UNIVERSIDAD SABES
PLANTEL CELAYA

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Código Fuente de

Sabes_equipo

Tabla de contenido

Sabes_equipo

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

import java.util.Calendar;

/**
 *
 * @author ivanhg
 */
public class Sabes_equipo {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
    app mostrar = new app();
    mostrar.setSize(960, 640);
    mostrar.show();
    mostrar.setLocationRelativeTo(null);
    }

}
```

herramienta

```java
package sabes_equipo;

import java.awt.HeadlessException;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import javax.swing.JOptionPane;

/**
 *
 * @author ivanhg
 */
public class herramienta {

    private static Connection con;
    Statement st;
    ResultSet rs;
    PreparedStatement ps;

    private static final String DRIVER = "com.mysql.jdbc.Driver";
    private static final String URL = "jdbc:mysql://localhost:3306/Equipo_sabes";
    private static final String USERNAME = "root";
    private static final String PASSWORD = "";

    public herramienta() {
        con = null;
        try{
            Class.forName (DRIVER);
            con = DriverManager.getConnection(URL, USERNAME, PASSWORD);
            //Para avanzar con el boton
            st = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_READ_ONLY);
            //Aqui termina
            if (con != null){
                //JOptionPane.showMessageDialog(null, "Conexión establecida...");
            }

        } catch (HeadlessException | ClassNotFoundException | SQLException e){
            JOptionPane.showMessageDialog(null, "¡Error de conexión!");

        }
    }
```

```java
//Para conectar a BD en otras clases
public Connection conectar(){
    return con;
}

//Para desconectar de BD
public void desconectar(){
    con = null;
    if (con == null){
        JOptionPane.showMessageDialog(null, "Conexión terminada...");
    }

}

public ResultSet consulta(String sql) throws SQLException
{
    try{
        rs = st.executeQuery(sql);

    }catch (SQLException e){
        throw e;

    }
        return rs;


}
}
```

tb_profesor

```java
package sabes_equipo;

import java.awt.event.KeyEvent;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import java.sql.SQLException;
import java.util.ArrayList;
import javax.swing.JOptionPane;
import javax.swing.table.DefaultTableModel;

/**
 *
 * @author ivanhg
 */
public class tb_profesor extends javax.swing.JFrame {

    DefaultTableModel modelo = new DefaultTableModel();
    ResultSet consulta;

    public tb_profesor() {
        initComponents();

        this.setLocationRelativeTo(null);
        txtid.setVisible(false);
        desactivarNav();
        desactivarCajas();
        btnguardar.setEnabled(false);
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(false);

        try {

            tblprofesor.setModel(modelo);

            PreparedStatement ps = null;
            ResultSet rs = null;
            herramienta conexion = new herramienta();
            Connection reg = conexion.conectar();

            String sql = "SELECT rfc, nombre, telefono, correo FROM profesor";
            System.out.println(sql);
```

```java
        ps = reg.prepareStatement(sql);
        rs = ps.executeQuery();

        ResultSetMetaData rsMd = rs.getMetaData();
        int cantidadColumnas = rsMd.getColumnCount();

        modelo.addColumn("RFC");
        modelo.addColumn("Nombre");
        modelo.addColumn("Telefono");
        modelo.addColumn("Correo");

        int[] wide = {100, 200, 50, 150};

        for (int x = 0; x < cantidadColumnas; x++) {
            tblprofesor.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
        }

        while (rs.next()) {
            Object[] filas = new Object[cantidadColumnas];
            for (int i = 0; i < cantidadColumnas; i++) {
                filas[i] = rs.getObject(i + 1);
            }

            modelo.addRow(filas);

        }

    } catch (SQLException e) {
        System.err.println(e.toString());

    }

}

int pos = 0;

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

    jScrollPane1 = new javax.swing.JScrollPane();
    tblprofesor = new javax.swing.JTable();
    btnbuscar = new javax.swing.JButton();
    txtbusqueda_rfc = new javax.swing.JTextField();
    lblrfc = new javax.swing.JLabel();
    btnguardar = new javax.swing.JButton();
    btneliminar = new javax.swing.JButton();
    btnmodificar = new javax.swing.JButton();
```

```java
lblnombre = new javax.swing.JLabel();
lbltelefono = new javax.swing.JLabel();
lblcorreo = new javax.swing.JLabel();
txtnombre = new javax.swing.JTextField();
txttelefono = new javax.swing.JTextField();
txtcorreo = new javax.swing.JTextField();
lblbusqueda_rfc = new javax.swing.JLabel();
txtrfc = new javax.swing.JTextField();
txtid = new javax.swing.JTextField();
btnlimpiar = new javax.swing.JButton();
btnnext = new javax.swing.JButton();
btnprev = new javax.swing.JButton();
btn1st = new javax.swing.JButton();
btnend = new javax.swing.JButton();
btninfo = new javax.swing.JButton();
btnsalir = new javax.swing.JButton();
btnnuevo = new javax.swing.JButton();
lbllogo = new javax.swing.JLabel();
lblautor = new javax.swing.JLabel();
lblversion = new javax.swing.JLabel();
jbtnbackp = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

tblprofesor.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null},
        {null, null, null, null},
        {null, null, null, null},
        {null, null, null, null}
    },
    new String [] {
        "RFC", "Nombre", "Telefono", "Correo"
    }
) {
    Class[] types = new Class [] {
        java.lang.String.class, java.lang.String.class, java.lang.String.class,
java.lang.String.class
    };
    boolean[] canEdit = new boolean [] {
        false, false, false, false
    };

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

    public boolean isCellEditable(int rowIndex, int columnIndex) {
```

```java
                return canEdit [columnIndex];
            }
        });
        tblprofesor.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                tblprofesorMouseClicked(evt);
            }
        });
        tblprofesor.addKeyListener(new java.awt.event.KeyAdapter() {
            public void keyReleased(java.awt.event.KeyEvent evt) {
                tblprofesorKeyReleased(evt);
            }
        });
        jScrollPane1.setViewportView(tblprofesor);

        btnbuscar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/filtro_3.png"))); // NOI18N
        btnbuscar.setText("Filtrar");
        btnbuscar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnbuscarActionPerformed(evt);
            }
        });

        lblrfc.setText("RFC");

        btnguardar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/guardar.png"))); // NOI18N
        btnguardar.setText("Guardar");
        btnguardar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnguardarActionPerformed(evt);
            }
        });

        btneliminar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/eliminar.png"))); // NOI18N
        btneliminar.setText("Eliminar");
        btneliminar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btneliminarActionPerformed(evt);
            }
        });

        btnmodificar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/editar.png"))); // NOI18N
        btnmodificar.setText("Modificar");
        btnmodificar.addActionListener(new java.awt.event.ActionListener() {
```

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

    lblnombre.setText("Nombre");

    lbltelefono.setText("Telefono");

    lblcorreo.setText("Correo");

    lblbusqueda_rfc.setText("RFC");

    txtid.setEnabled(false);

    btnlimpiar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/limpiar.png"))); // NOI18N
    btnlimpiar.setText("Limpiar");
    btnlimpiar.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnlimpiarActionPerformed(evt);
        }
    });

    btnnext.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/next.png"))); // NOI18N
    btnnext.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnnextActionPerformed(evt);
        }
    });

    btnprev.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/prev.png"))); // NOI18N
    btnprev.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnprevActionPerformed(evt);
        }
    });

    btn1st.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/inicio.png"))); // NOI18N
    btn1st.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btn1stActionPerformed(evt);
        }
    });
```

```java
        btnend.setIcon(new javax.swing.ImageIcon(getClass().getResource("/img/fin.png")));
// NOI18N
        btnend.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnendActionPerformed(evt);
            }
        });

        btninfo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/info_3.png"))); // NOI18N
        btninfo.setText("info");
        btninfo.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btninfoActionPerformed(evt);
            }
        });

        btnsalir.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/salir_3.png"))); // NOI18N
        btnsalir.setText("Salir");
        btnsalir.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnsalirActionPerformed(evt);
            }
        });

        btnnuevo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/nuevo.png"))); // NOI18N
        btnnuevo.setText("Nuevo");
        btnnuevo.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnnuevoActionPerformed(evt);
            }
        });

        lbllogo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/sabes_1.png"))); // NOI18N

        lblautor.setFont(new java.awt.Font("Lucida Grande", 0, 24)); // NOI18N
        lblautor.setText("SABES");

        lblversion.setText("Control de profesores");

        jbtnbackp.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/back_32.png"))); // NOI18N
        jbtnbackp.setText("Atras");
        jbtnbackp.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
                jbtnbackpActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                .addGroup(layout.createSequentialGroup()
                    .addGap(26, 26, 26)
                    .addComponent(lbllogo)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(lblversion)
                        .addComponent(lblautor, javax.swing.GroupLayout.PREFERRED_SIZE,
167, javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                        .addGap(15, 15, 15)
                        .addComponent(jScrollPane1,
javax.swing.GroupLayout.PREFERRED_SIZE, 540,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(20, 20, 20)
                        .addComponent(lblbusqueda_rfc)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .addComponent(txtbusqueda_rfc,
javax.swing.GroupLayout.PREFERRED_SIZE, 417,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(btnbuscar)))
                .addGap(35, 35, 35)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(lblcorreo)
                        .addComponent(btnnuevo))
```

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```
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                    .addComponent(btnguardar)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                    .addComponent(jbtnbackp, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(btnmodificar,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                    .addComponent(btneliminar)
                    .addComponent(btnlimpiar)))
                .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(lbltelefono)
                    .addComponent(lblnombre)
                    .addComponent(lblrfc))
                .addGap(26, 26, 26)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
false)
                    .addGroup(layout.createSequentialGroup()
                    .addComponent(txtid, javax.swing.GroupLayout.PREFERRED_SIZE,
102, javax.swing.GroupLayout.PREFERRED_SIZE)

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

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(txtrfc, javax.swing.GroupLayout.PREFERRED_SIZE,
334, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(txtnombre,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

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```
                    .addComponent(txtcorreo,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(txttelefono,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(btn1st)
                        .addGap(18, 18, 18)
                        .addComponent(btnprev)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(btnnext)
                        .addGap(18, 18, 18)
                        .addComponent(btnend))))))
            .addGap(0, 19, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(16, 16, 16)
                    .addComponent(lbllogo))
                .addGroup(layout.createSequentialGroup()
                    .addGap(27, 27, 27)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(lblautor)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(txtid, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnsalir)
                        .addComponent(btninfo)))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(lblversion)))
                .addGap(26, 26, 26)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(btnbuscar)
                    .addComponent(lblbusqueda_rfc)
                    .addComponent(txtbusqueda_rfc,
javax.swing.GroupLayout.PREFERRED_SIZE,
```

```
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(lblrfc)
                .addComponent(txtrfc, javax.swing.GroupLayout.PREFERRED_SIZE,
26, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(lblnombre)
                .addComponent(txtnombre,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(22, 22, 22)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(lbltelefono)
                .addComponent(txttelefono,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(lblcorreo)
                .addComponent(txtcorreo,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(btnprev)
                .addComponent(btn1st)
                .addComponent(btnend)
                .addComponent(btnnext))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 81,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(btnnuevo)
```

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```java
                .addComponent(btnguardar)
                .addComponent(btnmodificar)
                .addComponent(btneliminar)))
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,
0, Short.MAX_VALUE))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(btnlimpiar)
                .addComponent(jbtnbackp))
            .addGap(19, 19, 19))
    );

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

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

    String rfc = txtbusqueda_rfc.getText();
    String where = "";
    if (!"".equals(rfc)) {
      where = " WHERE rfc = '" + rfc + "'";

    }

    try {
      DefaultTableModel modelo = new DefaultTableModel();
      tblprofesor.setModel(modelo);
      PreparedStatement ps = null;
      ResultSet rs = null;
      herramienta conexion = new herramienta();
      Connection reg = conexion.conectar();

      String sql = "SELECT rfc, nombre, telefono, correo FROM profesor" + where;
      System.out.println(sql);
      ps = reg.prepareStatement(sql);
      rs = ps.executeQuery();

      ResultSetMetaData rsMd = rs.getMetaData();
      int cantidadColumnas = rsMd.getColumnCount();

      modelo.addColumn("RFC");
      modelo.addColumn("Nombre");
      modelo.addColumn("Telefono");
      modelo.addColumn("Correo");

      int[] wide = {100, 200, 50, 150};
```

```java
            for (int x = 0; x < cantidadColumnas; x++) {
                tblprofesor.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
            }

            while (rs.next()) {
                Object[] filas = new Object[cantidadColumnas];
                for (int i = 0; i < cantidadColumnas; i++) {
                    filas[i] = rs.getObject(i + 1);
                }
                modelo.addRow(filas);

            }

        } catch (Exception e) {
            System.out.println(e);
            JOptionPane.showMessageDialog(null, "Error");

        }

        limpiar();
    }

    private void btnguardarActionPerformed(java.awt.event.ActionEvent evt) {
        PreparedStatement ps = null;

        if (txtrfc.getText().isEmpty() || txtnombre.getText().isEmpty() ||
txttelefono.getText().isEmpty() || txtcorreo.getText().isEmpty()) {
            JOptionPane.showMessageDialog(null, "Favor de llenar todos los campos...");
        } else {

            try {
                herramienta conexion = new herramienta();
                com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();
                ps = reg.prepareStatement("INSERT INTO profesor (rfc, nombre, telefono,
correo) VALUES (?,?,?,?)");
                ps.setString(1, txtrfc.getText());
                ps.setString(2, txtnombre.getText());
                ps.setString(3, txttelefono.getText());
                ps.setString(4, txtcorreo.getText());

                ps.execute();

                JOptionPane.showMessageDialog(null, "Profesor Guardado");
                Object[] fila = new Object[4];
                fila[0] = txtrfc.getText();
                fila[1] = txtnombre.getText();
```

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```java
                fila[2] = txttelefono.getText();
                fila[3] = txtcorreo.getText();
                modelo.addRow(fila);
                limpiar();

            } catch (SQLException e) {

                System.out.println(e);
            }

            btnguardar.setEnabled(false);
            btnlimpiar.setEnabled(false);
            actualizarbd();
            desactivarCajas();
        }

    }

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

        int Fila = tblprofesor.getSelectedRow();

        PreparedStatement ps = null;

        if (txtrfc.getText().isEmpty() || txtnombre.getText().isEmpty() ||
txttelefono.getText().isEmpty() || txtcorreo.getText().isEmpty()) {
            JOptionPane.showMessageDialog(null, "Favor de llenar todos los campos...");
        } else {

            try {
                herramienta conexion = new herramienta();
                com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();
                ps = reg.prepareStatement("UPDATE profesor SET rfc=?, nombre=?,
telefono=?, correo=? WHERE id_prof=?");

                ps.setString(1, txtrfc.getText());
                ps.setString(2, txtnombre.getText());
                ps.setString(3, txttelefono.getText());
                ps.setString(4, txtcorreo.getText());
                ps.setString(5, txtid.getText());

                ps.execute();

                JOptionPane.showMessageDialog(null, "Profesor Modificado");
                tblprofesor.setValueAt(txtrfc.getText(), Fila, 0);
                tblprofesor.setValueAt(txtnombre.getText(), Fila, 1);
                tblprofesor.setValueAt(txttelefono.getText(), Fila, 2);
```

```java
            tblprofesor.setValueAt(txtcorreo.getText(), Fila, 3);

            limpiar();

        } catch (SQLException e) {
            System.out.println(e);
            JOptionPane.showMessageDialog(null, "Error al Modificar Profesor");
            desactivarCajas();
        }
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(false);

    }

}

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

        PreparedStatement ps = null;
        try {

            herramienta conexion = new herramienta();
            com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

            int Fila = tblprofesor.getSelectedRow();
            String rfc = tblprofesor.getValueAt(Fila, 0).toString();

            ps = reg.prepareStatement("DELETE FROM profesor WHERE id_prof=?");
            //Para eliminar desde columna
            //ps.setString(1, rfc);
            ps.setString(1, txtid.getText());
            ps.execute();

            modelo.removeRow(Fila);
            JOptionPane.showMessageDialog(null, "Profesor Eliminado");
            limpiar();

        } catch (SQLException e) {
            System.out.println(e.toString());
            JOptionPane.showMessageDialog(null, "Error al Eliminar Profesor");

        }
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(false);
        actualizarbd();
```

```java
        desactivarCajas();
    }

    private void tblprofesorMouseClicked(java.awt.event.MouseEvent evt) {
        PreparedStatement ps = null;
        ResultSet rs = null;
        try {
            herramienta conexion = new herramienta();
            com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

            int Fila = tblprofesor.getSelectedRow();
            String rfc = tblprofesor.getValueAt(Fila, 0).toString();

            ps = reg.prepareStatement("SELECT id_prof, rfc, nombre, telefono, correo FROM
profesor WHERE rfc=?");
            ps.setString(1, rfc);
            rs = ps.executeQuery();

            while (rs.next()) {
                txtid.setText(rs.getString("id_prof"));
                txtrfc.setText(rs.getString("RFC"));
                txtnombre.setText(rs.getString("nombre"));
                txttelefono.setText(rs.getString("telefono"));
                txtcorreo.setText(rs.getString("correo"));

            }
        } catch (SQLException e) {
            System.out.println(e.toString());
        }

        desactivarNav();
        activarCajas();
        btnguardar.setEnabled(false);
        btnmodificar.setEnabled(true);
        btneliminar.setEnabled(true);
        btnlimpiar.setEnabled(true);
    }

    public void muestra(ResultSet consulta) throws SQLException {
        txtid.setText(consulta.getString(1));
        txtrfc.setText(consulta.getString(2));
        txtnombre.setText(consulta.getString(3));
        txttelefono.setText(consulta.getString(4));
        txtcorreo.setText(consulta.getString(5));
    }

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

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```
      limpiar();
      btnguardar.setEnabled(false);
      btnmodificar.setEnabled(false);
      btneliminar.setEnabled(false);
      desactivarNav();
      desactivarCajas();
      btnlimpiar.setEnabled(false);
   }


   private void btnnextActionPerformed(java.awt.event.ActionEvent evt) {
      try {
         consulta.next();
         muestra(consulta);
      } catch (Exception e) {
         System.out.println(e);


      }
      desactivarCajas();
      btnguardar.setEnabled(false);
   }

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

      if (evt.getKeyCode() == KeyEvent.VK_DOWN || (evt.getKeyCode() ==
KeyEvent.VK_UP)) {

         PreparedStatement ps = null;
         ResultSet rs = null;
         try {
            herramienta conexion = new herramienta();
            com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

            int Fila = tblprofesor.getSelectedRow();
            String rfc = tblprofesor.getValueAt(Fila, 0).toString();

            ps = reg.prepareStatement("SELECT id_prof, rfc, nombre, telefono, correo
FROM profesor WHERE rfc=?");
            ps.setString(1, rfc);
            rs = ps.executeQuery();

            while (rs.next()) {

               txtid.setText(rs.getString("id_prof"));
               txtrfc.setText(rs.getString("RFC"));
               txtnombre.setText(rs.getString("nombre"));
               txttelefono.setText(rs.getString("telefono"));
```

```java
            txtcorreo.setText(rs.getString("correo"));
        }
    } catch (SQLException e) {
        System.out.println(e.toString());
    }

    desactivarNav();
    activarCajas();
    btnguardar.setEnabled(false);
    btnmodificar.setEnabled(true);
    btneliminar.setEnabled(true);
    btnlimpiar.setEnabled(true);

    }

}

private void btn1stActionPerformed(java.awt.event.ActionEvent evt) {
    try {

        herramienta conn = new herramienta();
        String cons = "SELECT * FROM profesor";
        consulta = conn.consulta(cons);
        consulta.first();

        muestra(consulta);

    } catch (Exception e) {
        System.out.println(e);
    }

    activarNav();
    desactivarCajas();
    btnguardar.setEnabled(false);
    btnmodificar.setEnabled(false);
    btneliminar.setEnabled(false);
}

private void btnsalirActionPerformed(java.awt.event.ActionEvent evt) {
    dispose();
}

private void btninfoActionPerformed(java.awt.event.ActionEvent evt) {
    JOptionPane.showMessageDialog(null, "¿Qué hay de nuevo?\n"
        + "Opción de filtrar por RFC.");
}

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

```java
        limpiar();
        btnguardar.setEnabled(true);
        activarCajas();
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(true);
    }

    private void btnprevActionPerformed(java.awt.event.ActionEvent evt) {
        try {
            consulta.previous();
            muestra(consulta);
        } catch (Exception e) {
            System.out.println(e);

        }
        desactivarCajas();
        btnguardar.setEnabled(false);
    }

    private void btnendActionPerformed(java.awt.event.ActionEvent evt) {
        try {
            consulta.last();
            muestra(consulta);
        } catch (Exception e) {
            System.out.println(e);

        }
        desactivarCajas();
        btnguardar.setEnabled(false);
    }

    private void jbtnbackpActionPerformed(java.awt.event.ActionEvent evt) {
        Administrador mostraradministrador = new Administrador ();
        mostraradministrador.setSize(960, 640);
        mostraradministrador.setVisible(true);
        mostraradministrador.setLocationRelativeTo(null);
        dispose();
    }


    private void limpiar() {
        txtid.setText("");
        txtrfc.setText("");
        txtnombre.setText("");
        txttelefono.setText("");
        txtcorreo.setText("");
    }
```

```java
private void desactivarNav() {
    btnnext.setEnabled(false);
    btnprev.setEnabled(false);
    btnend.setEnabled(false);
}

private void activarNav() {
    btnnext.setEnabled(true);
    btnprev.setEnabled(true);
    btnend.setEnabled(true);
}

private void activarCajas() {
    txtrfc.setEnabled(true);
    txtnombre.setEnabled(true);
    txttelefono.setEnabled(true);
    txtcorreo.setEnabled(true);
}

private void desactivarCajas() {
    txtrfc.setEnabled(false);
    txtnombre.setEnabled(false);
    txttelefono.setEnabled(false);
    txtcorreo.setEnabled(false);
}

private void actualizarbd() {
    try {
        DefaultTableModel modelo = new DefaultTableModel();
        tblprofesor.setModel(modelo);
        PreparedStatement ps = null;
        ResultSet rs = null;
        herramienta conexion = new herramienta();
        Connection reg = conexion.conectar();

        String sql = "SELECT rfc, nombre, telefono, correo FROM profesor";
        System.out.println(sql);
        ps = reg.prepareStatement(sql);
        rs = ps.executeQuery();

        ResultSetMetaData rsMd = rs.getMetaData();
        int cantidadColumnas = rsMd.getColumnCount();

        modelo.addColumn("RFC");
        modelo.addColumn("Nombre");
        modelo.addColumn("Telefono");
        modelo.addColumn("Correo");
```

```java
        int[] wide = {100, 200, 50, 150};

        for (int x = 0; x < cantidadColumnas; x++) {
            tblprofesor.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
        }

        while (rs.next()) {
            Object[] filas = new Object[cantidadColumnas];
            for (int i = 0; i < cantidadColumnas; i++) {
                filas[i] = rs.getObject(i + 1);
            }
            modelo.addRow(filas);

        }

    } catch (Exception e) {
        System.out.println(e);
        JOptionPane.showMessageDialog(null, "Error");

    }
}

/**
 * @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 ("Windows".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(tb_profesor.class.getName()).log(java.util.logging.Level
.SEVERE, null, ex);
    } catch (InstantiationException ex) {
```

```
java.util.logging.Logger.getLogger(tb_profesor.class.getName()).log(java.util.logging.Level
.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(tb_profesor.class.getName()).log(java.util.logging.Level
.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

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

// Variables declaration - do not modify
private javax.swing.JButton btn1st;
private javax.swing.JButton btnbuscar;
private javax.swing.JButton btneliminar;
private javax.swing.JButton btnend;
private javax.swing.JButton btnguardar;
private javax.swing.JButton btninfo;
private javax.swing.JButton btnlimpiar;
private javax.swing.JButton btnmodificar;
private javax.swing.JButton btnnext;
private javax.swing.JButton btnnuevo;
private javax.swing.JButton btnprev;
private javax.swing.JButton btnsalir;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JButton jbtnbackp;
private javax.swing.JLabel lblautor;
private javax.swing.JLabel lblbusqueda_rfc;
private javax.swing.JLabel lblcorreo;
private javax.swing.JLabel lbllogo;
private javax.swing.JLabel lblnombre;
private javax.swing.JLabel lblrfc;
private javax.swing.JLabel lbltelefono;
private javax.swing.JLabel lblversion;
private javax.swing.JTable tblprofesor;
private javax.swing.JTextField txtbusqueda_rfc;
private javax.swing.JTextField txtcorreo;
```

```java
        private javax.swing.JTextField txtid;
        private javax.swing.JTextField txtnombre;
        private javax.swing.JTextField txtrfc;
        private javax.swing.JTextField txttelefono;
        // End of variables declaration
}
```

tb_equipo

```java
package sabes_equipo;

import java.awt.event.KeyEvent;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import java.sql.SQLException;
import javax.swing.JOptionPane;
import javax.swing.table.DefaultTableModel;

/**
 *
 * @author ivanhg
 */
public class tb_equipo extends javax.swing.JFrame {

    DefaultTableModel modelo = new DefaultTableModel();
    ResultSet consulta;

    public tb_equipo() {
        initComponents();

        this.setLocationRelativeTo(null);
        txtid.setVisible(false);
        desactivarNav();
        desactivarCajas();
        btnguardar.setEnabled(false);
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(false);

        try {

            tblequipo.setModel(modelo);

            PreparedStatement ps = null;
            ResultSet rs = null;
            herramienta conexion = new herramienta();
            Connection reg = conexion.conectar();

            String sql = "SELECT serie, tipo, marca, modelo, color FROM equipo";
            System.out.println(sql);
            ps = reg.prepareStatement(sql);
```

```
            rs = ps.executeQuery();

            ResultSetMetaData rsMd = rs.getMetaData();
            int cantidadColumnas = rsMd.getColumnCount();

            modelo.addColumn("Serie");
            modelo.addColumn("Tipo");
            modelo.addColumn("Marca");
            modelo.addColumn("Modelo");
            modelo.addColumn("Color");

            int[] wide = {150, 100, 100, 150, 100};

            for (int x = 0; x < cantidadColumnas; x++) {
                tblequipo.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
            }

            while (rs.next()) {
                Object[] filas = new Object[cantidadColumnas];
                for (int i = 0; i < cantidadColumnas; i++) {
                    filas[i] = rs.getObject(i + 1);
                }

                modelo.addRow(filas);

            }

        } catch (SQLException e) {
            System.err.println(e.toString());

        }

    }


    private void limpiar() {
        txtid.setText("");
        txtserie.setText("");
        cboxtipo.setSelectedIndex(0);
        txtmarca.setText("");
        txtmodelo.setText("");
        txtcolor.setText("");
    }

    private void desactivarNav() {
        btnnext.setEnabled(false);
        btnprev.setEnabled(false);
```

```
        btnend.setEnabled(false);
}

private void activarNav() {
    btnnext.setEnabled(true);
    btnprev.setEnabled(true);
    btnend.setEnabled(true);
}

private void activarCajas() {
    txtserie.setEnabled(true);
    cboxtipo.setEnabled(true);
    txtmarca.setEnabled(true);
    txtmodelo.setEnabled(true);
    txtcolor.setEnabled(true);
}

private void desactivarCajas() {
    txtserie.setEnabled(false);
    cboxtipo.setEnabled(false);
    txtmarca.setEnabled(false);
    txtmodelo.setEnabled(false);
    txtcolor.setEnabled(false);
}

    public void muestra(ResultSet consulta) throws SQLException {
    txtid.setText(consulta.getString(1));
    txtserie.setText(consulta.getString(2));
    cboxtipo.setSelectedItem(consulta.getString(3));
    txtmarca.setText(consulta.getString(4));
    txtmodelo.setText(consulta.getString(5));
    txtcolor.setText(consulta.getString(6));
}

private void actualizarbd() {
    try {
        DefaultTableModel modelo = new DefaultTableModel();
        tblequipo.setModel(modelo);
        PreparedStatement ps = null;
        ResultSet rs = null;
        herramienta conexion = new herramienta();
        Connection reg = conexion.conectar();

        String sql = "SELECT serie, tipo, marca, modelo, color FROM equipo";
        System.out.println(sql);
        ps = reg.prepareStatement(sql);
        rs = ps.executeQuery();
```

```java
        ResultSetMetaData rsMd = rs.getMetaData();
        int cantidadColumnas = rsMd.getColumnCount();

        modelo.addColumn("Serie");
        modelo.addColumn("Tipo");
        modelo.addColumn("Marca");
        modelo.addColumn("Modelo");
        modelo.addColumn("Color");

        int[] wide = {150, 100, 100, 150, 100};

        for (int x = 0; x < cantidadColumnas; x++) {
            tblequipo.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
        }

        while (rs.next()) {
            Object[] filas = new Object[cantidadColumnas];
            for (int i = 0; i < cantidadColumnas; i++) {
                filas[i] = rs.getObject(i + 1);
            }

            modelo.addRow(filas);

        }

    } catch (SQLException e) {
        System.err.println(e.toString());

    }
}


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

    jScrollPane1 = new javax.swing.JScrollPane();
    tblequipo = new javax.swing.JTable();
    lbllogo = new javax.swing.JLabel();
    lblautor = new javax.swing.JLabel();
    lblversion = new javax.swing.JLabel();
    lblbusqueda_serie = new javax.swing.JLabel();
    btnbuscar = new javax.swing.JButton();
    txtbusqueda_serie = new javax.swing.JTextField();
    lblserie = new javax.swing.JLabel();
    lbltipo = new javax.swing.JLabel();
    lblmarca = new javax.swing.JLabel();
    lblmodelo = new javax.swing.JLabel();
```

```java
lblcolor = new javax.swing.JLabel();
txtmarca = new javax.swing.JTextField();
txtmodelo = new javax.swing.JTextField();
txtserie = new javax.swing.JTextField();
txtcolor = new javax.swing.JTextField();
btn1st = new javax.swing.JButton();
btnnext = new javax.swing.JButton();
btnprev = new javax.swing.JButton();
btnend = new javax.swing.JButton();
btnnuevo = new javax.swing.JButton();
btnguardar = new javax.swing.JButton();
btnmodificar = new javax.swing.JButton();
btneliminar = new javax.swing.JButton();
btnlimpiar = new javax.swing.JButton();
btnsalir = new javax.swing.JButton();
btninfo = new javax.swing.JButton();
txtid = new javax.swing.JTextField();
cboxtipo = new javax.swing.JComboBox<>();
jbtnbacke = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

tblequipo.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null, null},
        {null, null, null, null, null},
        {null, null, null, null, null},
        {null, null, null, null, null}
    },
    new String [] {
        "Serie", "Tipo", "Marca", "Modelo", "Color"
    }
) {
    boolean[] canEdit = new boolean [] {
        false, false, false, false, false
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});
tblequipo.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        tblequipoMouseClicked(evt);
    }
});
tblequipo.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyReleased(java.awt.event.KeyEvent evt) {
```

```java
                    tblequipoKeyReleased(evt);
            }
        });
        jScrollPane1.setViewportView(tblequipo);

        lbllogo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/sabes_1.png"))); // NOI18N

        lblautor.setFont(new java.awt.Font("Lucida Grande", 0, 24)); // NOI18N
        lblautor.setText("SABES");

        lblversion.setText("Control de equipo");

        lblbusqueda_serie.setText("Tipo");

        btnbuscar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/filtro_3.png"))); // NOI18N
        btnbuscar.setText("Filtrar");
        btnbuscar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnbuscarActionPerformed(evt);
            }
        });

        lblserie.setText("Serie");

        lbltipo.setText("Tipo");

        lblmarca.setText("Marca");

        lblmodelo.setText("Modelo");

        lblcolor.setText("Color");

        btn1st.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/inicio.png"))); // NOI18N
        btn1st.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btn1stActionPerformed(evt);
            }
        });

        btnnext.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/next.png"))); // NOI18N
        btnnext.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnnextActionPerformed(evt);
            }
```

```java
        });

        btnprev.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/prev.png"))); // NOI18N
        btnprev.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnprevActionPerformed(evt);
            }
        });

        btnend.setIcon(new javax.swing.ImageIcon(getClass().getResource("/img/fin.png")));
// NOI18N
        btnend.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnendActionPerformed(evt);
            }
        });

        btnnuevo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/nuevo.png"))); // NOI18N
        btnnuevo.setText("Nuevo");
        btnnuevo.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnnuevoActionPerformed(evt);
            }
        });

        btnguardar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/guardar.png"))); // NOI18N
        btnguardar.setText("Guardar");
        btnguardar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnguardarActionPerformed(evt);
            }
        });

        btnmodificar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/editar.png"))); // NOI18N
        btnmodificar.setText("Modificar");
        btnmodificar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnmodificarActionPerformed(evt);
            }
        });

        btneliminar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/eliminar.png"))); // NOI18N
        btneliminar.setText("Eliminar");
```

```java
        btneliminar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btneliminarActionPerformed(evt);
            }
        });

        btnlimpiar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/limpiar.png"))); // NOI18N
        btnlimpiar.setText("Limpiar");
        btnlimpiar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnlimpiarActionPerformed(evt);
            }
        });

        btnsalir.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/salir_3.png"))); // NOI18N
        btnsalir.setText("Salir");
        btnsalir.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnsalirActionPerformed(evt);
            }
        });

        btninfo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/info_3.png"))); // NOI18N
        btninfo.setText("info");
        btninfo.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btninfoActionPerformed(evt);
            }
        });

        txtid.setDragEnabled(false);
        txtid.setEnabled(false);

        cboxtipo.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] {
"Selecciona", "Laptop", "Proyector", "P. Acetato", "Regulador", "Extension" }));

        jbtnbacke.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/back_32.png"))); // NOI18N
        jbtnbacke.setText("Atras");
        jbtnbacke.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jbtnbackeActionPerformed(evt);
            }
        });
```

```java
javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(26, 26, 26)
                .addComponent(lbllogo)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(lblversion)
                .addComponent(lblautor, javax.swing.GroupLayout.PREFERRED_SIZE,
167, javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addGroup(layout.createSequentialGroup()
                .addGap(16, 16, 16)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addComponent(lblbusqueda_serie)
                    .addGap(18, 18, 18)
                    .addComponent(txtbusqueda_serie,
javax.swing.GroupLayout.PREFERRED_SIZE, 400,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                    .addComponent(btnbuscar))
                .addGroup(layout.createSequentialGroup()
                    .addComponent(jScrollPane1,
javax.swing.GroupLayout.PREFERRED_SIZE, 540,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(32, 32, 32)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(lbltipo)
                        .addComponent(lblserie))
                    .addGap(36, 36, 36)
                    .addComponent(txtid,
javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

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


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                          .addComponent(btnsalir))
                        .addGroup(layout.createSequentialGroup()


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


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


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                        .addComponent(lblmodelo)
                                        .addComponent(lblcolor))
                                      .addGap(33, 33, 33)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                        .addComponent(txtmodelo,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(txtmarca,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addGroup(layout.createSequentialGroup()
                                          .addComponent(btn1st)
                                          .addGap(18, 18, 18)
                                          .addComponent(btnprev)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                                          .addComponent(btnnext)
                                          .addGap(18, 18, 18)
                                          .addComponent(btnend))
                                        .addComponent(txtcolor,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(cboxtipo,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addComponent(txtserie,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 334,
javax.swing.GroupLayout.PREFERRED_SIZE)))
```

```
.addGroup(layout.createSequentialGroup()
    .addComponent(btnnuevo)

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

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

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

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
    .addComponent(jbtnbacke,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

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

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
    .addComponent(btnmodificar)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
    .addComponent(btneliminar)))))
            .addGroup(layout.createSequentialGroup()
                .addGap(2, 2, 2)
                .addComponent(lblmarca)))
            .addGap(0, 0, Short.MAX_VALUE)))))))
        .addContainerGap(21, Short.MAX_VALUE))
);
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(31, 31, 31)
            .addComponent(lblautor)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(lblversion))
        .addGroup(layout.createSequentialGroup()
            .addGap(19, 19, 19)

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

```
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(btnsalir)
                        .addComponent(btninfo)
                        .addComponent(txtid, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addComponent(lbllogo))))
            .addGap(79, 79, 79)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(txtserie, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(lblserie))
            .addGap(18, 18, 18)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(lbltipo)
                .addComponent(cboxtipo, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(13, 13, 13)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(txtmarca, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(lblmarca))
            .addGap(18, 18, 18)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(txtmodelo, javax.swing.GroupLayout.PREFERRED_SIZE,
26, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(lblmodelo))
            .addGap(18, 18, 18)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(txtcolor, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(lblcolor))
            .addGap(18, 18, 18)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(btnend, javax.swing.GroupLayout.Alignment.TRAILING)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(btn1st)
                .addComponent(btnprev)
                .addComponent(btnnext)))
```

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(btnnuevo)
            .addComponent(btnguardar)
            .addComponent(btnmodificar)
            .addComponent(btneliminar))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(btnlimpiar)
            .addComponent(jbtnbacke))
        .addGap(18, 18, 18))
      .addGroup(layout.createSequentialGroup()
        .addGap(124, 124, 124)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(btnbuscar)
            .addComponent(txtbusqueda_serie,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(lblbusqueda_serie))
        .addGap(18, 18, 18)
        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,
369, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(61, 61, 61))
    );

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

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

    String tipo = txtbusqueda_serie.getText();
    String where = "";
    if (!"".equals(tipo)) {
      where = " WHERE tipo = '" + tipo + "'";

    }

    try {
      DefaultTableModel modelo = new DefaultTableModel();
      tblequipo.setModel(modelo);
      PreparedStatement ps = null;
      ResultSet rs = null;
```

```java
            herramienta conexion = new herramienta();
            Connection reg = conexion.conectar();

            String sql = "SELECT serie, tipo, marca, modelo, color FROM equipo" + where;
            System.out.println(sql);
            ps = reg.prepareStatement(sql);
            rs = ps.executeQuery();

            ResultSetMetaData rsMd = rs.getMetaData();
            int cantidadColumnas = rsMd.getColumnCount();

            modelo.addColumn("Serie");
            modelo.addColumn("Tipo");
            modelo.addColumn("Marca");
            modelo.addColumn("Modelo");
            modelo.addColumn("Color");

            int[] wide = {150, 100, 100, 150, 100};

            for (int x = 0; x < cantidadColumnas; x++) {
                tblequipo.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
            }

            while (rs.next()) {
                Object[] filas = new Object[cantidadColumnas];
                for (int i = 0; i < cantidadColumnas; i++) {
                    filas[i] = rs.getObject(i + 1);
                }
                modelo.addRow(filas);

            }

        } catch (Exception e) {
            System.out.println(e);
            JOptionPane.showMessageDialog(null, "Error");

        }

        limpiar();
}

private void btnnuevoActionPerformed(java.awt.event.ActionEvent evt) {
        limpiar();
        btnguardar.setEnabled(true);
        activarCajas();
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(true);
```

```java
        }
    String combo;
    private void btnguardarActionPerformed(java.awt.event.ActionEvent evt) {
        PreparedStatement ps = null;
        combo = cboxtipo.getSelectedItem().toString();

        if (txtserie.getText().isEmpty() || "Selecciona".equalsIgnoreCase(combo) ||
txtmarca.getText().isEmpty() || txtmodelo.getText().isEmpty() ||
txtcolor.getText().isEmpty()) {
            JOptionPane.showMessageDialog(null, "Favor de llenar todos los campos...");
        } else {

            try {
                herramienta conexion = new herramienta();
                com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();
                ps = reg.prepareStatement("INSERT INTO equipo (serie, tipo, marca, modelo,
color) VALUES (?,?,?,?,?)");
                ps.setString(1, txtserie.getText());
                ps.setString(2, cboxtipo.getSelectedItem().toString());
                ps.setString(3, txtmarca.getText());
                ps.setString(4, txtmodelo.getText());
                ps.setString(5, txtcolor.getText());

                ps.execute();

                JOptionPane.showMessageDialog(null, "Equipo Guardado");
                Object[] fila = new Object[5];
                fila[0] = txtserie.getText();
                fila[1] = cboxtipo.getSelectedItem().toString();
                fila[2] = txtmarca.getText();
                fila[3] = txtmodelo.getText();
                fila[4] = txtcolor.getText();

                modelo.addRow(fila);
                limpiar();

            } catch (SQLException e) {

                System.out.println(e);
            }

            btnguardar.setEnabled(false);
            btnlimpiar.setEnabled(false);
            actualizarbd();
            desactivarCajas();
        }
    }
```

```java
private void btnmodificarActionPerformed(java.awt.event.ActionEvent evt) {
    int Fila = tblequipo.getSelectedRow();

    PreparedStatement ps = null;

    if (txtserie.getText().isEmpty() || "Selecciona".equalsIgnoreCase(combo) ||
txtmarca.getText().isEmpty() || txtmodelo.getText().isEmpty() ||
txtcolor.getText().isEmpty()) {
        JOptionPane.showMessageDialog(null, "Favor de llenar todos los campos...");
    } else {

        try {
            herramienta conexion = new herramienta();
            com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();
            ps = reg.prepareStatement("UPDATE equipo SET serie=?, tipo=?, marca=?,
modelo=?, color=? WHERE id_equipo=?");

            ps.setString(1, txtserie.getText());
            ps.setString(2, cboxtipo.getSelectedItem().toString());
            ps.setString(3, txtmarca.getText());
            ps.setString(4, txtmodelo.getText());
            ps.setString(5, txtcolor.getText());
            ps.setString(6, txtid.getText());

            ps.execute();

            JOptionPane.showMessageDialog(null, "Equipo Modificado");
            tblequipo.setValueAt(txtserie.getText(), Fila, 0);
            tblequipo.setValueAt(cboxtipo.getSelectedItem().toString(), Fila, 1);
            tblequipo.setValueAt(txtmarca.getText(), Fila, 2);
            tblequipo.setValueAt(txtmodelo.getText(), Fila, 3);
            tblequipo.setValueAt(txtcolor.getText(), Fila, 4);

            limpiar();

        } catch (SQLException e) {
            System.out.println(e);
            JOptionPane.showMessageDialog(null, "Error al Modificar Equipo");
        }
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(false);
        desactivarCajas();
    }
}
```

```java
private void btneliminarActionPerformed(java.awt.event.ActionEvent evt) {
PreparedStatement ps = null;
    try {

        herramienta conexion = new herramienta();
        com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

        int Fila = tblequipo.getSelectedRow();
        String rfc = tblequipo.getValueAt(Fila, 0).toString();

        ps = reg.prepareStatement("DELETE FROM equipo WHERE id_equipo=?");
        //Para eliminar desde columna
        //ps.setString(1, rfc);
        ps.setString(1, txtid.getText());
        ps.execute();

        modelo.removeRow(Fila);
        JOptionPane.showMessageDialog(null, "Equipo Eliminado");
        limpiar();

    } catch (SQLException e) {
        System.out.println(e.toString());
        JOptionPane.showMessageDialog(null, "Error al Eliminar Equipo");

    }
    btnmodificar.setEnabled(false);
    btneliminar.setEnabled(false);
    btnlimpiar.setEnabled(false);
    actualizarbd();
    desactivarCajas();
}

private void btnlimpiarActionPerformed(java.awt.event.ActionEvent evt) {
    limpiar();
    btnguardar.setEnabled(false);
    btnmodificar.setEnabled(false);
    btneliminar.setEnabled(false);
    desactivarNav();
    desactivarCajas();
    btnlimpiar.setEnabled(false);
}

private void btninfoActionPerformed(java.awt.event.ActionEvent evt) {
    JOptionPane.showMessageDialog(null, "¿Qué hay de nuevo?\n"
        + "Opción de filtrar por tipo de equipo.");
}
```

```java
private void btnsalirActionPerformed(java.awt.event.ActionEvent evt) {
 dispose();
}

private void btn1stActionPerformed(java.awt.event.ActionEvent evt) {
try {

      herramienta conn = new herramienta();
      String cons = "SELECT * FROM equipo";
      consulta = conn.consulta(cons);
      consulta.first();

      muestra(consulta);

   } catch (Exception e) {
      System.out.println(e);
   }

   activarNav();
   desactivarCajas();
   btnguardar.setEnabled(false);
   btnmodificar.setEnabled(false);
   btneliminar.setEnabled(false);
}

private void btnprevActionPerformed(java.awt.event.ActionEvent evt) {
       try {
      consulta.previous();
      muestra(consulta);
   } catch (Exception e) {
      System.out.println(e);

   }
   desactivarCajas();
   btnguardar.setEnabled(false);
}

private void btnnextActionPerformed(java.awt.event.ActionEvent evt) {
  try {
      consulta.next();
      muestra(consulta);
   } catch (Exception e) {
      System.out.println(e);

   }
   desactivarCajas();
   btnguardar.setEnabled(false);
}
```

```java
    private void btnendActionPerformed(java.awt.event.ActionEvent evt) {
    try {
        consulta.last();
        muestra(consulta);
    } catch (Exception e) {
        System.out.println(e);

    }
    desactivarCajas();
    btnguardar.setEnabled(false);
}

    private void tblequipoMouseClicked(java.awt.event.MouseEvent evt) {
    PreparedStatement ps = null;
    ResultSet rs = null;
    try {
        herramienta conexion = new herramienta();
        com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

        int Fila = tblequipo.getSelectedRow();
        String serie = tblequipo.getValueAt(Fila, 0).toString();

        ps = reg.prepareStatement("SELECT id_equipo, serie, tipo, marca, modelo, color
FROM equipo WHERE serie=?");
        ps.setString(1, serie);
        rs = ps.executeQuery();

        while (rs.next()) {
            txtid.setText(rs.getString("id_equipo"));
            txtserie.setText(rs.getString("serie"));
            cboxtipo.setSelectedItem(rs.getString("tipo"));
            txtmarca.setText(rs.getString("marca"));
            txtmodelo.setText(rs.getString("modelo"));
            txtcolor.setText(rs.getString("color"));

        }
    } catch (SQLException e) {
        System.out.println(e.toString());
    }

    desactivarNav();
    activarCajas();
    btnguardar.setEnabled(false);
    btnmodificar.setEnabled(true);
    btneliminar.setEnabled(true);
    btnlimpiar.setEnabled(true);
```

```java
    }

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

        if (evt.getKeyCode() == KeyEvent.VK_DOWN || (evt.getKeyCode() ==
KeyEvent.VK_UP)) {

            PreparedStatement ps = null;
            ResultSet rs = null;
            try {
                herramienta conexion = new herramienta();
                com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

                int Fila = tblequipo.getSelectedRow();
                String serie = tblequipo.getValueAt(Fila, 0).toString();

                ps = reg.prepareStatement("SELECT id_equipo, serie, tipo, marca, modelo,
color FROM equipo WHERE serie=?");
                ps.setString(1, serie);
                rs = ps.executeQuery();

                while (rs.next()) {

                txtid.setText(rs.getString("id_equipo"));
                txtserie.setText(rs.getString("serie"));
                cboxtipo.setSelectedItem(rs.getString("tipo"));
                txtmarca.setText(rs.getString("marca"));
                txtmodelo.setText(rs.getString("modelo"));
                txtcolor.setText(rs.getString("color"));
                }
            } catch (SQLException e) {
                System.out.println(e.toString());
            }

            desactivarNav();
            activarCajas();
            btnguardar.setEnabled(false);
            btnmodificar.setEnabled(true);
            btneliminar.setEnabled(true);
            btnlimpiar.setEnabled(true);

        }
    }

    private void jbtnbackeActionPerformed(java.awt.event.ActionEvent evt) {
        Administrador mostraradministrador = new Administrador ();
        mostraradministrador.setSize(960, 640);
```

```java
        mostraradministrador.setVisible(true);
        mostraradministrador.setLocationRelativeTo(null);
        dispose();
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and
feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Windows".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(tb_equipo.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(tb_equipo.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(tb_equipo.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

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

```
    });
}

// Variables declaration - do not modify
private javax.swing.JButton btn1st;
private javax.swing.JButton btnbuscar;
private javax.swing.JButton btneliminar;
private javax.swing.JButton btnend;
private javax.swing.JButton btnguardar;
private javax.swing.JButton btninfo;
private javax.swing.JButton btnlimpiar;
private javax.swing.JButton btnmodificar;
private javax.swing.JButton btnnext;
private javax.swing.JButton btnnuevo;
private javax.swing.JButton btnprev;
private javax.swing.JButton btnsalir;
private javax.swing.JComboBox<String> cboxtipo;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JButton jbtnbacke;
private javax.swing.JLabel lblautor;
private javax.swing.JLabel lblbusqueda_serie;
private javax.swing.JLabel lblcolor;
private javax.swing.JLabel lbllogo;
private javax.swing.JLabel lblmarca;
private javax.swing.JLabel lblmodelo;
private javax.swing.JLabel lblserie;
private javax.swing.JLabel lbltipo;
private javax.swing.JLabel lblversion;
private javax.swing.JTable tblequipo;
private javax.swing.JTextField txtbusqueda_serie;
private javax.swing.JTextField txtcolor;
private javax.swing.JTextField txtid;
private javax.swing.JTextField txtmarca;
private javax.swing.JTextField txtmodelo;
private javax.swing.JTextField txtserie;
// End of variables declaration
}
```

tb_prestamo

```java
package sabes_equipo;

import java.awt.event.KeyEvent;
import java.sql.Connection;
import java.sql.Date;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.Calendar;
import javax.swing.JOptionPane;
import javax.swing.table.DefaultTableModel;

/**
 *
 * @author ivanhg
 */
public class tb_prestamo extends javax.swing.JFrame {

    DefaultTableModel modelo = new DefaultTableModel();
    ResultSet consulta;

    public tb_prestamo() {
        initComponents();
        this.setLocationRelativeTo(null);
        tb_profesor();
        tb_equipo();
        comparaProf();
        comparaSerie();
        txtid.setVisible(false);
        txtidprof.setVisible(false);
        txtidequipo.setVisible(false);
        txtfecha.setVisible(false);


        /*desactivarNav();*/
        desactivarCajas();
        btnguardar.setEnabled(false);
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(false);

        try {
```

```java
        tblprestamo.setModel(modelo);

        PreparedStatement ps = null;
        ResultSet rs = null;
        herramienta conexion = new herramienta();
        Connection reg = conexion.conectar();

        String sql = "SELECT nombre, serie, fecha_uso, hora_uso, hora_regreso, id_renta
FROM prestamo, profesor, equipo WHERE prestamo.prof_id = profesor.id_prof &&
prestamo.equipo_id = equipo.id_equipo";
        System.out.println(sql);
        ps = reg.prepareStatement(sql);
        rs = ps.executeQuery();

        ResultSetMetaData rsMd = rs.getMetaData();
        int cantidadColumnas = rsMd.getColumnCount();

        modelo.addColumn("Profesor");
        modelo.addColumn("Serie");
        modelo.addColumn("Fecha_uso");
        modelo.addColumn("Hora de uso");
        modelo.addColumn("Hora de regreso");
        modelo.addColumn("id_renta");

        int[] wide = {220, 125, 125, 125, 125, 0};

        for (int x = 0; x < cantidadColumnas; x++) {
            tblprestamo.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
        }

        while (rs.next()) {
            Object[] filas = new Object[cantidadColumnas];
            for (int i = 0; i < cantidadColumnas; i++) {
                filas[i] = rs.getObject(i + 1);
            }

            modelo.addRow(filas);

        }

    } catch (SQLException e) {
        System.err.println(e.toString());

    }

}
```

```
private void limpiar() {
    txtid.setText("");
    cboxprofesor.setSelectedIndex(0);
    cboxserie.setSelectedIndex(0);
    txtfecha.setText("");
    txthorauso.setText("");
    txthoraregreso.setText("");
    txtidprof.setText("");
    txtidequipo.setText("");
    datefecha.setDate(null);

}
/*
private void desactivarNav() {
    btnnext.setEnabled(false);
    btnprev.setEnabled(false);
    btnend.setEnabled(false);
}

private void activarNav() {
    btnnext.setEnabled(true);
    btnprev.setEnabled(true);
    btnend.setEnabled(true);
}
*/

private void activarCajas() {
    cboxprofesor.setEnabled(true);
    cboxserie.setEnabled(true);
    txtfecha.setEnabled(true);
    txthorauso.setEnabled(true);
    txthoraregreso.setEnabled(true);
    datefecha.setEnabled(true);
}

private void desactivarCajas() {
    cboxprofesor.setEnabled(false);
    cboxserie.setEnabled(false);
    txtfecha.setEnabled(false);
    txthorauso.setEnabled(false);
    txthoraregreso.setEnabled(false);
    datefecha.setEnabled(false);
}

    /*public void muestra(ResultSet consulta) throws SQLException {
    txtid.setText(consulta.getString(1));
    cboxprofesor.setSelectedItem(consulta.getString(2));
    cboxserie.setSelectedItem(consulta.getString(3));
```

```
            txtfecha.setText(consulta.getString(4));
            txthorauso.setText(consulta.getString(5));
            txthoraregreso.setText(consulta.getString(6));
        }*/

    private void actualizarbd() {
        try {
            DefaultTableModel modelo = new DefaultTableModel();
            tblprestamo.setModel(modelo);
            PreparedStatement ps = null;
            ResultSet rs = null;
            herramienta conexion = new herramienta();
            Connection reg = conexion.conectar();

            String sql = "SELECT nombre, serie, fecha_uso, hora_uso, hora_regreso, id_renta
FROM prestamo, profesor, equipo WHERE prestamo.prof_id = profesor.id_prof &&
prestamo.equipo_id = equipo.id_equipo";
            System.out.println(sql);
            ps = reg.prepareStatement(sql);
            rs = ps.executeQuery();

            ResultSetMetaData rsMd = rs.getMetaData();
            int cantidadColumnas = rsMd.getColumnCount();

            modelo.addColumn("Profesor");
            modelo.addColumn("Serie");
            modelo.addColumn("Fecha_uso");
            modelo.addColumn("Hora de uso");
            modelo.addColumn("Hora de regreso");
            modelo.addColumn("id_renta");

            int[] wide = {220, 125, 125, 125, 125, 0};

            for (int x = 0; x < cantidadColumnas; x++) {
                tblprestamo.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
            }

            while (rs.next()) {
                Object[] filas = new Object[cantidadColumnas];
                for (int i = 0; i < cantidadColumnas; i++) {
                    filas[i] = rs.getObject(i + 1);
                }

                modelo.addRow(filas);

            }

        } catch (SQLException e) {
```

```java
            System.err.println(e.toString());

        }
}


void tb_profesor() {
    try {
        PreparedStatement ps = null;
        ResultSet rs = null;
        herramienta conexion = new herramienta();
        Connection reg = conexion.conectar();

        String sql = "Select * from profesor";
        Statement st = reg.createStatement();
        rs = st.executeQuery(sql);
        while (rs.next()) {
            cboxprofesor.addItem(rs.getString("nombre"));
        }

    } catch (SQLException e) {
        System.err.println(e.toString());
    }
}

    void tb_equipo() {
    try {
        PreparedStatement ps = null;
        ResultSet rs = null;
        herramienta conexion = new herramienta();
        Connection reg = conexion.conectar();

        String sql = "Select * from equipo";
        Statement st = reg.createStatement();
        rs = st.executeQuery(sql);
        while (rs.next()) {
            cboxserie.addItem(rs.getString("serie"));
        }

    } catch (SQLException e) {
        System.err.println(e.toString());
    }
}

    private void comparaProf(){
      try {

        PreparedStatement ps = null;
```

```java
            ResultSet rs = null;
            herramienta conexion = new herramienta();
            Connection reg = conexion.conectar();

            ps = reg.prepareStatement("SELECT id_prof FROM profesor WHERE nombre =
?");

            ps.setString(1, cboxprofesor.getSelectedItem().toString());

            rs=ps.executeQuery();

            if (rs.next()) {

                txtidprof.setText(rs.getString("id_prof"));

            } else {
                /*JOptionPane.showMessageDialog(null, "No existe el profesor");*/
            }

        } catch (SQLException e) {
            System.err.println(e.toString());

        }
    }

    private void comparaSerie(){

        try {

            PreparedStatement ps = null;
            ResultSet rs = null;
            herramienta conexion = new herramienta();
            Connection reg = conexion.conectar();

            ps = reg.prepareStatement("SELECT id_equipo FROM equipo WHERE serie =
?");

            ps.setString(1, cboxserie.getSelectedItem().toString());

            rs=ps.executeQuery();

            if (rs.next()) {

                txtidequipo.setText(rs.getString("id_equipo"));

            } else {
                /*JOptionPane.showMessageDialog(null, "No existe el profesor");*/
            }

        } catch (SQLException e) {
```

```java
            System.err.println(e.toString());

        }
    }



    /**
     * 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() {

        jScrollPane1 = new javax.swing.JScrollPane();
        tblprestamo = new javax.swing.JTable();
        cboxprofesor = new javax.swing.JComboBox<>();
        cboxserie = new javax.swing.JComboBox<>();
        txtfecha = new javax.swing.JTextField();
        txthorauso = new javax.swing.JTextField();
        txthoraregreso = new javax.swing.JTextField();
        lblprofesor = new javax.swing.JLabel();
        lblserie = new javax.swing.JLabel();
        lblfecha = new javax.swing.JLabel();
        lblhorauso = new javax.swing.JLabel();
        lblhoraregreso = new javax.swing.JLabel();
        btnmodificar = new javax.swing.JButton();
        btnguardar = new javax.swing.JButton();
        btninfo = new javax.swing.JButton();
        btneliminar = new javax.swing.JButton();
        btnnuevo = new javax.swing.JButton();
        btnlimpiar = new javax.swing.JButton();
        btnsalir = new javax.swing.JButton();
        btnbuscar = new javax.swing.JButton();
        lblbusqeda_fecha = new javax.swing.JLabel();
        txtbusqueda_serie = new javax.swing.JTextField();
        txtid = new javax.swing.JTextField();
        txtidprof = new javax.swing.JTextField();
        txtidequipo = new javax.swing.JTextField();
        btnfecha = new javax.swing.JButton();
        btnhoras = new javax.swing.JButton();
        lbllogo = new javax.swing.JLabel();
        lblautor = new javax.swing.JLabel();
        lblversion = new javax.swing.JLabel();
        datefecha = new com.toedter.calendar.JDateChooser();
```

```java
jbtnbackpr = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

tblprestamo.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null, null, null},
        {null, null, null, null, null, null},
        {null, null, null, null, null, null},
        {null, null, null, null, null, null},
        {null, null, null, null, null, null}
    },
    new String [] {
        "Profesor", "Serie", "Fecha", "Hora de uso", "Hora de regreso", "renta_id"
    }
) {
    boolean[] canEdit = new boolean [] {
        false, false, false, false, false, true
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});
tblprestamo.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        tblprestamoMouseClicked(evt);
    }
});
tblprestamo.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyReleased(java.awt.event.KeyEvent evt) {
        tblprestamoKeyReleased(evt);
    }
});
jScrollPane1.setViewportView(tblprestamo);

cboxprofesor.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] {
"Selecciona..." }));
cboxprofesor.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        cboxprofesorActionPerformed(evt);
    }
});

cboxserie.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] {
"Selecciona..." }));
cboxserie.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
            cboxserieActionPerformed(evt);
        }
    });

    txtfecha.setEnabled(false);

    lblprofesor.setText("Profesor");

    lblserie.setText("Serie");

    lblfecha.setText("Fecha");

    lblhorauso.setText("Hora de uso");

    lblhoraregreso.setText("Hora de regreso");

    btnmodificar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/editar.png"))); // NOI18N
    btnmodificar.setText("Modificar");
    btnmodificar.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnmodificarActionPerformed(evt);
        }
    });

    btnguardar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/guardar.png"))); // NOI18N
    btnguardar.setText("Guardar");
    btnguardar.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnguardarActionPerformed(evt);
        }
    });

    btninfo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/info_3.png"))); // NOI18N
    btninfo.setText("info");
    btninfo.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btninfoActionPerformed(evt);
        }
    });

    btneliminar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/eliminar.png"))); // NOI18N
    btneliminar.setText("Eliminar");
    btneliminar.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```java
            btneliminarActionPerformed(evt);
        }
    });

    btnnuevo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/nuevo.png"))); // NOI18N
    btnnuevo.setText("Nuevo");
    btnnuevo.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnnuevoActionPerformed(evt);
        }
    });

    btnlimpiar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/limpiar.png"))); // NOI18N
    btnlimpiar.setText("Limpiar");
    btnlimpiar.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnlimpiarActionPerformed(evt);
        }
    });

    btnsalir.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/salir_3.png"))); // NOI18N
    btnsalir.setText("Salir");
    btnsalir.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnsalirActionPerformed(evt);
        }
    });

    btnbuscar.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/filtro_3.png"))); // NOI18N
    btnbuscar.setText("Filtrar");
    btnbuscar.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnbuscarActionPerformed(evt);
        }
    });

    lblbusqeda_fecha.setText("Serie");

    txtid.setEnabled(false);

    txtidprof.setEnabled(false);

    txtidequipo.setEnabled(false);
```

```
        btnfecha.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/info_4.png"))); // NOI18N
        btnfecha.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnfechaActionPerformed(evt);
            }
        });

        btnhoras.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/info_4.png"))); // NOI18N
        btnhoras.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnhorasActionPerformed(evt);
            }
        });

        lbllogo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/sabes_1.png"))); // NOI18N

        lblautor.setFont(new java.awt.Font("Lucida Grande", 0, 24)); // NOI18N
        lblautor.setText("SABES");

        lblversion.setText("Control de préstamo de equipo");

        jbtnbackpr.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/back_32.png"))); // NOI18N
        jbtnbackpr.setText("Atras");
        jbtnbackpr.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jbtnbackprActionPerformed(evt);
            }
        });

        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(20, 20, 20)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                    .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE,
529, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(lblbusqeda_fecha)
                        .addGap(18, 18, 18)
                        .addComponent(txtbusqueda_serie)
```

```
                    .addGap(18, 18, 18)
                    .addComponent(btnbuscar))
                .addGroup(layout.createSequentialGroup()
                    .addGap(10, 10, 10)
                    .addComponent(lbllogo)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(lblversion)
                        .addComponent(lblautor, javax.swing.GroupLayout.PREFERRED_SIZE,
167, javax.swing.GroupLayout.PREFERRED_SIZE))))
                .addGap(28, 28, 28)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                            .addComponent(lblprofesor,
javax.swing.GroupLayout.PREFERRED_SIZE, 114,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGroup(javax.swing.GroupLayout.Alignment.LEADING,
layout.createSequentialGroup()
                                .addComponent(lblfecha)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                                .addComponent(btnfecha))
                            .addGroup(javax.swing.GroupLayout.Alignment.LEADING,
layout.createSequentialGroup()
                                .addComponent(lblhorauso)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                                .addComponent(btnhoras))
                            .addComponent(lblhoraregreso,
javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(lblserie, javax.swing.GroupLayout.Alignment.LEADING,
javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(txtid, javax.swing.GroupLayout.PREFERRED_SIZE,
56, javax.swing.GroupLayout.PREFERRED_SIZE)
```

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

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(btnsalir))
                .addComponent(txthorauso, javax.swing.GroupLayout.DEFAULT_SIZE,
293, Short.MAX_VALUE)
                .addComponent(txthoraregreso)
                .addComponent(cboxprofesor, 0,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(cboxserie, 0,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(datefecha, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)))
            .addGroup(layout.createSequentialGroup()
                .addComponent(btnnuevo)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(btnguardar)
                .addGap(12, 12, 12)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addComponent(jbtnbackpr,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addGap(18, 18, 18)
                .addComponent(btnlimpiar))
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addComponent(btnmodificar)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
                .addComponent(txtidprof, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 35, Short.MAX_VALUE)
                .addComponent(txtidequipo, javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.DEFAULT_SIZE, 35, Short.MAX_VALUE)
            .addComponent(txtfecha))
```

```
        .addContainerGap())
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(38, 38, 38)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(txtid, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(btninfo)
                    .addComponent(btnsalir)))
            .addGroup(layout.createSequentialGroup()
                .addGap(21, 21, 21)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(12, 12, 12)
                    .addComponent(lblautor)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(lblversion))
                .addComponent(lbllogo))))
        .addGap(35, 35, 35)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(lblbusqeda_fecha)
            .addComponent(btnbuscar)
            .addComponent(txtbusqueda_serie,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGap(22, 22, 22)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jScrollPane1,
javax.swing.GroupLayout.PREFERRED_SIZE, 325,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
```

```
                    .addComponent(cboxprofesor,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(lblprofesor)
                    .addComponent(txtidprof,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(22, 22, 22)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(cboxserie,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(lblserie)
                    .addComponent(txtidequipo,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                    .addComponent(btnfecha))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(23, 23, 23)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(txtfecha,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(lblfecha)))
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(datefecha,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)))

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(29, 29, 29)
```

```java
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                                .addComponent(txthoraregreso,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(lblhoraregreso))
                        .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                                .addComponent(lblhorauso)
                                .addComponent(txthorauso,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addGap(49, 49, 49))))
                        .addGroup(layout.createSequentialGroup()
                            .addGap(18, 18, 18)
                            .addComponent(btnhoras)))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 50,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(btnmodificar)
                        .addComponent(btneliminar)
                        .addComponent(btnnuevo)
                        .addComponent(btnguardar))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(btnlimpiar)
                        .addComponent(jbtnbackpr))
                    .addGap(55, 55, 55))))
        );

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

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

        String serie = txtbusqueda_serie.getText();
        String where = "";
        if (!"".equals(serie)) {
            where = " && serie = '" + serie + "'";
```

```java
        }

        try {
            DefaultTableModel modelo = new DefaultTableModel();
            tblprestamo.setModel(modelo);
            PreparedStatement ps = null;
            ResultSet rs = null;
            herramienta conexion = new herramienta();
            Connection reg = conexion.conectar();

            String sql = "SELECT nombre, serie, fecha_uso, hora_uso, hora_regreso, id_renta
FROM prestamo, profesor, equipo WHERE prestamo.prof_id = profesor.id_prof &&
prestamo.equipo_id = equipo.id_equipo" + where;
            System.out.println(sql);
            ps = reg.prepareStatement(sql);
            rs = ps.executeQuery();

            ResultSetMetaData rsMd = rs.getMetaData();
            int cantidadColumnas = rsMd.getColumnCount();

            modelo.addColumn("Profesor");
            modelo.addColumn("Serie");
            modelo.addColumn("Fecha_uso");
            modelo.addColumn("Hora de uso");
            modelo.addColumn("Hora de regreso");
            modelo.addColumn("id_renta");

            int[] wide = {220, 125, 125, 125, 125, 0};

            for (int x = 0; x < cantidadColumnas; x++) {
                tblprestamo.getColumnModel().getColumn(x).setPreferredWidth(wide[x]);
            }

            while (rs.next()) {
                Object[] filas = new Object[cantidadColumnas];
                for (int i = 0; i < cantidadColumnas; i++) {
                    filas[i] = rs.getObject(i + 1);
                }
                modelo.addRow(filas);

            }

        } catch (Exception e) {
            System.out.println(e);
            JOptionPane.showMessageDialog(null, "Error");

        }
```

```java
        limpiar();
    }

    private void btnnuevoActionPerformed(java.awt.event.ActionEvent evt) {
     limpiar();
        btnguardar.setEnabled(true);
        activarCajas();
        btnmodificar.setEnabled(false);
        btneliminar.setEnabled(false);
        btnlimpiar.setEnabled(true);
    }

    String comboprof;
    String comboserie;
    private void btnguardarActionPerformed(java.awt.event.ActionEvent evt) {
    PreparedStatement ps = null;
        comboprof = cboxprofesor.getSelectedItem().toString();
        comboserie = cboxserie.getSelectedItem().toString();

        if ("Selecciona...".equalsIgnoreCase(comboprof) ||
"Selecciona...".equalsIgnoreCase(comboserie) ||  datefecha.getDate()==null ||
txthorauso.getText().isEmpty() || txthoraregreso.getText().isEmpty()) {
            JOptionPane.showMessageDialog(null, "Favor de llenar todos los campos...");
        } else {

            try {
                herramienta conexion = new herramienta();
                com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();
                ps = reg.prepareStatement("INSERT INTO prestamo (prof_id, equipo_id,
fecha_uso, hora_uso, hora_regreso) VALUES (?,?,?,?,?)");

                /*
                Marcaria error en un determinado tiempo al eliminar profesores, funcionaria si
nunca se eliminaran.

                ps.setInt(1, cboxprofesor.getSelectedIndex());
                ps.setInt(2, cboxserie.getSelectedIndex());
                */


                String dia = Integer.toString
(datefecha.getCalendar().get(Calendar.DAY_OF_MONTH));
                String mes = Integer.toString
(datefecha.getCalendar().get(Calendar.MONTH)+1);
                String año = Integer.toString (datefecha.getCalendar().get(Calendar.YEAR));
                String fecha;
```

```java
        fecha = año + "-" + mes + "-" + dia;
        txtfecha.setText(fecha);

        ps.setString(1, txtidprof.getText());
        ps.setString(2, txtidequipo.getText());
        ps.setString(3, txtfecha.getText());
        ps.setString(4, txthorauso.getText());
        ps.setString(5, txthoraregreso.getText());
        ps.execute();

        JOptionPane.showMessageDialog(null, "Préstamo Guardado");
        Object[] fila = new Object[5];
        fila[1] = cboxprofesor.getSelectedItem().toString();
        fila[1] = cboxserie.getSelectedItem().toString();
        fila[2] = txtfecha.getText();
        fila[3] = txthorauso.getText();
        fila[4] = txthoraregreso.getText();

        modelo.addRow(fila);
        limpiar();

    } catch (SQLException e) {

        System.out.println(e);
    }

    btnguardar.setEnabled(false);
    btnlimpiar.setEnabled(false);
    actualizarbd();
    desactivarCajas();
  }
}

private void btnmodificarActionPerformed(java.awt.event.ActionEvent evt) {
  int Fila = tblprestamo.getSelectedRow();

    PreparedStatement ps = null;

    if (datefecha.getDate()==null ||  txthorauso.getText().isEmpty() ||
txthoraregreso.getText().isEmpty()) {
        JOptionPane.showMessageDialog(null, "Favor de llenar todos los campos...");
    } else {

        try {
        herramienta conexion = new herramienta();
        com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();
```

```java
        ps = reg.prepareStatement("UPDATE prestamo SET prof_id=?, equipo_id=?,
fecha_uso=?, hora_uso=?, hora_regreso=? WHERE id_renta=?");


        String dia = Integer.toString
(datefecha.getCalendar().get(Calendar.DAY_OF_MONTH));
        String mes = Integer.toString
(datefecha.getCalendar().get(Calendar.MONTH)+1);
        String año = Integer.toString (datefecha.getCalendar().get(Calendar.YEAR));
        String fecha;
        fecha = año + "-" + mes + "-" + dia;
        txtfecha.setText(fecha);


        ps.setString(1, txtidprof.getText());
        ps.setString(2, txtidequipo.getText());
        ps.setString(3, txtfecha.getText());
        /*ps.setDate(3, Date.valueOf(txtfecha.getText()));*/
        ps.setString(4, txthorauso.getText());
        ps.setString(5, txthoraregreso.getText());
        ps.setString(6, txtid.getText());

        ps.execute();

        JOptionPane.showMessageDialog(null, "Préstamo Modificado");
        tblprestamo.setValueAt(cboxprofesor.getSelectedItem().toString(), Fila, 0);
        tblprestamo.setValueAt(cboxserie.getSelectedItem().toString(), Fila, 1);
        tblprestamo.setValueAt(txtfecha.getText(), Fila, 2);
        tblprestamo.setValueAt(txthorauso.getText(), Fila, 3);
        tblprestamo.setValueAt(txthoraregreso.getText(), Fila, 4);

        limpiar();

    } catch (SQLException e) {
        System.out.println(e);
        JOptionPane.showMessageDialog(null, "Error al Modificar Préstamo");
    }
    btnmodificar.setEnabled(false);
    btneliminar.setEnabled(false);
    btnlimpiar.setEnabled(false);
    desactivarCajas();
  }
}

private void btneliminarActionPerformed(java.awt.event.ActionEvent evt) {
    PreparedStatement ps = null;
    try {
```

```java
        herramienta conexion = new herramienta();
        com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

        int Fila = tblprestamo.getSelectedRow();
        String rfc = tblprestamo.getValueAt(Fila, 0).toString();

        ps = reg.prepareStatement("DELETE FROM prestamo WHERE id_renta=?");
        //Para eliminar desde columna
        //ps.setString(1, rfc);
        ps.setString(1, txtid.getText());
        ps.execute();

        modelo.removeRow(Fila);
        JOptionPane.showMessageDialog(null, "Préstamo Eliminado");
        limpiar();

    } catch (SQLException e) {
        System.out.println(e.toString());
        JOptionPane.showMessageDialog(null, "Error al Eliminar Préstamo");

    }
    btnmodificar.setEnabled(false);
    btneliminar.setEnabled(false);
    btnlimpiar.setEnabled(false);
    actualizarbd();
    desactivarCajas();
}

private void btnlimpiarActionPerformed(java.awt.event.ActionEvent evt) {
        limpiar();
     btnguardar.setEnabled(false);
    btnmodificar.setEnabled(false);
    btneliminar.setEnabled(false);
    /*desactivarNav();*/
    desactivarCajas();
    btnlimpiar.setEnabled(false);
}

private void btninfoActionPerformed(java.awt.event.ActionEvent evt) {
 JOptionPane.showMessageDialog(null, "¿Qué hay de nuevo?\n"
     + "Opción de seleccionar la fecha desde el calendario integrado.");
}

private void btnsalirActionPerformed(java.awt.event.ActionEvent evt) {
    dispose();
}
```

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

    PreparedStatement ps = null;
    ResultSet rs = null;
    herramienta conexion = new herramienta();
    Connection reg = conexion.conectar();

    ps = reg.prepareStatement("SELECT id_prof FROM profesor WHERE nombre =
?");
    ps.setString(1, cboxprofesor.getSelectedItem().toString());

    rs=ps.executeQuery();

    if (rs.next()) {

        txtidprof.setText(rs.getString("id_prof"));

    } else {
        /*JOptionPane.showMessageDialog(null, "No existe el profesor");*/
    }

    } catch (SQLException e) {
        System.err.println(e.toString());

    }
}

private void cboxserieActionPerformed(java.awt.event.ActionEvent evt) {
        try {

    PreparedStatement ps = null;
    ResultSet rs = null;
    herramienta conexion = new herramienta();
    Connection reg = conexion.conectar();

    ps = reg.prepareStatement("SELECT id_equipo FROM equipo WHERE serie =
?");
    ps.setString(1, cboxserie.getSelectedItem().toString());

    rs=ps.executeQuery();

    if (rs.next()) {

        txtidequipo.setText(rs.getString("id_equipo"));

    } else {
        /*JOptionPane.showMessageDialog(null, "No existe el profesor");*/
```

```java
        }

    } catch (SQLException e) {
        System.err.println(e.toString());

    }
}

private void tblprestamoMouseClicked(java.awt.event.MouseEvent evt) {
    PreparedStatement ps = null;
    ResultSet rs = null;
    try {
        herramienta conexion = new herramienta();
        com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

        int Fila = tblprestamo.getSelectedRow();
        String id_renta = tblprestamo.getValueAt(Fila, 5).toString();

        ps = reg.prepareStatement("SELECT id_renta, nombre, serie, fecha_uso,
hora_uso, hora_regreso FROM prestamo, profesor, equipo WHERE prestamo.prof_id =
profesor.id_prof && prestamo.equipo_id = equipo.id_equipo && id_renta=?");
        ps.setString(1, id_renta);
        rs = ps.executeQuery();

        while (rs.next()) {
            txtid.setText(rs.getString("id_renta"));
            cboxprofesor.setSelectedItem(rs.getString("nombre"));
            cboxserie.setSelectedItem(rs.getString("serie"));
            datefecha.setDate(new Date(rs.getDate("fecha_uso").getTime()));
            txthorauso.setText(rs.getString("hora_uso"));
            txthoraregreso.setText(rs.getString("hora_regreso"));

        }
    } catch (SQLException e) {
        System.out.println(e.toString());
    }

    /*desactivarNav();*/
    activarCajas();
    btnguardar.setEnabled(false);
    btnmodificar.setEnabled(true);
    btneliminar.setEnabled(true);
    btnlimpiar.setEnabled(true);
}

private void tblprestamoKeyReleased(java.awt.event.KeyEvent evt) {
```

```java
    if (evt.getKeyCode() == KeyEvent.VK_DOWN || (evt.getKeyCode() ==
KeyEvent.VK_UP)) {

        PreparedStatement ps = null;
        ResultSet rs = null;
        try {
            herramienta conexion = new herramienta();
            com.mysql.jdbc.Connection reg = (com.mysql.jdbc.Connection)
conexion.conectar();

            int Fila = tblprestamo.getSelectedRow();
            String id_renta = tblprestamo.getValueAt(Fila, 5).toString();

            ps = reg.prepareStatement("SELECT id_renta, nombre, serie, fecha_uso,
hora_uso, hora_regreso FROM prestamo, profesor, equipo WHERE prestamo.prof_id =
profesor.id_prof && prestamo.equipo_id = equipo.id_equipo && id_renta=?");
            ps.setString(1, id_renta);
            rs = ps.executeQuery();

            while (rs.next()) {

                txtid.setText(rs.getString("id_renta"));
                cboxprofesor.setSelectedItem(rs.getString("nombre"));
                cboxserie.setSelectedItem(rs.getString("serie"));
                datefecha.setDate(new Date(rs.getDate("fecha_uso").getTime()));
                txthorauso.setText(rs.getString("hora_uso"));
                txthoraregreso.setText(rs.getString("hora_regreso"));
            }
        } catch (SQLException e) {
            System.out.println(e.toString());
        }

        /*desactivarNav();*/
        activarCajas();
        btnguardar.setEnabled(false);
        btnmodificar.setEnabled(true);
        btneliminar.setEnabled(true);
        btnlimpiar.setEnabled(true);

    }
}

private void btnfechaActionPerformed(java.awt.event.ActionEvent evt) {
    JOptionPane.showMessageDialog(null, "La fecha debe ir en formato
'DD/MM/AAAA'");
}

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

```java
        JOptionPane.showMessageDialog(null, "Las horas deben ir en formato 'HH:MM:SS'");
    }

    private void jbtnbackprActionPerformed(java.awt.event.ActionEvent evt) {
    app mostrar = new app();
    mostrar.setSize(960, 640);
    mostrar.show();
    mostrar.setLocationRelativeTo(null);
    dispose();
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and
feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Windows".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(tb_prestamo.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(tb_prestamo.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(tb_prestamo.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(tb_prestamo.class.getName()).log(java.util.logging.Lev
el.SEVERE, null, ex);
        }
        //</editor-fold>
```

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

    // Variables declaration - do not modify
    private javax.swing.JButton btnbuscar;
    private javax.swing.JButton btneliminar;
    private javax.swing.JButton btnfecha;
    private javax.swing.JButton btnguardar;
    private javax.swing.JButton btnhoras;
    private javax.swing.JButton btninfo;
    private javax.swing.JButton btnlimpiar;
    private javax.swing.JButton btnmodificar;
    private javax.swing.JButton btnnuevo;
    private javax.swing.JButton btnsalir;
    private javax.swing.JComboBox<String> cboxprofesor;
    private javax.swing.JComboBox<String> cboxserie;
    private com.toedter.calendar.JDateChooser datefecha;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JButton jbtnbackpr;
    private javax.swing.JLabel lblautor;
    private javax.swing.JLabel lblbusqeda_fecha;
    private javax.swing.JLabel lblfecha;
    private javax.swing.JLabel lblhoraregreso;
    private javax.swing.JLabel lblhorauso;
    private javax.swing.JLabel lbllogo;
    private javax.swing.JLabel lblprofesor;
    private javax.swing.JLabel lblserie;
    private javax.swing.JLabel lblversion;
    private javax.swing.JTable tblprestamo;
    private javax.swing.JTextField txtbusqueda_serie;
    private javax.swing.JTextField txtfecha;
    private javax.swing.JTextField txthoraregreso;
    private javax.swing.JTextField txthorauso;
    private javax.swing.JTextField txtid;
    private javax.swing.JTextField txtidequipo;
    private javax.swing.JTextField txtidprof;
    // End of variables declaration
}
```

Administrador

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

import javax.swing.JOptionPane;

/**
 *
 * @author ivanhg
 */
public class Administrador extends javax.swing.JFrame {

    /**
     * Creates new form Administrador
     */
    public Administrador() {
        initComponents();
        this.setLocationRelativeTo(null);
    }

    /**
     * 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() {

        jbtnequipo_A = new javax.swing.JButton();
        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jtxtusuario = new javax.swing.JTextField();
        jtxtpassword = new javax.swing.JTextField();
        jbtninfo_A = new javax.swing.JButton();
        jbtnsalir_A = new javax.swing.JButton();
        jbtnback_A = new javax.swing.JButton();
        jbtnprofesor_A = new javax.swing.JButton();
        jlblicon = new javax.swing.JLabel();
        jlblwall_A = new javax.swing.JLabel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
```

```
getContentPane().setLayout(null);

jbtnequipo_A.setFont(new java.awt.Font("Lucida Grande", 0, 16)); // NOI18N
jbtnequipo_A.setText("Equipo");
jbtnequipo_A.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jbtnequipo_AActionPerformed(evt);
    }
});
getContentPane().add(jbtnequipo_A);
jbtnequipo_A.setBounds(370, 390, 98, 40);

jLabel1.setFont(new java.awt.Font("Lucida Grande", 0, 16)); // NOI18N
jLabel1.setForeground(new java.awt.Color(255, 255, 255));
jLabel1.setText("Usuario");
getContentPane().add(jLabel1);
jLabel1.setBounds(290, 280, 60, 20);

jLabel2.setFont(new java.awt.Font("Lucida Grande", 0, 16)); // NOI18N
jLabel2.setForeground(new java.awt.Color(255, 255, 255));
jLabel2.setText("Contraseña");
getContentPane().add(jLabel2);
jLabel2.setBounds(260, 320, 89, 20);

jtxtusuario.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jtxtusuarioActionPerformed(evt);
    }
});
getContentPane().add(jtxtusuario);
jtxtusuario.setBounds(370, 280, 220, 26);
getContentPane().add(jtxtpassword);
jtxtpassword.setBounds(370, 320, 220, 26);

jbtninfo_A.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/info.png"))); // NOI18N
jbtninfo_A.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jbtninfo_AActionPerformed(evt);
    }
});
getContentPane().add(jbtninfo_A);
jbtninfo_A.setBounds(840, 10, 48, 44);

jbtnsalir_A.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/salir.png"))); // NOI18N
jbtnsalir_A.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
                jbtnsalir_AActionPerformed(evt);
            }
        });
        getContentPane().add(jbtnsalir_A);
        jbtnsalir_A.setBounds(900, 10, 48, 44);

        jbtnback_A.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/back_32.png"))); // NOI18N
        jbtnback_A.setText("Atras");
        jbtnback_A.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jbtnback_AActionPerformed(evt);
            }
        });
        getContentPane().add(jbtnback_A);
        jbtnback_A.setBounds(10, 10, 90, 44);

        jbtnprofesor_A.setFont(new java.awt.Font("Lucida Grande", 0, 16)); // NOI18N
        jbtnprofesor_A.setText("Profesor");
        jbtnprofesor_A.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jbtnprofesor_AActionPerformed(evt);
            }
        });
        getContentPane().add(jbtnprofesor_A);
        jbtnprofesor_A.setBounds(490, 390, 96, 40);

        jlblicon.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/icon_150.png"))); // NOI18N
        getContentPane().add(jlblicon);
        jlblicon.setBounds(400, 90, 150, 160);

        jlblwall_A.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/wall.jpg"))); // NOI18N
        jlblwall_A.setText("jLabel3");
        getContentPane().add(jlblwall_A);
        jlblwall_A.setBounds(0, 0, 960, 640);

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

    private void jbtnback_AActionPerformed(java.awt.event.ActionEvent evt) {
    app mostrar = new app();
    mostrar.setSize(960, 640);
    mostrar.show();
    mostrar.setLocationRelativeTo(null);
    dispose();
    }
```

```
private void jbtnequipo_AActionPerformed(java.awt.event.ActionEvent evt) {
  if(jtxtusuario.getText().length()==0){
      JOptionPane.showMessageDialog(null, "Favor de ingresar tu usuario...");
    }
    else{

    }

    if(jtxtpassword.getText().length()==0){
      JOptionPane.showMessageDialog(null, "Favor de ingresar tu contraseña...");
    }
    else{

    }

    String user="Ivan";//USER predeterminado
    String pass="1234";//PASS predeterminado

    //Validacion de NIP
    String passok;
    String userok;

    passok = jtxtpassword.getText();
    userok = jtxtusuario.getText();

    if(passok==null){

    }else{
        if((!passok.equals("")) && (!userok.equals(""))){
          if((passok.equals(pass)) && (userok.equals(user))){

              tb_equipo mostrarequipo = new tb_equipo ();
              mostrarequipo.setSize(1024, 622);
              mostrarequipo.setVisible(true);
              dispose();
              //Fin Validacion NIP

          }
          //NIP incorrecto
          else{
              JOptionPane.showMessageDialog(null, "El usuario y/o contraseña son
incorrectos...");
          }
          //Fin NIP incorrecto
        }
      }
    }
```

```java
private void jbtnprofesor_AActionPerformed(java.awt.event.ActionEvent evt) {
if(jtxtusuario.getText().length()==0){
    JOptionPane.showMessageDialog(null, "Favor de ingresar tu usuario...");
}
else{

}

if(jtxtpassword.getText().length()==0){
    JOptionPane.showMessageDialog(null, "Favor de ingresar tu contraseña...");
}
else{

}

String user="Ivan";//USER predeterminado
String pass="1234";//PASS predeterminado

//Validacion de NIP
String passok;
String userok;

passok = jtxtpassword.getText();
userok = jtxtusuario.getText();

if(passok==null){

}else{
    if((!passok.equals("")) && (!userok.equals(""))){
        if((passok.equals(pass)) && (userok.equals(user))){

            tb_profesor mostrarprofesor = new tb_profesor ();
            mostrarprofesor.setSize(1024, 600);
            mostrarprofesor.setVisible(true);
            dispose();
            //Fin Validacion NIP

        }
        //NIP incorrecto
        else{
            JOptionPane.showMessageDialog(null, "El usuario y/o contraseña son
incorrectos...");
        }
        //Fin NIP incorrecto
    }
}
```

```java
        }

    private void jbtninfo_AActionPerformed(java.awt.event.ActionEvent evt) {
    JOptionPane.showMessageDialog(null, "Usuario: Ivan \nPassword: 1234 ");
    }

    private void jbtnsalir_AActionPerformed(java.awt.event.ActionEvent evt) {
    dispose();
    }

    private void jtxtusuarioActionPerformed(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(Administrador.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Administrador.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Administrador.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
```

```
java.util.logging.Logger.getLogger(Administrador.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
    }
    //</editor-fold>

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

// Variables declaration - do not modify
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JButton jbtnback_A;
private javax.swing.JButton jbtnequipo_A;
private javax.swing.JButton jbtninfo_A;
private javax.swing.JButton jbtnprofesor_A;
private javax.swing.JButton jbtnsalir_A;
private javax.swing.JLabel jlblicon;
private javax.swing.JLabel jlblwall_A;
private javax.swing.JTextField jtxtpassword;
private javax.swing.JTextField jtxtusuario;
// End of variables declaration
}
```

app

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

import java.awt.Color;
import java.io.IOException;
import java.net.URISyntaxException;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JButton;

/**
 *
 * @author ivanhg
 */
public class app extends javax.swing.JFrame {

    /**
     * Creates new form app
     */
    public app() {
        initComponents();
        this.setLocationRelativeTo(null);
    }

    /**
     * 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() {

        jSeparator2 = new javax.swing.JSeparator();
        btnprofesorx = new javax.swing.JButton();
        btnadministradorx = new javax.swing.JButton();
        jbtnsoporte = new javax.swing.JButton();
        jlblProfesores = new javax.swing.JLabel();
        jlblAdministrador = new javax.swing.JLabel();
        jlblSoporte = new javax.swing.JLabel();
        jlblProf_desc = new javax.swing.JLabel();
```

```
jlblAdm_desc = new javax.swing.JLabel();
jlblSop_desc = new javax.swing.JLabel();
jlblf1 = new javax.swing.JLabel();
jlblf2 = new javax.swing.JLabel();
jlblf3 = new javax.swing.JLabel();
jbtncerrarapp = new javax.swing.JButton();
jlbltitle = new javax.swing.JLabel();
jlbllogo = new javax.swing.JLabel();
jLabel1 = new javax.swing.JLabel();
jlblProf_parr = new javax.swing.JLabel();
jlblAdm_parr = new javax.swing.JLabel();
jlblSop_parr = new javax.swing.JLabel();
wall = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
getContentPane().setLayout(null);

btnprofesorx.setBackground(new java.awt.Color(0, 0, 0));
btnprofesorx.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/profesorx.png"))); // NOI18N
    btnprofesorx.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnprofesorxActionPerformed(evt);
        }
    });
    getContentPane().add(btnprofesorx);
    btnprofesorx.setBounds(10, 120, 140, 140);

btnadministradorx.setBackground(new java.awt.Color(0, 0, 0));
btnadministradorx.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/administrador.png"))); // NOI18N
    btnadministradorx.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            btnadministradorxActionPerformed(evt);
        }
    });
    getContentPane().add(btnadministradorx);
    btnadministradorx.setBounds(10, 290, 140, 140);

jbtnsoporte.setBackground(new java.awt.Color(0, 0, 0));
jbtnsoporte.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/support.png"))); // NOI18N
    jbtnsoporte.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jbtnsoporteActionPerformed(evt);
        }
    });
    getContentPane().add(jbtnsoporte);
```

```
jbtnsoporte.setBounds(10, 460, 140, 140);

jlblProfesores.setFont(new java.awt.Font("Lucida Grande", 0, 22)); // NOI18N
jlblProfesores.setForeground(new java.awt.Color(255, 255, 255));
jlblProfesores.setText("Profesores");
getContentPane().add(jlblProfesores);
jlblProfesores.setBounds(170, 130, 170, 27);

jlblAdministrador.setFont(new java.awt.Font("Lucida Grande", 0, 22)); // NOI18N
jlblAdministrador.setForeground(new java.awt.Color(255, 255, 255));
jlblAdministrador.setText("Administrador");
getContentPane().add(jlblAdministrador);
jlblAdministrador.setBounds(170, 300, 160, 27);

jlblSoporte.setFont(new java.awt.Font("Lucida Grande", 0, 22)); // NOI18N
jlblSoporte.setForeground(new java.awt.Color(255, 255, 255));
jlblSoporte.setText("Soporte");
getContentPane().add(jlblSoporte);
jlblSoporte.setBounds(170, 470, 90, 27);

jlblProf_desc.setFont(new java.awt.Font("Lucida Grande", 0, 16)); // NOI18N
jlblProf_desc.setForeground(new java.awt.Color(204, 204, 204));
jlblProf_desc.setText("Préstamo de equipo");
getContentPane().add(jlblProf_desc);
jlblProf_desc.setBounds(170, 160, 160, 20);

jlblAdm_desc.setFont(new java.awt.Font("Lucida Grande", 0, 16)); // NOI18N
jlblAdm_desc.setForeground(new java.awt.Color(204, 204, 204));
jlblAdm_desc.setText("Equipo & Profesores");
getContentPane().add(jlblAdm_desc);
jlblAdm_desc.setBounds(170, 330, 158, 20);

jlblSop_desc.setFont(new java.awt.Font("Lucida Grande", 0, 16)); // NOI18N
jlblSop_desc.setForeground(new java.awt.Color(204, 204, 204));
jlblSop_desc.setText("Web");
getContentPane().add(jlblSop_desc);
jlblSop_desc.setBounds(170, 500, 80, 20);

jlblf1.setIcon(new javax.swing.ImageIcon(getClass().getResource("/img/f_32.png")));
// NOI18N
getContentPane().add(jlblf1);
jlblf1.setBounds(880, 130, 32, 50);

jlblf2.setIcon(new javax.swing.ImageIcon(getClass().getResource("/img/f_32.png")));
// NOI18N
getContentPane().add(jlblf2);
jlblf2.setBounds(880, 300, 40, 50);
```

```java
        jlblf3.setIcon(new javax.swing.ImageIcon(getClass().getResource("/img/f_32.png")));
// NOI18N
        getContentPane().add(jlblf3);
        jlblf3.setBounds(880, 470, 40, 50);

        jbtncerrarapp.setBackground(new java.awt.Color(255, 0, 51));
        jbtncerrarapp.setForeground(new java.awt.Color(255, 0, 0));
        jbtncerrarapp.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/salir.png"))); // NOI18N
        jbtncerrarapp.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jbtncerrarappActionPerformed(evt);
            }
        });
        getContentPane().add(jbtncerrarapp);
        jbtncerrarapp.setBounds(900, 10, 40, 40);

        jlbltitle.setFont(new java.awt.Font("Lucida Grande", 0, 20)); // NOI18N
        jlbltitle.setForeground(new java.awt.Color(255, 255, 255));
        jlbltitle.setText("SABES");
        getContentPane().add(jlbltitle);
        jlbltitle.setBounds(470, 20, 60, 25);

        jlbllogo.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/sabes_36.png"))); // NOI18N
        jlbllogo.setText("jLabel4");
        getContentPane().add(jlbllogo);
        jlbllogo.setBounds(420, 10, 40, 40);

        jLabel1.setForeground(new java.awt.Color(51, 51, 51));
        jLabel1.setIcon(new
javax.swing.ImageIcon(getClass().getResource("/img/gray1.jpg"))); // NOI18N
        jLabel1.setText("jLabel1");
        getContentPane().add(jLabel1);
        jLabel1.setBounds(0, 0, 960, 60);

        jlblProf_parr.setForeground(new java.awt.Color(102, 102, 102));
        jlblProf_parr.setText("Solo profesores registrados");
        getContentPane().add(jlblProf_parr);
        jlblProf_parr.setBounds(170, 180, 180, 16);

        jlblAdm_parr.setForeground(new java.awt.Color(102, 102, 102));
        jlblAdm_parr.setText("Altas y bajas");
        getContentPane().add(jlblAdm_parr);
        jlblAdm_parr.setBounds(170, 350, 90, 16);

        jlblSop_parr.setForeground(new java.awt.Color(102, 102, 102));
        jlblSop_parr.setText("Manual");
```

```java
        getContentPane().add(jlblSop_parr);
        jlblSop_parr.setBounds(170, 520, 50, 16);

        wall.setIcon(new javax.swing.ImageIcon(getClass().getResource("/img/wall.jpg"))); //
NOI18N
        wall.setText("jLabel1");
        getContentPane().add(wall);
        wall.setBounds(0, 0, 960, 660);

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

    private void btnprofesorxActionPerformed(java.awt.event.ActionEvent evt) {
btnprofesorx.setBackground(Color.black);
        tb_prestamo mostrarprestamo = new tb_prestamo ();
        mostrarprestamo.setSize(1043, 630);
        mostrarprestamo.setVisible(true);
        dispose();

    }

    private void btnadministradorxActionPerformed(java.awt.event.ActionEvent evt) {
btnadministradorx.setBackground(Color.black);
        Administrador mostraradministrador = new Administrador ();
        mostraradministrador.setSize(960, 640);
        mostraradministrador.setVisible(true);
        mostraradministrador.setLocationRelativeTo(null);
        dispose();
    }


    public void goToURL(String URL) throws IOException{
        if (java.awt.Desktop.isDesktopSupported()) {
         java.awt.Desktop desktop = java.awt.Desktop.getDesktop();

         if (desktop.isSupported(java.awt.Desktop.Action.BROWSE)) {
            try {
               java.net.URI uri = new java.net.URI(URL);
               desktop.browse(uri);
            } catch (URISyntaxException | IOException ex) {
               Logger.getLogger(app.class.getName()).log(Level.SEVERE, null, ex);
            }
         }
       }
    }

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

```java
jbtnsoporte.setBackground(Color.black);
    try {
        goToURL("http://app.linktu.xyz/");
    } catch (IOException ex) {
        Logger.getLogger(app.class.getName()).log(Level.SEVERE, null, ex);
    }
}

private void jbtncerrarappActionPerformed(java.awt.event.ActionEvent evt) {
dispose();
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and
feel.
     * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        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(app.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(app.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(app.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(app.class.getName()).log(java.util.logging.Level.SEVE
RE, null, ex);
    }
```

```java
    //</editor-fold>

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

// Variables declaration - do not modify
private javax.swing.JButton btnadministradorx;
private javax.swing.JButton btnprofesorx;
private javax.swing.JLabel jLabel1;
private javax.swing.JSeparator jSeparator2;
private javax.swing.JButton jbtncerrarapp;
private javax.swing.JButton jbtnsoporte;
private javax.swing.JLabel jlblAdm_desc;
private javax.swing.JLabel jlblAdm_parr;
private javax.swing.JLabel jlblAdministrador;
private javax.swing.JLabel jlblProf_desc;
private javax.swing.JLabel jlblProf_parr;
private javax.swing.JLabel jlblProfesores;
private javax.swing.JLabel jlblSop_desc;
private javax.swing.JLabel jlblSop_parr;
private javax.swing.JLabel jlblSoporte;
private javax.swing.JLabel jlblf1;
private javax.swing.JLabel jlblf2;
private javax.swing.JLabel jlblf3;
private javax.swing.JLabel jlbllogo;
private javax.swing.JLabel jlbltitle;
private javax.swing.JLabel wall;
// End of variables declaration
}
```