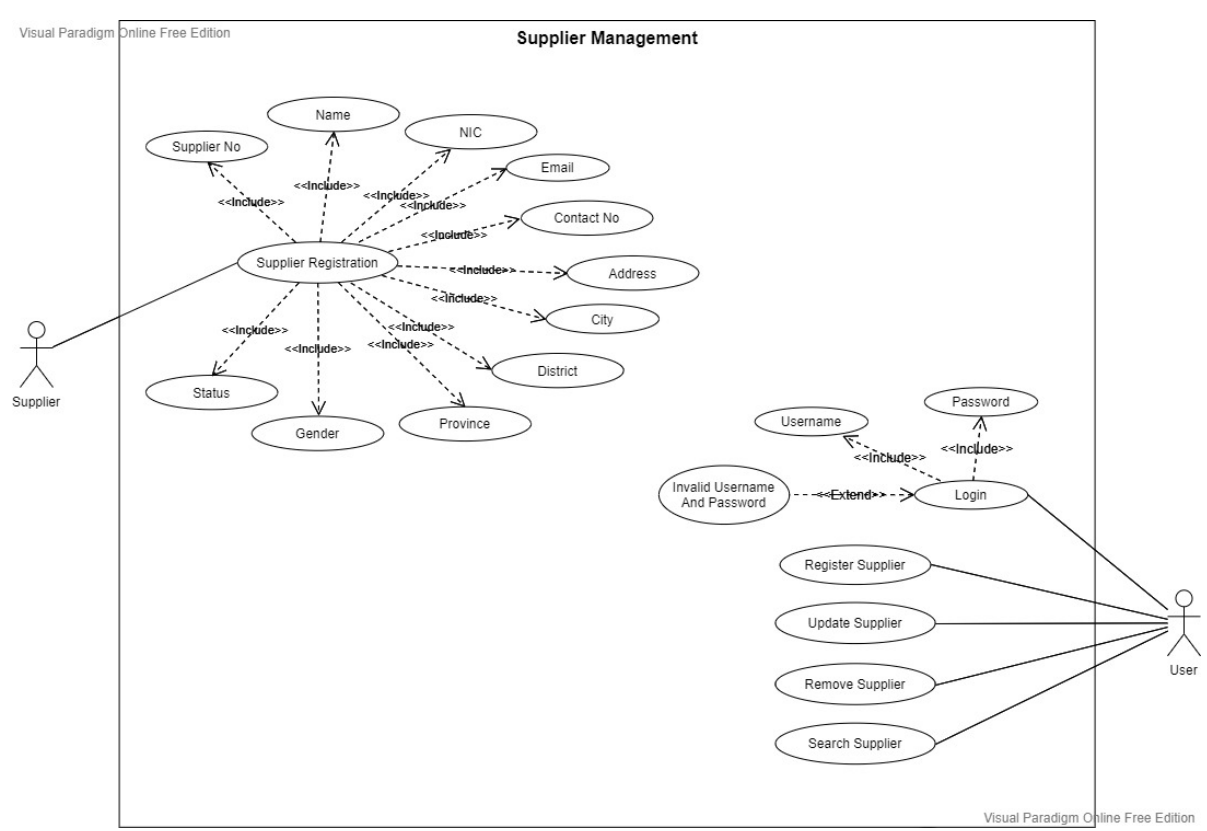
}

```

4. ER DIAGRAM



5. USE CASE DIAGRAMS

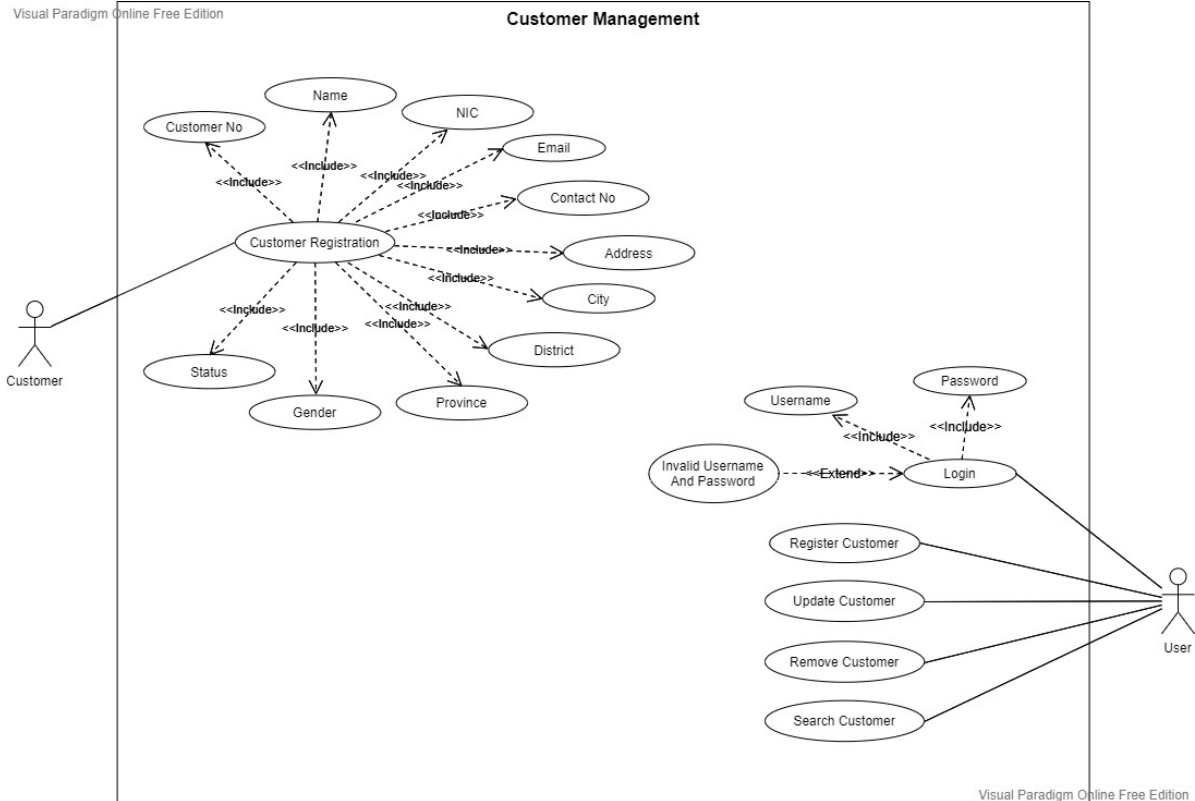
 <div style="float: right;"> USE CASE DIAGRAMS H7E1 04/EX/03 FORM NO: H7E1 04/EX/03/FRM-03 </div>	
1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha	2. Use case No : 1
4. Title of the Use case : Supplier Management Use Case	
5. Actor : Supplier and User	
	
01. Brief Description of the Use case: <p>This use case gives a brief overview of the supplier management process. We can accurately identify the requirements for supplier management from this use case and makes it very easy to develop. As you can see here, these processes take place between the supplier and the user. First, the user must log in to the system. Before purchasing a product from a supplier, the supplier must be registered in this system. A new supplier gives the user their registration details to register in this system. The user enters those details into the system and registers the supplier. The User also has the ability to update and search the details of a supplier registered in the system and remove a supplier registered in the system.</p>	
02. Assumptions: That the supplier registers in this system before purchasing products from the supplier.	

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. Use case No : 2

4. Title of the Use case : Customer Management Use Case

5. Actor : Customer and User



01. Brief Description of the Use case:

This use case gives a brief overview of the customer management process. We can accurately identify the requirements for customer management from this use case and makes it very easy to develop. As you can see here, these processes take place between the customer and the user. First, the user must log in to the system. Before selling a product to a customer, the customer must be registered in this system. A new customer gives the user their registration details to register in this system. The user enters those details into the system and registers the customer. The User also has the ability to update and search the details of a customer registered in the system and remove a customer registered in the system.

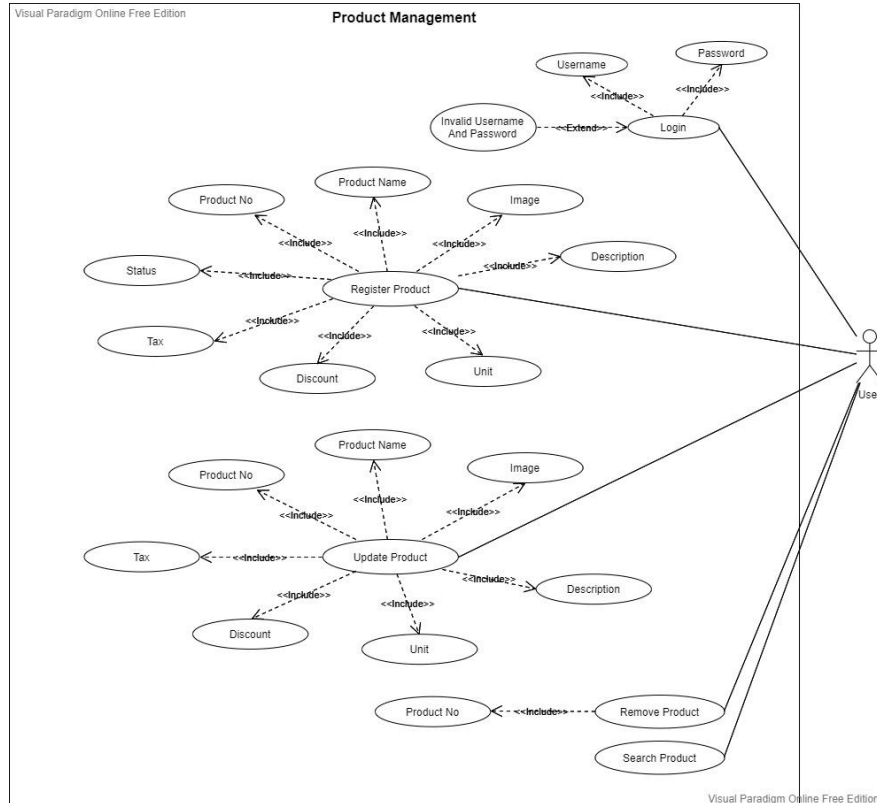
02. Assumptions: That the customer registers in this system before selling products to the customer.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. Use case No : 3

4. Title of the Use case : Product Management Use Case

5. Actor : User



01. Brief Description of the Use case:

This use case gives a brief overview of the product management process. We can accurately identify the requirements for product management from this use case and makes it very easy to develop. As you can see here, the user performs these processes. First, the user must log in to the system. To register a new product in this system, the user enters the relevant registration details into the system. In addition to registering a product in the system, the user also has the ability to update and search the details of a product registered in the system and remove a product registered in the system.

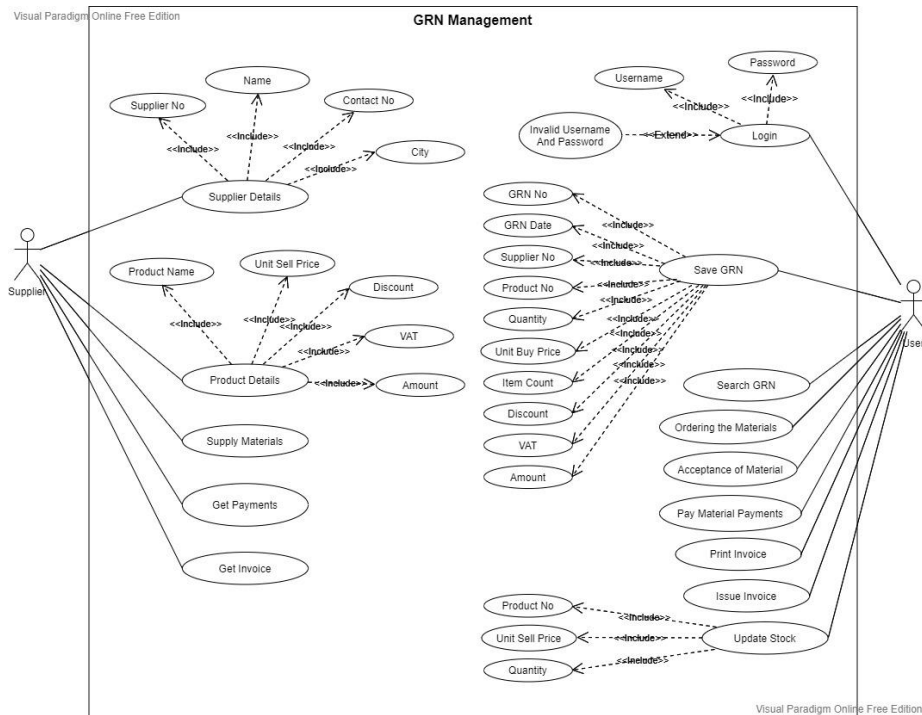
02. Assumptions: That the user inserts products into the system.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. Use case No : 4

4. Title of the Use case : GRN Management Use Case

5. Actor : Supplier and User



01. Brief Description of the Use case:

This use case gives a brief overview of the GRN management process. We can accurately identify the requirements for GRN management from this use case and makes it very easy to develop. As you can see here, these processes take place between the supplier and the user. First, the user must log in to the system. Before purchasing products from a supplier, the supplier must be registered in this system and the products intend to purchase must also be registered in this system. Thus, when purchasing products from a supplier registered in this system, the processes related to this use case take place. The user first orders the required product stock and the supplier supply the ordered product stock. When the supplier supplied the ordered product stock, the user accepts the product stock and enters the system with the data. The User then pays the supplier and the supplier gets that payment. The user prints an invoice (GRN Invoice / Purchase Invoice) containing all the details of the transaction and gives it to the supplier to confirm the transaction. The supplier obtains that invoice and keeps it with him as proof of the transaction. When purchasing product stock, the user saves the GRN in the system, and when the GRN saves, the system stock is also updated. When saving the GRN, the supplier must provide his details and product details. The user also has the ability to search and print previously saved invoices in the system.

02. Assumptions:

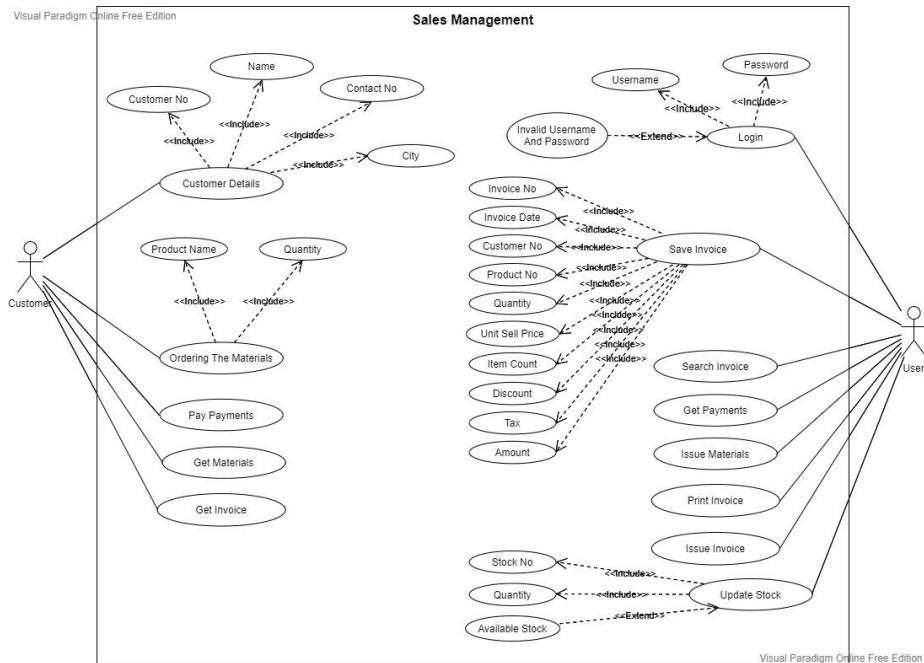
That the supplier registered in this system before purchasing products from the supplier and products that intend to purchase are also registered in this system.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. Use case No : 5

4. Title of the Use case : Sales Management Use Case

5. Actor : Customer and User



01. Brief Description of the Use case:

This use case gives a brief overview of the sales management process. We can accurately identify the requirements for sales management from this use case and makes it very easy to develop. As you can see here, these processes take place between the customer and the user. First, the user must log in to the system. Before selling products to a customer, the customer must be registered in this system and the products intend to sell must also be registered in this system. Thus, when selling products to a customer registered in this system, the processes related to this use case take place. The customer first orders the required products and the user supply the ordered products. When the customer ordered products, the user issues the products and enters the system with the data. The customer then pays the user and the user gets that payment. The user prints an invoice containing all the details of the transaction and gives it to the customer to confirm the transaction. The customer obtains that invoice and keeps it with him as proof of the transaction. When selling products, the user saves the invoice in the system, and when the invoice saves, the system stock is also updated. When saving the invoice, the customer must provide his details and product details. The user also has the ability to search and print previously saved invoices in the system.

02. Assumptions:

That the customer registered in this system before selling products to the customer and products that intend to sell are also registered in this system.