```java
import java.awt.BorderLayout;
import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.BoxLayout;
import javax.swing.JLabel;
import java.awt.GridLayout;
import java.awt.FlowLayout;
import javax.swing.JButton;
import java.awt.Color;
import javax.swing.border.LineBorder;
import javax.swing.JComboBox;
import javax.swing.JOptionPane;
import javax.swing.JTextField;
import javax.swing.DefaultComboBoxModel;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.awt.event.ItemListener;
import java.awt.event.ItemEvent;
import javax.swing.SwingConstants;
import javax.swing.UIManager;


public class Listas extends JFrame {

        private JPanel contentPane;
        private JPanel panelc;
        private JPanel panels;
        private JLabel lbl0;
        private JLabel lbl1;
        private JLabel lbl2;
        private JLabel lbl3;
        private JLabel lbl5;
        private JLabel lbl6;
        private JLabel lbl00;
        private JLabel lbl01;
        private JLabel lbl02;
        private JLabel lbl03;
        private JLabel lbl04;
        private JLabel lbl05;
        private JLabel lbl06;
        private JLabel lbl4;
        private JButton btnAgregar;
        private JButton btnEliminar;
        private JTextField tAgregar;
        private JTextField tModificar;
        private JComboBox combo2;
        private JComboBox combo3;
        private JButton btnModificar;
        int ultimo = -1;
        private JComboBox combo1;
        private JTextField tNuevo;
        private JLabel lblNewLabel_2;
        private JLabel lblNuevoValor;
        private JTextField ult;

        /**
         * Launch the application.
         */
        public static void main(String[] args) {
                EventQueue.invokeLater(new Runnable() {
                        public void run() {
                                try {
                                        Listas frame = new Listas();
                                        frame.setVisible(true);
                                } catch (Exception e) {
                                        e.printStackTrace();
                                }
                        }
```

```
                });
        }

        /**
         * Create the frame.
         */
        public Listas() {
                setTitle("Estructura de Datos (LISTAS)");
                setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                setBounds(100, 100, 666, 251);
                contentPane = new JPanel();
                contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
                setContentPane(contentPane);
                contentPane.setLayout(new BorderLayout(0, 0));

                panelc = new JPanel();
                contentPane.add(panelc, BorderLayout.CENTER);
                panelc.setLayout(null);

                btnAgregar = new JButton("Agregar");
                btnAgregar.addActionListener(new ActionListener() {
                        public void actionPerformed(ActionEvent arg0) {
                                JLabel label;
                                if (tAgregar.getText().isEmpty()) {
                                        JOptionPane.showMessageDialog (null, "El elemento esta vacio",
                                }
                                else if (ultimo == 6) {
                                        JOptionPane.showMessageDialog (null, "La lista esta llena", "E
                                }
                                else if (combo1.getSelectedIndex()  > ultimo+1) {
                                        JOptionPane.showMessageDialog (null, "Posicion invalida", "Err
                                }
                                else {
                                        int p = combo1.getSelectedIndex();
                                        int q = ++ultimo;
                                        String cad;
                                        while (q > p ) {
                                                getLabel(q).setText(getLabel(q-1).getText());
                                                q--;
                                        }
                                        getLabel(p).setText(tAgregar.getText());
                                        tAgregar.setText("");
                                        btnModificar.setEnabled(true);
                                        combo2.setEnabled(true);
                                        tNuevo.setEditable(true);
                                        tModificar.setText( getLabel(0).getText() );
                                }
                                ult.setText(""+ultimo);
                        }
                });
                btnAgregar.setBounds(452, 48, 117, 29);
                panelc.add(btnAgregar);

                btnEliminar = new JButton("Eliminar");
                btnEliminar.addActionListener(new ActionListener() {
                        public void actionPerformed(ActionEvent arg0) {
                                if (ultimo == -1) {
                                        JOptionPane.showMessageDialog (null, "La lista esta vacia", "E
                                }
                                else if (combo3.getSelectedIndex()  > ultimo) {
                                        JOptionPane.showMessageDialog (null, "Posicion invalida", "Err
                                }
                                else {
                                        int p = combo3.getSelectedIndex();
                                        while (p < ultimo ) {
                                                getLabel(p).setText(getLabel(p+1).getText());
                                                p++;
                                        }
                                        getLabel(p).setText("");
                                        ultimo--;
                                        if (ultimo == -1) {
```

```
                                          btnModificar.setEnabled(false);
                                          tModificar.setText("");
                                          combo2.setEnabled(false);
                                          tNuevo.setEditable(false);
                                  }
                          }
                          ult.setText(""+ultimo);
                  }
          });

          btnEliminar.setBounds(452, 134, 117, 29);
          panelc.add(btnEliminar);

          combo1 = new JComboBox();
          combo1.setModel(new DefaultComboBoxModel(new String[] {"0", "1", "2", "3", "4", "5", "
          combo1.setSelectedIndex(0);
          combo1.setBounds(335, 48, 77, 27);
          panelc.add(combo1);

          tAgregar = new JTextField();
          tAgregar.setBounds(191, 47, 103, 28);
          panelc.add(tAgregar);
          tAgregar.setColumns(10);

          JLabel lblNewLabel = new JLabel("Elemento");
          lblNewLabel.setBounds(215, 19, 61, 16);
          panelc.add(lblNewLabel);

          JLabel lblNewLabel_1 = new JLabel("Posici\u00F3n");
          lblNewLabel_1.setBounds(347, 17, 61, 16);
          panelc.add(lblNewLabel_1);

          tModificar = new JTextField();
          tModificar.setEnabled(false);
          tModificar.setColumns(10);
          tModificar.setBounds(69, 93, 103, 28);
          panelc.add(tModificar);

          combo2 = new JComboBox();
          combo2.setEnabled(false);
          combo2.addItemListener(new ItemListener() {
                  public void itemStateChanged(ItemEvent arg0) {
                          if (combo2.getSelectedIndex() > ultimo) {
                                  JOptionPane.showMessageDialog (null, "Posicion invalida", "Err
                                  combo2.setSelectedIndex(0);
                          }
                          else {
                                  tModificar.setText(getLabel(combo2.getSelectedIndex()).getText

                          }

                  }
          });
          combo2.setModel(new DefaultComboBoxModel(new String[] {"0", "1", "2", "3", "4", "5", "
          combo2.setSelectedIndex(0);
          combo2.setBounds(335, 95, 77, 27);
          panelc.add(combo2);

          combo3 = new JComboBox();
          combo3.setModel(new DefaultComboBoxModel(new String[] {"0", "1", "2", "3", "4", "5", "
          combo3.setSelectedIndex(0);
          combo3.setBounds(335, 135, 77, 27);
          panelc.add(combo3);

          btnModificar = new JButton("Modificar");
          btnModificar.setEnabled(false);
          btnModificar.addActionListener(new ActionListener() {
                  public void actionPerformed(ActionEvent arg0) {
                          if (tNuevo.getText().isEmpty()) {
                                  JOptionPane.showMessageDialog (null, "Escriba el NUEVO valor",
                          }
```

```
                            else if (combo2.getSelectedIndex() <= ultimo ){
                                    getLabel( combo2.getSelectedIndex() ).setText(tNuevo.getText()
                                    tNuevo.setText("");
                                    combo2.setSelectedIndex(0);
                                    tModificar.setText(getLabel(0).getText());
                                    JOptionPane.showMessageDialog (null, "Se MODIFICO la posicion"
                            }
                    }
    });
    btnModificar.setBounds(452, 94, 117, 29);
    panelc.add(btnModificar);

    tNuevo = new JTextField();
    tNuevo.setEditable(false);
    tNuevo.setColumns(10);
    tNuevo.setBounds(191, 93, 103, 28);
    panelc.add(tNuevo);

    lblNewLabel_2 = new JLabel("Valor Actual");
    lblNewLabel_2.setBounds(80, 77, 85, 16);
    panelc.add(lblNewLabel_2);

    lblNuevoValor = new JLabel("Nuevo Valor");
    lblNuevoValor.setBounds(201, 77, 85, 16);
    panelc.add(lblNuevoValor);

    JLabel lblNewLabel_3 = new JLabel("ultimo");
    lblNewLabel_3.setOpaque(true);
    lblNewLabel_3.setBackground(UIManager.getColor("PasswordField.selectionBackground"));
    lblNewLabel_3.setBounds(462, 16, 47, 22);
    panelc.add(lblNewLabel_3);

    ult = new JTextField();
    ult.setEnabled(false);
    ult.setBounds(506, 13, 35, 28);
    panelc.add(ult);
    ult.setColumns(10);
    ult.setText(""+ultimo);

    panels = new JPanel();
    contentPane.add(panels, BorderLayout.SOUTH);
    panels.setLayout(new GridLayout(2,8));

    lbl0 = new JLabel("    ");
    lbl0.setHorizontalAlignment(SwingConstants.CENTER);
    lbl0.setOpaque(true);
    lbl0.setBackground(Color.ORANGE);
    lbl0.setBorder(new LineBorder(new Color(0, 0, 0)));
    panels.add(lbl0);

    lbl1 = new JLabel("      ");
    lbl1.setHorizontalAlignment(SwingConstants.CENTER);
    lbl1.setBackground(Color.ORANGE);
    lbl1.setOpaque(true);
    lbl1.setBorder(new LineBorder(new Color(0, 0, 0)));
    panels.add(lbl1);

    lbl2 = new JLabel("      ");
    lbl2.setHorizontalAlignment(SwingConstants.CENTER);
    lbl2.setBackground(Color.ORANGE);
    lbl2.setOpaque(true);
    lbl2.setBorder(new LineBorder(new Color(0, 0, 0)));
    panels.add(lbl2);

    lbl3 = new JLabel("      ");
    lbl3.setHorizontalAlignment(SwingConstants.CENTER);
    lbl3.setBackground(Color.ORANGE);
    lbl3.setOpaque(true);
    lbl3.setBorder(new LineBorder(new Color(0, 0, 0)));
    panels.add(lbl3);
```

```java
        lbl5 = new JLabel("          ");
        lbl5.setHorizontalAlignment(SwingConstants.CENTER);
        lbl5.setOpaque(true);
        lbl5.setBackground(Color.ORANGE);
        lbl5.setBorder(new LineBorder(new Color(0, 0, 0)));
        lbl0.setOpaque(true);

        lbl4 = new JLabel("      ");
        lbl4.setHorizontalAlignment(SwingConstants.CENTER);
        lbl4.setBackground(Color.ORANGE);
        lbl4.setOpaque(true);
        lbl4.setBorder(new LineBorder(new Color(0, 0, 0)));
        panels.add(lbl4);
        panels.add(lbl5);

        lbl6 = new JLabel("        ");
        lbl6.setHorizontalAlignment(SwingConstants.CENTER);
        lbl6.setBackground(Color.ORANGE);
        lbl6.setBorder(new LineBorder(new Color(0, 0, 0)));
        lbl6.setOpaque(true);
        lbl0.setOpaque(true);
        panels.add(lbl6);

        lbl00 = new JLabel("            0");
        panels.add(lbl00);

        lbl01 = new JLabel("          1");
        panels.add(lbl01);

        lbl02 = new JLabel("          2");
        panels.add(lbl02);

        lbl03 = new JLabel("          3");
        panels.add(lbl03);

        lbl04 = new JLabel("         4");
        panels.add(lbl04);

        lbl05 = new JLabel("          5");
        panels.add(lbl05);

        lbl06 = new JLabel("          6");
        panels.add(lbl06);
    }

    JLabel getLabel (int lb) {
        switch (lb) {
            case 0 : return lbl0;
            case 1 : return lbl1;
            case 2 : return lbl2;
            case 3 : return lbl3;
            case 4 : return lbl4;
            case 5 : return lbl5;
            case 6 : return lbl6;
        }return null;
    }
}
```