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| Manual Técnico Programa de Gestión.  Programación | | | |
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|  |  | | Andrés Ceballos Rodríguez |

Manual Técnico Programa de Gestión.

Programación

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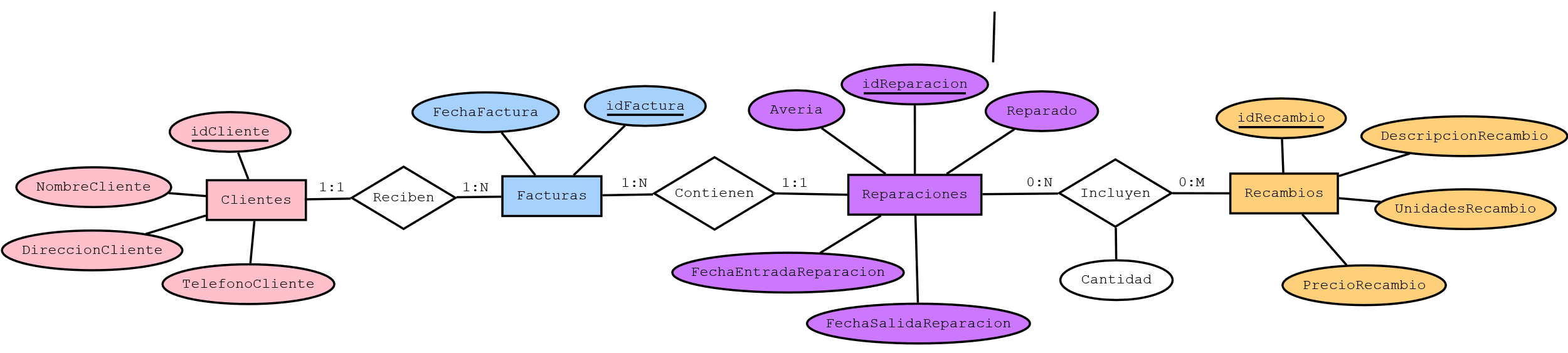
[7. Bibliografía 137](#_Toc11091653)

# 1. Introducción

En el siguiente manual, vamos a exponer los detalles técnicos del Programa de Gestión, así como los detalles de su base de datos (diagrama e-r, esquema relacional, sentencias sql…), como de las librerías externas que hemos usado para la realización del programa, los requisitos para poder utilizar el programa y la explicación de las clases Java que hemos desarrollado para la realización del mismo. También, describiremos el proceso de la creación del ejecutable de nuestro programa.

# 2. Base de Datos

Modelo ERD



Modelo E/R

CLIENTES (idCliente, NombreCliente, DireccionCliente, TelefonoCliente)

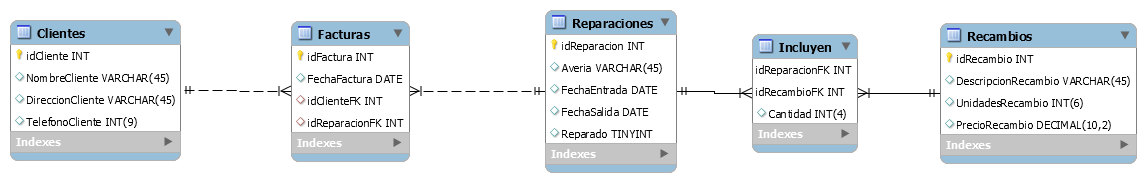
REPARACIONES (idReparacion, Averia, FechaEntradaReparacion, FechaSalidaReparacion, Reparado)

FACTURAS (idFactura, FechaFactura, idClienteFK, idReparacionFK)

RECAMBIOS (idRecambio, DescripcionRecambio, UnidadesRecambio, PrecioRecambio)

INCLUYEN (idReparacionFK, idRecambioFK, Cantidad)

Modelo Workbench



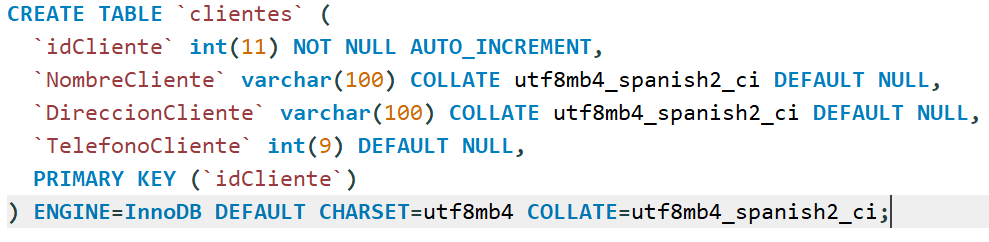
Sentencias SQL

**Creación de la Base de datos:**

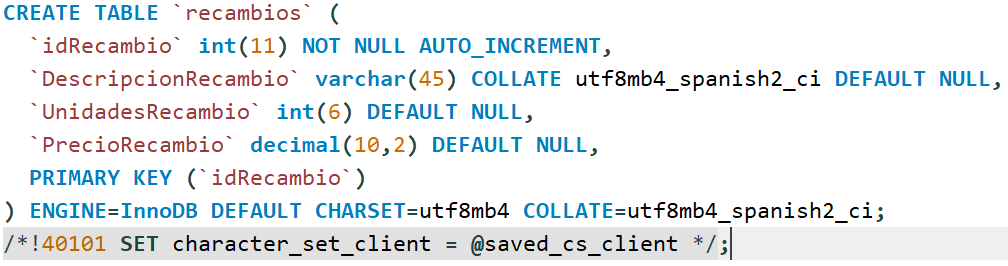


**Creación de las Tablas:**

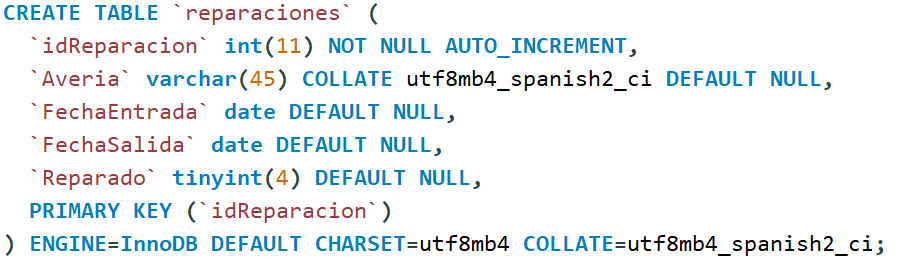
**Clientes:**



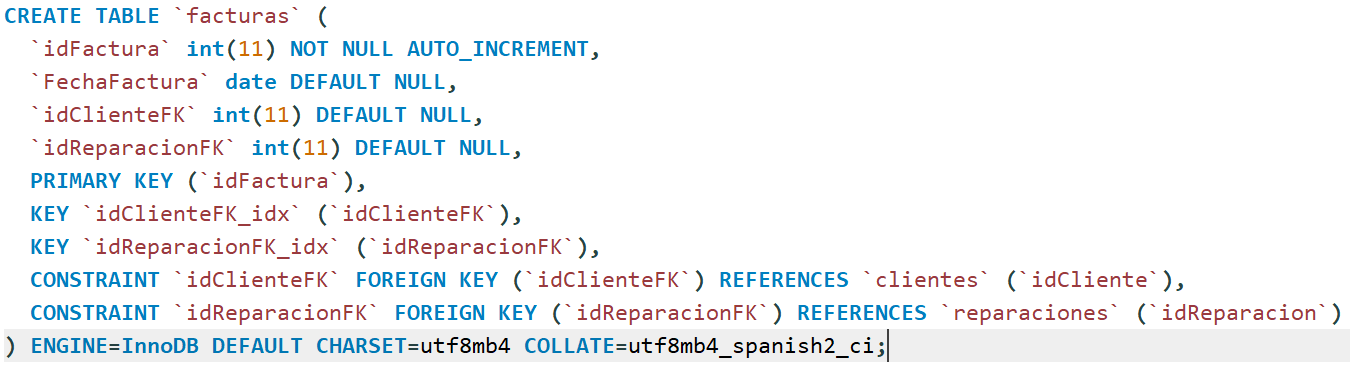
**Recambios:**



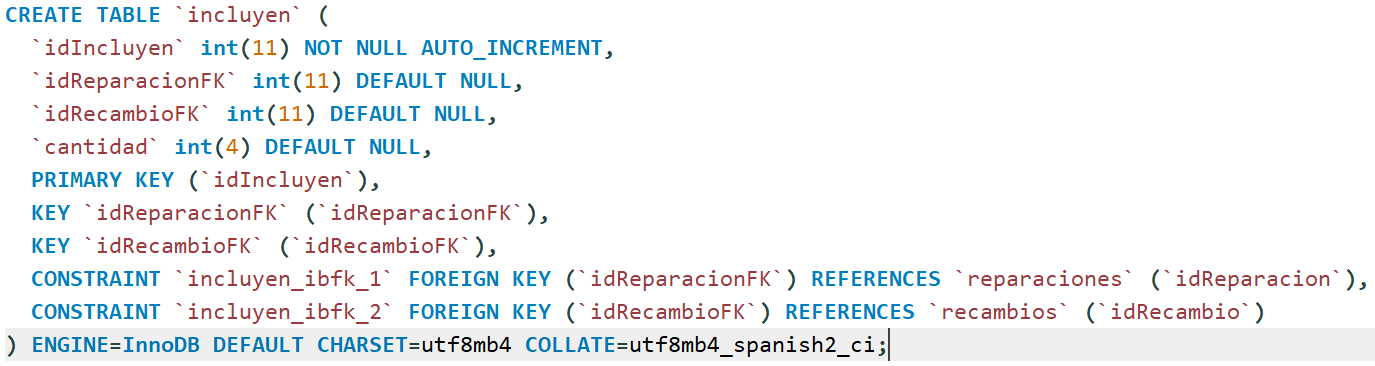
**Reparaciones:**



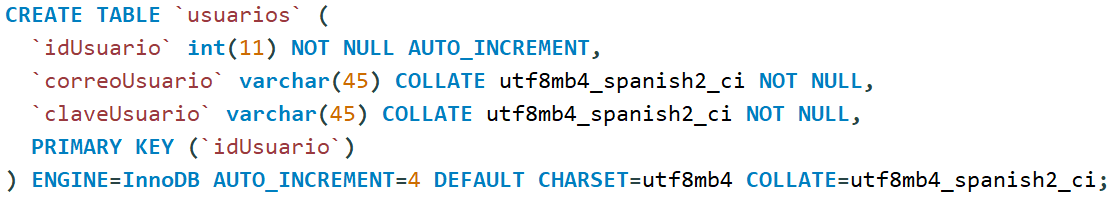
**Facturas:**



**Incluyen:**



**Usuarios:**



# 3. Librerías

Para desarrollar el programa, hemos usado una serie de librerías externas que son las siguientes:

**MYSQL Connector 5.1.46** Utilizada para proporcionarnos las utilidades para conectarnos a la Base de Datos.

**Itext 5.0.1**: Utilizada para exportar las diferentes consultas en un archivo pdf.

# 4. Requisitos e Instalación

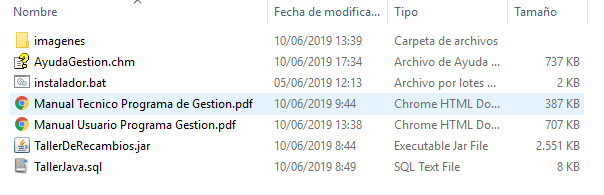
Requisitos

Los requisitos para poder correr el programa son los siguientes:

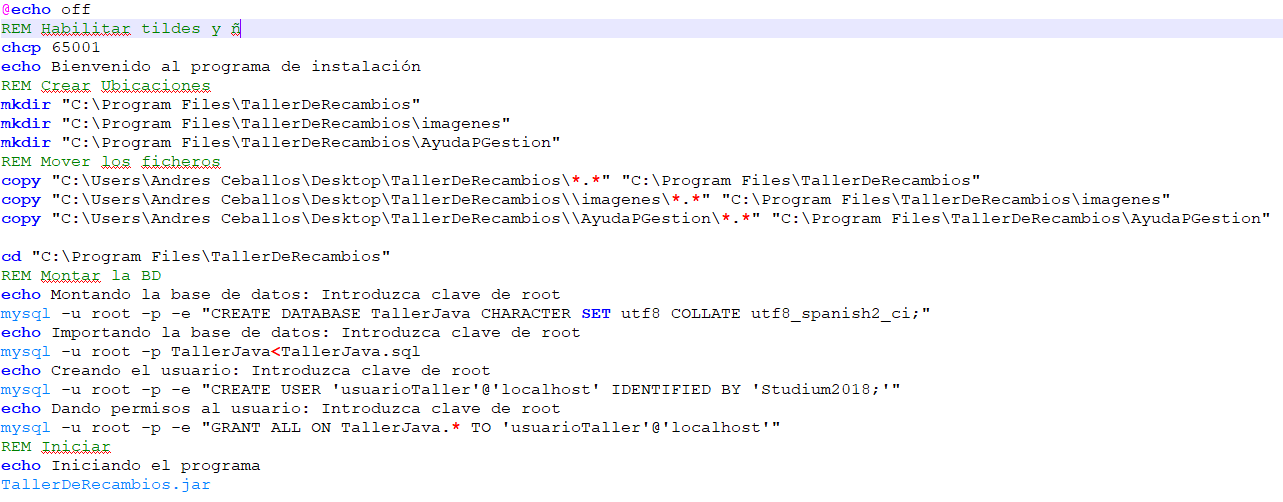
* MySQL Server
* Java Versión 8
* Archivos de instalación de nuestro programa.

Instalación del programa

Para la instalación del programa, deberemos tener la carpeta de nuestro programa con los siguientes archivos:



En esta carpeta, hemos guardado todo lo necesario para el correcto funcionamiento del programa, también hemos creado un instalador.bat en el que tenemos creadas las líneas de código para poder instalar el programa.

  
 Para instalar el programa deberemos pulsar sobre el instalador.bat y a continuación seguiremos los pasos que nos va indicando el instalador.

Cuando tengamos creado el instalador, nos dirigiremos a la carpeta donde hayamos instalado el programa y lo ejecutaremos.

# 5. Clases Java:

Lo siguiente que vamos a exponer es una breve explicación de cada clase Java que hemos desarrollado que componen nuestro programa.

**AddCli.java:** Esta clase nos sirve para añadir un cliente.

|  |
| --- |
| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.FlowLayout;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.TextEvent;  **import** java.awt.event.TextListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JLabel;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **import** javax.swing.JTextField;  **public** **class** AddCli **implements** WindowListener, ActionListener, TextListener  {    String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/TallerJava?autoReconnect=true&useSSL=false";  String login = "usuarioTaller";  String password = "Studium2018;";  Connection connection = **null**;  Statement statement = **null**;  ResultSet rs = **null**;    String user="";    JFrame ventanaAddCli = **new** JFrame ("Añadir Cliente");  JLabel lblNombreCli = **new** JLabel ("Nombre:");  JLabel lblDireccionCli = **new** JLabel ("Dirección:");  JLabel lblTelefonoCli = **new** JLabel ("Teléfono:");  JTextField txtNombreCli = **new** JTextField(15);  JTextField txtDireccionCli = **new** JTextField(15);  JTextField txtTelefonoCli = **new** JTextField(15);  JButton btnCrear = **new** JButton("Crear Cliente");  JButton btnLimpiar = **new** JButton("Limpiar");  JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();  JPanel pnlPanel5 = **new** JPanel();    **public** AddCli(String usuario) {  user = usuario;  ventanaAddCli.setLayout(**new** GridLayout(4,1));  ventanaAddCli.setLocationRelativeTo(**null**);  ventanaAddCli.setSize(400,300);  pnlPanel.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());  pnlPanel5.setLayout(**new** FlowLayout());  pnlPanel.add(lblNombreCli);  pnlPanel.add(txtNombreCli);  ventanaAddCli.add(pnlPanel);  pnlPanel3.add(lblDireccionCli);  pnlPanel3.add(txtDireccionCli);  ventanaAddCli.add(pnlPanel3);  pnlPanel4.add(lblTelefonoCli);  pnlPanel4.add(txtTelefonoCli);  ventanaAddCli.add(pnlPanel4);  pnlPanel5.add(btnCrear);  btnCrear.addActionListener(**this**);  pnlPanel5.add(btnLimpiar);  btnLimpiar.addActionListener(**this**);  ventanaAddCli.add(pnlPanel5);  ventanaAddCli.addWindowListener(**this**);  ventanaAddCli.setVisible(**true**);  }  @Override  **public** **void** textValueChanged(TextEvent e) {}  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if** (btnCrear.equals(ae.getSource())) {    txtNombreCli.selectAll();  String Nombre = txtNombreCli.getText();  txtDireccionCli.selectAll();  String Direccion = txtDireccionCli.getText();  txtTelefonoCli.selectAll();  String Telefono = txtTelefonoCli.getText();    **try**  {  Class.*forName*(driver);  String sentencia = "INSERT INTO clientes VALUES (null,'"+Nombre+"', '"+Direccion+"', '"+Telefono+"');";  connection = DriverManager.*getConnection*(url, login,password);  statement =connection.createStatement();  statement.executeUpdate(sentencia);  JOptionPane.*showMessageDialog*(**null**,"Cliente creado","Cliente Creado", JOptionPane.***INFORMATION\_MESSAGE***);  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,"Error",cnfe.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,"Error",sqle.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  **finally**  {  **try**  {  **if**(connection!=**null**)  {  connection.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,"Error",e.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  }      } **else** **if** (btnLimpiar.equals(ae.getSource())) {  txtNombreCli.selectAll();  txtNombreCli.setText("");  txtDireccionCli.selectAll();  txtDireccionCli.setText("");  txtTelefonoCli.selectAll();  txtTelefonoCli.setText("");  }    }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0) {  **if**(ventanaAddCli.isActive()) {  ventanaAddCli.setVisible(**false**);  }  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  } |

**AddFac.java:** Esta clase la utilizamos para añadir una factura.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.Choice;  **import** java.awt.FlowLayout;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.\*;  **public** **class** AddFac **extends** JFrame **implements** WindowListener, ActionListener{    /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  String user;  JLabel lblFecha = **new** JLabel ("Fecha Factura :");  JLabel lblClientes = **new** JLabel ("Cliente:");  JLabel lblReparaciones = **new** JLabel ("Reparación:");  Choice clientes = **new** Choice();  Choice reparaciones = **new** Choice();  JTextField txtFecha = **new** JTextField(10);  JButton btnCrear = **new** JButton("Crear Factura");  JButton btnLimpiar = **new** JButton("Limpiar");  JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel2 = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();    Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  **public** AddFac(String usuario)  {  user = usuario;  **this**.setTitle("Añadir Factura");  **this**.setLayout(**new** GridLayout(5,2));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(400,300);  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);    ResultSet selectClientes = ejecutarSelect("SELECT \* FROM clientes",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while**(selectClientes.next())  {  String cli=Integer.*toString*(selectClientes.getInt("idCliente"));  cli = cli + ".-"+" "+selectClientes.getString("nombreCliente");  clientes.add(cli);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  ResultSet selectReparaciones = ejecutarSelect("SELECT \* FROM reparaciones",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while**(selectReparaciones.next())  {  String rep=Integer.*toString*(selectReparaciones.getInt("idReparacion"));  rep = rep + ".-"+ selectReparaciones.getString("Averia");  reparaciones.add(rep);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  pnlPanel.setLayout(**new** FlowLayout());  pnlPanel2.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());  pnlPanel.add(lblFecha);  txtFecha.setText(dia+"/"+mes+"/"+anyo);  pnlPanel.add(txtFecha);  **this**.add(pnlPanel);  pnlPanel2.add(lblClientes);  pnlPanel2.add(clientes);  **this**.add(pnlPanel2);  pnlPanel3.add(lblReparaciones);  pnlPanel3.add(reparaciones);  **this**.add(pnlPanel3);  pnlPanel4.add(btnCrear);  btnCrear.addActionListener(**this**);  pnlPanel4.add(btnLimpiar);  btnLimpiar.addActionListener(**this**);  **this**.add(pnlPanel4);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae) {  **if** (btnCrear.equals(ae.getSource()))  {  String[] arrayClientes = clientes.getSelectedItem().toString().split(".-");  **int** idCliente = Integer.*parseInt*(arrayClientes[0]);  String[] arrayReparaciones= reparaciones.getSelectedItem().toString().split(".-");  **int** idReparacion = Integer.*parseInt*(arrayReparaciones[0]);    String Fecha = txtFecha.getText();  String[] arrayFecha = Fecha.split("/");  Fecha = arrayFecha[2]+"-"+arrayFecha[1]+"-"+arrayFecha[0];    String sentencia = "INSERT INTO facturas VALUES (null,'"+Fecha+"',"+idCliente+","+idReparacion+");";    ejecutarIDA(sentencia,conectar("TallerJava","usuarioTaller","Studium2018;"));  ResultSet rsCodFac = ejecutarSelect("select \* from facturas order by 1 desc;", conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  rsCodFac.next();  **new** LineaRepRec(idReparacion, rsCodFac.getInt("idFactura"));  **this**.setVisible(**false**);  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));        Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }    }    **else** **if** (btnLimpiar.equals(ae.getSource()))  {  txtFecha.selectAll();  txtFecha.setText("");  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosed(WindowEvent arg0) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowIconified(WindowEvent arg0) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowOpened(WindowEvent arg0) {  // **TODO** Auto-generated method stub  }  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  JOptionPane.*showMessageDialog*(**null**,"Factura creada","Factura creada con éxito", JOptionPane.***INFORMATION\_MESSAGE***);  **this**.setVisible(**false**);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  } |

**AddRec.java:** Esta clase nos sirve para poder añadir un recambio.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.FlowLayout;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JLabel;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **import** javax.swing.JTextField;  **public** **class** AddRec **implements** WindowListener, ActionListener{  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/TallerJava?autoReconnect=true&useSSL=false";  String login = "usuarioTaller";  String password = "Studium2018;";  Connection connection = **null**;  Statement statement = **null**;  ResultSet rs = **null**;    String user;    JFrame ventanaAddRec = **new** JFrame ("Añadir Recambio");  JLabel lblDescripcionRec = **new** JLabel ("Descripción:");  JLabel lblUnidadesRec = **new** JLabel ("Unidades:");  JLabel lblPrecioRec = **new** JLabel ("Precio:");    JTextField txtDescripcionRec = **new** JTextField(10);  JTextField txtUnidadesRec = **new** JTextField(10);  JTextField txtPrecioRec = **new** JTextField(10);    JButton btnCrear = **new** JButton("Crear Recambio");  JButton btnLimpiar = **new** JButton("Limpiar");    JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel2 = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();    **public** AddRec(String usuario) {  user = usuario;  ventanaAddRec.setLayout(**new** GridLayout(4,2));  ventanaAddRec.setLocationRelativeTo(**null**);  ventanaAddRec.setSize(400,300);    pnlPanel.setLayout(**new** FlowLayout());  pnlPanel2.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());      pnlPanel.add(lblDescripcionRec);  pnlPanel.add(txtDescripcionRec);  ventanaAddRec.add(pnlPanel);    pnlPanel2.add(lblUnidadesRec);  pnlPanel2.add(txtUnidadesRec);  ventanaAddRec.add(pnlPanel2);    pnlPanel3.add(lblPrecioRec);  pnlPanel3.add(txtPrecioRec);  ventanaAddRec.add(pnlPanel3);    pnlPanel4.add(btnCrear);  btnCrear.addActionListener(**this**);  pnlPanel4.add(btnLimpiar);  btnLimpiar.addActionListener(**this**);  ventanaAddRec.add(pnlPanel4);  ventanaAddRec.addWindowListener(**this**);  ventanaAddRec.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {    **if** (btnCrear.equals(ae.getSource())) {    txtDescripcionRec.selectAll();  String Descripcion = txtDescripcionRec.getText();  txtUnidadesRec.selectAll();  String Unidades = txtUnidadesRec.getText();  txtPrecioRec.selectAll();  String Precio = txtPrecioRec.getText();    **try**  {  Class.*forName*(driver);  String sentencia = "INSERT INTO recambios VALUES (null,'"+Descripcion+"', "+Unidades+", "+Precio+");";  connection = DriverManager.*getConnection*(url, login,password);  statement =connection.createStatement();  statement.executeUpdate(sentencia);  JOptionPane.*showMessageDialog*(**null**,"Recambio creado","Recambio Creado con éxito", JOptionPane.***INFORMATION\_MESSAGE***);  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,"Error",cnfe.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,"Error",sqle.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  **finally**  {  **try**  {  **if**(connection!=**null**)  {  connection.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,"Error",e.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  }      } **else** **if** (btnLimpiar.equals(ae.getSource())) {  txtDescripcionRec.selectAll();  txtDescripcionRec.setText("");  txtUnidadesRec.selectAll();  txtUnidadesRec.setText("");  txtPrecioRec.selectAll();  txtPrecioRec.setText("");    }    }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0) {    **if**(ventanaAddRec.isActive()) {  ventanaAddRec.setVisible(**false**);  }**else** {  //System.exit(0);  }    }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  } |

**AddRep.java:** Esta clase la utilizamos para añadir una reparación.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.FlowLayout;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.\*;  **public** **class** AddRep **extends** JFrame **implements** WindowListener, ActionListener{  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;    String user;    JLabel lblAveriaRep = **new** JLabel ("Avería:");  JLabel lblFechaEntradaRep = **new** JLabel ("Fecha de Entrada:");  JLabel lblFechaSalidaRep = **new** JLabel ("Fecha de Salida:");  JLabel lblReparadoRep = **new** JLabel ("Reparado:");  JTextField txtAveriaRep = **new** JTextField(10);  JTextField txtFechaEntradaRep = **new** JTextField(10);  JTextField txtFechaSalidaRep = **new** JTextField(10);  ButtonGroup chkReparadoRep = **new** ButtonGroup ();  JRadioButton chkSiRep = **new** JRadioButton ("Sí", **false**);  JRadioButton chkNoRep = **new** JRadioButton ("No", **true**);  JButton btnCrear = **new** JButton("Crear Reparación");  JButton btnLimpiar = **new** JButton("Limpiar");  JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel2 = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();  JPanel pnlPanel5 = **new** JPanel();    Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;    **public** AddRep(String usuario)  {  user = usuario;  **this**.setTitle("Añadir Reparación");  **this**.setLayout(**new** GridLayout(5,2));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(400,300);    hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  pnlPanel.setLayout(**new** FlowLayout());  pnlPanel2.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());  pnlPanel5.setLayout(**new** FlowLayout());  pnlPanel.add(lblAveriaRep);  pnlPanel.add(txtAveriaRep);  **this**.add(pnlPanel);    pnlPanel2.add(lblFechaEntradaRep);  txtFechaEntradaRep.setText(dia+"/"+mes+"/"+anyo);  pnlPanel2.add(txtFechaEntradaRep);  **this**.add(pnlPanel2);  pnlPanel3.add(lblFechaSalidaRep);  txtFechaSalidaRep.setText(dia+"/"+mes+"/"+anyo);  pnlPanel3.add(txtFechaSalidaRep);  **this**.add(pnlPanel3);  pnlPanel4.add(lblReparadoRep);  chkReparadoRep.add(chkSiRep);  chkReparadoRep.add(chkNoRep);  pnlPanel4.add(chkSiRep);  pnlPanel4.add(chkNoRep);  **this**.add(pnlPanel4);  pnlPanel5.add(btnCrear);  btnCrear.addActionListener(**this**);  pnlPanel5.add(btnLimpiar);  btnLimpiar.addActionListener(**this**);  **this**.add(pnlPanel5);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if** (btnCrear.equals(ae.getSource()))  {  **if**(chkSiRep.isSelected())  {  String FechaEntrada = txtFechaEntradaRep.getText();  String[] arrayFechaEntrada = FechaEntrada.split("/");  FechaEntrada = arrayFechaEntrada[2]+"-"+arrayFechaEntrada[1]+"-"+arrayFechaEntrada[0];    String FechaSalida = txtFechaSalidaRep.getText();  String[] arrayFechaSalida = FechaSalida.split("/");  FechaSalida = arrayFechaSalida[2]+"-"+arrayFechaSalida[1]+"-"+arrayFechaSalida[0];    String sentencia1 = "INSERT INTO reparaciones VALUES (null, '"+txtAveriaRep.getText()+"', '"+FechaEntrada+"','"+FechaSalida+"', '1');";  ejecutarIDA(sentencia1, conectar("TallerJava","usuarioTaller","Studium2018;"));  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));    **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia1+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }    } **else** **if**(chkNoRep.isSelected())  {  String FechaEntrada = txtFechaEntradaRep.getText();  String[] arrayFechaEntrada = FechaEntrada.split("/");  FechaEntrada = arrayFechaEntrada[2]+"-"+arrayFechaEntrada[1]+"-"+arrayFechaEntrada[0];    String FechaSalida = txtFechaSalidaRep.getText();  String[] arrayFechaSalida = FechaSalida.split("/");  FechaSalida = arrayFechaSalida[2]+"-"+arrayFechaSalida[1]+"-"+arrayFechaSalida[0];    String sentencia2 = "INSERT INTO reparaciones VALUES (null, '"+txtAveriaRep.getText()+"', '"+FechaEntrada+"','"+FechaSalida+"', '0');";  ejecutarIDA(sentencia2, conectar("TallerJava","usuarioTaller","Studium2018;"));  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));      **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia2+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  } **else** **if** (btnLimpiar.equals(ae.getSource())) {  txtAveriaRep.selectAll();  txtAveriaRep.setText("");  txtFechaEntradaRep.selectAll();  txtFechaEntradaRep.setText("");  txtFechaSalidaRep.selectAll();  txtFechaSalidaRep.setText("");  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error 1", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error 2", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error 3", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  JOptionPane.*showMessageDialog*(**null**,"Reparación añadida","Reparación añadida con éxito", JOptionPane.***INFORMATION\_MESSAGE***);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error 4", JOptionPane.***ERROR\_MESSAGE***);  }  }  } |

**Ayuda.java:** En esta clase, ejecutamos el ejecutable de la ayuda.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.io.IOException;  **public** **class** Ayuda {  **public** Ayuda()  {  **try**  {  Runtime.*getRuntime*().exec("hh.exe AyudaPGestion/AyudaGestion.chm");  }  **catch** (IOException e)  {  e.printStackTrace();  }  }  } |

**ConCliList.java:** En esta clase, encontramos un listado de los clientes que tenemos en la base de datos con posibilidad de imprimirlo en PDF.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.BorderLayout;  **import** java.awt.FileDialog;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.FileNotFoundException;  **import** java.io.FileOutputStream;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **import** javax.swing.JScrollPane;  **import** javax.swing.JTable;  **import** javax.swing.table.DefaultTableModel;  **import** com.itextpdf.text.pdf.PdfPTable;  **import** com.itextpdf.text.pdf.PdfWriter;  **import** com.itextpdf.text.Document;  **import** com.itextpdf.text.DocumentException;  **import** com.itextpdf.text.Font;  **import** com.itextpdf.text.Paragraph;  **public** **class** ConCliList **extends** JFrame **implements** WindowListener, ActionListener  {  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  DefaultTableModel modelo = **new** DefaultTableModel();  JTable tablaClientes= **new** JTable(modelo);  JButton btnAceptar = **new** JButton("Aceptar");  JButton btnPDF = **new** JButton("Exportar a PDF");  JPanel pnl2 = **new** JPanel();  ResultSet rs;  Document documento = **new** Document();  **public** ConCliList() {  **this**.setLayout(**new** BorderLayout());  **this**.setLocationRelativeTo(**null**);  **this**.setSize(600,200);  **this**.setTitle("Consulta de Clientes");  **this**.add(**new** JScrollPane(tablaClientes),BorderLayout.***CENTER***);  pnl2.add(btnAceptar);  pnl2.add(btnPDF);  **this**.add(pnl2, BorderLayout.***SOUTH***);  btnAceptar.addActionListener(**this**);  btnPDF.addActionListener(**this**);  modelo.addColumn("Nº Cliente");  modelo.addColumn("Nombre");  modelo.addColumn("Dirección");  modelo.addColumn("Teléfono");  rs = ejecutarSelect("SELECT \* FROM clientes", conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while** (rs.next())  {  Object [] fila = **new** Object[4];  **for** (**int** i=0;i<4;i++) {  fila[i] = rs.getObject(i+1);  }  modelo.addRow(fila);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  tablaClientes.setEnabled(**false**);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if**(btnAceptar.equals(ae.getSource()))  {  **this**.setVisible(**false**);  }  **else** **if** (btnPDF.equals(ae.getSource()))  {  FileOutputStream ficheroPdf;  **try** {  FileDialog fd = **new** FileDialog(**this**, "Seleccionar archivo", FileDialog.***SAVE***);  fd.setFile("\*.pdf");  fd.setVisible(**true**);  String filename = fd.getDirectory()+fd.getFile();  ficheroPdf = **new** FileOutputStream(filename);  PdfWriter.*getInstance*(documento,ficheroPdf).setInitialLeading(20);  documento.open();  PdfPTable tabla = **new** PdfPTable(4);    Paragraph idCliente = **new** Paragraph("Nº Cliente");  idCliente.getFont().setStyle(Font.***BOLD***);  idCliente.getFont().setSize(15);  tabla.addCell(idCliente);  Paragraph nombreCliente = **new** Paragraph("Nombre");  nombreCliente.getFont().setStyle(Font.***BOLD***);  nombreCliente.getFont().setSize(15);  tabla.addCell(nombreCliente);  Paragraph direccionCliente = **new** Paragraph("Dirección");  direccionCliente.getFont().setStyle(Font.***BOLD***);  direccionCliente.getFont().setSize(15);  tabla.addCell(direccionCliente);  Paragraph telefono = **new** Paragraph("Teléfono");  telefono.getFont().setStyle(Font.***BOLD***);  telefono.getFont().setSize(15);  tabla.addCell(telefono);  ResultSet Co = ejecutarSelect("SELECT \* FROM clientes;", conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  **try** {  **while** (Co.next())  {  **for** (**int** i=0;i<4;i++) {  **if**(i==0) {  tabla.addCell(Co.getString("idCliente"));  } **else** **if**(i==1) {  tabla.addCell(Co.getString("nombreCliente"));  } **else** **if**(i==2) {  tabla.addCell(Co.getString("direccionCliente"));  } **else** **if**(i==3) {  tabla.addCell(Co.getString("telefonoCliente"));  }  }  }  documento.add(tabla);  documento.close();  JOptionPane.*showMessageDialog*(**null**,"Documento pdf creado correctamente.","Documento creado", JOptionPane.***INFORMATION\_MESSAGE***);  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  } **catch** (FileNotFoundException e1) {  // **TODO** Auto-generated catch block  JOptionPane.*showMessageDialog*(**null**,e1.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  } **catch** (DocumentException e2) {  // **TODO** Auto-generated catch block  JOptionPane.*showMessageDialog*(**null**,e2.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {  }  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {  }  @Override  **public** **void** windowIconified(WindowEvent arg0) {  }  @Override  **public** **void** windowOpened(WindowEvent arg0) {  }  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  } |

**ConFacList.java:** En esta clase, encontramos un choice en el que se encuentran todas las facturas que aparecen en la Base de Datos y la utilizamos para seleccionarla para poder ver su contenido.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.BorderLayout;  **import** java.awt.Choice;  **import** java.awt.FlowLayout;  **import** java.awt.Font;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JLabel;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **public** **class** ConFacList **extends** JFrame **implements** WindowListener, ActionListener {    /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  Choice facturas = **new** Choice();  JLabel lblConsultaFac = **new** JLabel("Seleccione Factura a consultar:");  JButton btnSeleccionar = **new** JButton("Seleccionar");  JPanel pnl2 = **new** JPanel();  **int** idReparacion;  Font negrita = **new** Font("Arial", Font.***BOLD***, 14);  **public** ConFacList()  {  **this**.setLayout(**new** FlowLayout());  **this**.setLocationRelativeTo(**null**);  **this**.setSize(500,150);  **this**.setTitle("Consulta de Facturas");  **this**.add(lblConsultaFac);  **this**.add(facturas);  pnl2.add(btnSeleccionar);  **this**.add(pnl2, BorderLayout.***SOUTH***);  btnSeleccionar.addActionListener(**this**);      ResultSet selectFacturas = ejecutarSelect("SELECT idFactura, DATE\_FORMAT(FechaFactura, '%d/%m/%Y'), nombreCliente, idReparacionFK FROM facturas, clientes where idClienteFK = idCliente;", conectar("TallerJava","usuarioTaller","Studium2018;"));    **try** {  **while** (selectFacturas.next())  {  String fac=Integer.*toString*(selectFacturas.getInt("idFactura"));  fac = fac + "-"+  " "+selectFacturas.getString("DATE\_FORMAT(FechaFactura, '%d/%m/%Y')")+  ", Cliente: "+selectFacturas.getString("nombreCliente")+  ", Reparación:"+selectFacturas.getInt("idReparacionFK");  facturas.add(fac);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));      **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae) {    **if**(btnSeleccionar.equals(ae.getSource())) {  String[] array= facturas.getSelectedItem().toString().split("-");  **int** idFactura = Integer.*parseInt*(array[0]);  String[] array2= facturas.getSelectedItem().toString().split(", Reparación:");  **int** idReparacion = Integer.*parseInt*(array2[1]);  **new** ConLineaRepRec(idReparacion, idFactura);  **this**.setVisible(**false**);  }  }  @Override  **public** **void** windowActivated(WindowEvent e) {  // **TODO** Auto-generated method stub    }  @Override  **public** **void** windowClosed(WindowEvent e) {  // **TODO** Auto-generated method stub    }  @Override  **public** **void** windowClosing(WindowEvent e) {  **this**.setVisible(**false**);      }  @Override  **public** **void** windowDeactivated(WindowEvent e) {  // **TODO** Auto-generated method stub    }  @Override  **public** **void** windowDeiconified(WindowEvent e) {  // **TODO** Auto-generated method stub    }  @Override  **public** **void** windowIconified(WindowEvent e) {  // **TODO** Auto-generated method stub    }  @Override  **public** **void** windowOpened(WindowEvent e) {  // **TODO** Auto-generated method stub    }  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  } |

**ConLineaRepRec.java:** En esta clase, encontramos los recambios que se han utilizado en una reparación a través de la factura que hemos seleccionado en la clase ConFacList.java.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.FileNotFoundException;  **import** java.io.FileOutputStream;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.\*;  **import** com.itextpdf.text.Document;  **import** com.itextpdf.text.DocumentException;  **import** com.itextpdf.text.Font;  **import** com.itextpdf.text.Paragraph;  **import** com.itextpdf.text.pdf.PdfWriter;  **import** java.awt.GridBagLayout;  **import** java.awt.FileDialog;  **import** java.awt.GridBagConstraints;  **public** **class** ConLineaRepRec **extends** JFrame **implements** WindowListener, ActionListener  {  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  JLabel lblTotal = **new** JLabel("Total");  JTextField txtTotal = **new** JTextField(6);  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  **int** FactSelec;  JTextArea txtRecambiosFac = **new** JTextArea(6,35);  **double** Total = 0;  String recambios;  **double** subTotal=0;  **double** precio = 0;  **int** idReparacion;  **double** total = 0;  String title;  **private** **final** JPanel pnl3 = **new** JPanel();  **private** **final** JButton btnAceptar = **new** JButton("Aceptar");  **private** **final** JButton btnImprimirFactura = **new** JButton("Imprimir Factura");  Document documento = **new** Document();  **public** ConLineaRepRec(**int** idRep,**int** idFac)  {  recambios="";  idReparacion = idRep;  FactSelec = idFac;  title = "Factura nº: "+Integer.*toString*(FactSelec);  **this**.setLocationRelativeTo(**null**);  **this**.setSize(500, 332);  **this**.setTitle(title);  //Rellenando el TextArea  ResultSet rsRec = ejecutarSelect("SELECT \* FROM incluyen,recambios where idRecambio = idRecambioFK and idReparacionfk ="+idReparacion+";",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while** (rsRec.next()) {  recambios =recambios+"- "+rsRec.getString("descripcionRecambio")+", Precio: "+rsRec.getDouble("precioRecambio")+", Cantidad: "+rsRec.getInt("cantidad")+", Subtotal: "+(rsRec.getDouble("precioRecambio")\*rsRec.getInt("cantidad"))+"\n";  total = total+(rsRec.getDouble("precioRecambio")\*rsRec.getInt("cantidad"));  }  } **catch** (SQLException e) {  // **TODO** Auto-generated catch block  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **this**.setLayout(**new** GridBagLayout());  pnl1.setBorder(BorderFactory.*createTitledBorder*(BorderFactory.*createEtchedBorder*(), "Desglose"));  txtRecambiosFac.setText(recambios);  txtRecambiosFac.setEditable(**false**);  pnl1.add(txtRecambiosFac);  GridBagConstraints gbc\_pnl1 = **new** GridBagConstraints();  gbc\_pnl1.gridx = 0;  gbc\_pnl1.gridy = 0;  **this**.add(pnl1, gbc\_pnl1);  txtTotal.setEditable(**false**);  pnl2.setBorder(BorderFactory.*createTitledBorder*(BorderFactory.*createEtchedBorder*(), "Precio Total"));  pnl2.add(lblTotal);  txtTotal.setText(Double.*toString*(total));  pnl2.add(txtTotal);  GridBagConstraints gbc\_pnl2 = **new** GridBagConstraints();  gbc\_pnl2.gridx = 0;  gbc\_pnl2.gridy = 1;  **this**.add(pnl2, gbc\_pnl2);  GridBagConstraints gbc\_pnl3 = **new** GridBagConstraints();  gbc\_pnl3.gridx = 0;  gbc\_pnl3.gridy = 2;  **this**.add(pnl3, gbc\_pnl3);  pnl3.add(btnAceptar);  btnAceptar.addActionListener(**this**);  pnl3.add(btnImprimirFactura);  btnImprimirFactura.addActionListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  // **TODO** Auto-generated method stub  **if**(btnAceptar.equals(ae.getSource()))  {  **this**.setVisible(**false**);  } **else** **if**(btnImprimirFactura.equals(ae.getSource()))  {  FileOutputStream ficheroPdf;  **try** {  FileDialog fd = **new** FileDialog(**this**, "Seleccionar archivo", FileDialog.***SAVE***);  fd.setFile("\*.pdf");  fd.setVisible(**true**);  String filename = fd.getDirectory()+fd.getFile();  ficheroPdf = **new** FileOutputStream(filename);  PdfWriter.*getInstance*(documento,ficheroPdf).setInitialLeading(20);  documento.open();  Paragraph titulo = **new** Paragraph("Factura nº"+FactSelec);  titulo.getFont().setStyle(Font.***BOLD***);  titulo.getFont().setSize(15);  documento.add(titulo);  Paragraph contenido = **new** Paragraph(txtRecambiosFac.getText());  documento.add(contenido);  Paragraph total = **new** Paragraph ("TOTAL: "+txtTotal.getText());  total.getFont().setStyle(Font.***BOLD***);  documento.add(total);  documento.close();  JOptionPane.*showMessageDialog*(**null**,"Documento pdf creado correctamente.","Documento creado", JOptionPane.***INFORMATION\_MESSAGE***);  } **catch** (FileNotFoundException e1) {  // **TODO** Auto-generated catch block  JOptionPane.*showMessageDialog*(**null**,e1.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  } **catch** (DocumentException e2) {  // **TODO** Auto-generated catch block  JOptionPane.*showMessageDialog*(**null**,e2.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  }  @Override  **public** **void** windowActivated(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosed(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosing(WindowEvent e) {  // **TODO** Auto-generated method stub  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowDeiconified(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowIconified(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowOpened(WindowEvent e) {  // **TODO** Auto-generated method stub  }  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  } |

**ConRecList.java:** En esta clase, encontramos un listado de los recambios que encontramos en nuestra base de datos, así como la posibilidad de exportarlos a PDF.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.BorderLayout;  **import** java.awt.FileDialog;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.FileNotFoundException;  **import** java.io.FileOutputStream;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **import** javax.swing.JScrollPane;  **import** javax.swing.JTable;  **import** javax.swing.table.DefaultTableModel;  **import** com.itextpdf.text.Document;  **import** com.itextpdf.text.DocumentException;  **import** com.itextpdf.text.Font;  **import** com.itextpdf.text.Paragraph;  **import** com.itextpdf.text.pdf.PdfPTable;  **import** com.itextpdf.text.pdf.PdfWriter;  **public** **class** ConRecList **extends** JFrame **implements** WindowListener, ActionListener {    /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  DefaultTableModel modelo = **new** DefaultTableModel();  JTable tablaRecambios= **new** JTable(modelo);  JButton btnAceptar = **new** JButton("Aceptar");  JButton btnPDF = **new** JButton("Crear Pdf");  JPanel pnl1 = **new** JPanel();  ResultSet rs;    Document documento = **new** Document();    **public** ConRecList()  {  **this**.setLayout(**new** BorderLayout());  **this**.setLocationRelativeTo(**null**);  **this**.setSize(600,200);  **this**.add(**new** JScrollPane(tablaRecambios),BorderLayout.***CENTER***);    modelo.addColumn("Nº Recambio");  modelo.addColumn("Descripción");  modelo.addColumn("Unidades");  modelo.addColumn("Precio");      rs = ejecutarSelect("SELECT \* FROM recambios", conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while** (rs.next())  {  Object [] fila = **new** Object[4];  **for** (**int** i=0;i<4;i++)  fila[i] = rs.getObject(i+1);  modelo.addRow(fila);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  tablaRecambios.setEnabled(**false**);  pnl1.add(btnAceptar);  pnl1.add(btnPDF);  btnAceptar.addActionListener(**this**);  btnPDF.addActionListener(**this**);  **this**.add(pnl1, BorderLayout.***SOUTH***);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }    @Override  **public** **void** actionPerformed(ActionEvent ae)  {    **if**(btnAceptar.equals(ae.getSource()))  {  **this**.setVisible(**false**);  }  **else** **if** (btnPDF.equals(ae.getSource()))  {  FileOutputStream ficheroPdf;  **try** {  FileDialog fd = **new** FileDialog(**this**, "Seleccionar archivo", FileDialog.***SAVE***);  fd.setFile("\*.pdf");  fd.setVisible(**true**);  String filename = fd.getDirectory()+fd.getFile();  ficheroPdf = **new** FileOutputStream(filename);  PdfWriter.*getInstance*(documento,ficheroPdf).setInitialLeading(20);  documento.open();  PdfPTable tabla = **new** PdfPTable(4);    Paragraph idRecambio = **new** Paragraph("Nº Recambio");  idRecambio.getFont().setStyle(Font.***BOLD***);  idRecambio.getFont().setSize(15);  tabla.addCell(idRecambio);  Paragraph descripcionRecambio = **new** Paragraph("Descripción del Recambio");  descripcionRecambio.getFont().setStyle(Font.***BOLD***);  descripcionRecambio.getFont().setSize(15);  tabla.addCell(descripcionRecambio);  Paragraph unidadesRecambio = **new** Paragraph("Unidades del Recambio");  unidadesRecambio.getFont().setStyle(Font.***BOLD***);  unidadesRecambio.getFont().setSize(15);  tabla.addCell(unidadesRecambio);  Paragraph precioRecambio = **new** Paragraph("Precio del Recambio");  precioRecambio.getFont().setStyle(Font.***BOLD***);  precioRecambio.getFont().setSize(15);  tabla.addCell(precioRecambio);    ResultSet Co = ejecutarSelect("SELECT \* FROM recambios;", conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  **try** {  **while** (Co.next())  {  **for** (**int** i=0;i<4;i++) {  **if**(i==0) {  tabla.addCell(Co.getString("idRecambio"));  } **else** **if**(i==1) {  tabla.addCell(Co.getString("descripcionRecambio"));  } **else** **if**(i==2) {  tabla.addCell(Co.getString("unidadesRecambio"));  } **else** **if**(i==3) {  tabla.addCell(Co.getString("precioRecambio"));  }  }  }  documento.add(tabla);  documento.close();  JOptionPane.*showMessageDialog*(**null**,"Documento pdf creado correctamente.","Documento creado", JOptionPane.***INFORMATION\_MESSAGE***);  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  } **catch** (FileNotFoundException e1) {  // **TODO** Auto-generated catch block  JOptionPane.*showMessageDialog*(**null**,e1.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  } **catch** (DocumentException e2) {  // **TODO** Auto-generated catch block  JOptionPane.*showMessageDialog*(**null**,e2.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);    }      @Override  **public** **void** windowDeactivated(WindowEvent arg0) {      }  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {      }  @Override  **public** **void** windowIconified(WindowEvent arg0) {      }  @Override  **public** **void** windowOpened(WindowEvent arg0) {    }    **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }    } |

**ConRepList.java:** En esta clase, encontramos un listado de todas las reparaciones que tenemos en nuestra base de datos. También tenemos la posibilidad de imprimirlas en un PDF.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.BorderLayout;  **import** java.awt.FileDialog;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.FileNotFoundException;  **import** java.io.FileOutputStream;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.\*;  **import** javax.swing.table.DefaultTableModel;  **import** com.itextpdf.text.Document;  **import** com.itextpdf.text.DocumentException;  **import** com.itextpdf.text.Font;  **import** com.itextpdf.text.Paragraph;  **import** com.itextpdf.text.pdf.PdfPTable;  **import** com.itextpdf.text.pdf.PdfWriter;  **public** **class** ConRepList **extends** JFrame **implements** WindowListener, ActionListener {  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  DefaultTableModel modelo = **new** DefaultTableModel();  JTable tablaReparaciones= **new** JTable(modelo);  JButton btnAceptar = **new** JButton("Aceptar");  JButton btnPDF = **new** JButton("Crear Pdf");  JPanel pnl2 = **new** JPanel();  ResultSet rs;  **int** reparado;    Document documento = **new** Document();  **public** ConRepList()  {  **this**.setLayout(**new** BorderLayout());  **this**.setLocationRelativeTo(**null**);  **this**.setSize(600,200);  **this**.setTitle("Consulta de Reparaciones");  **this**.add(**new** JScrollPane(tablaReparaciones),BorderLayout.***CENTER***);  pnl2.add(btnAceptar);  pnl2.add(btnPDF);  **this**.add(pnl2, BorderLayout.***SOUTH***);  btnAceptar.addActionListener(**this**);  btnPDF.addActionListener(**this**);  modelo.addColumn("Nº Reparacion");  modelo.addColumn("Avería");  modelo.addColumn("Fecha Entrada");  modelo.addColumn("Fecha de Salida");  modelo.addColumn("Reparado");  rs = ejecutarSelect("select idReparacion, averia, date\_format(fechaEntrada, '%d/%m/%y'), date\_format(fechaSalida, '%d/%m/%y'), Reparado from reparaciones;", conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while** (rs.next())  {  Object [] fila = **new** Object[5];  **for** (**int** i=0;i<5;i++)  **if**(i==0) {  fila[i]= rs.getString("idReparacion");    }**else** **if** (i==1)  {  fila[i] = rs.getString("averia");    }**else** **if** (i==2)  {  fila[i] = rs.getString("date\_format(fechaEntrada, '%d/%m/%y')");    }**else** **if** (i==3)  {  fila[i] = rs.getString("date\_format(fechaSalida, '%d/%m/%y')");    } **else** **if**(i==4)  {  reparado = Integer.*parseInt*(rs.getString("reparado"));  **if**(reparado==1) {  fila[i] = "Reparado";  } **else** {  fila[i] = "No reparado";  }  }    modelo.addRow(fila);    }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  tablaReparaciones.setEnabled(**false**);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if**(btnAceptar.equals(ae.getSource())) {  **this**.setVisible(**false**);  } **else** **if** (btnPDF.equals(ae.getSource())) {  FileOutputStream ficheroPdf;  **try** {  FileDialog fd = **new** FileDialog(**this**, "Seleccionar archivo", FileDialog.***SAVE***);  fd.setFile("\*.pdf");  fd.setVisible(**true**);  String filename = fd.getDirectory()+fd.getFile();  ficheroPdf = **new** FileOutputStream(filename);  PdfWriter.*getInstance*(documento,ficheroPdf).setInitialLeading(20);  documento.open();  PdfPTable tabla = **new** PdfPTable(5);    Paragraph idReparacion = **new** Paragraph("Nº Reparación");  idReparacion.getFont().setStyle(Font.***BOLD***);  idReparacion.getFont().setSize(15);  tabla.addCell(idReparacion);  Paragraph averia = **new** Paragraph("Avería");  averia.getFont().setStyle(Font.***BOLD***);  averia.getFont().setSize(15);  tabla.addCell(averia);  Paragraph fechaEntrada = **new** Paragraph("Fecha de Entrada");  fechaEntrada.getFont().setStyle(Font.***BOLD***);  fechaEntrada.getFont().setSize(15);  tabla.addCell(fechaEntrada);  Paragraph fechaSalida = **new** Paragraph("Fecha de Salida");  fechaSalida.getFont().setStyle(Font.***BOLD***);  fechaSalida.getFont().setSize(15);  tabla.addCell(fechaSalida);    Paragraph reparado = **new** Paragraph("Reparado");  reparado.getFont().setStyle(Font.***BOLD***);  reparado.getFont().setSize(15);  tabla.addCell(reparado);    ResultSet Co = ejecutarSelect("SELECT \* FROM reparaciones;", conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  **try** {  **while** (Co.next())  {  **for** (**int** i=0;i<5;i++) {  **if**(i==0) {  tabla.addCell(Co.getString("idReparacion"));  } **else** **if**(i==1) {  tabla.addCell(Co.getString("averia"));  } **else** **if**(i==2) {  tabla.addCell(Co.getString("fechaEntrada"));  } **else** **if**(i==3) {  tabla.addCell(Co.getString("fechaSalida"));  }**else** **if**(i==4) {  **if**(Co.getString("reparado").equals("0")) {  tabla.addCell("No reparado");  } **else** **if** (Co.getString("reparado").equals("1"))  {  tabla.addCell("Reparado");  }  }  }  }  documento.add(tabla);  documento.close();  JOptionPane.*showMessageDialog*(**null**,"Documento pdf creado correctamente.","Documento creado", JOptionPane.***INFORMATION\_MESSAGE***);  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  } **catch** (FileNotFoundException e1) {  JOptionPane.*showMessageDialog*(**null**,e1.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  } **catch** (DocumentException e2) {  JOptionPane.*showMessageDialog*(**null**,e2.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  } |

**ElCliList.java:** En esta clase, encontramos un choice en el que elegiremos el cliente que queramos y tendremos la posibilidad de eliminarlo de la base de datos.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.\*;  **import** java.awt.event.\*;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.\*;  **public** **class** ElCliList **extends** JFrame **implements** WindowListener, ActionListener{  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  Choice ListaCli = **new** Choice();  JButton btnBorrar = **new** JButton("Eliminar Cliente");  **int** idClienteBorrar;  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  **int** idCliBorrar;  ResultSet con;    String user = "";  **public** ElCliList(String usuario) {  user = usuario;  **this**.setTitle("Eliminar clientes");  **this**.setLayout(**new** GridLayout(2,1));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(400,200);  ListaCli.add("Seleccionar cliente a eliminar");  con = ejecutarSelect("SELECT \* FROM clientes", conectar("TallerJava", "usuarioTaller", "Studium2018;"));  **try** {  **while**(con.next())  {  String clientes=Integer.*toString*(con.getInt("idCliente"));  clientes = clientes+".-"+con.getString("nombreCliente");  ListaCli.add(clientes);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  pnl1.add(ListaCli);  pnl2.add(btnBorrar);    **this**.add(pnl1);  **this**.add(pnl2);  **this**.addWindowListener(**this**);  btnBorrar.addActionListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae) {  // **TODO** Auto-generated method stub  **if**(btnBorrar.equals(ae.getSource())) {  **int** seleccion = JOptionPane.*showOptionDialog*( **null**,"¿Desea eliminar cliente?","Eliminar cliente",JOptionPane.***YES\_NO\_CANCEL\_OPTION***,JOptionPane.***QUESTION\_MESSAGE***,**null**,**new** Object[] { "Eliminar", "Cancelar"},"Cancelar");  **if** (seleccion == 0){  **try** {  String[] array= ListaCli.getSelectedItem().toString().split(".-");  idCliBorrar = Integer.*parseInt*(array[0]);  } **catch** (NumberFormatException Nf) {  JOptionPane.*showMessageDialog*(**null**,"Introduzca cliente válido","Error de cliente", JOptionPane.***ERROR\_MESSAGE***);  }  String sentencia="DELETE FROM clientes where idCliente ="+idCliBorrar+";";  ejecutarIDA(sentencia, conectar("TallerJava", "usuarioTaller", "Studium2018;"));  JOptionPane.*showMessageDialog*(**null**,"El cliente "+idCliBorrar+" ha sido eliminado","Cliente eliminado", JOptionPane.***INFORMATION\_MESSAGE***);  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }      **this**.setVisible(**false**);  } **else** **if**(seleccion == 1) {  }  }  }  @Override  **public** **void** windowActivated(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosed(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosing(WindowEvent e) {  // **TODO** Auto-generated method stub  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowDeiconified(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowIconified(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowOpened(WindowEvent e) {  // **TODO** Auto-generated method stub  }      **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  } |

**ElRecList.java:** En esta clase, encontramos un choice con todos los recambios y nos dará la posibilidad de eliminar el recambio que queramos.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.\*;  **import** java.awt.event.\*;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.\*;  **public** **class** ElRecList **extends** JFrame **implements** WindowListener, ActionListener{  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  Choice ListaRec = **new** Choice();  JButton btnBorrar = **new** JButton("Eliminar recambio");  **int** idRecambioBorrar;  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  **int** idRecBorrar;  ResultSet con;  String user="";  **public** ElRecList(String usuario)  {  user = usuario;  **this**.setTitle("Eliminar recambios");  **this**.setLayout(**new** GridLayout(2,1));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(400,200);  ListaRec.add("Seleccionar recambio a eliminar");  con = ejecutarSelect("SELECT \* FROM recambios", conectar("TallerJava", "usuarioTaller", "Studium2018;"));  **try** {  **while**(con.next())  {  String recambios=Integer.*toString*(con.getInt("idRecambio"));  recambios = recambios+".-"+con.getString("descripcionRecambio");  ListaRec.add(recambios);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  pnl1.add(ListaRec);  pnl2.add(btnBorrar);  **this**.add(pnl1);  **this**.add(pnl2);  **this**.addWindowListener(**this**);  btnBorrar.addActionListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  // **TODO** Auto-generated method stub  **if**(btnBorrar.equals(ae.getSource())) {  **int** seleccion = JOptionPane.*showOptionDialog*( **null**,"¿Desea eliminar recambio?","Eliminar recambio",JOptionPane.***YES\_NO\_CANCEL\_OPTION***,JOptionPane.***QUESTION\_MESSAGE***,**null**,**new** Object[] { "Eliminar", "Cancelar"},"Cancelar");  **if** (seleccion == 0){  **try** {  String[] array= ListaRec.getSelectedItem().toString().split(".-");  idRecBorrar = Integer.*parseInt*(array[0]);  } **catch** (NumberFormatException Nf) {  JOptionPane.*showMessageDialog*(**null**,"Introduzca recambio válido","Error de recambio", JOptionPane.***ERROR\_MESSAGE***);  }  String sentencia = "DELETE FROM recambios where idRecambio ="+idRecBorrar+";";  ejecutarIDA(sentencia, conectar("TallerJava", "usuarioTaller", "Studium2018;"));  JOptionPane.*showMessageDialog*(**null**,"El recambio "+idRecBorrar+" ha sido eliminado","Recambio eliminado", JOptionPane.***INFORMATION\_MESSAGE***);  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  **this**.setVisible(**false**);  } **else** **if**(seleccion == 1) {  }  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }    } |

**ElRepList.java:** En esta clase, encontramos un choice con todas las reparaciones y nos dará la posibilidad de eliminar la reparación que queramos.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.\*;  **import** java.awt.event.\*;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.\*;  **public** **class** ElRepList **extends** JFrame **implements** WindowListener, ActionListener  {  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  Choice ListaRep = **new** Choice();  JButton btnBorrar = **new** JButton("Eliminar Reparación");  **int** idReparacionBorrar;  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  **int** idRepBorrar;  ResultSet con;  String user="";  **public** ElRepList(String usuario)  {  user = usuario;  **this**.setTitle("Eliminar reparaciones");  **this**.setLayout(**new** GridLayout(2,1));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(500,200);  ListaRep.add("Seleccionar reparación a eliminar");  con = ejecutarSelect("SELECT \* FROM reparaciones", conectar("TallerJava", "usuarioTaller", "Studium2018;"));  **try** {  **while**(con.next())  {  String reparaciones=Integer.*toString*(con.getInt("idReparacion"));  reparaciones = reparaciones+".-"+con.getString("Averia")+", Fecha Entrada: "+con.getString("FechaEntrada")+", Fecha Salida: "+con.getString("FechaSalida");  ListaRep.add(reparaciones);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  pnl1.add(ListaRep);  pnl2.add(btnBorrar);  **this**.add(pnl1);  **this**.add(pnl2);  **this**.addWindowListener(**this**);  btnBorrar.addActionListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  // **TODO** Auto-generated method stub  **if**(btnBorrar.equals(ae.getSource())) {  **int** seleccion = JOptionPane.*showOptionDialog*( **null**,"¿Desea eliminar reparación?","Eliminar reparación",JOptionPane.***YES\_NO\_CANCEL\_OPTION***,JOptionPane.***QUESTION\_MESSAGE***,**null**,**new** Object[] { "Eliminar", "Cancelar"},"Cancelar");  **if** (seleccion == 0){  **try** {  String[] array= ListaRep.getSelectedItem().toString().split(".-");  idRepBorrar = Integer.*parseInt*(array[0]);  } **catch** (NumberFormatException Nf) {  JOptionPane.*showMessageDialog*(**null**,"Introduzca reparación válida","Error de reparación", JOptionPane.***ERROR\_MESSAGE***);  }  String sentencia = "DELETE FROM reparaciones where idReparacion ="+idRepBorrar+";";  ejecutarIDA(sentencia, conectar("TallerJava", "usuarioTaller", "Studium2018;"));  JOptionPane.*showMessageDialog*(**null**,"La reparación "+idRepBorrar+" ha sido eliminada","Reparación eliminada", JOptionPane.***INFORMATION\_MESSAGE***);  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  **this**.setVisible(**false**);  } **else** **if**(seleccion == 1) {  }  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  } |

**LineaRepRec.java:** En esta clase, nos permitirá añadir los recambios utilizados en un recambio. A medida que vayamos metiendo recambios se nos irá aumentando el total del precio de la reparación.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.Choice;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.\*;  **public** **class** LineaRepRec **extends** JFrame **implements** WindowListener, ActionListener  {  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  JLabel lblTituloFactura = **new** JLabel("Factura nº ");  JLabel lblFactura = **new** JLabel("");  JLabel lblRecambio = **new** JLabel("Recambio:");  JLabel lblCantidad = **new** JLabel("Cantidad: ");  JLabel lblPrecio = **new** JLabel("Precio");  JLabel lblTotal = **new** JLabel("Total");  Choice recambios = **new** Choice();  JTextField txtCantidad = **new** JTextField(3);  JTextField txtTotal = **new** JTextField(6);  JButton btnAgregar = **new** JButton("Agregar");  JButton btnCancelar = **new** JButton("Cancelar");  JButton btnAceptar = **new** JButton("Aceptar");  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  JPanel pnl3 = **new** JPanel();  JPanel pnl4 = **new** JPanel();  JPanel pnl5 = **new** JPanel();  **int** FactSelec;  JTextArea txtRecambiosFac = **new** JTextArea(6,35);  **double** total = 0;  String recambioSeleccionado ="";  **double** subTotal=0;  **double** precio = 0;  **int** idReparacion;  **public** LineaRepRec(**int** idRep, **int** idFac) {  idReparacion = idRep;  FactSelec = idFac;  lblFactura.setText(Integer.*toString*(FactSelec));  **this**.setLayout(**new** GridLayout(5,1));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(500, 400);  pnl1.add(lblTituloFactura);  pnl1.add(lblFactura);  **this**.add(pnl1);  pnl2.setBorder(BorderFactory.*createTitledBorder*(BorderFactory.*createEtchedBorder*(), "Detalles"));  pnl2.add(lblRecambio);  txtTotal.setEditable(**false**);  recambios.add("Elige un articulo...");  //Selec de recambios para choice  ResultSet rsRec = ejecutarSelect("SELECT \* FROM recambios;", conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while**(rsRec.next())  {  String rec = Integer.*toString*(rsRec.getInt("idRecambio"));  rec = rec + "-"+ rsRec.getString("descripcionRecambio");  recambios.add(rec);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  pnl2.add(recambios);  pnl2.add(lblCantidad);  pnl2.add(txtCantidad);  pnl2.add(btnAgregar);  **this**.add(pnl2);  pnl3.add(txtRecambiosFac);  **this**.add(pnl3);  pnl4.setBorder(BorderFactory.*createTitledBorder*(BorderFactory.*createEtchedBorder*(), "Precio Total"));  pnl4.add(lblTotal);  pnl4.add(txtTotal);  pnl5.add(btnAceptar);  pnl5.add(btnCancelar);  btnAgregar.addActionListener(**this**);  btnAceptar.addActionListener(**this**);  btnCancelar.addActionListener(**this**);  **this**.add(pnl4);  **this**.add(pnl5);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  //Botón Agregar  **if**(btnAgregar.equals(ae.getSource()))  {  **try**  {  **int** Cantidad = Integer.*parseInt*(txtCantidad.getText());  String[] arrayCod= recambios.getSelectedItem().toString().split("-");  ResultSet recSelect = ejecutarSelect("SELECT precioRecambio from recambios where idRecambio ="+arrayCod[0]+";",conectar("TallerJava", "usuarioTaller", "Studium2018;"));  **try** {  recSelect.next();  precio = recSelect.getDouble("precioRecambio");  subTotal = precio\*Cantidad;  total = total + recSelect.getDouble("precioRecambio")\*Cantidad;  recambioSeleccionado = recambioSeleccionado+" "+recambios.getSelectedItem().toString()+", Precio: "+Double.*toString*(precio)+", Cantidad:"+Cantidad+", Subtotal:"+Double.*toString*(subTotal)+"\n";  txtRecambiosFac.setText(recambioSeleccionado);  txtTotal.setText(Double.*toString*(total));  desconectar(conectar("TallerJava", "usuarioTaller", "Studium2018;"));  ejecutarIDA("INSERT INTO incluyen values (null,"+idReparacion+","+arrayCod[0]+","+Cantidad+");", conectar("TallerJava", "usuarioTaller", "Studium2018;"));  } **catch** (SQLException e){  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller" ,"Studium2018;"));  } **catch**(NumberFormatException nf) {  JOptionPane.*showMessageDialog*(**null**,"Introduzca cantidad o artículo válidos","Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  //Botón Aceptar  **if**(btnAceptar.equals(ae.getSource()))  {  JOptionPane.*showMessageDialog*(**null**,"Factura creada correctamente con un total de "+txtTotal.getText(),"Factura creada", JOptionPane.***INFORMATION\_MESSAGE***);  }  //Botón Cancelar  **else** **if**(btnCancelar.equals(ae.getSource()))  {  **int** seleccion = JOptionPane.*showOptionDialog*( **null**,"¿Desea salir de la línea de factura?","Salir",JOptionPane.***YES\_NO\_CANCEL\_OPTION***,JOptionPane.***QUESTION\_MESSAGE***,**null**,**new** Object[] { "Salir", "Cancelar"},"Cancelar");  **if** (seleccion == 0){  **this**.setVisible(**false**);  }  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosed(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowClosing(WindowEvent e) {  // **TODO** Auto-generated method stub  **int** seleccion = JOptionPane.*showOptionDialog*( **null**,"¿Desea salir de la línea de factura?","Salir",JOptionPane.***YES\_NO\_CANCEL\_OPTION***,JOptionPane.***QUESTION\_MESSAGE***,**null**,**new** Object[] { "Salir", "Cancelar"},"Cancelar");  **if** (seleccion == 0){  **this**.setVisible(**false**);  }  }  @Override  **public** **void** windowDeactivated(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowDeiconified(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowIconified(WindowEvent e) {  // **TODO** Auto-generated method stub  }  @Override  **public** **void** windowOpened(WindowEvent e) {  // **TODO** Auto-generated method stub  }    **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  } |

**Login.java:** Esta es la clase que se encarga de ejecutar el programa y es un login en el que nos pedirá que iniciemos sesión con un usuario del programa.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.FlowLayout;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.\*;  **public** **class** Login **implements** WindowListener, ActionListener {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/TallerJava?autoReconnect=true&useSSL=false";  String login = "usuarioTaller";  String password = "Studium2018;";  Connection connection = **null**;  Statement statement = **null**;  ResultSet rs = **null**;  JFrame ventanaLogin = **new** JFrame ("Iniciar Sesión");  JLabel lblIniciar = **new** JLabel("Iniciar Sesión");  JLabel lblCorreo = **new** JLabel("Correo Electrónico: ");  JLabel lblPass = **new** JLabel("Contraseña: ");  JLabel lblCorreoOlvidado = **new** JLabel("Introduzca su Correo Electrónico: ");  JLabel lblCorreoOlvidadoOK = **new** JLabel("Compruebe su correo electrónico");  JPasswordField txtPass = **new** JPasswordField(20);  JTextField txtCorreo = **new** JTextField(20);  JTextField txtCorreoOlvidado = **new** JTextField(20);  JButton btnIniciar = **new** JButton ("Iniciar Sesión");  JButton btnLimpiar = **new** JButton ("Limpiar");  JButton btnOlvidePass = **new** JButton ("Olvidé la contraseña");  JButton btnOlvidePassSiguiente = **new** JButton ("Siguiente");  JDialog dlgOlvidada = **new** JDialog(ventanaLogin, "Contraseña olvidada");  JDialog dlgOlvidadaOK = **new** JDialog(ventanaLogin, "Contraseña olvidada ");  JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel2 = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();  JPanel pnlPanel5 = **new** JPanel();  **public** Login()  {  ventanaLogin.setLocationRelativeTo(**null**);  ventanaLogin.setSize(400,200);  ventanaLogin.setLayout(**new** GridLayout(5,1));  dlgOlvidada.setLocationRelativeTo(**null**);  dlgOlvidada.setSize(300, 150);  dlgOlvidada.setLayout(**new** FlowLayout());  dlgOlvidada.setVisible(**false**);  dlgOlvidada.add(lblCorreoOlvidado);  dlgOlvidada.add(txtCorreoOlvidado);  dlgOlvidada.add(btnOlvidePassSiguiente);  dlgOlvidadaOK.setLocationRelativeTo(**null**);  dlgOlvidadaOK.setSize(300, 150);  dlgOlvidadaOK.setLayout(**new** FlowLayout());  dlgOlvidadaOK.setVisible(**false**);  dlgOlvidadaOK.add(lblCorreoOlvidadoOK);  pnlPanel.setLayout(**new** FlowLayout());  pnlPanel2.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());  pnlPanel5.setLayout(**new** FlowLayout());  pnlPanel.add(lblIniciar);  ventanaLogin.add(pnlPanel);  pnlPanel2.add(lblCorreo);  pnlPanel2.add(txtCorreo);  ventanaLogin.add(pnlPanel2);  pnlPanel3.add(lblPass);  pnlPanel3.add(txtPass);  ventanaLogin.add(pnlPanel3);  pnlPanel4.add(btnIniciar);  pnlPanel4.add(btnLimpiar);  ventanaLogin.add(pnlPanel4);  pnlPanel5.add(btnOlvidePass);  ventanaLogin.add(pnlPanel5);  btnIniciar.addActionListener(**this**);  btnLimpiar.addActionListener(**this**);  btnOlvidePass.addActionListener(**this**);  btnOlvidePassSiguiente.addActionListener(**this**);  ventanaLogin.addWindowListener(**this**);  dlgOlvidada.addWindowListener(**this**);  dlgOlvidadaOK.addWindowListener(**this**);  ventanaLogin.setVisible(**true**);  }  **public** **static** **void** main(String[] args)  {  **new** Login();  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if**(btnIniciar.equals(ae.getSource())) {  String usuario = txtCorreo.getText();  **if**(txtCorreo.getText().equals("administrador@studium.es"))  {  **try**  {  Class.*forName*(driver);  String sentencia = "SELECT \* FROM usuarios where correoUsuario ='"+txtCorreo.getText()+"' AND claveUsuario = MD5('"+txtPass.~~getText~~()+"');";  connection = DriverManager.*getConnection*(url, login,password);  statement =connection.createStatement();  rs=statement.executeQuery(sentencia);  **if**(rs.next())  {  JOptionPane.*showMessageDialog*(**null**,"Login Correcto","Login correcto", JOptionPane.***INFORMATION\_MESSAGE***);  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+usuario+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  ventanaLogin.setVisible(**false**);    **new** MenuPrincipal(usuario);  } **else** {  JOptionPane.*showMessageDialog*(**null**, "Usuario o contraseña erroneos","Error al iniciar sesión", JOptionPane.***ERROR\_MESSAGE***);  }  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(), "Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**, sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **finally**  {  **try**  {  **if**(connection!=**null**)  {  connection.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**, e.getMessage(),"Error",JOptionPane.***ERROR\_MESSAGE***);  }  }  }  **else** {  **try**  {  Class.*forName*(driver);  String sentencia = "SELECT \* FROM usuarios where correoUsuario ='"+txtCorreo.getText()+"' AND claveUsuario = MD5('"+txtPass.~~getText~~()+"');";  connection = DriverManager.*getConnection*(url, login,password);  statement =connection.createStatement();  rs=statement.executeQuery(sentencia);  **if**(rs.next())  {  JOptionPane.*showMessageDialog*(**null**,"Login Correcto","Login correcto", JOptionPane.***INFORMATION\_MESSAGE***);  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+usuario+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  ventanaLogin.setVisible(**false**);  **new** MenuPrincipalUsuario(usuario);  } **else** {  JOptionPane.*showMessageDialog*(**null**, "Usuario o contraseña erroneos","Error al iniciar sesión", JOptionPane.***ERROR\_MESSAGE***);  }  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**, "Error",cnfe.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**, "Error",sqle.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  **finally**  {  **try**  {  **if**(connection!=**null**)  {  connection.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**, "Error",e.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  }  }  } **else** **if** (btnLimpiar.equals(ae.getSource())) {  txtCorreo.selectAll();  txtCorreo.setText("");  txtPass.selectAll();  txtPass.setText("");  } **else** **if** (btnOlvidePass.equals(ae.getSource())) {  dlgOlvidada.setVisible(**true**);  }  **if**(btnOlvidePassSiguiente.equals(ae.getSource())) {  dlgOlvidadaOK.setVisible(**true**);  }  }  @Override  **public** **void** windowActivated(WindowEvent we) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **if**(ventanaLogin.isActive()) {  ventanaLogin.setVisible(**false**);  }**else** {  System.*exit*(0);  }  **if**(dlgOlvidada.isActive()) {  dlgOlvidada.setVisible(**false**);  }  **if**(dlgOlvidadaOK.isActive()) {  dlgOlvidada.setVisible(**false**);  dlgOlvidadaOK.setVisible(**false**);  }  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  } |

**MenuPrincipal.java:** En esta clase, encontramos el menú principal del usuario administrador.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.CardLayout;  **import** java.awt.List;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.util.Calendar;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JMenu;  **import** javax.swing.JMenuBar;  **import** javax.swing.JMenuItem;  **import** javax.swing.JPanel;  **import** java.awt.GridBagLayout;  **import** java.awt.GridBagConstraints;  **import** javax.swing.JLabel;  **import** javax.swing.ImageIcon;  **import** javax.swing.border.TitledBorder;  **public** **class** MenuPrincipal **implements** WindowListener, ActionListener{  String user = **new** String("");  JFrame ventana = **new** JFrame ("Taller de Recambios");  List Lista = **new** List();  JPanel pnlLista = **new** JPanel();  JPanel pnlCard = **new** JPanel();  JPanel pnlClientes = **new** JPanel();  JPanel pnlRecambios = **new** JPanel();  JPanel pnlReparaciones = **new** JPanel();  JPanel pnlFacturas = **new** JPanel();  JMenuBar barraMenu = **new** JMenuBar();  JMenu menuOtros = **new** JMenu("Opciones");  JMenu menuAyuda = **new** JMenu("Ayuda");  JMenuItem mniOtrosAyuda = **new** JMenuItem("Ayuda");  JMenuItem mniOtrosSalir = **new** JMenuItem("Cerrar Sesión");  **final** **static** String ***Clientes*** = "Clientes";  **final** **static** String ***Recambios*** = "Recambios";  **final** **static** String ***Reparaciones*** = "Reparaciones";  **final** **static** String ***Facturas*** = "Facturas";  JButton btnAddCli = **new** JButton("Añadir Clientes");  JButton btnModCli = **new** JButton("Modificar Clientes");  JButton btnElCli = **new** JButton("Eliminar Clientes");  JButton btnConCli = **new** JButton("Consultar Clientes");  JButton btnAddRec = **new** JButton("Añadir Recambios");  JButton btnModRec = **new** JButton("Modificar Recambios");  JButton btnElRec = **new** JButton("Eliminar Recambios");  JButton btnConRec = **new** JButton("Consultar Recambios");  JButton btnAddRep = **new** JButton("Añadir Reparaciones");  JButton btnModRep = **new** JButton("Modificar Reparaciones");  JButton btnElRep = **new** JButton("Eliminar Reparaciones");  JButton btnConRep = **new** JButton("Consultar Reparaciones");  JButton btnAddFac = **new** JButton("Añadir Facturas");  JButton btnConFac = **new** JButton("Consultar Facturas");  **private** **final** JPanel pnlImg = **new** JPanel();  **private** **final** JLabel label = **new** JLabel("");  **public** MenuPrincipal(String usuario) {  user = usuario;  ventana.setSize(870,350);  ventana.setLocationRelativeTo(**null**);  ventana.setJMenuBar(barraMenu);  menuAyuda.add(mniOtrosAyuda);  mniOtrosAyuda.addActionListener(**this**);  // Añadimos un separador  menuOtros.addSeparator();  menuOtros.add(mniOtrosSalir);  mniOtrosSalir.addActionListener(**this**);  barraMenu.add(menuOtros);  barraMenu.add(menuAyuda);  GridBagLayout gridBagLayout = **new** GridBagLayout();  ventana.setLayout(gridBagLayout);  pnlCard.setBorder(**new** TitledBorder(**null**, "Opciones", TitledBorder.***LEADING***, TitledBorder.***TOP***, **null**, **null**));  pnlCard.setLayout(**new** CardLayout() );  pnlClientes.setBorder(**null**);  pnlClientes.add(btnAddCli);  pnlClientes.add(btnModCli);  pnlClientes.add(btnElCli);  pnlClientes.add(btnConCli);  btnAddCli.addActionListener(**this**);  btnModCli.addActionListener(**this**);  btnElCli.addActionListener(**this**);  btnConCli.addActionListener(**this**);  pnlRecambios.add(btnAddRec);  pnlRecambios.add(btnModRec);  pnlRecambios.add(btnElRec);  pnlRecambios.add(btnConRec);  btnAddRec.addActionListener(**this**);  btnModRec.addActionListener(**this**);  btnElRec.addActionListener(**this**);  btnConRec.addActionListener(**this**);  pnlReparaciones.add(btnAddRep);  pnlReparaciones.add(btnModRep);  pnlReparaciones.add(btnElRep);  pnlReparaciones.add(btnConRep);  btnAddRep.addActionListener(**this**);  btnModRep.addActionListener(**this**);  btnElRep.addActionListener(**this**);  btnConRep.addActionListener(**this**);  pnlFacturas.add(btnAddFac);  pnlFacturas.add(btnConFac);  btnAddFac.addActionListener(**this**);  btnConFac.addActionListener(**this**);  GridBagConstraints gbc\_pnlLista = **new** GridBagConstraints();  gbc\_pnlLista.gridheight = 2;  gbc\_pnlLista.gridx = 0;  gbc\_pnlLista.gridy = 0;  ventana.add(pnlLista, gbc\_pnlLista);  GridBagConstraints gbc\_Lista = **new** GridBagConstraints();  gbc\_Lista.gridx = 1;  gbc\_Lista.gridy = 0;  ventana.add(Lista, gbc\_Lista);  Lista.add(***Clientes***);  Lista.add(***Recambios***);  Lista.add(***Reparaciones***);  Lista.add(***Facturas***);  Lista.addActionListener(**this**);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Facturas*** , pnlFacturas);  GridBagConstraints gbc\_pnlCard = **new** GridBagConstraints();  gbc\_pnlCard.gridx = 2;  gbc\_pnlCard.gridy = 0;  ventana.add(pnlCard, gbc\_pnlCard);  GridBagConstraints gbc\_pnlImg = **new** GridBagConstraints();  gbc\_pnlImg.gridx = 2;  gbc\_pnlImg.gridy = 1;  ventana.add(pnlImg, gbc\_pnlImg);  label.setIcon(**new** ImageIcon("imagenes/logo.png"));  pnlImg.add(label);  ventana.addWindowListener(**this**);  ventana.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae) {  //OPCIONES LISTA  **if**(***Clientes***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Facturas*** , pnlFacturas);  } **else** **if**(***Recambios***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Facturas*** , pnlFacturas);  } **else** **if**(***Reparaciones***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Facturas*** , pnlFacturas);  } **else** **if**(***Facturas***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Facturas*** , pnlFacturas);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  }  //BOTONES DE CLIENTES  **if**(btnAddCli.equals(ae.getSource())) {  **new** AddCli(user);  }  **else** **if**(btnModCli.equals(ae.getSource())) {  **new** ModCliList(user);  }  **else** **if**(btnElCli.equals(ae.getSource())) {  **new** ElCliList(user);  }  **else** **if** (btnConCli.equals(ae.getSource())) {  **new** ConCliList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM CLIENTES"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  //BOTONES DE RECAMBIOS  **if**(btnAddRec.equals(ae.getSource())) {  **new** AddRec(user);  } **else** **if**(btnModRec.equals(ae.getSource())) {  **new** ModRecList(user);  }  **else** **if**(btnElRec.equals(ae.getSource())) {  **new** ElRecList(user);  }  **else** **if** (btnConRec.equals(ae.getSource())) {  **new** ConRecList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM RECAMBIOS"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  //BOTONES DE REPARACIONES  **if**(btnAddRep.equals(ae.getSource())) {  **new** AddRep(user);  } **else** **if**(btnModRep.equals(ae.getSource())) {  **new** ModRepList(user);  } **else** **if**(btnElRep.equals(ae.getSource())) {  **new** ElRepList(user);  }**else** **if** (btnConRep.equals(ae.getSource())) {  **new** ConRepList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM REPARACIONES"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  //BOTONES DE REPARACIONES  **if**(btnAddFac.equals(ae.getSource())) {  **new** AddFac(user);  }**else** **if** (btnConFac.equals(ae.getSource())) {  **new** ConFacList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM FACTURAS"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  **if**(mniOtrosSalir.equals(ae.getSource())) {  ventana.setVisible(**false**);  **new** Login();  }  **if**(mniOtrosAyuda.equals(ae.getSource())) {  **new** Ayuda();  } **else** **if**(mniOtrosSalir.equals(ae.getSource())) {  ventana.setVisible(**false**);  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  System.*exit*(0);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  } |

**MenuPrincipalUsuario.java:** En esta clase, encontramos el menú principal del usuario básico.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.CardLayout;  **import** java.awt.List;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.util.Calendar;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JMenu;  **import** javax.swing.JMenuBar;  **import** javax.swing.JMenuItem;  **import** javax.swing.JPanel;  **import** java.awt.GridBagLayout;  **import** java.awt.GridBagConstraints;  **import** javax.swing.JLabel;  **import** javax.swing.ImageIcon;  **import** javax.swing.border.TitledBorder;  **public** **class** MenuPrincipalUsuario **implements** WindowListener, ActionListener{  String user = **new** String("");  JFrame ventana = **new** JFrame ("Taller de Recambios");  List Lista = **new** List();  JPanel pnlLista = **new** JPanel();  JPanel pnlCard = **new** JPanel();  JPanel pnlClientes = **new** JPanel();  JPanel pnlRecambios = **new** JPanel();  JPanel pnlReparaciones = **new** JPanel();  JPanel pnlFacturas = **new** JPanel();  JMenuBar barraMenu = **new** JMenuBar();  JMenu menuOtros = **new** JMenu("Opciones");  JMenu menuAyuda = **new** JMenu("Ayuda");  JMenuItem mniOtrosAyuda = **new** JMenuItem("Ayuda");  JMenuItem mniOtrosSalir = **new** JMenuItem("Cerrar Sesión");  **final** **static** String ***Clientes*** = "Clientes";  **final** **static** String ***Recambios*** = "Recambios";  **final** **static** String ***Reparaciones*** = "Reparaciones";  **final** **static** String ***Facturas*** = "Facturas";  JButton btnAddCli = **new** JButton("Añadir Clientes");  JButton btnConCli = **new** JButton("Consultar Clientes");  JButton btnAddRec = **new** JButton("Añadir Recambios");  JButton btnConRec = **new** JButton("Consultar Recambios");  JButton btnAddRep = **new** JButton("Añadir Reparaciones");  JButton btnConRep = **new** JButton("Consultar Reparaciones");  JButton btnAddFac = **new** JButton("Añadir Facturas");  JButton btnConFac = **new** JButton("Consultar Facturas");  **private** **final** JPanel pnlImg = **new** JPanel();  **private** **final** JLabel label = **new** JLabel("");  **public** MenuPrincipalUsuario(String usuario) {  user = usuario;  ventana.setSize(500,350);  ventana.setLocationRelativeTo(**null**);  ventana.setJMenuBar(barraMenu);  menuAyuda.add(mniOtrosAyuda);  mniOtrosAyuda.addActionListener(**this**);  // Añadimos un separador  menuOtros.addSeparator();  menuOtros.add(mniOtrosSalir);  mniOtrosSalir.addActionListener(**this**);  barraMenu.add(menuOtros);  barraMenu.add(menuAyuda);  GridBagLayout gridBagLayout = **new** GridBagLayout();  ventana.setLayout(gridBagLayout);  pnlCard.setBorder(**new** TitledBorder(**null**, "Opciones", TitledBorder.***LEADING***, TitledBorder.***TOP***, **null**, **null**));  pnlCard.setLayout(**new** CardLayout());  pnlClientes.setBorder(**null**);  pnlClientes.add(btnAddCli);  pnlClientes.add(btnConCli);  btnAddCli.addActionListener(**this**);  btnConCli.addActionListener(**this**);  pnlRecambios.add(btnAddRec);  pnlRecambios.add(btnConRec);  btnAddRec.addActionListener(**this**);  btnConRec.addActionListener(**this**);  pnlReparaciones.add(btnAddRep);  pnlReparaciones.add(btnConRep);  btnAddRep.addActionListener(**this**);  btnConRep.addActionListener(**this**);  pnlFacturas.add(btnAddFac);  pnlFacturas.add(btnConFac);  btnAddFac.addActionListener(**this**);  btnConFac.addActionListener(**this**);  GridBagConstraints gbc\_pnlLista = **new** GridBagConstraints();  gbc\_pnlLista.gridheight = 2;  gbc\_pnlLista.gridx = 0;  gbc\_pnlLista.gridy = 0;  ventana.add(pnlLista, gbc\_pnlLista);  GridBagConstraints gbc\_Lista = **new** GridBagConstraints();  gbc\_Lista.gridx = 1;  gbc\_Lista.gridy = 0;  ventana.add(Lista, gbc\_Lista);  Lista.add(***Clientes***);  Lista.add(***Recambios***);  Lista.add(***Reparaciones***);  Lista.add(***Facturas***);  Lista.addActionListener(**this**);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Facturas*** , pnlFacturas);  GridBagConstraints gbc\_pnlCard = **new** GridBagConstraints();  gbc\_pnlCard.gridx = 2;  gbc\_pnlCard.gridy = 0;  ventana.add(pnlCard, gbc\_pnlCard);  GridBagConstraints gbc\_pnlImg = **new** GridBagConstraints();  gbc\_pnlImg.gridx = 2;  gbc\_pnlImg.gridy = 1;  ventana.add(pnlImg, gbc\_pnlImg);  label.setIcon(**new** ImageIcon("imagenes/logo.png"));  pnlImg.add(label);  ventana.addWindowListener(**this**);  ventana.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae) {  //OPCIONES LISTA  **if**(***Clientes***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Facturas*** , pnlFacturas);  } **else** **if**(***Recambios***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Facturas*** , pnlFacturas);  } **else** **if**(***Reparaciones***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  pnlCard.add(***Facturas*** , pnlFacturas);  } **else** **if**(***Facturas***.equals(Lista.getSelectedItem()))  {  pnlCard.add(***Facturas*** , pnlFacturas);  pnlCard.add(***Reparaciones*** , pnlReparaciones);  pnlCard.add(***Clientes*** , pnlClientes);  pnlCard.add(***Recambios*** , pnlRecambios);  }  //BOTONES DE CLIENTES  **if**(btnAddCli.equals(ae.getSource())) {  **new** AddCli(user);  }  **else** **if** (btnConCli.equals(ae.getSource())) {  **new** ConCliList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM CLIENTES"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  //BOTONES DE RECAMBIOS  **if**(btnAddRec.equals(ae.getSource())) {  **new** AddRec(user);  }  **else** **if** (btnConRec.equals(ae.getSource())) {  **new** ConRecList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM RECAMBIOS"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  //BOTONES DE REPARACIONES  **if**(btnAddRep.equals(ae.getSource())) {  **new** AddRep(user);  } **else** **if** (btnConRep.equals(ae.getSource())) {  **new** ConRepList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM REPARACIONES"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  //BOTONES DE REPARACIONES  **if**(btnAddFac.equals(ae.getSource())) {  **new** AddFac(user);  }**else** **if** (btnConFac.equals(ae.getSource())) {  **new** ConFacList();  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+"SELECT \* FROM FACTURAS"+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  **if**(mniOtrosSalir.equals(ae.getSource())) {  ventana.setVisible(**false**);  **new** Login();  }  **if**(mniOtrosAyuda.equals(ae.getSource())) {  **new** Ayuda();  } **else** **if**(mniOtrosSalir.equals(ae.getSource())) {  ventana.setVisible(**false**);  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  System.*exit*(0);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  } |

**ModCli.java:** En esta clase, podremos modificar a un cliente que hemos elegido anteriormente usando la clase ModCliList.java.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.FlowLayout;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JLabel;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **import** javax.swing.JTextField;  **public** **class** ModCli **implements** WindowListener, ActionListener{  JFrame ventanaModCli = **new** JFrame ("Modificar cliente:");  JLabel lblNombreCli = **new** JLabel ("Nombre:");  JLabel lblDireccionCli = **new** JLabel ("Dirección:");  JLabel lblTelefonoCli = **new** JLabel ("Teléfono:");  JTextField txtNombreCli = **new** JTextField(15);  JTextField txtDireccionCli = **new** JTextField(15);  JTextField txtTelefonoCli = **new** JTextField(15);  JButton btnModificar = **new** JButton("Modificar Cliente");  JButton btnLimpiar = **new** JButton("Limpiar");  JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel2 = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();  **int** idCli = 0;  String user ="";  **public** ModCli(**int** id, String usuario)  {  user = usuario;  idCli = id;  ResultSet rs = ejecutarSelect("SELECT \* FROM clientes where idCliente ="+id+";",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  rs.next();  txtNombreCli.selectAll();  txtNombreCli.setText(rs.getString("nombreCliente"));  txtDireccionCli.selectAll();  txtDireccionCli.setText(rs.getString("DireccionCliente"));  txtTelefonoCli.selectAll();  txtTelefonoCli.setText(Integer.*toString*(rs.getInt("telefonoCliente")));  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,"Error",e.getMessage(), JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  ventanaModCli.setLayout(**new** GridLayout(4,2));  ventanaModCli.setLocationRelativeTo(**null**);  ventanaModCli.setSize(400,300);  pnlPanel.setLayout(**new** FlowLayout());  pnlPanel2.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());  pnlPanel.add(lblNombreCli);  pnlPanel.add(txtNombreCli);  ventanaModCli.add(pnlPanel);  pnlPanel2.add(lblDireccionCli);  pnlPanel2.add(txtDireccionCli);  ventanaModCli.add(pnlPanel2);  pnlPanel3.add(lblTelefonoCli);  pnlPanel3.add(txtTelefonoCli);  ventanaModCli.add(pnlPanel3);  pnlPanel4.add(btnModificar);  btnModificar.addActionListener(**this**);  pnlPanel4.add(btnLimpiar);  btnLimpiar.addActionListener(**this**);  ventanaModCli.add(pnlPanel4);  ventanaModCli.addWindowListener(**this**);  ventanaModCli.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if** (btnModificar.equals(ae.getSource())) {  **if**(txtNombreCli.getText().equals("")) {  JOptionPane.*showMessageDialog*(**null**,"Error, Nombre de Cliente Vacío","Nombre vacío", JOptionPane.***ERROR\_MESSAGE***);  } **else** {  String sentencia = "UPDATE clientes SET nombreCliente = '"+txtNombreCli.getText()+"', direccionCliente = '"+txtDireccionCli.getText()+"', telefonoCliente ="+txtTelefonoCli.getText()+" WHERE idCliente ="+idCli+";";  ejecutarIDA(sentencia,conectar("TallerJava","usuarioTaller","Studium2018;"));  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }    }  } **else** **if** (btnLimpiar.equals(ae.getSource())) {  txtNombreCli.selectAll();  txtNombreCli.setText("");  txtDireccionCli.selectAll();  txtDireccionCli.setText("");  txtTelefonoCli.selectAll();  txtTelefonoCli.setText("");  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0) {  **if**(ventanaModCli.isActive()) {  ventanaModCli.setVisible(**false**);  }**else** {  //System.exit(0);  }  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  JOptionPane.*showMessageDialog*(**null**,"Cliente modificado","Cliente modificado con éxito", JOptionPane.***INFORMATION\_MESSAGE***);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  } |

**ModCliList.java:** En esta clase, encontramos un choice con una lista de clientes en el que seleccionaremos un cliente para que podamos modificarlo a través de la clase ModCli.java.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.Choice;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.\*;  **public** **class** ModCliList **implements** WindowListener, ActionListener{  JFrame ventanaModCliList = **new** JFrame ("Buscar cliente para modificar");  JLabel lblClientes = **new** JLabel("Selecciona cliente");  Choice clientes = **new** Choice();  JButton btnSeleccionar = **new** JButton("Seleccionar");  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  JPanel pnl3 = **new** JPanel();  String user = "";  **public** ModCliList(String usuario) {  ventanaModCliList.setLayout(**new** GridLayout(3,1));  ventanaModCliList.setLocationRelativeTo(**null**);  ventanaModCliList.setSize(400,300);    user = usuario;  ResultSet selectClientes = ejecutarSelect("SELECT \* FROM clientes",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while**(selectClientes.next())  {  String cli=Integer.*toString*(selectClientes.getInt("idCliente"));  cli = cli + ".-"+" "+selectClientes.getString("nombreCliente");  clientes.add(cli);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  pnl1.add(lblClientes);  pnl2.add(clientes);  pnl3.add(btnSeleccionar);  ventanaModCliList.add(pnl1);  ventanaModCliList.add(pnl2);  ventanaModCliList.add(pnl3);  btnSeleccionar.addActionListener(**this**);  ventanaModCliList.addWindowListener(**this**);  ventanaModCliList.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if**(btnSeleccionar.equals(ae.getSource())) {  String[] arrayClientes = clientes.getSelectedItem().toString().split(".-");  **int** idCliente = Integer.*parseInt*(arrayClientes[0]);  **new** ModCli(idCliente, user);  ventanaModCliList.setVisible(**false**);  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  ventanaModCliList.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  } |

**ModRec.java:** En esta clase, podremos modificar a un recambio que hemos elegido anteriormente usando la clase ModRecList.java.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.FlowLayout;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JLabel;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **import** javax.swing.JTextField;  **public** **class** ModRec **implements** WindowListener, ActionListener{  JFrame ventanaModRec = **new** JFrame ("Modificar recambio:");  JLabel lblDescripcionRec = **new** JLabel ("Descripción:");  JLabel lblUnidadesRec = **new** JLabel ("Unidades:");  JLabel lblPrecioRec = **new** JLabel ("Precio:");    JTextField txtDescripcionRec = **new** JTextField(10);  JTextField txtUnidadesRec = **new** JTextField(10);  JTextField txtPrecioRec = **new** JTextField(10);    JButton btnModificar = **new** JButton("Modificar Recambio");  JButton btnLimpiar = **new** JButton("Limpiar");      JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel2 = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();  **int** idRec = 0;  String user = "";  **public** ModRec(**int** id, String usuario)  {  user = usuario;  idRec = id;  ResultSet rs = ejecutarSelect("SELECT \* FROM recambios where idRecambio="+id+";",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  rs.next();  txtDescripcionRec.selectAll();  txtDescripcionRec.setText(rs.getString("descripcionRecambio"));  txtUnidadesRec.selectAll();  txtUnidadesRec.setText(rs.getString("unidadesRecambio"));  txtPrecioRec.selectAll();  txtPrecioRec.setText(Integer.*toString*(rs.getInt("precioRecambio")));  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));        ventanaModRec.setLayout(**new** GridLayout(4,1));  ventanaModRec.setLocationRelativeTo(**null**);  ventanaModRec.setSize(400,300);    pnlPanel.setLayout(**new** FlowLayout());  pnlPanel2.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());    pnlPanel.add(lblDescripcionRec);  pnlPanel.add(txtDescripcionRec);  ventanaModRec.add(pnlPanel);    pnlPanel2.add(lblUnidadesRec);  pnlPanel2.add(txtUnidadesRec);  ventanaModRec.add(pnlPanel2);    pnlPanel3.add(lblPrecioRec);  pnlPanel3.add(txtPrecioRec);  ventanaModRec.add(pnlPanel3);    pnlPanel4.add(btnModificar);  btnModificar.addActionListener(**this**);  pnlPanel4.add(btnLimpiar);  btnLimpiar.addActionListener(**this**);  ventanaModRec.add(pnlPanel4);    ventanaModRec.addWindowListener(**this**);  ventanaModRec.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {    **if** (btnModificar.equals(ae.getSource())) {  **if**(txtDescripcionRec.getText().equals("")) {  JOptionPane.*showMessageDialog*(**null**,"Error, Nombre de recambio vacío","Nombre vacío", JOptionPane.***ERROR\_MESSAGE***);  } **else** {  String sentencia = "UPDATE recambios SET descripcionRecambio = '"+txtDescripcionRec.getText()+"', unidadesRecambio = '"+txtUnidadesRec.getText()+"', precioRecambio ="+txtPrecioRec.getText()+" WHERE idRecambio ="+idRec+";";  ejecutarIDA(sentencia,conectar("TallerJava","usuarioTaller","Studium2018;"));  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }    }      } **else** **if** (btnLimpiar.equals(ae.getSource())) {  txtDescripcionRec.selectAll();  txtDescripcionRec.setText("");  txtUnidadesRec.selectAll();  txtUnidadesRec.setText("");  txtPrecioRec.selectAll();  txtPrecioRec.setText("");  }    }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  ventanaModRec.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  JOptionPane.*showMessageDialog*(**null**,"Recambio modificado","Recambio modificado con éxito", JOptionPane.***INFORMATION\_MESSAGE***);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }    } |

**ModRecList.java:** En esta clase, encontramos un choice con una lista de recambios en el que seleccionaremos un recambio para que podamos modificarlo a través de la clase ModRec.java

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.Choice;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.JButton;  **import** javax.swing.JFrame;  **import** javax.swing.JLabel;  **import** javax.swing.JOptionPane;  **import** javax.swing.JPanel;  **public** **class** ModRecList **extends** JFrame **implements** WindowListener, ActionListener{  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  JLabel lblRecambios = **new** JLabel("Selecciona recambio");  Choice recambios = **new** Choice();  JButton btnSeleccionar = **new** JButton("Seleccionar");  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  JPanel pnl3 = **new** JPanel();    String user = "";  **public** ModRecList(String usuario)  {  user = usuario;  **this**.setTitle("Buscar recambio para modificar");  **this**.setLayout(**new** GridLayout(3,1));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(400,300);  ResultSet selectRecambios = ejecutarSelect("SELECT \* FROM recambios",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while**(selectRecambios.next())  {  String rec=Integer.*toString*(selectRecambios.getInt("idRecambio"));  rec = rec + "-"+ selectRecambios.getString("descripcionRecambio");  recambios.add(rec);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  pnl1.add(lblRecambios);  pnl2.add(recambios);  pnl3.add(btnSeleccionar);  **this**.add(pnl1);  **this**.add(pnl2);  **this**.add(pnl3);  btnSeleccionar.addActionListener(**this**);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  **public** **void** actionPerformed(ActionEvent ae)  {  **if**(btnSeleccionar.equals(ae.getSource())) {  String[] array= recambios.getSelectedItem().toString().split("-");  **int** idRecambio = Integer.*parseInt*(array[0]);  **new** ModRec(idRecambio, user);  **this**.setVisible(**false**);  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  } |

**ModRep.java:** En esta clase, podremos modificar a una reparación que hemos elegido anteriormente usando la clase ModRepList.java.

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.\*;  **import** java.awt.event.\*;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.io.BufferedWriter;  **import** java.io.FileWriter;  **import** java.io.IOException;  **import** java.io.PrintWriter;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** java.util.Calendar;  **import** javax.swing.\*;  **public** **class** ModRep **extends** JFrame **implements** WindowListener, ActionListener  {  /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;  JLabel lblAveriaRep = **new** JLabel ("Avería:");  JLabel lblFechaEntradaRep = **new** JLabel ("Fecha de Entrada:");  JLabel lblFechaSalidaRep = **new** JLabel ("Fecha de Salida:");  JLabel lblReparadoRep = **new** JLabel ("Reparado:");  JTextField txtAveriaRep = **new** JTextField(10);  JTextField txtFechaEntradaRep = **new** JTextField(10);  JTextField txtFechaSalidaRep = **new** JTextField(10);  ButtonGroup chkReparadoRep = **new** ButtonGroup ();  JRadioButton chkSiRep = **new** JRadioButton ("Sí", **false**);  JRadioButton chkNoRep = **new** JRadioButton ("No", **true**);  JButton btnModificar = **new** JButton("Modificar Reparación");  JButton btnLimpiar = **new** JButton("Limpiar");  JPanel pnlPanel = **new** JPanel();  JPanel pnlPanel2 = **new** JPanel();  JPanel pnlPanel3 = **new** JPanel();  JPanel pnlPanel4 = **new** JPanel();  JPanel pnlPanel5 = **new** JPanel();  **int** idRep = 0;  String user = "";  **public** ModRep(**int** id, String usuario)  {  user = usuario;  idRep = id;  ResultSet rs = ejecutarSelect("SELECT \* FROM reparaciones where idReparacion="+id+";",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  rs.next();  **if**(rs.getInt("reparado")==1) {  txtAveriaRep.selectAll();  txtAveriaRep.setText(rs.getString("Averia"));  txtFechaEntradaRep.selectAll();  txtFechaEntradaRep.setText(rs.getString("DATE\_FORMAT(fechaEntrada, '%d/%m%a'"));  txtFechaSalidaRep.selectAll();  txtFechaSalidaRep.setText(rs.getString("DATE\_FORMAT(fechaSalida, '%d/%m%a'"));  chkSiRep.setSelected(**true**);  chkNoRep.setSelected(**false**);  } **else** **if**(rs.getInt("reparado")==0) {  txtAveriaRep.selectAll();  txtAveriaRep.setText(rs.getString("Averia"));  txtFechaEntradaRep.selectAll();  txtFechaEntradaRep.setText(rs.getString("DATE\_FORMAT(fechaEntrada, '%d/%m%a'"));  txtFechaSalidaRep.selectAll();  txtFechaSalidaRep.setText(rs.getString("DATE\_FORMAT(fechaSalida, '%d/%m%a'"));  chkSiRep.setSelected(**false**);  chkNoRep.setSelected(**true**);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  **this**.setTitle("Modificar Reparación");  **this**.setLayout(**new** GridLayout(5,2));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(400,300);  pnlPanel.setLayout(**new** FlowLayout());  pnlPanel2.setLayout(**new** FlowLayout());  pnlPanel3.setLayout(**new** FlowLayout());  pnlPanel4.setLayout(**new** FlowLayout());  pnlPanel5.setLayout(**new** FlowLayout());  pnlPanel.add(lblAveriaRep);  pnlPanel.add(txtAveriaRep);  **this**.add(pnlPanel);  pnlPanel2.add(lblFechaEntradaRep);  pnlPanel2.add(txtFechaEntradaRep);  **this**.add(pnlPanel2);  pnlPanel3.add(lblFechaSalidaRep);  pnlPanel3.add(txtFechaSalidaRep);  **this**.add(pnlPanel3);  pnlPanel4.add(lblReparadoRep);  chkReparadoRep.add(chkSiRep);  chkReparadoRep.add(chkNoRep);  pnlPanel4.add(chkSiRep);  pnlPanel4.add(chkNoRep);  **this**.add(pnlPanel4);  pnlPanel5.add(btnModificar);  btnModificar.addActionListener(**this**);  pnlPanel5.add(btnLimpiar);  btnLimpiar.addActionListener(**this**);  **this**.add(pnlPanel5);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if** (btnModificar.equals(ae.getSource())) {  **if**(txtAveriaRep.getText().equals("")) {  JOptionPane.*showMessageDialog*(**null**,"Error, Nombre de recambio vacío","Nombre vacío", JOptionPane.***ERROR\_MESSAGE***);  } **else** {  **if**(chkSiRep.isSelected())  {  String FechaEntrada = txtFechaEntradaRep.getText();  String[] arrayFechaEntrada = FechaEntrada.split("/");  FechaEntrada = arrayFechaEntrada[2]+"-"+arrayFechaEntrada[1]+"-"+arrayFechaEntrada[0];    String FechaSalida = txtFechaSalidaRep.getText();  String[] arrayFechaSalida = FechaSalida.split("/");  FechaSalida = arrayFechaSalida[2]+"-"+arrayFechaSalida[1]+"-"+arrayFechaSalida[0];    String sentencia1 = "UPDATE reparaciones SET Averia ='"+txtAveriaRep.getText()+"', fechaEntrada='"+FechaEntrada+"', fechaSalida='"+FechaSalida+"', Reparado = 1 WHERE idReparacion ="+idRep+";";  ejecutarIDA(sentencia1,conectar("TallerJava","usuarioTaller","Studium2018;"));  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia1+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  } **else**  {  String FechaEntrada = txtFechaEntradaRep.getText();  String[] arrayFechaEntrada = FechaEntrada.split("/");  FechaEntrada = arrayFechaEntrada[2]+"-"+arrayFechaEntrada[1]+"-"+arrayFechaEntrada[0];    String FechaSalida = txtFechaSalidaRep.getText();  String[] arrayFechaSalida = FechaSalida.split("/");  FechaSalida = arrayFechaSalida[2]+"-"+arrayFechaSalida[1]+"-"+arrayFechaSalida[0];    String sentencia2 = "UPDATE reparaciones SET Averia ='"+txtAveriaRep.getText()+"', fechaEntrada='"+FechaEntrada+"', fechaSalida='"+FechaSalida+"', Reparado = 0 WHERE idReparacion ="+idRep+";";  ejecutarIDA(sentencia2,conectar("TallerJava","usuarioTaller","Studium2018;"));  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  Calendar horaFecha = Calendar.*getInstance*();  **int** hora,minutos,dia,mes,anyo;  hora = horaFecha.get(Calendar.***HOUR\_OF\_DAY***);  minutos = horaFecha.get(Calendar.***MINUTE***);  dia = horaFecha.get(Calendar.***DAY\_OF\_MONTH***);  mes = horaFecha.get(Calendar.***MONTH***)+1;  anyo = horaFecha.get(Calendar.***YEAR***);  **try** {  FileWriter fw = **new** FileWriter("movimientos.log", **true**);  BufferedWriter bw = **new** BufferedWriter(fw);  PrintWriter outPut = **new** PrintWriter(bw);  outPut.print("["+dia+"/"+mes+"/"+anyo+"]["+hora+":"+minutos+"] "+"["+user+"]"+"["+sentencia2+"]"+"\n");  outPut.close();  bw.close();  fw.close();  } **catch**(IOException ioe) {  System.***out***.print("Error");  }  }  }  } **else** **if** (btnLimpiar.equals(ae.getSource()))  {  txtAveriaRep.selectAll();  txtAveriaRep.setText("");  txtFechaEntradaRep.selectAll();  txtFechaEntradaRep.setText("");  txtFechaSalidaRep.selectAll();  txtFechaSalidaRep.setText("");  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0) {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }  **public** **void** ejecutarIDA(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  statement.executeUpdate(sentencia);  JOptionPane.*showMessageDialog*(**null**,"Reparación modificada","Reparación modificada con éxito", JOptionPane.***INFORMATION\_MESSAGE***);  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  } |

**ModRepList.java:** En esta clase, encontramos un choice con una lista de reparaciones en el que seleccionaremos una reparación para que podamos modificarla a través de la clase ModRep.java

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| **package** es.studium.PracticaSegundoTrimestre;  **import** java.awt.Choice;  **import** java.awt.GridLayout;  **import** java.awt.event.ActionEvent;  **import** java.awt.event.ActionListener;  **import** java.awt.event.WindowEvent;  **import** java.awt.event.WindowListener;  **import** java.sql.Connection;  **import** java.sql.DriverManager;  **import** java.sql.ResultSet;  **import** java.sql.SQLException;  **import** java.sql.Statement;  **import** javax.swing.\*;  **public** **class** ModRepList **extends** JFrame **implements** WindowListener, ActionListener{    /\*\*  \*  \*/  **private** **static** **final** **long** ***serialVersionUID*** = 1L;    JLabel lblReparaciones = **new** JLabel("Selecciona reparación");  Choice reparaciones = **new** Choice();  JButton btnSeleccionar = **new** JButton("Seleccionar");  JPanel pnl1 = **new** JPanel();  JPanel pnl2 = **new** JPanel();  JPanel pnl3 = **new** JPanel();  String user = "";  **public** ModRepList(String usuario)  {  user = usuario;  **this**.setTitle("Buscar reparación para modificar");  **this**.setLayout(**new** GridLayout(3,1));  **this**.setLocationRelativeTo(**null**);  **this**.setSize(400,300);  ResultSet selectReparaciones = ejecutarSelect("SELECT \* FROM reparaciones",conectar("TallerJava","usuarioTaller","Studium2018;"));  **try** {  **while**(selectReparaciones.next())  {  String rep=Integer.*toString*(selectReparaciones.getInt("idReparacion"));  rep = rep + ".-"+ selectReparaciones.getString("Averia");  reparaciones.add(rep);  }  } **catch** (SQLException e) {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  desconectar(conectar("TallerJava","usuarioTaller","Studium2018;"));  pnl1.add(lblReparaciones);  pnl2.add(reparaciones);  pnl3.add(btnSeleccionar);  **this**.add(pnl1);  **this**.add(pnl2);  **this**.add(pnl3);  btnSeleccionar.addActionListener(**this**);  **this**.addWindowListener(**this**);  **this**.setVisible(**true**);  }  @Override  **public** **void** actionPerformed(ActionEvent ae)  {  **if**(btnSeleccionar.equals(ae.getSource())) {  String[] array= reparaciones.getSelectedItem().toString().split(".-");  **int** idReparacion = Integer.*parseInt*(array[0]);  **new** ModRep(idReparacion, user);  **this**.setVisible(**false**);  }  }  @Override  **public** **void** windowActivated(WindowEvent arg0) {}  @Override  **public** **void** windowClosed(WindowEvent arg0) {}  @Override  **public** **void** windowClosing(WindowEvent arg0)  {  **this**.setVisible(**false**);  }  @Override  **public** **void** windowDeactivated(WindowEvent arg0) {}  @Override  **public** **void** windowDeiconified(WindowEvent arg0) {}  @Override  **public** **void** windowIconified(WindowEvent arg0) {}  @Override  **public** **void** windowOpened(WindowEvent arg0) {}  **public** Connection conectar(String baseDatos, String usuario, String clave)  {  String driver = "com.mysql.jdbc.Driver";  String url ="jdbc:mysql://localhost:3306/"+baseDatos+"?autoReconnect=true&useSSL=false";  String login = usuario;  String password = clave;  Connection connection = **null**;  **try**  {  Class.*forName*(driver);  connection = DriverManager.*getConnection*(url, login,password);  }  **catch** (ClassNotFoundException cnfe)  {  JOptionPane.*showMessageDialog*(**null**,cnfe.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **catch** (SQLException sqle)  {  JOptionPane.*showMessageDialog*(**null**,sqle.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  **return** connection;  }  **public** **void** desconectar(Connection c)  {  **try**  {  **if**(c!=**null**)  {  c.close();  }  }  **catch** (SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  }  }  **public** ResultSet ejecutarSelect(String sentencia, Connection c)  {  **try**  {  Statement statement = c.createStatement();  ResultSet rs= statement.executeQuery(sentencia);  **return** rs;  }  **catch**(SQLException e)  {  JOptionPane.*showMessageDialog*(**null**,e.getMessage(),"Error", JOptionPane.***ERROR\_MESSAGE***);  **return** **null**;  }  }    } |

# 7. Bibliografía

*Temario Tema 9 Programación*. (10 de 06 de 2019). Obtenido de Temario Tema 9 Programación: http://aulastudium.com/pluginfile.php?file=%2F11026%2Fmod\_resource%2Fcontent%2F2%2FPR-TEMA9%20Acceso%20a%20Bases%20de%20Datos.pdf