

“Universidad Tecnológica del Norte de Guanajuato”

Área académica. Tecnologías de la Información y la Comunicación.

Programa académico. Desarrollo de Software Multiplataforma.

Asignatura. Estructura de Datos.

Grupo. GTID141.

Alumna. Cárdenas Vázquez Susana.

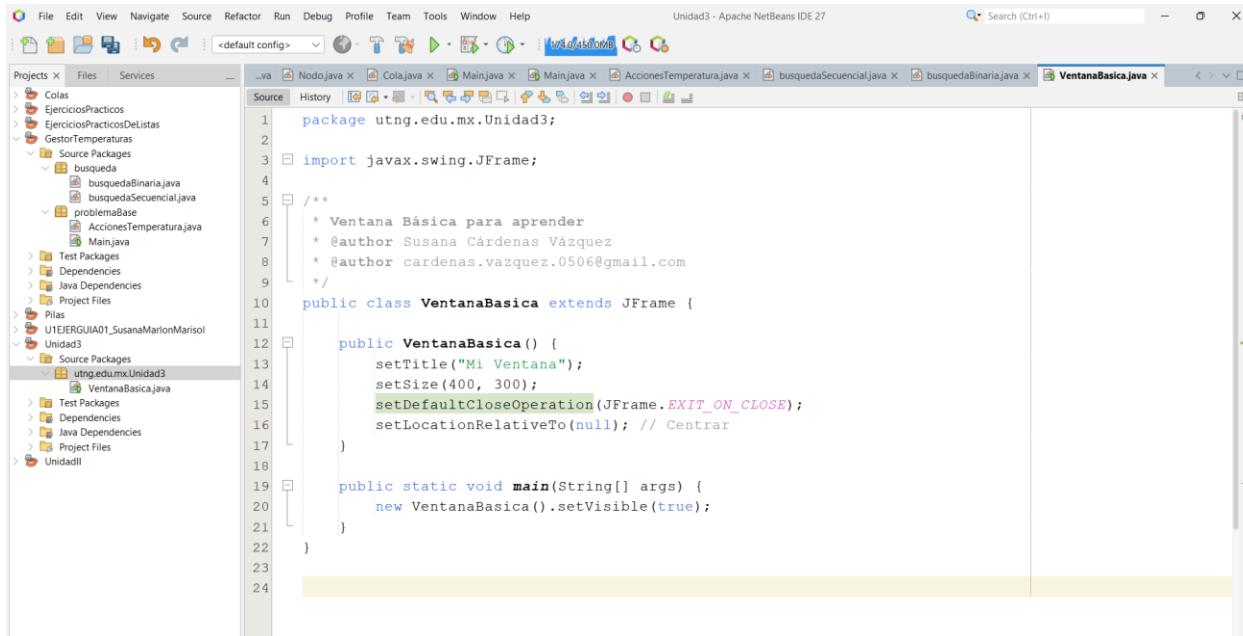
No. Control. 1224100667

Lugar. Dolores Hidalgo C.I.N., Guanajuato.

Fecha. Viernes 14 de noviembre de 2025.

Esta práctica tiene como objetivo el observar la estructura y funcionamiento de Java Swing, en ayuda de la IA.

Como primer paso, crearemos nuestra Ventana, con el siguiente código y con ayuda de JFrame:



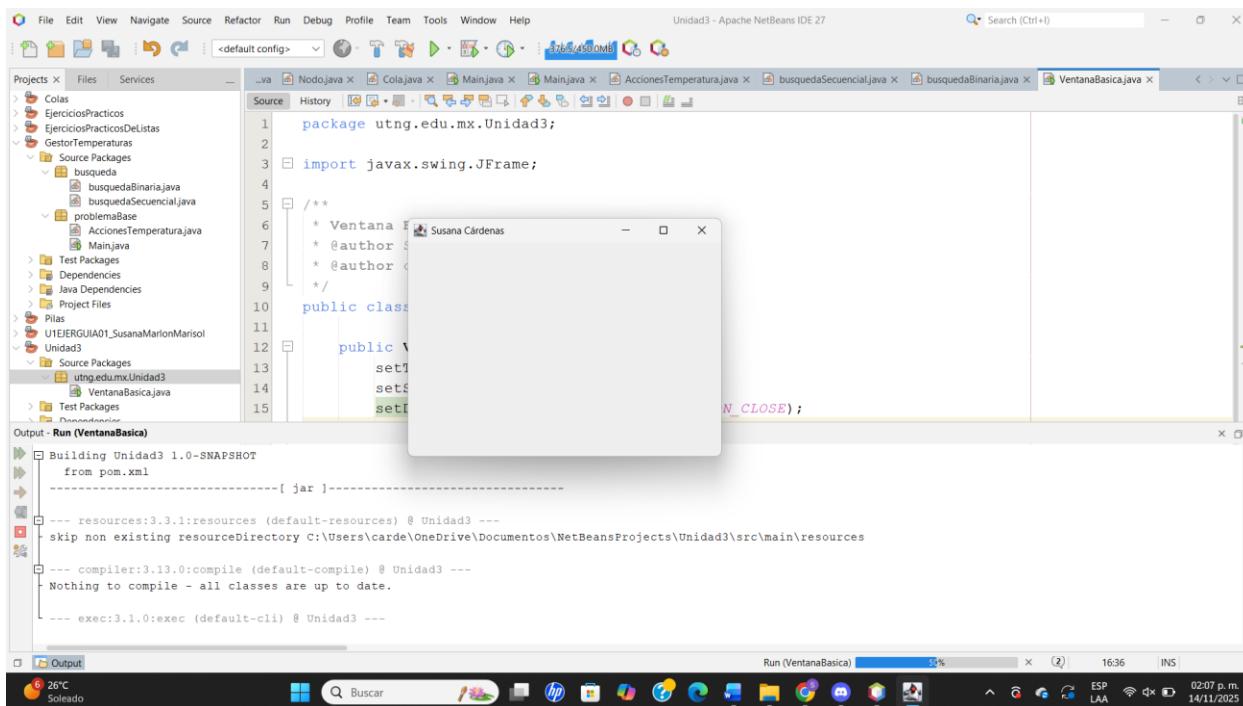
```
package utng.edu.mx.Unidad3;
import javax.swing.JFrame;

/*
 * Ventana Básica para aprender
 * @author Susana Cárdenas Vázquez
 * @author cardenas.vazquez.0506@gmail.com
 */
public class VentanaBasica extends JFrame {

    public VentanaBasica() {
        setTitle("Mi Ventana");
        setSize(400, 300);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLocationRelativeTo(null); // Centrar
    }

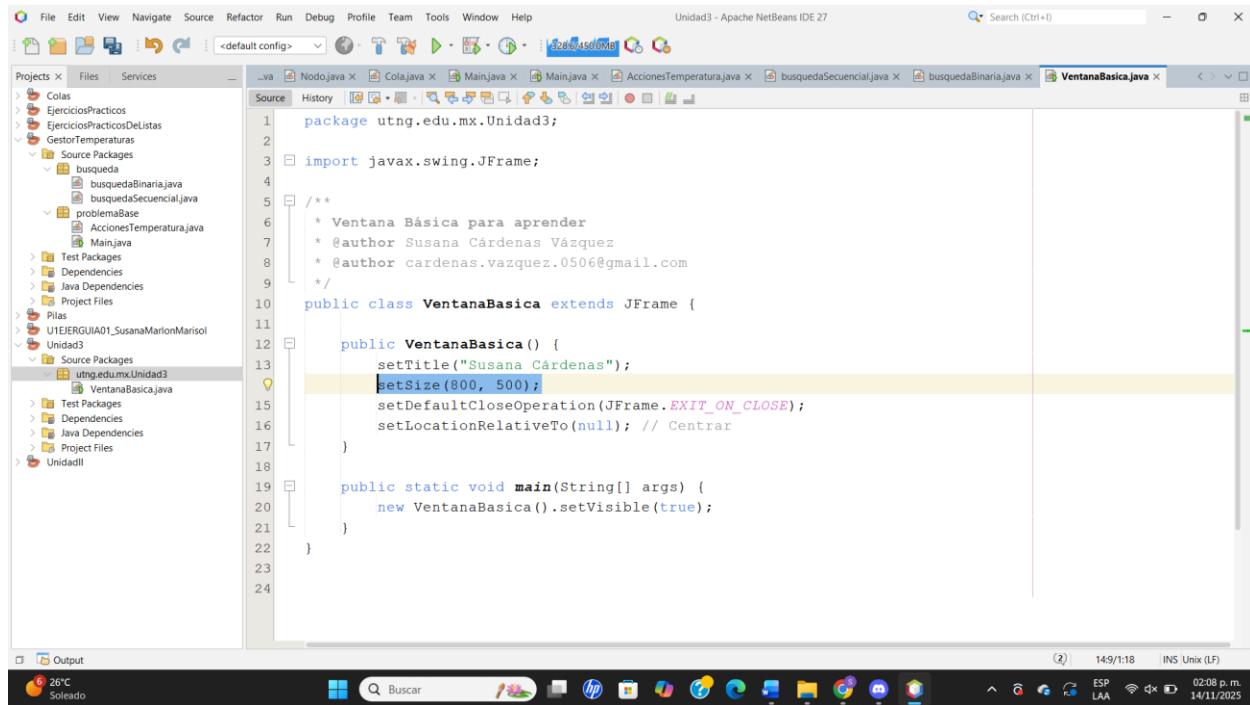
    public static void main(String[] args) {
        new VentanaBasica().setVisible(true);
    }
}
```

Este es el resultado del código anterior:



The screenshot shows the Apache NetBeans IDE interface. In the center, there is a code editor window displaying the `VentanaBasica.java` file. The code defines a simple Java Swing application with a title bar, a size of 400x300 pixels, and a central location. It uses the `JFrame.EXIT_ON_CLOSE` constant to close the window when the user clicks the close button. The `main` method creates and displays an instance of the `VentanaBasica` class. Below the code editor, the `Output - Run (VentanaBasica)` window shows the build process and execution results. The build log indicates that the project is named `Unidad3`, it's building version `1.0-SNAPSHOT` from `pom.xml`, and it's creating a jar file. The resources section shows that resources are being copied from the `src/main/resources` directory. The compiler section shows that no compilation is needed because all classes are up-to-date. Finally, the execution section shows the command `exec:3.1.0:exec` was run successfully. At the bottom of the screen, a taskbar is visible with various icons and the system tray showing the date and time.

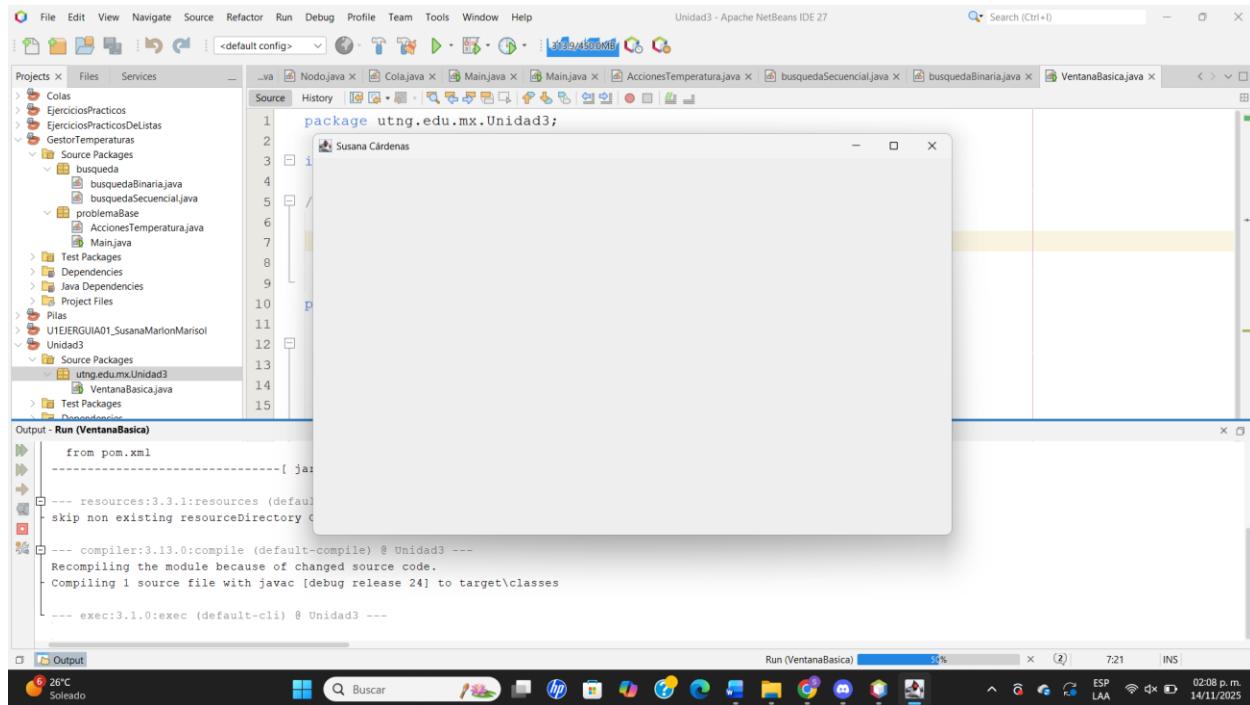
Con el setSize es posible modificar el tamaño de la ventana:



The screenshot shows the Apache NetBeans IDE interface. The central pane displays the Java code for `VentanaBasica.java`. The code defines a window titled "Susana Cárdenas" with a size of 800x500 pixels. The code is as follows:

```
package utng.edu.mx.Unidad3;
import javax.swing.JFrame;
/*
 * Ventana Básica para aprender
 * @author Susana Cárdenas Vázquez
 * @author cardenas.vazquez.0506@gmail.com
 */
public class VentanaBasica extends JFrame {
    public VentanaBasica() {
        setTitle("Susana Cárdenas");
        setSize(800, 500);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLocationRelativeTo(null); // Centrar
    }
    public static void main(String[] args) {
        new VentanaBasica().setVisible(true);
    }
}
```

Aquí, podemos observar el cambio del tamaño de la ventana:



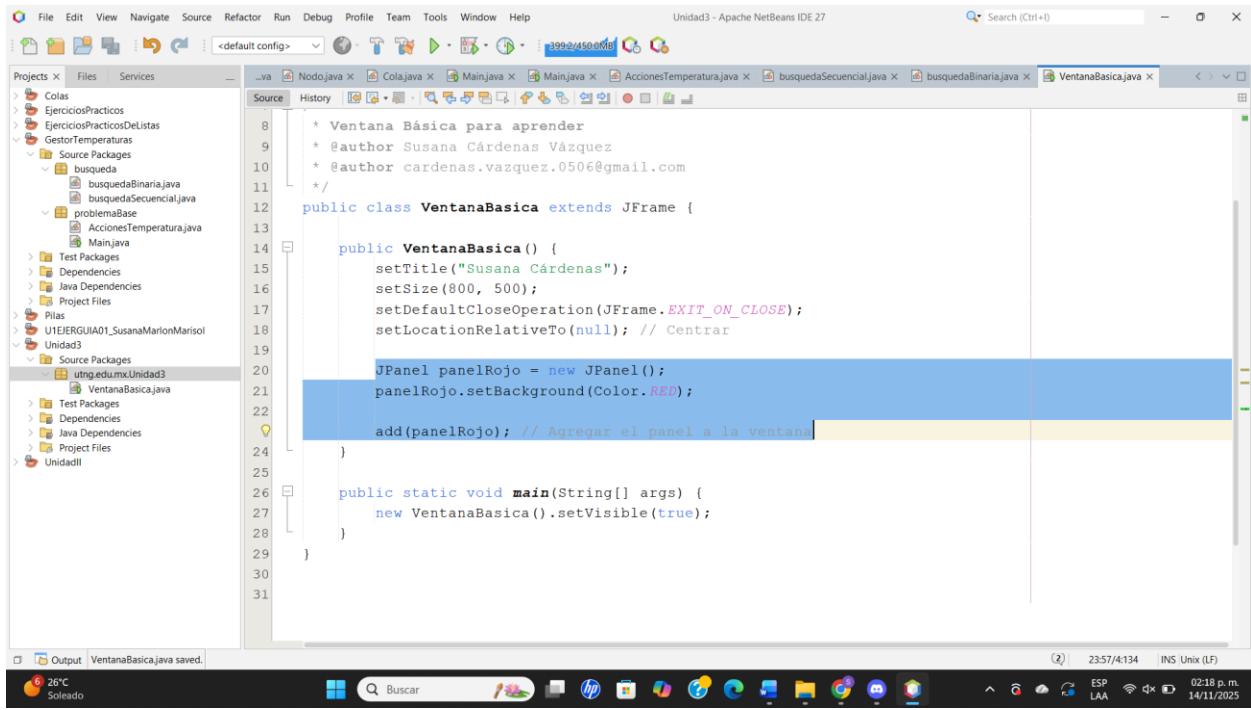
The screenshot shows the Apache NetBeans IDE interface with the "Output" tab selected. It displays the run log for the `VentanaBasica` application. The window title is "Susana Cárdenas" and its dimensions are 800x500 pixels. The log output is as follows:

```
package utng.edu.mx.Unidad3;
import javax.swing.JFrame;
/*
 * Ventana Básica para aprender
 * @author Susana Cárdenas Vázquez
 * @author cardenas.vazquez.0506@gmail.com
 */
public class VentanaBasica extends JFrame {
    public VentanaBasica() {
        setTitle("Susana Cárdenas");
        setSize(800, 500);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLocationRelativeTo(null); // Centrar
    }
    public static void main(String[] args) {
        new VentanaBasica().setVisible(true);
    }
}
```

Output - Run (VentanaBasica)

```
from pom.xml
-----[ java
--- resources:3.3.1:resources (default)
  skip non existing resource directory
--- compiler:3.13.0:compile (default-compile) @ Unidad3 ---
  Recompiling the module because of changed source code.
  Compiling 1 source file with javac [debug release 24] to target\classes
--- exec:3.1.0:exec (default-cli) @ Unidad3 ---
```

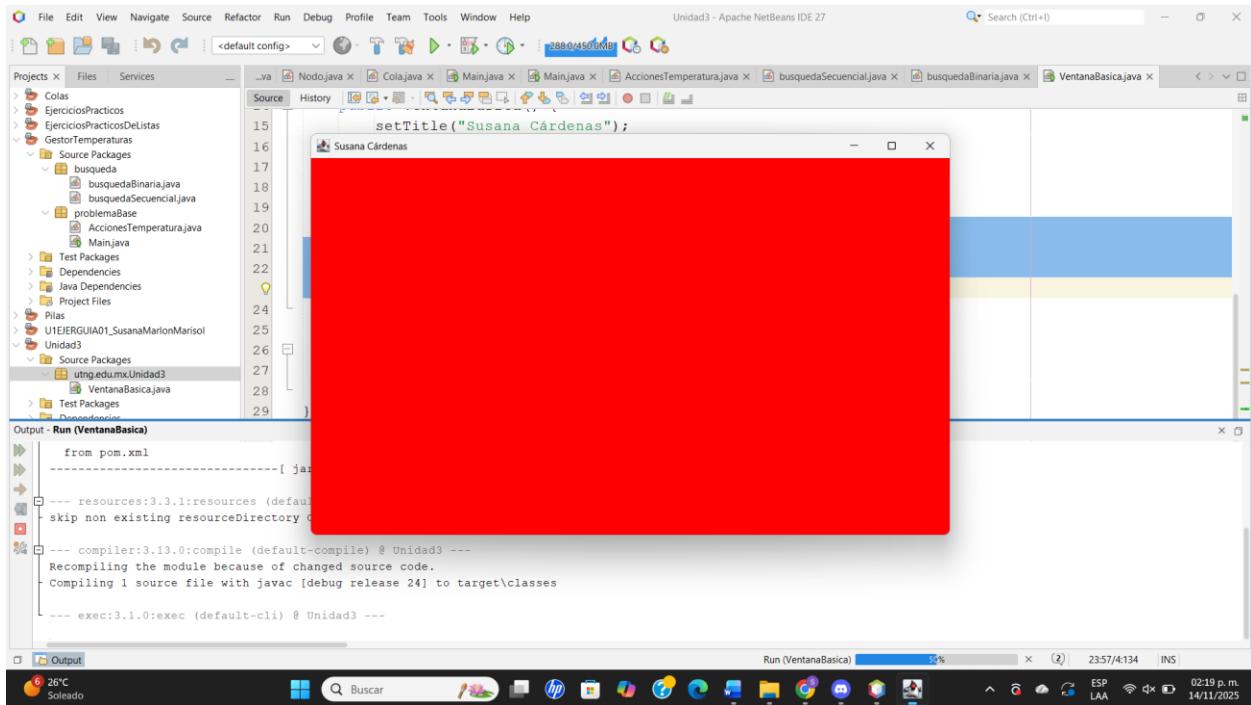
Ahora bien, con este fragmento es posible agregar un panel del color deseado:



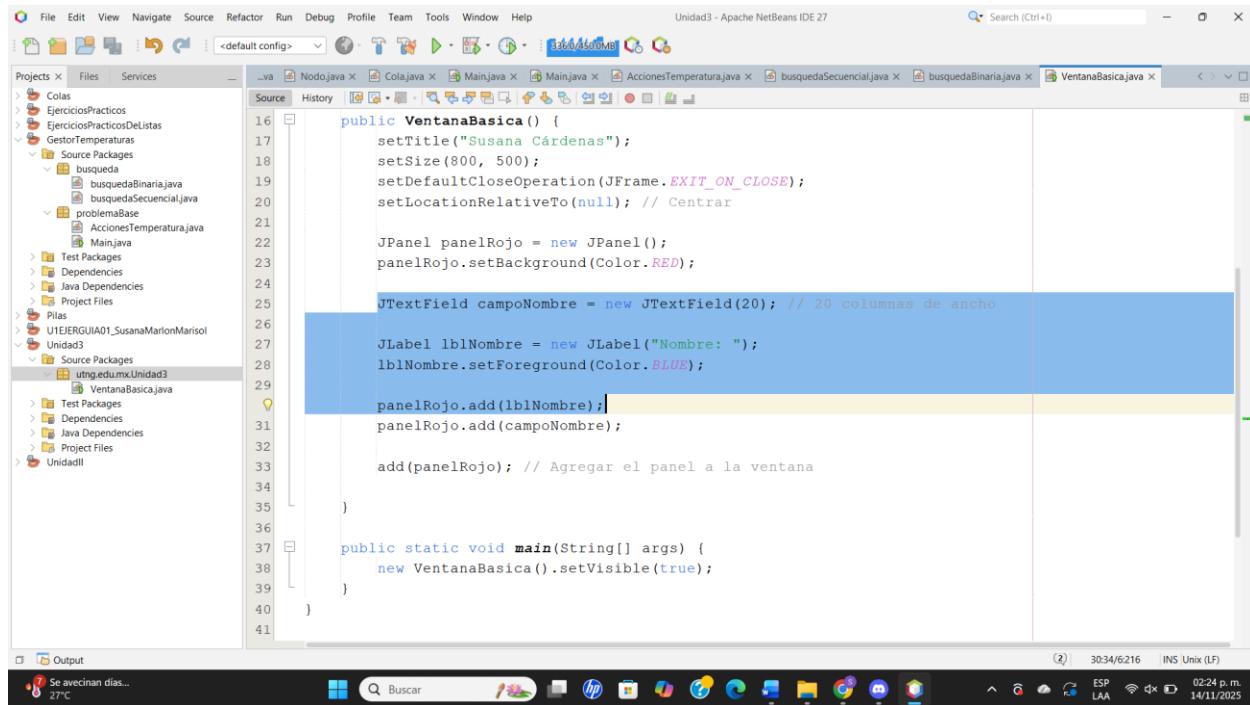
The screenshot shows the Apache NetBeans IDE interface. The left pane displays a project structure with several Java files under the 'Unidad3' package. The right pane shows the source code for 'VentanaBasica.java'. A specific line of code, 'panelRojo.setBackground(Color.RED);', is highlighted with a blue selection bar. The code defines a JFrame named 'VentanaBasica' with a title bar and a red background.

```
8 * Ventana Básica para aprender
9 * @author Susana Cárdenas Vázquez
10 * @author cardenas.vazquez.0506@gmail.com
11 */
12 public class VentanaBasica extends JFrame {
13
14     public VentanaBasica() {
15         setTitle("Susana Cárdenas");
16         setSize(800, 500);
17         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
18         setLocationRelativeTo(null); // Centrar
19
20         JPanel panelRojo = new JPanel();
21         panelRojo.setBackground(Color.RED);
22
23         add(panelRojo); // Agregar el panel a la ventana
24     }
25
26     public static void main(String[] args) {
27         new VentanaBasica().setVisible(true);
28     }
29 }
```

Aquí el resultado:



Con este otro fragmento, es posible agregar un campo de texto:



The screenshot shows the Apache NetBeans IDE interface. The left pane displays a project structure with several packages and files. The right pane shows the source code for a Java class named `VentanaBasica.java`. The code creates a window titled "Susana Cárdenas" with a red background, adds a label "Nombre:", and a text field. The code is as follows:

```
public VentanaBasica() {
    setTitle("Susana Cárdenas");
    setSize(800, 500);
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    setLocationRelativeTo(null); // Centrar

    JPanel panelRojo = new JPanel();
    panelRojo.setBackground(Color.RED);

    JTextField campoNombre = new JTextField(20); // 20 columnas de ancho

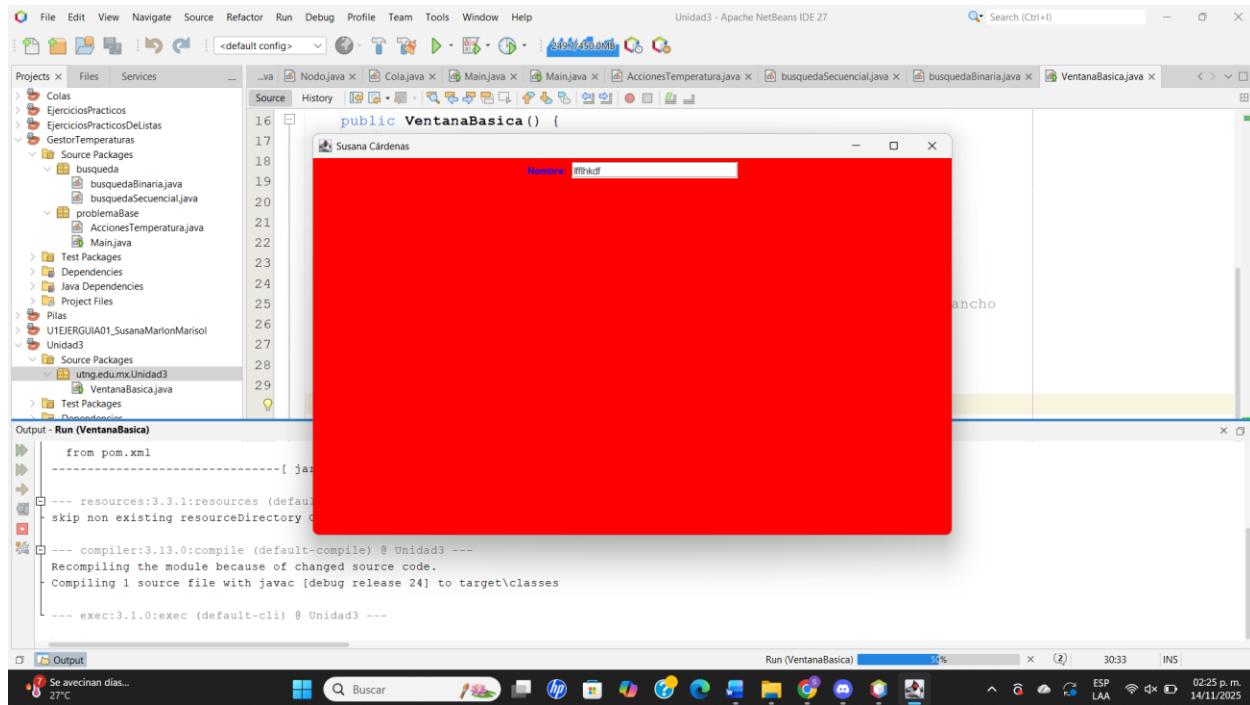
    JLabel lblNombre = new JLabel("Nombre:");
    lblNombre.setForeground(Color.BLUE);

    panelRojo.add(lblNombre);
    panelRojo.add(campoNombre);

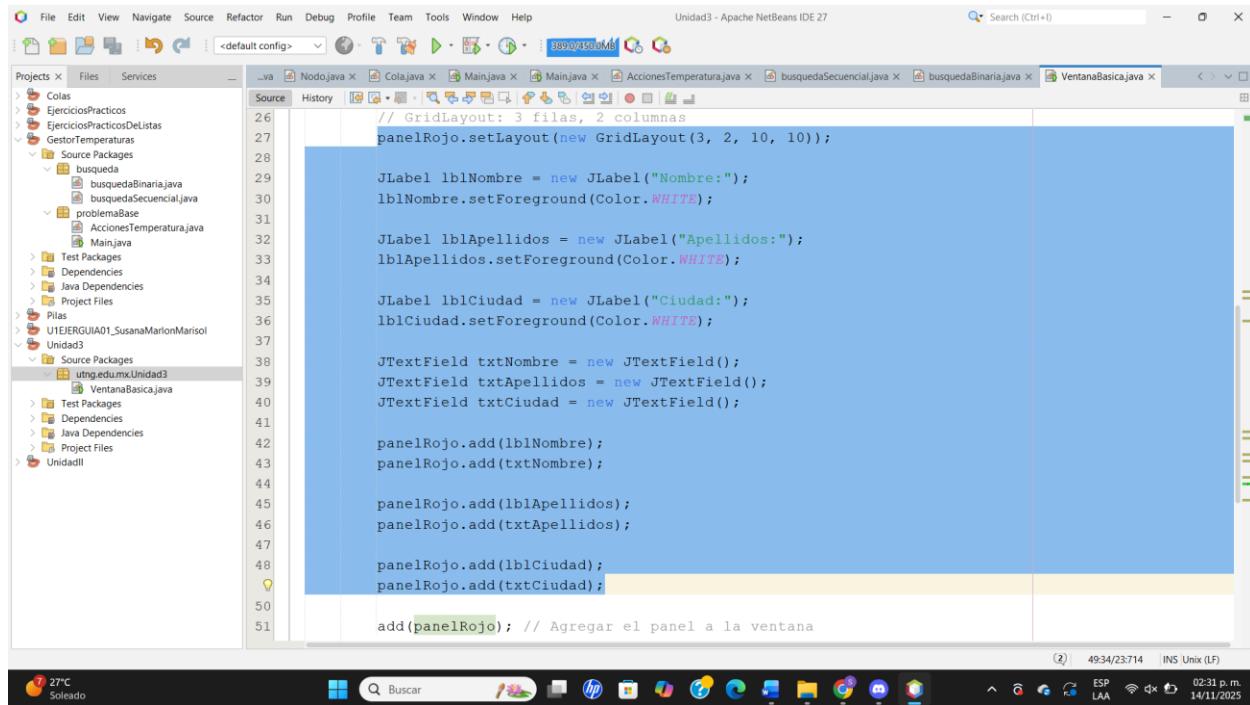
    add(panelRojo); // Agregar el panel a la ventana
}

public static void main(String[] args) {
    new VentanaBasica().setVisible(true);
}
```

Obteniendo esto como resultado:



Ahora bien, se agregaron más cajas de texto para otros datos:



The screenshot shows the Apache NetBeans IDE interface. The left pane displays the project structure under 'Projects'. The right pane shows the source code for a file named 'VentanaBasica.java'. The code creates a red JPanel with three text fields labeled 'Nombre', 'Apellidos', and 'Ciudad'.

```
// GridLayout: 3 filas, 2 columnas
panelRojo.setLayout(new GridLayout(3, 2, 10, 10));

JLabel lblNombre = new JLabel("Nombre:");
lblNombre.setForeground(Color.WHITE);

JLabel lblApellidos = new JLabel("Apellidos:");
lblApellidos.setForeground(Color.WHITE);

JLabel lblCiudad = new JLabel("Ciudad:");
lblCiudad.setForeground(Color.WHITE);

JTextField txtNombre = new JTextField();
JTextField txtApellidos = new JTextField();
JTextField txtCiudad = new JTextField();

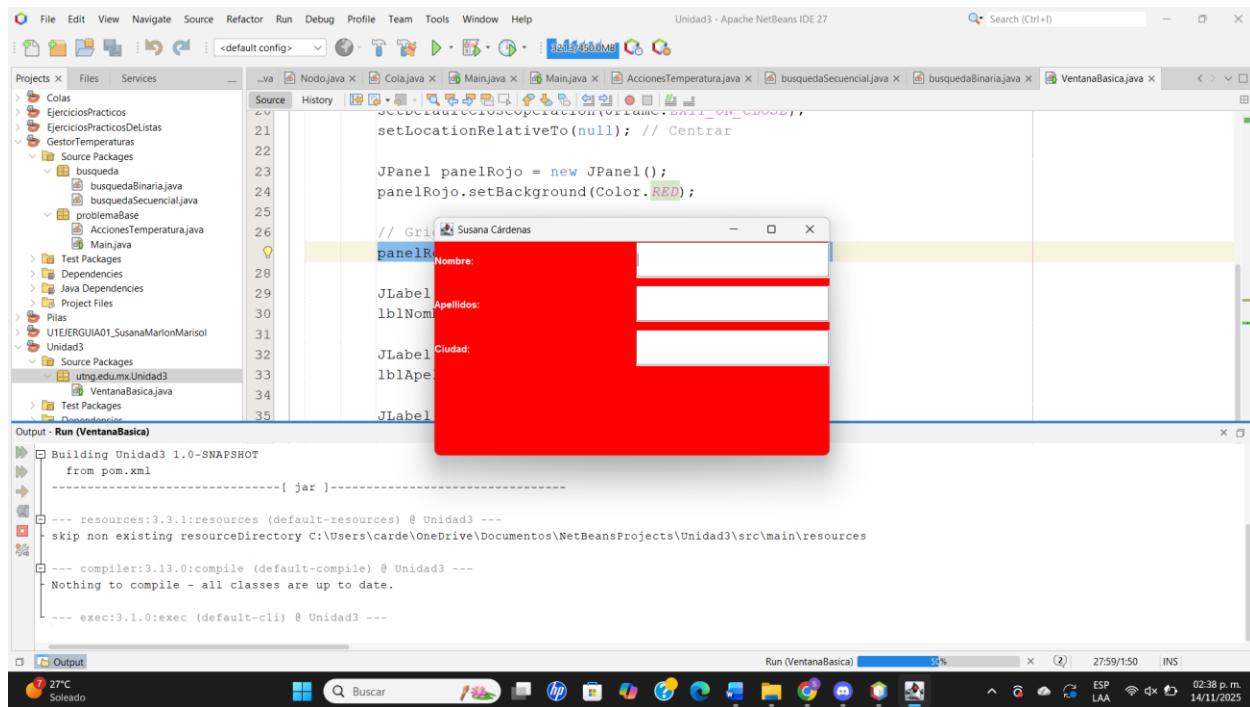
panelRojo.add(lblNombre);
panelRojo.add(txtNombre);

panelRojo.add(lblApellidos);
panelRojo.add(txtApellidos);

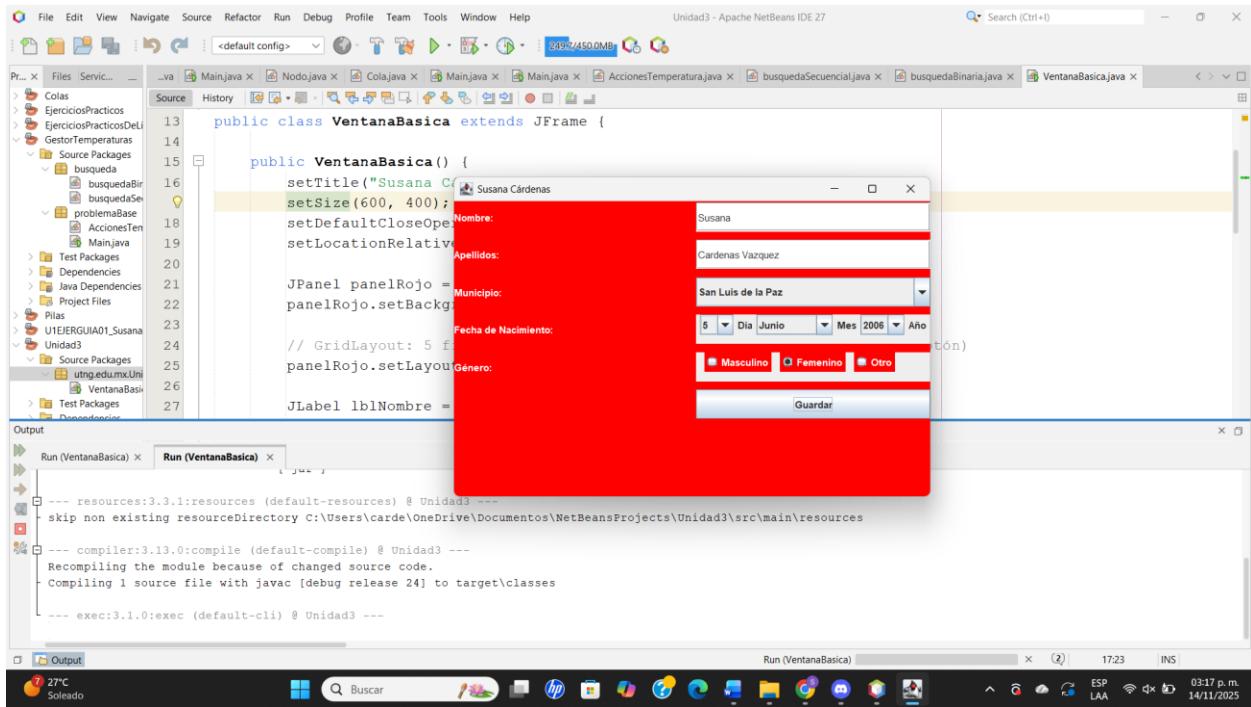
panelRojo.add(lblCiudad);
panelRojo.add(txtCiudad);

add(panelRojo); // Agregar el panel a la ventana
```

Y obtenemos esto:



Al final, agregando mas elementos podemos obtener esta pantalla final:



Que a su vez, manda la información en una pantalla emergente:

