

## **Appendix-2**

### **Source Code**

#### **Login Form**

```
package java_inventory_application;

import java.awt.Dimension;
import java.awt.Font;
import java.awt.font.TextAttribute;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.Map;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JFrame;
import javax.swing.JOptionPane;

public class Login_Form extends javax.swing.JFrame {

    /**
     * Creates new form Login_Form
     */
    public Login_Form() {
        initComponents();

        setLocationRelativeTo(null);

        // UNDERLINE the form title
        Font font = jLabel_Form_Title.getFont();
        Map attributes = font.getAttributes();
        attributes.put(TextAttribute.UNDERLINE, TextAttribute.UNDERLINE_ON);
```

```

jLabel_Form_Title.setFont(font.deriveFont(attributes));
}

/**
 * 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();
    jLabel2 = new javax.swing.JLabel();
    jLabel_Form_Title = new javax.swing.JLabel();
    jTextField_Username = new javax.swing.JTextField();
    jPasswordField_UserPass = new javax.swing.JPasswordField();
    jButton_LOGIN = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

    jPanel1.setBackground(new java.awt.Color(247, 42, 49));

    jLabel1.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
    jLabel1.setForeground(new java.awt.Color(255, 255, 255));
    jLabel1.setText("Username:");

    jLabel2.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
    jLabel2.setForeground(new java.awt.Color(255, 255, 255));
    jLabel2.setText("Password:");

    jLabel_Form_Title.setFont(new java.awt.Font("Arial", 0, 36)); // NOI18N

```

```
jLabel_Form_Title.setForeground(new java.awt.Color(255, 255, 255));

jLabel_Form_Title.setText("Inventory Login");

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


jTextField_Username.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jTextField_Username.addActionListener(new java.awt.event.ActionListener() {

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

        jTextField_UsernameActionPerformed(evt);

    }

});


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


jButton_LOGIN.setBackground(new java.awt.Color(0, 255, 0));

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

jButton_LOGIN.setForeground(new java.awt.Color(255, 255, 255));

jButton_LOGIN.setText("GO!");

jButton_LOGIN.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));

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

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

        jButton_LOGINActionPerformed(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()

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

                .add(jLabel_Form_Title)

                .add(jPasswordField_UserPass)

                .add(jTextField_Username)

                .add(jButton_LOGIN)

            )

            .addContainerGap(161, true)

        )

        .addGroup(jPanel1Layout.createSequentialGroup()

            .add(jButton_EXIT)

            .addContainerGap(161, true)

        )

);

jLabel_Form_Title.setText("Inventory Login");
```

```

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addGap(140, 140, 140)

        .addComponent(jButton_LOGIN, javax.swing.GroupLayout.PREFERRED_SIZE, 295,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addGap(77, 77, 77)

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

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addComponent(jLabel1)

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

        .addComponent(jTextField_Username, javax.swing.GroupLayout.PREFERRED_SIZE, 202,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addComponent(jLabel2)

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

        .addComponent(jPasswordField_UserPass, javax.swing.GroupLayout.PREFERRED_SIZE, 202,
javax.swing.GroupLayout.PREFERRED_SIZE))))))

        .addContainerGap(153, Short.MAX_VALUE))

    );

    jPanel1Layout.setVerticalGroup(

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

    .addGroup(jPanel1Layout.createSequentialGroup())

    .addContainerGap()

    .addComponent(jLabel_Form_Title)

    .addGap(62, 62, 62)

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

    .addComponent(jLabel1)

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

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

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

    .addComponent(jLabel2)

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

    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 37, Short.MAX_VALUE)

```

```

        .addComponent(jButton_LOGIN, javax.swing.GroupLayout.PREFERRED_SIZE, 44,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(43, 43, 43))

);

```

```

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();

```

```

} // </editor-fold>

```

```

// button login form

```

```

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

```

```

    PreparedStatement ps;

```

```

    ResultSet rs;

```

```

    try {

```

```

        ps = CLASS.DB_INFO.getConnection().prepareStatement("SELECT `username`, `password`, `user_type`
FROM `users` WHERE `username` = ? AND `password` = ?");

```

```

        ps.setString(1, jTextField_Username.getText());

```

```

        ps.setString(2, String.valueOf(jPasswordField_UserPass.getPassword()));

```

```

        rs = ps.executeQuery();

```

```

if(rs.next()){

    Home_Form homeForm = new Home_Form();

    if(rs.getString("user_type").equals("user"))
    {
        homeForm.jMenu5_USER_.setVisible(false);
    }

    homeForm.pack();
    homeForm.setExtendedState(homeForm.getExtendedState() | JFrame.MAXIMIZED_BOTH);
    Dimension r = homeForm.getBounds().getSize();
    homeForm.jLabel_BackgroundImage.setPreferredSize(r);
    homeForm.setVisible(true);

    homeForm.setLocationRelativeTo(null);
    homeForm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    this.dispose();

}else{
    JOptionPane.showMessageDialog(null, "invalid username or password", "Login Error", 2);
}

} catch (SQLException ex) {
    Logger.getLogger(Login_Form.class.getName()).log(Level.SEVERE, null, ex);
}

}

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

```

```

// TODO add your handling code here:
}

/**
 * @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 {
        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(Login_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(Login_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (IllegalAccessException ex) {
        java.util.logging.Logger.getLogger(Login_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
        java.util.logging.Logger.getLogger(Login_Form.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 Login_Form().setVisible(true);

    }

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton_LOGIN;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel_Form_Title;

private javax.swing.JPanel jPanel1;

private javax.swing.JPasswordField jPasswordField_UserPass;

private javax.swing.JTextField jTextField_Username;

// End of variables declaration
}

```

## **Home Form**

```

package java_inventory_application;

import javax.swing.ImageIcon;

import javax.swing.JFrame;

public class Home_Form extends javax.swing.JFrame {

    /**
     * Creates new form Home_Form
     */

    public Home_Form() {

        initComponents();
    }
}

```



```

        ImageIcon imgThisImg = new ImageIcon("src\\images\\satya.png");

        JLabel_BackgroundImage.setIcon(imgThisImg);

    }

```

```

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

    JLabel_BackgroundImage = new javax.swing.JLabel();
    JMenuBar1 = new javax.swing.JMenuBar();
    JMenu_ORDER_ = new javax.swing.JMenu();
    JMenu_PRODUCT_ = new javax.swing.JMenu();
    JMenu_CATEGORY_ = new javax.swing.JMenu();
    JMenu5_USER_ = new javax.swing.JMenu();
    JMenu_CUSTOMER_ = new javax.swing.JMenu();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

    JMenu_ORDER_.setBackground(new java.awt.Color(27, 68, 99));
    JMenu_ORDER_.setForeground(new java.awt.Color(255, 255, 255));
    JMenu_ORDER_.setText(" BILL & ORDER  |");
    JMenu_ORDER_.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
    JMenu_ORDER_.setFont(new java.awt.Font("Segoe UI", 1, 20)); // NOI18N
    JMenu_ORDER_.setOpaque(true);
    JMenu_ORDER_.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {

```

```

        jMenu_ORDER_MouseClicked(evt);
    }
});

jMenuBar1.add(jMenu_ORDER_);


jMenu_PRODUCT_.setBackground(new java.awt.Color(27, 68, 99));
jMenu_PRODUCT_.setForeground(new java.awt.Color(255, 255, 255));
jMenu_PRODUCT_.setText(" PRODUCT |");
jMenu_PRODUCT_.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jMenu_PRODUCT_.setFont(new java.awt.Font("Segoe UI", 1, 20)); // NOI18N
jMenu_PRODUCT_.setOpaque(true);
jMenu_PRODUCT_.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jMenu_PRODUCT_MouseClicked(evt);
    }
});

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

jMenuBar1.add(jMenu_PRODUCT_);


jMenu_CATEGORY_.setBackground(new java.awt.Color(27, 68, 99));
jMenu_CATEGORY_.setForeground(new java.awt.Color(255, 255, 255));
jMenu_CATEGORY_.setText("PRODUCT TYPE |");
jMenu_CATEGORY_.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jMenu_CATEGORY_.setFont(new java.awt.Font("Segoe UI", 1, 20)); // NOI18N
jMenu_CATEGORY_.setOpaque(true);
jMenu_CATEGORY_.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jMenu_CATEGORY_MouseClicked(evt);
    }
});

```

```

});

jMenuBar1.add(jMenu_CATEGORY_);


jMenu5_USER_.setBackground(new java.awt.Color(27, 68, 99));
jMenu5_USER_.setForeground(new java.awt.Color(255, 255, 255));
jMenu5_USER_.setText("  USERS  |");
jMenu5_USER_.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jMenu5_USER_.setFont(new java.awt.Font("Segoe UI", 1, 20)); // NOI18N
jMenu5_USER_.setOpaque(true);
jMenu5_USER_.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jMenu5_USER_MouseClicked(evt);
    }
});

jMenuBar1.add(jMenu5_USER_);


jMenu_CUSTOMER_.setBackground(new java.awt.Color(27, 68, 99));
jMenu_CUSTOMER_.setForeground(new java.awt.Color(255, 255, 255));
jMenu_CUSTOMER_.setText("  BUYERS  ");
jMenu_CUSTOMER_.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
jMenu_CUSTOMER_.setFont(new java.awt.Font("Segoe UI", 1, 20)); // NOI18N
jMenu_CUSTOMER_.setOpaque(true);
jMenu_CUSTOMER_.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jMenu_CUSTOMER_MouseClicked(evt);
    }
});

jMenuBar1.add(jMenu_CUSTOMER_);


setJMenuBar(jMenuBar1);


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

```

```

        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel_BackgroundImage, javax.swing.GroupLayout.DEFAULT_SIZE, 1200,
Short.MAX_VALUE)
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addComponent(jLabel_BackgroundImage, javax.swing.GroupLayout.PREFERRED_SIZE, 750,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(0, 0, Short.MAX_VALUE))
        );

        pack();
    } // </editor-fold>

```

```

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

}

```

// open the product form

```

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

    MANAGE_PRODUCTS_FORM productForm = new MANAGE_PRODUCTS_FORM();
    productForm.pack();
    productForm.setVisible(true);
    productForm.setLocationRelativeTo(null);
    productForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

}

```

// open the category form

```

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

```

```
MANAGE_CATEGORIES_FORM categoryForm = new MANAGE_CATEGORIES_FORM();

    categoryForm.pack();

    categoryForm.setVisible(true);

    categoryForm.setLocationRelativeTo(null);

    categoryForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

}
```

```
// open the customer form
```

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

```
    MANAGE_CUSTOMERS_FORM customerForm = new MANAGE_CUSTOMERS_FORM();

    customerForm.pack();

    customerForm.setVisible(true);

    customerForm.setLocationRelativeTo(null);

    customerForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

}
```

```
// open the order form
```

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

```
    MANAGE_ORDERS_FORM orderForm = new MANAGE_ORDERS_FORM();

    orderForm.pack();

    orderForm.setVisible(true);

    orderForm.setLocationRelativeTo(null);

    orderForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

}
```

```
// open the user form
```

```
private void jMenuItem5_USER_MouseClicked(java.awt.event.MouseEvent evt) {
```

```

MANAGE_USERS_FORM userForm = new MANAGE_USERS_FORM();

    userForm.pack();

    userForm.setVisible(true);

    userForm.setLocationRelativeTo(null);

    userForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

}

/**
 * @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 {
        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(Home_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(Home_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (IllegalAccessException ex) {
        java.util.logging.Logger.getLogger(Home_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

```

```
        java.util.logging.Logger.getLogger(Home_Form.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 Home_Form().setVisible(true);
        }
    });
}
```

```
// Variables declaration - do not modify
public javax.swing.JLabel jLabel_BackgroundImage;
public javax.swing.JMenu jMenuItem5_USER_;
private javax.swing.JMenuBar jMenuItemBar1;
private javax.swing.JMenu jMenuItem_CATEGORY_;
private javax.swing.JMenu jMenuItem_CUSTOMER_;
private javax.swing.JMenu jMenuItem_ORDER_;
private javax.swing.JMenu jMenuItem_PRODUCT_;
// End of variables declaration
}
```

## **Edit Product Form**

```
package java_inventory_application;
```

```
import java.io.IOException;
import java.nio.file.Files;
import java.nio.file.Path;
import java.nio.file.Paths;
import java.util.HashMap;
import java.util.logging.Level;
```

```

import java.util.logging.Logger;

import javax.swing.JOptionPane;

public class Edit_Product_Form extends javax.swing.JFrame {

    /**
     * Creates new form EDIT_PRODUCT_FORM
     */

    // get the image path
    String imagePth = null;

    // get the id of the product to edit from the manage product form
    public Integer productId;

    public Edit_Product_Form() {
        initComponents();

        // populate the combobox with key and value
        BindCombo();
    }

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

        jPanel1 = new javax.swing.JPanel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jTextField_Price = new javax.swing.JTextField();
        jLabel3 = new javax.swing.JLabel();
        jTextField_Quantity = new javax.swing.JTextField();

```



```
jLabel4 = new javax.swing.JLabel();

jTextField_Name = new javax.swing.JTextField();

jLabel_Picture = new javax.swing.JLabel();

jButton_BROWSE_PIC = new javax.swing.JButton();

jComboBox1 = new javax.swing.JComboBox<>();

jButton_EDIT_PRODUCT = new javax.swing.JButton();

jButton_CANCEL = new javax.swing.JButton();

jLabel8 = new javax.swing.JLabel();


setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);


jPanel1.setBackground(new java.awt.Color(27, 68, 99));


jLabel5.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel5.setForeground(new java.awt.Color(255, 255, 255));
jLabel5.setText("Product Type:");


jLabel6.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel6.setForeground(new java.awt.Color(255, 255, 255));
jLabel6.setText("Price per Unit:");


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


jLabel3.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel3.setForeground(new java.awt.Color(255, 255, 255));
jLabel3.setText("Quantity:");


jTextField_Quantity.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jTextField_Quantity.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyTyped(java.awt.event.KeyEvent evt) {
        jTextField_QuantityKeyTyped(evt);
    }
});
```

```
jLabel4.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel4.setForeground(new java.awt.Color(255, 255, 255));
jLabel4.setText("Product Name:");

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

jLabel_Picture.setBackground(new java.awt.Color(255, 255, 204));
jLabel_Picture.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel_Picture.setForeground(new java.awt.Color(255, 255, 255));
jLabel_Picture.setOpaque(true);

jButton_BROWSE_PIC.setText("Select a Picture");
jButton_BROWSE_PIC.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_BROWSE_PICActionPerformed(evt);
    }
});

jButton_EDIT_PRODUCT.setBackground(new java.awt.Color(128, 128, 128));
jButton_EDIT_PRODUCT.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jButton_EDIT_PRODUCT.setForeground(new java.awt.Color(255, 255, 255));
jButton_EDIT_PRODUCT.setText("Edit");
jButton_EDIT_PRODUCT.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_EDIT_PRODUCTActionPerformed(evt);
    }
});

jButton_CANCEL.setBackground(new java.awt.Color(128, 128, 128));
jButton_CANCEL.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jButton_CANCEL.setForeground(new java.awt.Color(255, 255, 255));
jButton_CANCEL.setText("Cancel");
```

```

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

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

        jButton_CANCELActionPerformed(evt);

    }

});

jLabel8.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel8.setForeground(new java.awt.Color(255, 255, 255));
jLabel8.setText("Product Picture:");

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)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .add(jPanel1Layout.createSequentialGroup()
                            .add(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                .add(jLabel3)
                                .add(jLabel6, javax.swing.GroupLayout.Alignment.TRAILING)
                                .add(jLabel4, javax.swing.GroupLayout.Alignment.TRAILING)
                                .add(jLabel8, javax.swing.GroupLayout.Alignment.TRAILING))
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .add(jPanel1Layout.createSequentialGroup()
                            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                .add(jLabel5)
                                .add(jLabel7, javax.swing.GroupLayout.Alignment.TRAILING)
                                .add(jLabel9, javax.swing.GroupLayout.Alignment.TRAILING))
                            .add(jLabel1, javax.swing.GroupLayout.Alignment.TRAILING)
                        .add(jLabel2, javax.swing.GroupLayout.Alignment.TRAILING)
                    )
                )
            )
        )
    );
jPanel1Layout.setVerticalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .add(jLabel1)
            .add(jLabel2)
            .add(jLabel3)
            .add(jLabel4)
            .add(jLabel5)
            .add(jLabel6)
            .add(jLabel7)
            .add(jLabel8)
            .add(jLabel9)
        )
    );

```

```

        .addComponent(jTextField_Name, javax.swing.GroupLayout.PREFERRED_SIZE, 202,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addComponent(jLabel_Picture, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 202, javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addComponent(jButton_BROWSE_PIC, javax.swing.GroupLayout.PREFERRED_SIZE, 202,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addComponent(jLabel5)

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

        .addComponent(jComboBox1, javax.swing.GroupLayout.PREFERRED_SIZE, 202,
javax.swing.GroupLayout.PREFERRED_SIZE))))

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addContainerGap()

        .addComponent(jButton_CANCEL, javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE)

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

        .addComponent(jButton_EDIT_PRODUCT, javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE)))

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

);

jPanel1Layout.setVerticalGroup(

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

.addGroup(jPanel1Layout.createSequentialGroup())

.addGap(28, 28, 28)

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

.addComponent(jLabel5)

.addComponent(jComboBox1, javax.swing.GroupLayout.PREFERRED_SIZE, 27, Short.MAX_VALUE))

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

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

.addComponent(jLabel4)

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

.addGap(18, 18, 18)

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

.addComponent(jLabel3)

```

```

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

        .addGap(18, 18, 18)

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

        .addComponent(jLabel6)

        .addComponent(jTextField_Price, 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)

        .addComponent(jLabel8)

        .addComponent(jLabel_Picture, javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

        .addComponent(jButton_BROWSE_PIC)

        .addGap(18, 18, 18)

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

        .addComponent(jButton_CANCEL, javax.swing.GroupLayout.PREFERRED_SIZE, 53,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(jButton_EDIT_PRODUCT, javax.swing.GroupLayout.PREFERRED_SIZE, 53,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(129, 129, 129))
    );

```

```

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

    // create the methode to fill combobox with keys and values

    public void BindCombo(){

        CLASS.Category category = new CLASS.Category();

        HashMap<String, Integer> map = category.populateCombo();

        for(String s : map.keySet()){

            jComboBox1.addItem(s);

        }

    }

    // browse image button
    private void jButton_BROWSE_PICActionPerformed(java.awt.event.ActionEvent evt) {

        CLASS.Myfunc mf = new CLASS.Myfunc();
        imagePth = mf.browseImage(jLabel_Picture);
        System.out.println(imagePth);

    }

    // update product
    private void jButton_EDIT_PRODUCTActionPerformed(java.awt.event.ActionEvent evt) {

        CLASS.Product product;

        CLASS.Category category = new CLASS.Category();

```

```

HashMap<String, Integer> map = category.populateCombo();

String name = jTextField_Name.getText();

String price;

Integer quantity;

Integer catId;

byte[] img;

if(imagePth != null){// update the image to
    try {
        if(verifFields())
        {
            Path path = Paths.get(imagePth);
            img = Files.readAllBytes(path);

            quantity = Integer.valueOf(jTextField_Quantity.getText());

            // get the category id
            catId = map.get(jComboBox1.getSelectedItem().toString());
            price = jTextField_Price.getText();

            product = new CLASS.Product(productId,name,catId,price,img,quantity,null);

            CLASS.Product.updateProduct(product, true);
        }
    }
    catch (IOException ex) {
        Logger.getLogger(Edit_Product_Form.class.getName()).log(Level.SEVERE, null, ex);
    }
}
}else{ // not updating the image to

```

```

        if(verifFields())
        {
            quantity = Integer.valueOf(jTextField_Quantity.getText());
            catId = map.get(jComboBox1.getSelectedItem().toString());
            price = jTextField_Price.getText();

            product = new CLASS.Product(productId,name,catId,price,null,quantity,null);
            CLASS.Product.updateProduct(product, false);
        }
    }

}

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

    System.exit(0);

}

// Allow OnLy Numbers on key typed
private void jTextField_QuantityKeyTyped(java.awt.event.KeyEvent evt) {

    if(!Character.isDigit(evt.getKeyChar())){
        evt.consume();
    }

}

// verify the empty fields
public boolean verfFields()
{

```



```

        if(jTextField_Quantity.getText().equals("") || jTextField_Price.getText().equals("") ||
jTextField_Name.getText().equals(""))

    {

        JOptionPane.showMessageDialog(null, "One Or More Fields Are Empty", "Empty Fields", 0);

        return false;

    }

    else{

        try{

            Integer.valueOf(jTextField_Quantity.getText());

            Double.valueOf(jTextField_Price.getText());

            return true;

        }catch(NumberFormatException ex){

            JOptionPane.showMessageDialog(null, ex.getMessage(), "Invalid Values", 0);

            return false;

        }

    }

}

/**
 * @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 {

        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(Edit_Product_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

    } catch (InstantiationException ex) {

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

    } catch (IllegalAccessException ex) {

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

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Edit_Product_Form.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 Edit_Product_Form().setVisible(true);
    }
});
}

// Variables declaration - do not modify
private javax.swing.JButton jButton_BROWSE_PIC;
private javax.swing.JButton jButton_CANCEL;
private javax.swing.JButton jButton_EDIT_PRODUCT;
public javax.swing.JComboBox<String> jComboBox1;
private javax.swing.JLabel jLabel3;

```

```
private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel5;

private javax.swing.JLabel jLabel6;

private javax.swing.JLabel jLabel8;

public javax.swing.JLabel jLabel_Picture;

private javax.swing.JPanel jPanel1;

public javax.swing.JTextField jTextField_Name;

public javax.swing.JTextField jTextField_Price;

public javax.swing.JTextField jTextField_Quantity;

// End of variables declaration
}
```

## **All Orders Form**

```
package java_inventory_application;

import CLASS.THE_ORDER;

import java.awt.Color;

import java.awt.Font;

import java.io.BufferedWriter;

import java.io.File;

import java.io.FileWriter;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.ArrayList;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.swing.JOptionPane;

import javax.swing.table.DefaultTableModel;

import javax.swing.table.JTableHeader;
```

```
public class All_Orders_Form extends javax.swing.JFrame {
```

```
    /**
```

```
     * Creates new form All_Orders_Form
```

```
     */
```

```
    public All_Orders_Form() {
```

```
        initComponents();
```

```
        populateOrderJtable();
```

```
        jTable_ORDERS.setShowGrid(true);
```

```
        jTable_ORDERS.setGridColor(Color.YELLOW);
```

```
        jTable_ORDERS.setSelectionBackground(Color.gray);
```

```
        JTableHeader th = jTable_ORDERS.getTableHeader();
```

```
        th.setFont(new Font("Tahoma", Font.PLAIN, 16));
```

```
    }
```

```
    public void populateOrderJtable(){
```

```
        CLASS.THE_ORDER ord = new CLASS.THE_ORDER();
```

```
        ArrayList<CLASS.THE_ORDER> OrderList = ord.ordersList();
```

```
        String[] colNames = {"Id", "Date", "Customer"};
```

```
        Object[][] rows = new Object[OrderList.size()][3];
```

```
        DefaultTableModel model = (DefaultTableModel) jTable_ORDERS.getModel();
```

```

        for(int i = 0; i < OrderList.size(); i++){
            rows[i][0] = OrderList.get(i).getId();
            rows[i][1] = OrderList.get(i).getOrderDate();
            rows[i][2] = OrderList.get(i).getCustomerId();
        }

        model.setDataVector(rows, colNames);

        jTable_ORDERS.setModel(model);
        jTable_ORDERS.setRowHeight(45);
    }

/**
 * 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();
    jScrollPane1 = new javax.swing.JScrollPane();
    jTable_ORDERS = new javax.swing.JTable();
    jButton_PRINT_ORDER = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

    jPanel1.setBackground(new java.awt.Color(247, 42, 49));

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

```

```

new Object [][] {

},

new String [] {

}

});

jScrollPane1.setViewportViewView(jTable_ORDERS);


jButton_PRINT_ORDER.setBackground(new java.awt.Color(128, 128, 128));
jButton_PRINT_ORDER.setFont(new java.awt.Font("Tahoma", 1, 14)); // NOI18N
jButton_PRINT_ORDER.setForeground(new java.awt.Color(255, 255, 255));
jButton_PRINT_ORDER.setText("Print Selected Order");
jButton_PRINT_ORDER.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_PRINT_ORDERActionPerformed(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)
                .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jButton_PRINT_ORDER, javax.swing.GroupLayout.PREFERRED_SIZE, 449,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addContainerGap(10, true))
        .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(10, 10, 10))
);
jPanel1Layout.setVerticalGroup(
    jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()
            .addGap(10, 10, 10)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,

```

```

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addContainerGap(31, Short.MAX_VALUE)

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

        .addGap(18, 18, 18)

        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 372,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18))
    );

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

```

```

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

```

```

    Connection connection = CLASS.DB_INFO.getConnection();

```

```

    String query = "SELECT o.id, c.first_name, c.last_name, o.order_date from order_tbl o, customer c where
o.customer_id = c.id and o.id = ? order by o.id desc";

```

```

    String query2 = "select odt.product_id, prd.name, odt.quantity, odt.price, odt.total from order_detail odt,
product prd where odt.product_id = prd.id and odt.order_id = ?";

```

```

    ResultSet rs;

```

```

PreparedStatement ps;

ResultSet rs2;

PreparedStatement ps2;

try {

    Integer index = jTable_ORDERS.getSelectedRow();

    ps = connection.prepareStatement(query);

    ps.setInt(1, Integer.valueOf(jTable_ORDERS.getValueAt(index, 0).toString()));

    rs = ps.executeQuery();

    //the file path

    File file = new File(System.getProperty("user.home") + "\\OrderFile.txt");

    //if the file not exist create one

    if(!file.exists()){

        file.createNewFile();

    }

    FileWriter fw = new FileWriter(file.getAbsolutePath());

    BufferedWriter bw = new BufferedWriter(fw);

    // Integer ID, String NAME, Integer CATEGORY_ID, String PRICE, byte[] PICTURE, Integer QUANTITY,
String DESCRIPTION

    //loop for jtable rows

    if(rs.next()){

        bw.write("ORDER ID : " + rs.getInt("o.id")+"\t" + "DATE : " + rs.getDate("o.order_date"));

        bw.write(System.lineSeparator());

        bw.write(System.lineSeparator());

        bw.write("CUSTOMER : "+rs.getString("c.first_name")+" "+rs.getString("c.last_name"));

        bw.write(System.lineSeparator());

```



```

        bw.write(System.lineSeparator());

bw.write("_____");
_____");

        bw.write(System.lineSeparator());
        //bw.write("\n_____\n");

        ps2 = connection.prepareStatement(query2);
        ps2.setInt(1, Integer.valueOf(jTable_ORDERS.getValueAt(index, 0).toString()));

        rs2 = ps2.executeQuery();

        Integer quantity;
        double price;
        double quantity_X_price;

        while(rs2.next()){

            quantity = rs2.getInt("odt.quantity");
            price = Double.valueOf(rs2.getString("odt.price"));
            quantity_X_price = quantity * Double.valueOf(rs2.getString("odt.price"));

            bw.write("PRODUCT : " + rs2.getString("prd.name")+"    " + "QUANTITY : " + quantity + "    " + "PRICE
: " + price+"    " + "Quantity X Price : " + quantity_X_price);

            bw.write(System.lineSeparator());

bw.write("_____");
_____");

        bw.write(System.lineSeparator());

    }

    bw.write(System.lineSeparator());

```

```

        bw.write("ORDER TOTAL AMOUNT : " +
CLASS.THE_ORDER.getOrderTotalAmount(Integer.valueOf(jTable_ORDERS.getValueAt(index, 0).toString())));
    }

    //close BufferedWriter
    bw.close();

    //close FileWriter
    fw.close();

    JOptionPane.showMessageDialog(null, "Data Exported");

} catch (Exception ex) {
    Logger.getLogger(All_Orders_Form.class.getName()).log(Level.SEVERE, null, ex);
}

}

/**
 * @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 {
        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(All_Orders_Form.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
    }
}

```

```

    } catch (InstantiationException ex) {

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

    } catch (IllegalAccessException ex) {

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

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

        java.util.logging.Logger.getLogger(All_Orders_Form.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 All_Orders_Form().setVisible(true);

    }

});

}

```

```

// Variables declaration - do not modify

private javax.swing.JButton jButton_PRINT_ORDER;

private javax.swing.JPanel jPanel1;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JTable jTable_ORDERS;

// End of variables declaration

}

```

## **Add Product Form**

```

package java_inventory_application;

```

```

import java.io.IOException;

import java.nio.file.Files;

import java.nio.file.Path;

```

```

import java.nio.file.Paths;

import java.util.HashMap;

import javax.swing.JOptionPane;


public class Add_Product_Form extends javax.swing.JFrame {


    /**
     * Creates new form Add_Product_Form
     */


    // get the image path
    String imagePth = null;

    public Add_Product_Form() {
        initComponents();


        // populate the combobox with key and value
        BindCombo();
    }


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

        jPanel1 = new javax.swing.JPanel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jTextField_Price = new javax.swing.JTextField();
        jLabel3 = new javax.swing.JLabel();
        jTextField_Quantity = new javax.swing.JTextField();
        jLabel4 = new javax.swing.JLabel();
        jTextField_Name = new javax.swing.JTextField();

```

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

jButton_BROWSE_PIC = new javax.swing.JButton();

jComboBox1 = new javax.swing.JComboBox<>();

jButton_ADD_PRODUCT = new javax.swing.JButton();

jButton_CANCEL = new javax.swing.JButton();

jLabel8 = new javax.swing.JLabel();


setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);


jPanel1.setBackground(new java.awt.Color(27, 68, 99));


jLabel5.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel5.setForeground(new java.awt.Color(255, 255, 255));
jLabel5.setText("Product Type:");


jLabel6.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel6.setForeground(new java.awt.Color(255, 255, 255));
jLabel6.setText("Price per Unit:");


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


jLabel3.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel3.setForeground(new java.awt.Color(255, 255, 255));
jLabel3.setText("Quantity of Product:");


jTextField_Quantity.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jTextField_Quantity.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyTyped(java.awt.event.KeyEvent evt) {
        jTextField_QuantityKeyTyped(evt);
    }
});


jLabel4.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
```

```
jLabel4.setForeground(new java.awt.Color(255, 255, 255));

jLabel4.setText("Product Name:");


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


jLabel_Picture.setBackground(new java.awt.Color(255, 255, 204));
jLabel_Picture.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel_Picture.setForeground(new java.awt.Color(255, 255, 255));
jLabel_Picture.setOpaque(true);


jButton_BROWSE_PIC.setText("Select a Picture");
jButton_BROWSE_PIC.setToolTipText("");
jButton_BROWSE_PIC.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_BROWSE_PICActionPerformed(evt);
    }
});


jButton_ADD_PRODUCT.setBackground(new java.awt.Color(128, 128, 128));
jButton_ADD_PRODUCT.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jButton_ADD_PRODUCT.setForeground(new java.awt.Color(255, 255, 255));
jButton_ADD_PRODUCT.setText("Add");
jButton_ADD_PRODUCT.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_ADD_PRODUCTActionPerformed(evt);
    }
});


jButton_CANCEL.setBackground(new java.awt.Color(128, 128, 128));
jButton_CANCEL.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jButton_CANCEL.setForeground(new java.awt.Color(255, 255, 255));
jButton_CANCEL.setText("Cancel");
jButton_CANCEL.addActionListener(new java.awt.event.ActionListener() {
```

```

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

            jButton_CANCELActionPerformed(evt);

        }

    });

    jLabel8.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
    jLabel8.setForeground(new java.awt.Color(255, 255, 255));
    jLabel8.setText("Product Picture:");

    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()
                .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel3)
                    .addComponent(jLabel6, javax.swing.GroupLayout.Alignment.TRAILING)
                    .addComponent(jLabel4, javax.swing.GroupLayout.Alignment.TRAILING)
                    .addComponent(jLabel8, javax.swing.GroupLayout.Alignment.TRAILING)
                    .addComponent(jButton_CANCEL, javax.swing.GroupLayout.Alignment.TRAILING,
                        javax.swing.GroupLayout.PREFERRED_SIZE, 149, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addContainerGap(18, true))
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(18, 18, 18)
                .addComponent(jLabel5)
                .addContainerGap())
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(18, 18, 18)
                .addComponent(jLabel7)
                .addContainerGap())
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(18, 18, 18)
                .addComponent(jLabel2)
                .addContainerGap())
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(18, 18, 18)
                .addComponent(jLabel1)
                .addContainerGap())
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(18, 18, 18)
                .addComponent(jTextField_Quantity)
                .addContainerGap())
        )
    );
}

```

```

        .addComponent(jTextField_Price)

        .addComponent(jTextField_Name, javax.swing.GroupLayout.PREFERRED_SIZE, 202,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addComponent(jComboBox1, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

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

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addGap(41, 41, 41)

        .addComponent(jButton_ADD_PRODUCT, javax.swing.GroupLayout.PREFERRED_SIZE,
149, javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addComponent(jButton_BROWSE_PIC, javax.swing.GroupLayout.PREFERRED_SIZE, 202,
javax.swing.GroupLayout.PREFERRED_SIZE)))

        .addGroup(javax.swing.GroupLayout.Alignment.LEADING, jPanel1Layout.createSequentialGroup())

        .addGap(35, 35, 35)

        .addComponent(jLabel5)))

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

jPanel1Layout.setVerticalGroup(

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

.addGroup(jPanel1Layout.createSequentialGroup())

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

.addGroup(jPanel1Layout.createSequentialGroup())

.addGap(32, 32, 32)

.addComponent(jLabel5)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED, 22,
Short.MAX_VALUE))

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup())

.addContainerGap()

.addComponent(jComboBox1, javax.swing.GroupLayout.DEFAULT_SIZE, 43, Short.MAX_VALUE)

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

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

.addComponent(jLabel4)

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

.addGap(18, 18, 18)

```



```

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

            .addComponent(jLabel3)

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

        .addGap(18, 18, 18)

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

            .addComponent(jLabel6)

            .addComponent(jTextField_Price, 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)

            .addComponent(jLabel8)

            .addComponent(jLabel_Picture, javax.swing.GroupLayout.PREFERRED_SIZE, 149,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

        .addComponent(jButton_BROWSE_PIC)

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

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

            .addComponent(jButton_CANCEL, javax.swing.GroupLayout.PREFERRED_SIZE, 53,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addComponent(jButton_ADD_PRODUCT, javax.swing.GroupLayout.PREFERRED_SIZE, 53,
javax.swing.GroupLayout.PREFERRED_SIZE))

        .addGap(126, 126, 126))
    );

```

```

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

layout.setHorizontalGroup(

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

        .addGroup(layout.createSequentialGroup()

            .addGap(11, 11, 11)

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

            .addContainerGap())

        );

```

```

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

    // close the button
    private void jButton_CANCELActionPerformed(java.awt.event.ActionEvent evt) {

        System.exit(0);

    }

    // button insert
    private void jButton_ADD_PRODUCTActionPerformed(java.awt.event.ActionEvent evt) {

        CLASS.Product product;

        CLASS.Category category = new CLASS.Category();

        HashMap<String, Integer> map = category.populateCombo();

        String name = jTextField_Name.getText();

        String price;

        Integer quantity;

        Integer catId;

        byte[] img;

        if(imagePth != null){

            try {

```

```

if(verifFields())
{
    quantity = Integer.valueOf(jTextField_Quantity.getText());

    // get the category id
    catId = map.get(jComboBox1.getSelectedItem().toString());
    price = jTextField_Price.getText();

    Path path = Paths.get(imagePth);
    img = Files.readAllBytes(path);

    product = new CLASS.Product(null,name,catId,price,img,quantity,null);

    CLASS.Product.insertProduct(product);
}
}
catch (IOException ex) {
    JOptionPane.showMessageDialog(null,ex.getMessage());
}
}else{
    JOptionPane.showMessageDialog(null, "You Must Select A Profile Picture");
}
}

// browse image button
private void jButton_BROWSE_PICActionPerformed(java.awt.event.ActionEvent evt) {

    CLASS.Myfunc mf = new CLASS.Myfunc();
    imagePth = mf.browseImage(jLabel_Picture);
    System.out.println(imagePth);

}

```

```

// Allow Only Numbers on key typed

private void jTextField_QuantityKeyTyped(java.awt.event.KeyEvent evt) {

    if(!Character.isDigit(evt.getKeyChar())){
        evt.consume();
    }
}

// create a methode to fill combobox with keys and values
public void BindCombo(){

    CLASS.Category category = new CLASS.Category();

    HashMap<String, Integer> map = category.populateCombo();

    for(String s : map.keySet()){

        jComboBox1.addItem(s);

    }

}

// verify the empty fields
public boolean verifFields()
{

    if(jTextField_Quantity.getText().equals("") || jTextField_Price.getText().equals("") ||
jTextField_Name.getText().equals(""))
    {

        JOptionPane.showMessageDialog(null, "One Or More Fields Are Empty", "Empty Fields", 0);
    }
}

```

```

        return false;
    }
    else{
        try{
            Integer.valueOf(jTextField_Quantity.getText());

            Double.valueOf(jTextField_Price.getText());

            return true;
        }catch(NumberFormatException ex){
            JOptionPane.showMessageDialog(null, ex.getMessage(), "Invalid Values", 0);

            return false;
        }
    }
}

```

```

/**
 * @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 {
        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(Add_Product_Form.class.getName()).log(java.util.logging.Level.SEVERE, null,
ex);

    } catch (InstantiationException ex) {

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

    } catch (IllegalAccessException ex) {

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

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Add_Product_Form.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 Add_Product_Form().setVisible(true);
    }
});
}

// Variables declaration - do not modify
private javax.swing.JButton jButton_ADD_PRODUCT;
private javax.swing.JButton jButton_BROWSE_PIC;
private javax.swing.JButton jButton_CANCEL;
private javax.swing.JComboBox<String> jComboBox1;
private javax.swing.JLabel jLabel3;
private javax.swing.JLabel jLabel4;
private javax.swing.JLabel jLabel5;
private javax.swing.JLabel jLabel6;

```

```
private javax.swing.JLabel jLabel8;

private javax.swing.JLabel jLabel_Picture;

private javax.swing.JPanel jPanel1;

private javax.swing.JTextField jTextField_Name;

private javax.swing.JTextField jTextField_Price;

private javax.swing.JTextField jTextField_Quantity;

// End of variables declaration
}
```

## **Manage Categories Form**

```
package java_inventory_application;
```

```
import java.awt.Color;
import java.awt.Font;
import java.awt.Image;
import java.util.ArrayList;
import javax.swing.DefaultListModel;
import javax.swing.ImageIcon;
import javax.swing.JFrame;
import javax.swing.JOptionPane;
import javax.swing.table.DefaultTableModel;
import javax.swing.table.JTableHeader;
```

```
public class MANAGE_CATEGORIES_FORM extends javax.swing.JFrame {
```

```
    /**
```

```
     * Creates new form MANAGE_CATEGORIES_FORM
```

```
    */
```

```
    Integer position = 0;
```

```
    CLASS.Category category = new CLASS.Category();
```

```
    public MANAGE_CATEGORIES_FORM() {
```

```
        initComponents();
```

```

populateJtable();

try{
    navigation(position);
    jTable_CATEGORIES_MouseClicked(null);
}catch(Exception ex){

}

jTable_CATEGORIES_.setShowGrid(true);

jTable_CATEGORIES_.setGridColor(Color.YELLOW);

jTable_CATEGORIES_.setSelectionBackground(Color.gray);

JTableHeader th = jTable_CATEGORIES_.getTableHeader();

th.setFont(new Font("Tahoma", Font.PLAIN, 16));
}

// populate the jTable with categories 'id' & 'name' from database
public void populateJtable(){

    ArrayList<CLASS.Category> CategoryList = category.categoriesList();

    String[] colNames = {"Id", "Name"};

    Object[][] rows = new Object[CategoryList.size()][2];

    DefaultTableModel model = (DefaultTableModel) jTable_CATEGORIES_.getModel();

    for(int i = 0; i < CategoryList.size(); i++){

```



```

        rows[i][0] = CategoryList.get(i).getId();
        rows[i][1] = CategoryList.get(i).getName();
    }

    model.setDataVector(rows, colNames);

    jTable_CATEGORIES_.setModel(model);
    jTable_CATEGORIES_.setRowHeight(45);
}

// populate list with products in the selected category
public void populateProductsList(Integer categoryId){

    CLASS.Product prd = new CLASS.Product();

    ArrayList<CLASS.Product> ProductList = prd.productsInCategoryList(categoryId);
    DefaultListModel model = new DefaultListModel();

    for(int i = 0; i < ProductList.size(); i++){

        model.addElement(ProductList.get(i).getName());

    }
    jList_PRODUCTS_IN_CATEGORY.setModel(model);

}

/**
 * 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();

jScrollPane1 = new javax.swing.JScrollPane();

jTable\_CATEGORIES\_ = new javax.swing.JTable();

jScrollPane2 = new javax.swing.JScrollPane();

jList\_PRODUCTS\_IN\_CATEGORY = new javax.swing.JList<>();

jLabel1 = new javax.swing.JLabel();

jTextField\_CATEGORY\_ID = new javax.swing.JTextField();

jLabel4 = new javax.swing.JLabel();

jTextField\_CATEGORY\_NAME = new javax.swing.JTextField();

jButton\_INSERT\_CATEGORY\_ = new javax.swing.JButton();

jButton\_UPDATE\_CATEGORY\_ = new javax.swing.JButton();

jButton\_DELETE\_CATEGORY\_ = new javax.swing.JButton();

jButton\_NEXT\_ = new javax.swing.JButton();

jButton\_PREVIOUS\_ = new javax.swing.JButton();

jLabel5 = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jPanel1.setBackground(new java.awt.Color(149, 165, 166));

jTable\_CATEGORIES\_.setModel(new javax.swing.table.DefaultTableModel(  
new Object [][] {

},

},

new String [] {

}

```
));  
  
jTable_CATEGORIES_.addMouseListener(new java.awt.event.MouseAdapter() {  
    public void mouseClicked(java.awt.event.MouseEvent evt) {  
        jTable_CATEGORIES_MouseClicked(evt);  
    }  
});  
  
jScrollPane1.setViewportViewView(jTable_CATEGORIES_);  
  
  
jScrollPane2.setViewportViewView(jList_PRODUCTS_IN_CATEGORY);  
  
  
jLabel1.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N  
jLabel1.setForeground(new java.awt.Color(255, 255, 255));  
jLabel1.setText("ID:");  
  
  
jTextField_CATEGORY_ID.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
jTextField_CATEGORY_ID.setEnabled(false);  
  
  
jLabel4.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N  
jLabel4.setForeground(new java.awt.Color(255, 255, 255));  
jLabel4.setText("Type:");  
  
  
jTextField_CATEGORY_NAME.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
  
  
jButton_INSERT_CATEGORY_.setBackground(new java.awt.Color(128, 128, 128));  
jButton_INSERT_CATEGORY_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N  
jButton_INSERT_CATEGORY_.setForeground(new java.awt.Color(255, 255, 255));  
jButton_INSERT_CATEGORY_.setText("Insert New Product Type");  
jButton_INSERT_CATEGORY_.addActionListener(new java.awt.event.ActionListener() {  
    public void actionPerformed(java.awt.event.ActionEvent evt) {  
        jButton_INSERT_CATEGORY_ActionPerformed(evt);  
    }  
});
```

```

jButton_UPDATE_CATEGORY_.setBackground(new java.awt.Color(128, 128, 128));
jButton_UPDATE_CATEGORY_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_UPDATE_CATEGORY_.setForeground(new java.awt.Color(255, 255, 255));
jButton_UPDATE_CATEGORY_.setText("Edit Selected Product Type");
jButton_UPDATE_CATEGORY_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_UPDATE_CATEGORY_ActionPerformed(evt);
    }
});

```

```

jButton_DELETE_CATEGORY_.setBackground(new java.awt.Color(128, 128, 128));
jButton_DELETE_CATEGORY_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_DELETE_CATEGORY_.setForeground(new java.awt.Color(255, 255, 255));
jButton_DELETE_CATEGORY_.setText("Delete Selected Product Type");
jButton_DELETE_CATEGORY_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_DELETE_CATEGORY_ActionPerformed(evt);
    }
});

```

```

jButton_NEXT_.setBackground(new java.awt.Color(0, 0, 0));
jButton_NEXT_.setFont(new java.awt.Font("Tahoma", 1, 12)); // NOI18N
jButton_NEXT_.setForeground(new java.awt.Color(255, 255, 255));
jButton_NEXT_.setText(">>");
jButton_NEXT_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_NEXT_ActionPerformed(evt);
    }
});

```

```

jButton_PREVIOUS_.setBackground(new java.awt.Color(0, 0, 0));
jButton_PREVIOUS_.setFont(new java.awt.Font("Tahoma", 1, 12)); // NOI18N
jButton_PREVIOUS_.setForeground(new java.awt.Color(255, 255, 255));

```

```

jButton_PREVIOUS_.setText("<<");

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

jLabel5.setFont(new java.awt.Font("Arial", 1, 12)); // NOI18N
jLabel5.setForeground(new java.awt.Color(255, 255, 255));
jLabel5.setText(" Products In The Selected Product Type");


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()
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addGap(30, 30, 30)
                    .addComponent(jLabel1)
                    .addGap(10, 10, 10)
                    .addComponent(jTextField_CATEGORY_ID, javax.swing.GroupLayout.PREFERRED_SIZE, 172, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(10, 10, 10)
                    .addComponent(jLabel4)
                    .addGap(10, 10, 10)
                    .addComponent(jTextField_CATEGORY_NAME, javax.swing.GroupLayout.PREFERRED_SIZE, 172, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(10, 10, 10)
                    .addComponent(jButton_PREVIOUS_, javax.swing.GroupLayout.PREFERRED_SIZE, 100, javax.swing.GroupLayout.PREFERRED_SIZE)
                )
            )
        )
    );

```

```

        .addGap(37, 37, 37)

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

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

    .addGroup(jPanel1Layout.createSequentialGroup())

    .addContainerGap()

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

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

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

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

    .addGap(105, 105, 105)

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

        .addComponent(jLabel5)

        .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 280, Short.MAX_VALUE)

        .addComponent(jScrollPane2))

    .addGap(37, 37, 37))

);

jPanel1Layout.setVerticalGroup(

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

    .addGroup(jPanel1Layout.createSequentialGroup())

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

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addGap(45, 45, 45)

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

            .addComponent(jLabel1)

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

            .addComponent(jLabel4)

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

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

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

```

```

        .addComponent(jButton_PREVIOUS_)

        .addComponent(jButton_NEXT_))

    .addGap(17, 17, 17)

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

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

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

    .addGap(23, 23, 23)

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

    .addGroup(jPanel1Layout.createSequentialGroup())

    .addGap(33, 33, 33)

    .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 263,
javax.swing.GroupLayout.PREFERRED_SIZE)))

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

    .addComponent(jLabel5)

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

    .addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED_SIZE, 103,
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)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1, 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()
                .addComponent(jPanel1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addContainerGap())
    );

```

```

        pack();
    } // </editor-fold>

    // set data to textfields from selected jTable row
    private void jTable_CATEGORIES_MouseClicked(java.awt.event.MouseEvent evt) {

        Integer rowIndex = jTable_CATEGORIES_.getSelectedRow();

        jTextField_CATEGORY_ID.setText(jTable_CATEGORIES_.getValueAt(rowIndex, 0).toString());
        jTextField_CATEGORY_NAME.setText(jTable_CATEGORIES_.getValueAt(rowIndex, 1).toString());

        populateProductsList(Integer.valueOf(jTable_CATEGORIES_.getValueAt(rowIndex, 0).toString()));

        position = rowIndex;

    }

    // button insert new category
    private void jButton_INSERT_CATEGORY_ActionPerformed(java.awt.event.ActionEvent evt) {

        try{
            if(!jTextField_CATEGORY_NAME.getText().equals(""))
            {
                category = new CLASS.Category(null,jTextField_CATEGORY_NAME.getText());
                CLASS.Category.insertCategory(category);
                populateJtable();
            }else{
                JOptionPane.showMessageDialog(null, "Enter The Category Name", "Enter Name", 2);
            }

        }catch(Exception ex){
            JOptionPane.showMessageDialog(null, ex.getMessage(), "Error", 2);
        }
    }
}

```



```

// button edit the selected category

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

    try{

        if(!jTextField_CATEGORY_NAME.getText().equals(""))
        {
            category = new
CLASS.Category(Integer.valueOf(jTextField_CATEGORY_ID.getText()),jTextField_CATEGORY_NAME.getText());

            CLASS.Category.updateCategory(category);

            populateJtable();
        }
        else{
            JOptionPane.showMessageDialog(null, "Enter The Category Name", "Enter Name", 2);
        }
    }catch(Exception ex){
        JOptionPane.showMessageDialog(null, "No Category Selected", "Error", 2);
    }

}

```

```

// button remove the selected category

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

    try{

        CLASS.Category.deleteCategory(Integer.valueOf(jTextField_CATEGORY_ID.getText()));

        jTextField_CATEGORY_ID.setText("");

        jTextField_CATEGORY_NAME.setText("");

        position = 0;

        populateJtable();
    }
}

```

```

    }catch(Exception ex){
        JOptionPane.showMessageDialog(null, "No Category Selected", "Error", 2);
    }

}

// button next
private void jButton_NEXT_ActionPerformed(java.awt.event.ActionEvent evt) {

    if(position == category.categoriesList().size() - 1)
    {
        return;
    }

    position ++;
    navigation(position);
    jTable_CATEGORIES_MouseClicked(null);
    //System.out.println(position.toString());
}

// button previous
private void jButton_PREVIOUS_ActionPerformed(java.awt.event.ActionEvent evt) {

    if(position == 0)
    {
        return;
    }

    position --;
    navigation(position);
    jTable_CATEGORIES_MouseClicked(null);
}

```

```
}
```

```
// create a navigation function
```

```
public void navigation(int pos)
```

```
{
```

```
    try{
```

```
        ArrayList<CLASS.Category> CategoryList = category.categoriesList();
```

```
        jTextField_CATEGORY_ID.setText(CategoryList.get(pos).getId().toString());
```

```
        jTextField_CATEGORY_NAME.setText(CategoryList.get(pos).getName());
```

```
        jTable_CATEGORIES_.setRowSelectionInterval(pos,pos);
```

```
    }catch(Exception ex){
```

```
        JOptionPane.showMessageDialog(null, ex.getMessage(), "Error" , 2);
```

```
    }
```

```
}
```

```
/**
```

```
 * @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 {
```

```
        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(MANAGE_CATEGORIES_FORM.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

    } catch (InstantiationException ex) {

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

    } catch (IllegalAccessException ex) {

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

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(MANAGE_CATEGORIES_FORM.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 MANAGE_CATEGORIES_FORM().setVisible(true);
    }
});
}

// Variables declaration - do not modify
private javax.swing.JButton jButton_DELETE_CATEGORY_;
private javax.swing.JButton jButton_INSERT_CATEGORY_;
private javax.swing.JButton jButton_NEXT_;
private javax.swing.JButton jButton_PREVIOUS_;
private javax.swing.JButton jButton_UPDATE_CATEGORY_;
private javax.swing.JLabel jLabel1;

```

```

private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel5;

private javax.swing.JList<String> jList_PRODUCTS_IN_CATEGORY;

private javax.swing.JPanel jPanel1;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JScrollPane jScrollPane2;

private javax.swing.JTable jTable_CATEGORIES_;

private javax.swing.JTextField jTextField_CATEGORY_ID;

private javax.swing.JTextField jTextField_CATEGORY_NAME;

// End of variables declaration
}

```

## **Manage Customers Form**

```

package java_inventory_application;

import java.awt.Color;

import java.awt.Font;

import java.util.ArrayList;

import javax.swing.JOptionPane;

import javax.swing.SwingConstants;

import javax.swing.table.DefaultTableModel;

import javax.swing.table.JTableHeader;

public class MANAGE_CUSTOMERS_FORM extends javax.swing.JFrame {

    /**
     * Creates new form MANAGE_CUSTOMERS_FORM
     */
    public MANAGE_CUSTOMERS_FORM() {
        initComponents();

        populateJtable();
    }
}

```

```

jTable_CUSTOMERS_.setShowGrid(true);

jTable_CUSTOMERS_.setGridColor(Color.YELLOW);

jTable_CUSTOMERS_.setSelectionBackground(Color.gray);

JTableHeader th = jTable_CUSTOMERS_.getTableHeader();

th.setFont(new Font("Tahoma", Font.PLAIN, 16));
}

// function to populate the jTable with customers data
public void populateJtable(){

    CLASS.Customer customer = new CLASS.Customer();
    ArrayList<CLASS.Customer> CustomerList = customer.customersList();

    String[] colNames = {"Id", "Name", "Telephone", "Email"};
    Object[][] rows = new Object[CustomerList.size()][5];
    DefaultTableModel model = (DefaultTableModel) jTable_CUSTOMERS_.getModel();

    for(int i = 0; i < CustomerList.size(); i++){
        rows[i][0] = CustomerList.get(i).getId();
        rows[i][1] = CustomerList.get(i).getFirst_name();
        rows[i][2] = CustomerList.get(i).getTel();
        rows[i][3] = CustomerList.get(i).getEmail();
    }

    model.setDataVector(rows, colNames);

    jTable_CUSTOMERS_.setModel(model);

```

```
        jTable_CUSTOMERS_.setRowHeight(45);  
    }  
  

```

```
/**
```

```
 * 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();
```

```
    jScrollPane1 = new javax.swing.JScrollPane();
```

```
    jTable_CUSTOMERS_ = new javax.swing.JTable();
```

```
    jTextField_ID = new javax.swing.JTextField();
```

```
    jLabel1 = new javax.swing.JLabel();
```

```
    jLabel4 = new javax.swing.JLabel();
```

```
    jTextField_FNAME = new javax.swing.JTextField();
```

```
    jLabel6 = new javax.swing.JLabel();
```

```
    jTextField_TEL = new javax.swing.JTextField();
```

```
    jLabel5 = new javax.swing.JLabel();
```

```
    jTextField_EMAIL = new javax.swing.JTextField();
```

```
    jPanel2 = new javax.swing.JPanel();
```

```
    jLabel2 = new javax.swing.JLabel();
```

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

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

```
    jLabel7 = new javax.swing.JLabel();
```

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

```
    jPanel5 = new javax.swing.JPanel();
```

```

jLabel8 = new javax.swing.JLabel();

jLabel_LAST_ORDER_DATE = new javax.swing.JLabel();

jButton_CLEAR_ = new javax.swing.JButton();

jButton_INSERT_ = new javax.swing.JButton();

jButton_UPDATE_ = new javax.swing.JButton();

jButton_DELETE_ = new javax.swing.JButton();


setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);


jPanel1.setBackground(new java.awt.Color(34, 49, 63));


jTable_CUSTOMERS_.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {

    }
));

jTable_CUSTOMERS_.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jTable_CUSTOMERS_.MouseClicked(evt);
    }
});

jScrollPane1.setViewportView(jTable_CUSTOMERS_);


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


jLabel1.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel1.setForeground(new java.awt.Color(255, 255, 255));
jLabel1.setText("Buyer ID:");


jLabel4.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N

```



```
jLabel4.setForeground(new java.awt.Color(255, 255, 255));

jLabel4.setText("First Name:");


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


jLabel6.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel6.setForeground(new java.awt.Color(255, 255, 255));
jLabel6.setText("Telephone.:");


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


jLabel5.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel5.setForeground(new java.awt.Color(255, 255, 255));
jLabel5.setText("Email:");


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


jPanel2.setBackground(new java.awt.Color(247, 42, 49));


jLabel2.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel2.setText("Orders Count:");


jLabel_ORDERS_COUNT.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
jLabel_ORDERS_COUNT.setText("###");
jLabel_ORDERS_COUNT.setHorizontalAlignment(SwingConstants.CENTER);
jLabel_ORDERS_COUNT.setVerticalAlignment(SwingConstants.CENTER);


javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
jPanel2.setLayout(jPanel2Layout);
jPanel2Layout.setHorizontalGroup(
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT_SIZE, 140, Short.MAX_VALUE)
    )
    )
```

```

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

    );

    jPanel2Layout.setVerticalGroup(

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

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel2Layout.createSequentialGroup())

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

        .addComponent(jLabel2)

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

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

        .addContainerGap())

    );

    jPanel3.setBackground(new java.awt.Color(247, 42, 49));

    jLabel7.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
    jLabel7.setForeground(new java.awt.Color(255, 255, 255));
    jLabel7.setText("Total Orders Amount:");

    jLabel_TOTAL_AMOUNT.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel_TOTAL_AMOUNT.setForeground(new java.awt.Color(255, 255, 255));
    jLabel_TOTAL_AMOUNT.setText("###");
    jLabel_TOTAL_AMOUNT.setHorizontalAlignment(SwingConstants.CENTER);
    jLabel_TOTAL_AMOUNT.setVerticalAlignment(SwingConstants.CENTER);

    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(jLabel7, javax.swing.GroupLayout.DEFAULT_SIZE, 384, Short.MAX_VALUE)

        .addContainerGap())

```

```

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

    );

    jPanel3Layout.setVerticalGroup(

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

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel3Layout.createSequentialGroup())

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

        .addComponent(jLabel7)

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

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

        .addGap(24, 24, 24))

    );

    jPanel5.setBackground(new java.awt.Color(247, 42, 49));
    jPanel5.setBorder(new javax.swing.border.LineBorder(new java.awt.Color(255, 255, 255), 1, true));

    jLabel8.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
    jLabel8.setForeground(new java.awt.Color(255, 255, 255));
    jLabel8.setText("Last Order Date:");

    jLabel_LAST_ORDER_DATE.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    jLabel_LAST_ORDER_DATE.setForeground(new java.awt.Color(255, 255, 255));
    jLabel_LAST_ORDER_DATE.setText("###");
    jLabel_LAST_ORDER_DATE.setHorizontalAlignment(SwingConstants.CENTER);
    jLabel_LAST_ORDER_DATE.setVerticalAlignment(SwingConstants.CENTER);

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

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

        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel5Layout.createSequentialGroup())

        .addContainerGap()

        .addComponent(jLabel8, javax.swing.GroupLayout.DEFAULT_SIZE, 302, Short.MAX_VALUE)

```

```

        .addGap(8, 8, 8))

        .addGroup(jPanel5Layout.createSequentialGroup())

        .addGap(13, 13, 13)

        .addComponent(jLabel_LAST_ORDER_DATE, javax.swing.GroupLayout.DEFAULT_SIZE, 297,
Short.MAX_VALUE)

        .addContainerGap())
);

jPanel5Layout.setVerticalGroup(

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

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel5Layout.createSequentialGroup())

.addContainerGap()

.addComponent(jLabel8)

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

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

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

);

jButton_CLEAR_.setBackground(new java.awt.Color(128, 128, 128));
jButton_CLEAR_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_CLEAR_.setForeground(new java.awt.Color(255, 255, 255));
jButton_CLEAR_.setText("clear");
jButton_CLEAR_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_CLEAR_ActionPerformed(evt);
    }
});

jButton_INSERT_.setBackground(new java.awt.Color(128, 128, 128));
jButton_INSERT_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_INSERT_.setForeground(new java.awt.Color(255, 255, 255));
jButton_INSERT_.setText("Insert");
jButton_INSERT_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {

```

```
        jButton_INSERT_ActionPerformed(evt);
    }
});
```

```
jButton_UPDATE_.setBackground(new java.awt.Color(128, 128, 128));
jButton_UPDATE_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_UPDATE_.setForeground(new java.awt.Color(255, 255, 255));
jButton_UPDATE_.setText("Edit");
jButton_UPDATE_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_UPDATE_ActionPerformed(evt);
    }
});
```

```
jButton_DELETE_.setBackground(new java.awt.Color(128, 128, 128));
jButton_DELETE_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_DELETE_.setForeground(new java.awt.Color(255, 255, 255));
jButton_DELETE_.setText("Remove");
jButton_DELETE_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_DELETE_ActionPerformed(evt);
    }
});
```

```
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(jButton_CLEAR_, javax.swing.GroupLayout.DEFAULT_SIZE,
                javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        )
);
```

```

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

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

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

        .addGroup(jPanel1Layout.createSequentialGroup())

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

            .addGroup(jPanel1Layout.createSequentialGroup())

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

                .addComponent(jLabel4)

                .addComponent(jLabel1, javax.swing.GroupLayout.Alignment.TRAILING))

                .addGap(18, 18, 18)

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

                .addComponent(jTextField_FNAME, javax.swing.GroupLayout.DEFAULT_SIZE, 164,
Short.MAX_VALUE)

                .addComponent(jTextField_ID)))

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

            .addGroup(jPanel1Layout.createSequentialGroup())

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

                .addComponent(jLabel5)

                .addComponent(jLabel6))

                .addGap(18, 18, 18)

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

                .addComponent(jTextField_TEL, javax.swing.GroupLayout.PREFERRED_SIZE, 164,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(jTextField_EMAIL, javax.swing.GroupLayout.PREFERRED_SIZE, 164,
javax.swing.GroupLayout.PREFERRED_SIZE)))

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

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

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

```

```

        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 544,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGroup(jPanel1Layout.createSequentialGroup())

        .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGap(18, 18, 18)

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

        .addContainerGap())
);

jPanel1Layout.setVerticalGroup(

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

.addGroup(jPanel1Layout.createSequentialGroup())

.addContainerGap()

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

.addGroup(jPanel1Layout.createSequentialGroup())

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

.addComponent(jLabel1)

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

.addGap(18, 18, 18)

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

.addComponent(jLabel4)

.addComponent(jTextField_FNAME, 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.BASELINE)

.addComponent(jLabel6)

.addComponent(jTextField_TEL, 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.BASELINE)

.addComponent(jLabel5)

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

.addGap(74, 74, 74)

```

```

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

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

        .addComponent(jButton_INSERT_)

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

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

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

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

        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 383,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

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

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

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

                .addComponent(jPanel2, javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.PREFERRED_SIZE, 0, Short.MAX_VALUE)

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

        .addGap(89, 89, 89))

    );

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

    // get selected customer from jTable to textfields
    private void jTable_CUSTOMERS_MouseClicked(java.awt.event.MouseEvent evt) {

        try{

            Integer rowIndex = jTable_CUSTOMERS_.getSelectedRow();
            jTextField_ID.setText(jTable_CUSTOMERS_.getValueAt(rowIndex, 0).toString());
            jTextField_FNAME.setText(jTable_CUSTOMERS_.getValueAt(rowIndex, 1).toString());
            jTextField_TEL.setText(jTable_CUSTOMERS_.getValueAt(rowIndex, 2).toString());
            jTextField_EMAIL.setText(jTable_CUSTOMERS_.getValueAt(rowIndex, 3).toString());

            CLASS.THE_ORDER order = new CLASS.THE_ORDER();

            jLabel_ORDERS_COUNT.setText(order.getCustomerOrdersCount(Integer.valueOf(jTable_CUSTOMERS_.getValueAt(rowIndex, 0).toString())));

            jLabel_TOTAL_AMOUNT.setText(order.getCustomerOrdersTotalAmount(Integer.valueOf(jTable_CUSTOMERS_.getValueAt(rowIndex, 0).toString())));

            jLabel_LAST_ORDER_DATE.setText(order.getCustomerLastOrderDate(Integer.valueOf(jTable_CUSTOMERS_.getValueAt(rowIndex, 0).toString())));

        }catch(Exception ex){

        }

    }

    // button insert
    private void jButton_INSERT_ActionPerformed(java.awt.event.ActionEvent evt) {

```

```

        if(verifFields())
        {
            String fname = jTextField_FNAME.getText();

            String tel = jTextField_TEL.getText();

            String email = jTextField_EMAIL.getText();

            CLASS.Customer customer = new CLASS.Customer(null, fname, tel, email);
            CLASS.Customer.insertCustomer(customer);
            populateJtable();
        }
    }

    // button update
    private void jButton_UPDATE_ActionPerformed(java.awt.event.ActionEvent evt) {

        try{
            if(verifFields())
            {
                String fname = jTextField_FNAME.getText();

                String tel = jTextField_TEL.getText();

                String email = jTextField_EMAIL.getText();

                Integer id = Integer.valueOf(jTextField_ID.getText());

                CLASS.Customer customer = new CLASS.Customer(id, fname, tel, email);
                CLASS.Customer.updateCustomer(customer);
                populateJtable();
            }
        }catch(Exception ex){
            JOptionPane.showMessageDialog(null, "Select a Customer Before Editing", "No Customer Selected",
1);

        }
    }

```

```

}

// button delete
private void jButton_DELETE_ActionPerformed(java.awt.event.ActionEvent evt) {

    try{

        Integer id = Integer.valueOf(jTextField_ID.getText());

        CLASS.Customer.deleteCustomer(id);

        populateJtable();

    }catch(Exception ex){

        JOptionPane.showMessageDialog(null, "Select a Customer Before Removing", "No Customer
        Selected", 1);

    }

}

// button to clear textfields / reset labels to default value ( ### )
private void jButton_CLEAR_ActionPerformed(java.awt.event.ActionEvent evt) {

    // textfields
    jTextField_ID.setText("");
    jTextField_FNAME.setText("");
    jTextField_EMAIL.setText("");
    jTextField_TEL.setText("");

    // labels
    jLabel_ORDERS_COUNT.setText("###");
    jLabel_TOTAL_AMOUNT.setText("###");
    jLabel_LAST_ORDER_DATE.setText("###");

}

```

```
// function to check empty fields

public boolean verifFields()
{
    if(jTextField_FNAME.getText().equals("") || jTextField_TEL.getText().equals(""))
    {
        JOptionPane.showMessageDialog(null, "One Or More Fields Are Empty", "Empty Fields", 0);
        return false;
    }else{
        return 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 {
        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(MANAGE_CUSTOMERS_FORM.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

    } catch (InstantiationException ex) {

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

    } catch (IllegalAccessException ex) {

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

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

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

    }
}
//</editor-fold>

```

```

/* Create and display the form */
java.awt.EventQueue.invokeLater(new Runnable() {
    @Override
    public void run() {
        new MANAGE_CUSTOMERS_FORM().setVisible(true);
    }
});
}

```

```

// Variables declaration - do not modify
private javax.swing.JButton jButton_CLEAR_;
private javax.swing.JButton jButton_DELETE_;
private javax.swing.JButton jButton_INSERT_;
private javax.swing.JButton jButton_UPDATE_;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;

```

```

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 jLabel_LAST_ORDER_DATE;

private javax.swing.JLabel jLabel_ORDERS_COUNT;

private javax.swing.JLabel jLabel_TOTAL_AMOUNT;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JPanel jPanel3;

private javax.swing.JPanel jPanel5;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JTable jTable_CUSTOMERS_;

private javax.swing.JTextField jTextField_EMAIL;

private javax.swing.JTextField jTextField_FNAME;

private javax.swing.JTextField jTextField_ID;

private javax.swing.JTextField jTextField_TEL;

// End of variables declaration
}

```

## **Manage Orders Form**

```

package java_inventory_application;

import java.awt.HeadlessException;

import java.awt.Image;

import java.util.Date;

import java.text.SimpleDateFormat;

import java.util.ArrayList;

import java.util.HashMap;

import javax.swing.ImageIcon;

import javax.swing.JFrame;

import javax.swing.JOptionPane;

import javax.swing.table.DefaultTableModel;

```

```

public class MANAGE_ORDERS_FORM extends javax.swing.JFrame {

    /**
     * Creates new form MANAGE_ORDERS_FORM
     */
    public MANAGE_ORDERS_FORM() {
        initComponents();

        BindCombo();

        populateCustomerJtable();

        jComboBox_CATEGORIES_ActionPerformed(null);

        CLASS.THE_ORDER ord = new CLASS.THE_ORDER();

        // display the new order id in textfield
        try{
            jTextField_ORDER_ID.setText(String.valueOf(ord.getMaxOrderId() + 1));
        }catch(Exception ex){
            jTextField_ORDER_ID.setText(String.valueOf(1));
        }

    }

    // populate the categories combobox
    public void BindCombo(){

        CLASS.Category category = new CLASS.Category();

```

```

HashMap<String, Integer> map = category.populateCombo();

for(String s : map.keySet()){
    jComboBox_CATEGORIES_.addItem(s);
}
}

// populate the customers jtable
public void populateCustomerJtable(){

    CLASS.Customer customer = new CLASS.Customer();
    ArrayList<CLASS.Customer> CustomerList = customer.customersList();

    String[] colNames = {"Id", "Name", "Tel", "Email"};
    Object[][] rows = new Object[CustomerList.size()][5];
    DefaultTableModel model = (DefaultTableModel) jTable_CUSTOMERS_.getModel();

    for(int i = 0; i < CustomerList.size(); i++){
        rows[i][0] = CustomerList.get(i).getId();
        rows[i][1] = CustomerList.get(i).getFirst_name();

        rows[i][2] = CustomerList.get(i).getTel();
        rows[i][3] = CustomerList.get(i).getEmail();
    }

    model.setDataVector(rows, colNames);

    jTable_CUSTOMERS_.setModel(model);
    jTable_CUSTOMERS_.setRowHeight(45);
}

```



```

// populate the products jtable by selected category from combobox
public void populateProductJtable(Integer categoryId){

    CLASS.Product prd = new CLASS.Product();

    ArrayList<CLASS.Product> ProductList = prd.productsInCategoryList(categoryId);

    String[] colNames = {"Id", "Name", "Price", "Quantity", "Image"};
    Object[][] rows = new Object[ProductList.size()][7];

    for(int i = 0; i < ProductList.size(); i++){
        rows[i][0] = ProductList.get(i).getId();
        rows[i][1] = ProductList.get(i).getName();
        rows[i][2] = ProductList.get(i).getPrice();
        rows[i][3] = ProductList.get(i).getQuantity();

        ImageIcon pic = new ImageIcon(new ImageIcon
            (ProductList.get(i).getPicture())
            .getImage()
            .getScaledInstance(120, 80, Image.SCALE_SMOOTH));

        rows[i][4] = pic;

    }

    CLASS.MyTableModel mmd = new CLASS.MyTableModel(rows, colNames);
    jTable_PRODUCTS_.setModel(mmd);
    jTable_PRODUCTS_.setRowHeight(80);
    jTable_PRODUCTS_.getColumnModel().getColumn(0).setPreferredWidth(50);
    jTable_PRODUCTS_.getColumnModel().getColumn(4).setPreferredWidth(120);

```

```
jTable_PRODUCTS_.getColumnModel().getColumn(3).setPreferredWidth(120);  
}
```

```
// get total amount of the product added to the order table
```

```
// and display the value into jlabel
```

```
public void getTotal()
```

```
{
```

```
    double total = 0;
```

```
    for(int i = 0; i < jTable_PRODUCTS_IN_ORDER_.getModel().getRowCount(); i++)
```

```
    {
```

```
        total = total + Double.valueOf(jTable_PRODUCTS_IN_ORDER_.getValueAt(i, 4).toString());
```

```
    }
```

```
    jLabel_TOTAL.setText("Total: " + String.valueOf(total));
```

```
}
```

```
/**
```

```
 * 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();
```

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

```
    jScrollPane1 = new javax.swing.JScrollPane();
```

```
    jTable_CUSTOMERS_ = new javax.swing.JTable();
```

```
    jLabel1 = new javax.swing.JLabel();
```

```
    jTextField_CUSTOMER_ID = new javax.swing.JTextField();
```

```

jLabel4 = new javax.swing.JLabel();

jTextField_ORDER_ID = new javax.swing.JTextField();

jLabel3 = new javax.swing.JLabel();

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

jScrollPane2 = new javax.swing.JScrollPane();

jTable_PRODUCTS_ = new javax.swing.JTable();

jScrollPane3 = new javax.swing.JScrollPane();

jTable_PRODUCTS_IN_ORDER_ = new javax.swing.JTable();

jComboBox_CATEGORIES_ = new javax.swing.JComboBox<>();

jButton_INSERT_ORDER_ = new javax.swing.JButton();

jButton_SHOW_ORDERS_ = new javax.swing.JButton();

jButton_REMOVE_PRODUCT_FROM_ORDER_TABLE_ = new javax.swing.JButton();

jButton_CLEAR_ORDER_TABLE_ = new javax.swing.JButton();

jButton_TRANSFER_FROM_PRODUCT_TO_ORDER_ = new javax.swing.JButton();

jPanel2 = new javax.swing.JPanel();

jLabel_TOTAL = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

jPanel1.setBackground(new java.awt.Color(34, 49, 63));

jTable_CUSTOMERS_.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {

    }
));

jTable_CUSTOMERS_.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jTable_CUSTOMERS_MouseClicked(evt);
    }
}

```

```

});

jScrollPane1.setViewportViewView(jTable_CUSTOMERS_);

jLabel1.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel1.setForeground(new java.awt.Color(255, 255, 255));
jLabel1.setText("Order ID:");

jTextField_CUSTOMER_ID.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jTextField_CUSTOMER_ID.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyTyped(java.awt.event.KeyEvent evt) {
        jTextField_CUSTOMER_IDKeyTyped(evt);
    }
});

jLabel4.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel4.setForeground(new java.awt.Color(255, 255, 255));
jLabel4.setText("Buyer ID:");

jTextField_ORDER_ID.setEditable(false);
jTextField_ORDER_ID.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

jLabel3.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel3.setForeground(new java.awt.Color(255, 255, 255));
jLabel3.setText("Order Date:");

jTable_PRODUCTS_.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {

    }
));

```

```
jScrollPane2.setViewportViewView(jTable_PRODUCTS_);
```

```
jTable_PRODUCTS_IN_ORDER_.setModel(new javax.swing.table.DefaultTableModel(  
    new Object [][] {  
  
        },  
    new String [] {  
        "Id", "Name", "Price", "Quantity", "Quantity X Price"  
    }  
));
```

```
jScrollPane3.setViewportViewView(jTable_PRODUCTS_IN_ORDER_);
```

```
jComboBox_CATEGORIES_.setBackground(new java.awt.Color(111, 78, 55));  
jComboBox_CATEGORIES_.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
jComboBox_CATEGORIES_.addActionListener(new java.awt.event.ActionListener() {  
    public void actionPerformed(java.awt.event.ActionEvent evt) {  
        jComboBox_CATEGORIES_ActionPerformed(evt);  
    }  
});
```

```
jButton_INSERT_ORDER_.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
jButton_INSERT_ORDER_.setText("Insert Bill");  
jButton_INSERT_ORDER_.addActionListener(new java.awt.event.ActionListener() {  
    public void actionPerformed(java.awt.event.ActionEvent evt) {  
        jButton_INSERT_ORDER_ActionPerformed(evt);  
    }  
});
```

```
jButton_SHOW_ORDERS_.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N  
jButton_SHOW_ORDERS_.setText("Show All Orders");  
jButton_SHOW_ORDERS_.addActionListener(new java.awt.event.ActionListener() {  
    public void actionPerformed(java.awt.event.ActionEvent evt) {  
        jButton_SHOW_ORDERS_ActionPerformed(evt);  
    }  
});
```

```

    }

});

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

jButton_REMOVE_PRODUCT_FROM_ORDER_TABLE.setText("Remove Product");

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

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

        jButton_REMOVE_PRODUCT_FROM_ORDER_TABLE.actionPerformed(evt);

    }

});

jButton_CLEAR_ORDER_TABLE.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jButton_CLEAR_ORDER_TABLE.setText("Clear");
jButton_CLEAR_ORDER_TABLE.addActionListener(new java.awt.event.ActionListener() {

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

        jButton_CLEAR_ORDER_TABLE.actionPerformed(evt);

    }

});

jButton_TRANSFER_FROM_PRODUCT_TO_ORDER.setText(">>>");

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

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

        jButton_TRANSFER_FROM_PRODUCT_TO_ORDER.actionPerformed(evt);

    }

});

jPanel2.setBackground(new java.awt.Color(255, 255, 255));

jLabel_TOTAL.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jLabel_TOTAL.setText("Total: 0.0");

```

```

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(jLabel_TOTAL, javax.swing.GroupLayout.PREFERRED_SIZE, 558,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(95, Short.MAX_VALUE))
        );
jPanel2Layout.setVerticalGroup(
    jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel2Layout.createSequentialGroup()
            .addComponent(jLabel_TOTAL, javax.swing.GroupLayout.DEFAULT_SIZE, 36, 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()
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup()
                    .addGap(0, 0, Short.MAX_VALUE)
                    .addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED_SIZE, 500,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addGroup(jPanel1Layout.createSequentialGroup()
                            .addGroup(jPanel1Layout.createSequentialGroup()
                                .addComponent(jButton_TRANSFER_FROM_PRODUCT_TO_ORDER,
javax.swing.GroupLayout.PREFERRED_SIZE, 80, javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                                .addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED_SIZE, 602,
javax.swing.GroupLayout.PREFERRED_SIZE))
                            .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGap(74, 74, 74))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, jPanel1Layout.createSequentialGroup()

```

```

.addGap(53, 53, 53)

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

.addGroup(jPanel1Layout.createSequentialGroup()

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

.addComponent(jLabel1)

.addComponent(jLabel4)

.addComponent(jLabel3))

.addGap(18, 18, 18)

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

.addComponent(jTextField_CUSTOMER_ID, javax.swing.GroupLayout.PREFERRED_SIZE, 203,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jTextField_ORDER_ID, javax.swing.GroupLayout.PREFERRED_SIZE, 203,
javax.swing.GroupLayout.PREFERRED_SIZE)

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

.addGroup(jPanel1Layout.createSequentialGroup()

.addGap(47, 47, 47)

.addComponent(jComboBox_CATEGORIES_, javax.swing.GroupLayout.PREFERRED_SIZE, 210,
javax.swing.GroupLayout.PREFERRED_SIZE)))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 117, Short.MAX_VALUE)

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

.addGroup(jPanel1Layout.createSequentialGroup()

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

.addGap(18, 18, 18)

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

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

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

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

.addComponent(jButton_CLEAR_ORDER_TABLE_, javax.swing.GroupLayout.PREFERRED_SIZE, 87,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 746,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGap(60, 60, 60))

```



```

);

jPanel1Layout.setVerticalGroup(

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

.addGroup(jPanel1Layout.createSequentialGroup())

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

.addGroup(jPanel1Layout.createSequentialGroup())

.addContainerGap()

.addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 190,
javax.swing.GroupLayout.PREFERRED_SIZE)

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

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

.addComponent(jButton_INSERT_ORDER_)

.addComponent(jButton_SHOW_ORDERS_)

.addComponent(jButton_REMOVE_PRODUCT_FROM_ORDER_TABLEè)

.addComponent(jButton_CLEAR_ORDER_TABLE_)

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

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

.addGroup(jPanel1Layout.createSequentialGroup())

.addGap(50, 50, 50)

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

.addComponent(jLabel4)

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

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

.addGroup(jPanel1Layout.createSequentialGroup())

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

.addComponent(jLabel1))

.addGroup(jPanel1Layout.createSequentialGroup())

.addGap(20, 20, 20)

.addComponent(jTextField_ORDER_ID, 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)

```

```

        .addComponent(jLabel3)

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

        .addGap(35, 115, Short.MAX_VALUE)))

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

        .addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED_SIZE, 280,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addGroup(jPanel1Layout.createSequentialGroup())

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

            .addGroup(jPanel1Layout.createSequentialGroup())

            .addGap(117, 117, 117)

            .addComponent(jButton_TRANSFER_FROM_PRODUCT_TO_ORDER_)

            .addGroup(jPanel1Layout.createSequentialGroup())

            .addGap(18, 18, 18)

            .addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED_SIZE, 239,
javax.swing.GroupLayout.PREFERRED_SIZE)))

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

        .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)))

    .addGap(18, 18, 18))

);

```

```

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

    // display products by category
    private void jComboBox_CATEGORIES_ActionPerformed(java.awt.event.ActionEvent evt) {

        CLASS.Category category = new CLASS.Category();
        HashMap<String, Integer> map = category.populateCombo();

        populateProductJtable(Integer.valueOf(map.get(jComboBox_CATEGORIES_.getSelectedItem().toString()).toString()));

    }

    // add product from table products to order table
    private void
    jButton_TRANSFER_FROM_PRODUCT_TO_ORDER_ActionPerformed(java.awt.event.ActionEvent evt) {

        Integer quantity ;
        int rowindex;

        try{

            // get the quantity from InputDialog
            quantity = Integer.valueOf(JOptionPane.showInputDialog("Enter The Quantity You Want","1"));

            rowindex = jTable_PRODUCTS_.getSelectedRow();

            boolean isExist = false; // a variable to check if the product already exist in the table order
            int index = 0;

            Object rowData[] = new Object[5];

```

```

rowData[0] = jTable_PRODUCTS_.getValueAt(rowindex, 0);
rowData[1] = jTable_PRODUCTS_.getValueAt(rowindex, 1);
rowData[2] = jTable_PRODUCTS_.getValueAt(rowindex, 2);
rowData[3] = quantity;

Double price = Double.valueOf(jTable_PRODUCTS_.getValueAt(rowindex, 2).toString());

rowData[4] = quantity * price;

DefaultTableModel model = (DefaultTableModel)jTable_PRODUCTS_IN_ORDER_.getModel();

// if the quantity you entered is higher than the one in the jTable products
if(quantity > Integer.valueOf(jTable_PRODUCTS_.getValueAt(rowindex, 3).toString()))
{
    JOptionPane.showMessageDialog(null, "Unavailable Quantity","Invalid Value",2);
}
// if the quantity you entered is 0
else if(quantity == 0)
{
    JOptionPane.showMessageDialog(null, "Quantity Can't Be 0","Invalid Value",2);
}
else
{
    if(jTable_PRODUCTS_IN_ORDER_.getModel().getRowCount() == 0)
    {

        model.addRow(rowData);

        getTotal();

    }
    else
    {

        // check if the product you want to add already exists in the table ( using the product id )
        for(int i = 0; i < jTable_PRODUCTS_IN_ORDER_.getModel().getRowCount(); i++)

```

```

{
    if(rowData[0] == jTable_PRODUCTS_IN_ORDER_.getValueAt(i, 0))
    {
        isExist = true;
        index = i;
    }
}

if(isExist)
{
    // if the product already exist

    // calculate the new quantity

    // new quantity = quantity(the current quantity you entered) + ( the quantity in the jTable order )

    Integer newQuantity = quantity +
Integer.valueOf(jTable_PRODUCTS_IN_ORDER_.getValueAt(index, 3).toString());

    // if the new quantity is higher than the one in the jTable products

    if(newQuantity > Integer.valueOf(jTable_PRODUCTS_.getValueAt(rowindex, 3).toString()))
    {
        JOptionPane.showMessageDialog(null, "Unavailable Quantity","Invalid Value",2);
    }else{
        jTable_PRODUCTS_IN_ORDER_.setValueAt(newQuantity, index, 3);
        jTable_PRODUCTS_IN_ORDER_.setValueAt(newQuantity * price, index, 4);
        getTotal();
    }
}

else{
    model.addRow(rowData);

    getTotal();
}

}

}

```

```

    }catch(HeadlessException | NumberFormatException ex)
    {
        JOptionPane.showMessageDialog(null, ex.getMessage(), "Error", 1);
    }

}

// get customer id on jTable mouse clicked
private void jTable_CUSTOMERS_MouseClicked(java.awt.event.MouseEvent evt) {

    Integer selectedRowIndex = jTable_CUSTOMERS_.getSelectedRow();
    jTextField_CUSTOMER_ID.setText(jTable_CUSTOMERS_.getValueAt(selectedRowIndex, 0).toString());

}

// remove selected product from jTable order
private void
jButton_REMOVE_PRODUCT_FROM_ORDER_TABLEActionPerformed(java.awt.event.ActionEvent evt) {

    try{
        Integer selectedRowIndex = jTable_PRODUCTS_IN_ORDER_.getSelectedRow();
        DefaultTableModel model = (DefaultTableModel)jTable_PRODUCTS_IN_ORDER_.getModel();
        model.removeRow(selectedRowIndex);
        getTotal();
    }catch(Exception ex)
    {
        JOptionPane.showMessageDialog(null, "Select A Product From The Order Table", "No Product
        Selected", 1);
    }

}

// remove all products from the order jTable

```

```

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

    DefaultTableModel model = (DefaultTableModel) jTable_PRODUCTS_IN_ORDER_.getModel();

    model.setRowCount(0);

    getTotal();

}

// insert order
private void jButton_INSERT_ORDER_ActionPerformed(java.awt.event.ActionEvent evt) {

    SimpleDateFormat dateFormat = new SimpleDateFormat("yyyy-MM-dd");

    String orderDate = "";

    if(jDateChooser1.getDate() != null){

        orderDate = dateFormat.format(jDateChooser1.getDate());

    } else{

        Date date = new Date();

        orderDate = dateFormat.format(date);

    }

    if(jTextField_CUSTOMER_ID.getText().equals(""))

    {

        JOptionPane.showMessageDialog(null, "Select A Customer To Add The Order", "No Customer Selected",
1);

    }

    else if(jTable_PRODUCTS_IN_ORDER_.getRowCount() > 0)

    {

        Integer productId;

        Integer orderId = Integer.valueOf(jTextField_ORDER_ID.getText());

        Integer qty;

```

```

String price;

String total;


// insert the order

CLASS.THE_ORDER.insertOrder(orderId, orderDate,
Integer.valueOf(jTextField_CUSTOMER_ID.getText()));


// get the product data
for(int i = 0; i < jTable_PRODUCTS_IN_ORDER_.getRowCount(); i++)
{
    productId = Integer.valueOf(jTable_PRODUCTS_IN_ORDER_.getValueAt(i, 0).toString());
    price = jTable_PRODUCTS_IN_ORDER_.getValueAt(i, 2).toString();
    qty = Integer.valueOf(jTable_PRODUCTS_IN_ORDER_.getValueAt(i, 3).toString());
    total = jTable_PRODUCTS_IN_ORDER_.getValueAt(i, 4).toString();

// insert the order details

CLASS.THE_ORDER.insertOrderDetails(productId, orderId, qty, price, total);


// display the new order id in textfield

CLASS.THE_ORDER ord = new CLASS.THE_ORDER();

jTextField_ORDER_ID.setText(String.valueOf(ord.getMaxOrderId() + 1));
}

jComboBox_CATEGORIES_ActionPerformed(null);

}

else{

JOptionPane.showMessageDialog(null, "You Must Add At Least 1 Product To The Order", "No Product
Added", 1);

}

}

```



```

// show all orders in a new JFrame
private void jButton_SHOW_ORDERS_ActionPerformed(java.awt.event.ActionEvent evt) {

    All_Orders_Form allOrdersForm = new All_Orders_Form();

    allOrdersForm.pack();

    allOrdersForm.setVisible(true);

    allOrdersForm.setLocationRelativeTo(null);

    allOrdersForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

}

// allow only integer
private void jTextField_CUSTOMER_IDKeyTyped(java.awt.event.KeyEvent evt) {

    if(!Character.isDigit(evt.getKeyChar())){

        evt.consume();

    }

}

/**
 * @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 {

        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(MANAGE_ORDERS_FORM.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

```

```

    } catch (InstantiationException ex) {

```

```

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

```

```

    } catch (IllegalAccessException ex) {

```

```

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

```

```

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

```

```

java.util.logging.Logger.getLogger(MANAGE_ORDERS_FORM.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 MANAGE_ORDERS_FORM().setVisible(true);
    }
});
}

```

```

// Variables declaration - do not modify

```

```

private javax.swing.ButtonGroup buttonGroup1;

private javax.swing.JButton jButton_CLEAR_ORDER_TABLE_;

private javax.swing.JButton jButton_INSERT_ORDER_;

private javax.swing.JButton jButton_REMOVE_PRODUCT_FROM_ORDER_TABLEè;

```

```

private javax.swing.JButton jButton_SHOW_ORDERS_;

private javax.swing.JButton jButton_TRANSFER_FROM_PRODUCT_TO_ORDER_;

private javax.swing.JComboBox<String> jComboBox_CATEGORIES_;

private com.toedter.calendar.JDateChooser jDateChooser1;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel_TOTAL;

private javax.swing.JPanel jPanel1;

private javax.swing.JPanel jPanel2;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JScrollPane jScrollPane2;

private javax.swing.JScrollPane jScrollPane3;

private javax.swing.JTable jTable_CUSTOMERS_;

private javax.swing.JTable jTable_PRODUCTS_;

private javax.swing.JTable jTable_PRODUCTS_IN_ORDER_;

private javax.swing.JTextField jTextField_CUSTOMER_ID;

private javax.swing.JTextField jTextField_ORDER_ID;

// End of variables declaration
}

```

## **Manage Products Form**

```

package java_inventory_application;

import java.awt.Color;

import java.awt.Font;

import java.awt.Image;

import java.util.ArrayList;

import javax.swing.ImageIcon;

import javax.swing.JFrame;

import javax.swing.JOptionPane;

import javax.swing.table.JTableHeader;

```

```
public class MANAGE_PRODUCTS_FORM extends javax.swing.JFrame {
```

```
    /**
```

```
     * Creates new form MANAGE_PRODUCTS_FORM
```

```
     */
```

```
    String imagePth = null;
```

```
    CLASS.Product product;
```

```
    public MANAGE_PRODUCTS_FORM() {
```

```
        initComponents();
```

```
        populateJtable("");
```

```
        jTable_Products.setShowGrid(true);
```

```
        jTable_Products.setGridColor(Color.YELLOW);
```

```
        jTable_Products.setSelectionBackground(Color.gray);
```

```
        JTableHeader th = jTable_Products.getTableHeader();
```

```
        th.setFont(new Font("Tahoma", Font.PLAIN, 16));
```

```
    }
```

```
    // populate the jtable
```

```
    public void populateJtable(String val){
```

```
        CLASS.Product prd = new CLASS.Product();
```

```
        ArrayList<CLASS.Product> ProductList = prd.productsList(val);
```

```

String[] colNames = {"Product Id","Name","Price","Quantity","Image","Type"};

Object[][] rows = new Object[ProductList.size()][7];

for(int i = 0; i < ProductList.size(); i++){
    rows[i][0] = ProductList.get(i).getId();
    rows[i][1] = ProductList.get(i).getName();
    rows[i][2] = ProductList.get(i).getPrice();
    rows[i][3] = ProductList.get(i).getQuantity();

    ImageIcon pic = new ImageIcon(new ImageIcon
        (ProductList.get(i).getPicture())
        .getImage()
        .getScaledInstance(120, 80, Image.SCALE_SMOOTH));

    rows[i][4] = pic;

    rows[i][5] = ProductList.get(i).getCategoryName(ProductList.get(i).getId());

}

CLASS.MyTableModel mmd = new CLASS.MyTableModel(rows, colNames);
jTable_Products.setModel(mmd);
jTable_Products.setRowHeight(80);
jTable_Products.getColumnModel().getColumn(5).setPreferredWidth(150);
jTable_Products.getColumnModel().getColumn(4).setPreferredWidth(120);
}

```

```

/**

```

```

    * 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();
    jButton_INSERT_PRODUCT_ = new javax.swing.JButton();
    jButton_UPDATE_PRODUCT_ = new javax.swing.JButton();
    jButton_DELETE_PRODUCT_ = new javax.swing.JButton();
    jScrollPane1 = new javax.swing.JScrollPane();
    jTable_Products = new javax.swing.JTable();
    jTextField_VALUE_TO_SEARCH = new javax.swing.JTextField();
    jButton_SEARCH_ = new javax.swing.JButton();
    jButton_REFRESH_ = new javax.swing.JButton();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    setBackground(new java.awt.Color(255, 153, 153));
    setFocusableWindowState(false);

    jPanel1.setBackground(new java.awt.Color(34, 49, 63));

    jButton_INSERT_PRODUCT_.setBackground(new java.awt.Color(128, 128, 128));
    jButton_INSERT_PRODUCT_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
    jButton_INSERT_PRODUCT_.setForeground(new java.awt.Color(255, 255, 255));
    jButton_INSERT_PRODUCT_.setText("INSERT New Product");
    jButton_INSERT_PRODUCT_.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton_INSERT_PRODUCT_ActionPerformed(evt);
        }
    });
}

```

```

jButton_UPDATE_PRODUCT_.setBackground(new java.awt.Color(128, 128, 128));
jButton_UPDATE_PRODUCT_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_UPDATE_PRODUCT_.setForeground(new java.awt.Color(255, 255, 255));
jButton_UPDATE_PRODUCT_.setText("EDIT Product");
jButton_UPDATE_PRODUCT_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_UPDATE_PRODUCT_ActionPerformed(evt);
    }
});

```

```

jButton_DELETE_PRODUCT_.setBackground(new java.awt.Color(128, 128, 128));
jButton_DELETE_PRODUCT_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_DELETE_PRODUCT_.setForeground(new java.awt.Color(255, 255, 255));
jButton_DELETE_PRODUCT_.setText("DELETE Selected Product");
jButton_DELETE_PRODUCT_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_DELETE_PRODUCT_ActionPerformed(evt);
    }
});

```

```

jTable_Products.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {

    }
));

```

```

jScrollPane1.setViewportView(jTable_Products);

```

```

jTextField_VALUE_TO_SEARCH.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jTextField_VALUE_TO_SEARCH.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {

```

```
        jTextField_VALUE_TO_SEARCHActionPerformed(evt);
    }
});
```

```
jButton_SEARCH_.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jButton_SEARCH_.setText("Search");
jButton_SEARCH_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_SEARCH_ActionPerformed(evt);
    }
});
```

```
jButton_REFRESH_.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jButton_REFRESH_.setText("Refresh");
jButton_REFRESH_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_REFRESH_ActionPerformed(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(61, 61, 61)
            .addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 1181,
                    javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addComponent(jButton_INSERT_PRODUCT_, javax.swing.GroupLayout.PREFERRED_SIZE,
                        286, javax.swing.GroupLayout.PREFERRED_SIZE)
```



```

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

        .addComponent(jButton_UPDATE_PRODUCT_, javax.swing.GroupLayout.PREFERRED_SIZE,
283, javax.swing.GroupLayout.PREFERRED_SIZE)

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

        .addComponent(jButton_DELETE_PRODUCT_, javax.swing.GroupLayout.PREFERRED_SIZE,
283, javax.swing.GroupLayout.PREFERRED_SIZE)))

    .addContainerGap(42, Short.MAX_VALUE))

    .addGroup(jPanel1Layout.createSequentialGroup())

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

        .addGroup(jPanel1Layout.createSequentialGroup())

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

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

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

            .addComponent(jTextField_VALUE_TO_SEARCH, javax.swing.GroupLayout.PREFERRED_SIZE,
1181, javax.swing.GroupLayout.PREFERRED_SIZE))

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

);

jPanel1Layout.setVerticalGroup(

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

        .addGroup(jPanel1Layout.createSequentialGroup())

            .addContainerGap()

            .addComponent(jTextField_VALUE_TO_SEARCH, javax.swing.GroupLayout.PREFERRED_SIZE, 25,
javax.swing.GroupLayout.PREFERRED_SIZE)

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

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

                .addComponent(jButton_SEARCH_)

                .addComponent(jButton_REFRESH_))

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

            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 474,
javax.swing.GroupLayout.PREFERRED_SIZE)

            .addGap(18, 18, 18)

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

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

```

```
        .addComponent(jButton_UPDATE_PRODUCT_, javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
        .addComponent(jButton_DELETE_PRODUCT_, javax.swing.GroupLayout.PREFERRED_SIZE, 52,
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)
```

```
        .addGroup(layout.createSequentialGroup()
```

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

```
            .addComponent(jPanel1, 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.createSequentialGroup()
```

```
            .addGap(0, 0, 0)
```

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

```
    );
```

```
    pack();
```

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

```
// button insert product
```

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

```
    Add_Product_Form addProductForm = new Add_Product_Form();
```

```
    addProductForm.pack();
```

```
    addProductForm.setVisible(true);
```

```
    addProductForm.setLocationRelativeTo(null);
```

```

        addProductForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);

    }

    // button search
    private void jButton_SEARCH_ActionPerformed(java.awt.event.ActionEvent evt) {

        populateJtable(jTextField_VALUE_TO_SEARCH.getText());

    }

    // button update product
    private void jButton_UPDATE_PRODUCT_ActionPerformed(java.awt.event.ActionEvent evt) {

        try{

            // open the edit product form and display data into the fields
            Edit_Product_Form editProductForm = new Edit_Product_Form();

            Integer rowIndex = jTable_Products.getSelectedRow();

            editProductForm.productId = Integer.valueOf(jTable_Products.getValueAt(rowIndex, 0).toString());
            editProductForm.jTextField_Name.setText(jTable_Products.getValueAt(rowIndex, 1).toString());
            editProductForm.jTextField_Price.setText(jTable_Products.getValueAt(rowIndex, 2).toString());
            editProductForm.jTextField_Quantity.setText(jTable_Products.getValueAt(rowIndex, 3).toString());

            editProductForm.jComboBox1.setSelectedItem(jTable_Products.getValueAt(rowIndex, 5));

            // display the image in jlabel
            ImageIcon image1 = (ImageIcon)jTable_Products.getValueAt(rowIndex, 4);

```

```
        Image image2 = image1.getImage().getScaledInstance(editProductForm.jLabel_Picture.getWidth(),
editProductForm.jLabel_Picture.getHeight()
```

```
        , Image.SCALE_SMOOTH);
```

```
        ImageIcon image3 = new ImageIcon(image2);
```

```
        editProductForm.jLabel_Picture.setIcon(image3);
```

```
        editProductForm.setVisible(true);
```

```
        editProductForm.pack();
```

```
        editProductForm.setLocationRelativeTo(null);
```

```
        editProductForm.setDefaultCloseOperation(JFrame.DISPOSE_ON_CLOSE);
```

```
    }catch(Exception Ex){
```

```
        JOptionPane.showMessageDialog(null, "You Must Select A Product From The Table", "No Product
Selected", 2);
```

```
    }
```

```
}
```

```
// button delete product
```

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

```
    try{
```

```
        Integer rowIndex = jTable_Products.getSelectedRow();
```

```
        Integer id = Integer.valueOf(jTable_Products.getValueAt(rowIndex, 0).toString());
```

```
        CLASS.Product.deleteProduct(id);
```

```
    }catch(Exception ex){
```

```
        JOptionPane.showMessageDialog(null, "You Must Select A Product From The Table", "No Product
Selected", 2);
```

```
    }
```

```
}
```

```
// button refresh
```

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

```

        populateJtable("");

    }

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

        // TODO add your handling code here:

    }

    /**
     * @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 {
            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(MANAGE_PRODUCTS_FORM.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

        } catch (InstantiationException ex) {

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

        } catch (IllegalAccessException ex) {

```

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

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

```
java.util.logging.Logger.getLogger(MANAGE_PRODUCTS_FORM.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 MANAGE_PRODUCTS_FORM().setVisible(true);
```

```
    }
```

```
});
```

```
}
```

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

```
private javax.swing.JButton jButton_DELETE_PRODUCT_;
```

```
private javax.swing.JButton jButton_INSERT_PRODUCT_;
```

```
private javax.swing.JButton jButton_REFRESH_;
```

```
private javax.swing.JButton jButton_SEARCH_;
```

```
private javax.swing.JButton jButton_UPDATE_PRODUCT_;
```

```
private javax.swing.JPanel jPanel1;
```

```
private javax.swing.JScrollPane jScrollPane1;
```

```
private javax.swing.JTable jTable_Products;
```

```
private javax.swing.JTextField jTextField_VALUE_TO_SEARCH;
```

```
// End of variables declaration
```

```
}
```

## **Manage Users Form**

```
package java_inventory_application;
```

```
import java.awt.Color;
```

```
import java.awt.Font;

import java.util.ArrayList;

import javax.swing.JOptionPane;

import javax.swing.table.DefaultTableModel;

import javax.swing.table.JTableHeader;


public class MANAGE_USERS_FORM extends javax.swing.JFrame {


    /**
     * Creates new form MANAGE_USERS_FORM
     */
    public MANAGE_USERS_FORM() {
        initComponents();

        populateJtable();

        jTable_USERS.setShowGrid(true);

        jTable_USERS.setGridColor(Color.YELLOW);

        jTable_USERS.setSelectionBackground(Color.gray);

        JTableHeader th = jTable_USERS.getTableHeader();

        th.setFont(new Font("Tahoma", Font.PLAIN, 16));
    }


    // function to populate the jtable with users data
    public void populateJtable(){
```

```

CLASS.C_Users user = new CLASS.C_Users();

ArrayList<CLASS.C_Users> userList = user.UsersList();

String[] colNames = {"Employee Id","username","password","fullname"};
Object[][] rows = new Object[userList.size()][6];

for(int i = 0; i < userList.size(); i++){

    rows[i][0] = userList.get(i).getId();
    rows[i][1] = userList.get(i).getUsername();
    rows[i][2] = userList.get(i).getPassword();
    rows[i][3] = userList.get(i).getFullname();

}

DefaultTableModel mmodel = new DefaultTableModel(rows, colNames);
jTable_USERS.setModel(mmodel);
jTable_USERS.setRowHeight(45);
}

/**
 * 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();
jTextField_ID = new javax.swing.JTextField();
jLabel4 = new javax.swing.JLabel();
jTextField_USERNAME = new javax.swing.JTextField();
jLabel3 = new javax.swing.JLabel();
jTextField_PASSWORD = new javax.swing.JTextField();
jScrollPane1 = new javax.swing.JScrollPane();
jTable_USERS = new javax.swing.JTable();
jButton_INSERT_ = new javax.swing.JButton();
jButton_UPDATE_ = new javax.swing.JButton();
jButton_DELETE_ = new javax.swing.JButton();
jButton_CLEAR_ = new javax.swing.JButton();
jLabel8 = new javax.swing.JLabel();
jTextField_FULLNAME = new javax.swing.JTextField();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

jPanel1.setBackground(new java.awt.Color(34, 49, 63));

jLabel1.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel1.setForeground(new java.awt.Color(255, 255, 255));
jLabel1.setText("Employee ID:");

jTextField_ID.setEditable(false);
jTextField_ID.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

jLabel4.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel4.setForeground(new java.awt.Color(255, 255, 255));
jLabel4.setText("Username:");

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

```

jLabel3.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel3.setForeground(new java.awt.Color(255, 255, 255));
jLabel3.setText("Password:");

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

jTable_USERS.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {

    },
    new String [] {

    }
));
jTable_USERS.setSelectionBackground(new java.awt.Color(153, 153, 153));
jTable_USERS.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        jTable_USERSMouseClicked(evt);
    }
});
jScrollPane1.setViewportViewView(jTable_USERS);

jButton_INSERT_.setBackground(new java.awt.Color(128, 128, 128));
jButton_INSERT_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_INSERT_.setForeground(new java.awt.Color(255, 255, 255));
jButton_INSERT_.setText("Add");
jButton_INSERT_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_INSERT_ActionPerformed(evt);
    }
});

```

```
jButton_UPDATE_.setBackground(new java.awt.Color(128, 128, 128));
jButton_UPDATE_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_UPDATE_.setForeground(new java.awt.Color(255, 255, 255));
jButton_UPDATE_.setText("Update");
jButton_UPDATE_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_UPDATE_ActionPerformed(evt);
    }
});
```

```
jButton_DELETE_.setBackground(new java.awt.Color(128, 128, 128));
jButton_DELETE_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_DELETE_.setForeground(new java.awt.Color(255, 255, 255));
jButton_DELETE_.setText("Delete");
jButton_DELETE_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_DELETE_ActionPerformed(evt);
    }
});
```

```
jButton_CLEAR_.setBackground(new java.awt.Color(128, 128, 128));
jButton_CLEAR_.setFont(new java.awt.Font("Tahoma", 0, 16)); // NOI18N
jButton_CLEAR_.setForeground(new java.awt.Color(255, 255, 255));
jButton_CLEAR_.setText("RESET");
jButton_CLEAR_.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton_CLEAR_ActionPerformed(evt);
    }
});
```

```
jLabel8.setFont(new java.awt.Font("Arial", 0, 18)); // NOI18N
jLabel8.setForeground(new java.awt.Color(255, 255, 255));
jLabel8.setText("FullName:");
```

[illegible]

```

        .addComponent(jButton_CLEAR_, javax.swing.GroupLayout.DEFAULT_SIZE, 307,
Short.MAX_VALUE)

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

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

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

        .addGap(18, 18, 18)))

        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 700,
javax.swing.GroupLayout.PREFERRED_SIZE)

        .addContainerGap())

);

jPanel1Layout.setVerticalGroup(

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

.addGroup(jPanel1Layout.createSequentialGroup())

.addContainerGap()

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

.addComponent(jScrollPane1, javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.PREFERRED_SIZE, 0, Short.MAX_VALUE)

.addGroup(jPanel1Layout.createSequentialGroup())

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

.addComponent(jLabel1)

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

.addGap(18, 18, 18)

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

.addComponent(jLabel4)

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

.addGap(18, 18, 18)

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

.addComponent(jLabel3)

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

.addGap(18, 18, 18)

```

```

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

            .addComponent(jLabel8)

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

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

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

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

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

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

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

        .addGap(18, 18, 18)

        .addComponent(jButton_DELETE_, javax.swing.GroupLayout.PREFERRED_SIZE, 35,
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.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)

    );

```

```

    pack();

```

```

} // </editor-fold>

```

```

// get selected user data from jtable to textfields

```

```

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

    Integer rowIndex = jTable_USERS.getSelectedRow();

    jTextField_ID.setText(jTable_USERS.getValueAt(rowIndex, 0).toString());
    jTextField_USERNAME.setText(jTable_USERS.getValueAt(rowIndex, 1).toString());
    jTextField_PASSWORD.setText(jTable_USERS.getValueAt(rowIndex, 2).toString());
    jTextField_FULLNAME.setText(jTable_USERS.getValueAt(rowIndex, 3).toString());

}

// button add a new user
private void jButton_INSERT_ActionPerformed(java.awt.event.ActionEvent evt) {

    if(verifFields())
    {
        String uname = jTextField_USERNAME.getText();
        String pass = jTextField_PASSWORD.getText();
        String fname = jTextField_FULLNAME.getText();

        CLASS.C_Users user = new CLASS.C_Users(null,uname,pass,null,fname);
        CLASS.C_Users.insertUser(user);
        populateJtable();
    }

}

// button update user
private void jButton_UPDATE_ActionPerformed(java.awt.event.ActionEvent evt) {

    try{

```

```

if(verifFields())
{
    Integer id = Integer.valueOf(jTextField_ID.getText());
    String uname = jTextField_USERNAME.getText();
    String pass = jTextField_PASSWORD.getText();
    String fname = jTextField_FULLNAME.getText();

    // username`, `password`, `user_type`, `fullname`, `tel`, `email
    CLASS.C_Users user = new CLASS.C_Users(id,uname,pass,null,fname);
    CLASS.C_Users.updateUser(user);
    populateJtable();
}

}

catch(Exception ex){
    JOptionPane.showMessageDialog(null, "Select a User Before Editing", "No User Selected", 1);
}

}

// button delete user
private void jButton_DELETE_ActionPerformed(java.awt.event.ActionEvent evt) {

    try{
        Integer id = Integer.valueOf(jTextField_ID.getText());
        CLASS.C_Users.deleteUser(id);
        populateJtable();
        jButton_CLEAR_ActionPerformed(null);
    }catch(Exception ex){
        JOptionPane.showMessageDialog(null, "Select a User Before Removing", "No User Selected", 1);
    }
}

```



```
}
```

```
// button clear all textfields
```

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

```
    jTextField_ID.setText("");
```

```
    jTextField_USERNAME.setText("");
```

```
    jTextField_PASSWORD.setText("");
```

```
    jTextField_FULLNAME.setText("");
```

```
}
```

```
// function to check empty fields
```

```
public boolean verifFields()
```

```
{
```

```
    if(jTextField_USERNAME.getText().equals("") || jTextField_PASSWORD.getText().equals("") ||  
jTextField_FULLNAME.getText().equals(""))
```

```
    {
```

```
        JOptionPane.showMessageDialog(null, "One Or More Fields Are Empty", "Empty Fields", 0);
```

```
        return false;
```

```
    }else{
```

```
        return 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 {
        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(MANAGE_USERS_FORM.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);

    } catch (InstantiationException ex) {

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

    } catch (IllegalAccessException ex) {

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

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(MANAGE_USERS_FORM.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 MANAGE_USERS_FORM().setVisible(true);
    }
    });
}

// Variables declaration - do not modify
private javax.swing.JButton jButton_CLEAR_;
private javax.swing.JButton jButton_DELETE_;
private javax.swing.JButton jButton_INSERT_;
private javax.swing.JButton jButton_UPDATE_;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel3;
private javax.swing.JLabel jLabel4;
private javax.swing.JLabel jLabel8;
private javax.swing.JPanel jPanel1;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JTable jTable_USERS;
private javax.swing.JTextField jTextField_FULLNAME;
private javax.swing.JTextField jTextField_ID;
private javax.swing.JTextField jTextField_PASSWORD;
private javax.swing.JTextField jTextField_USERNAME;
// End of variables declaration
}
```