

Universidad Tecnológica del Norte de Guanajuato

Tecnologías de la Información y Comunicación

Licenciatura en Ingeniería en Tecnologías de la Información e  
Innovación Digital

Estructura de Datos

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No. Control: 1224100711

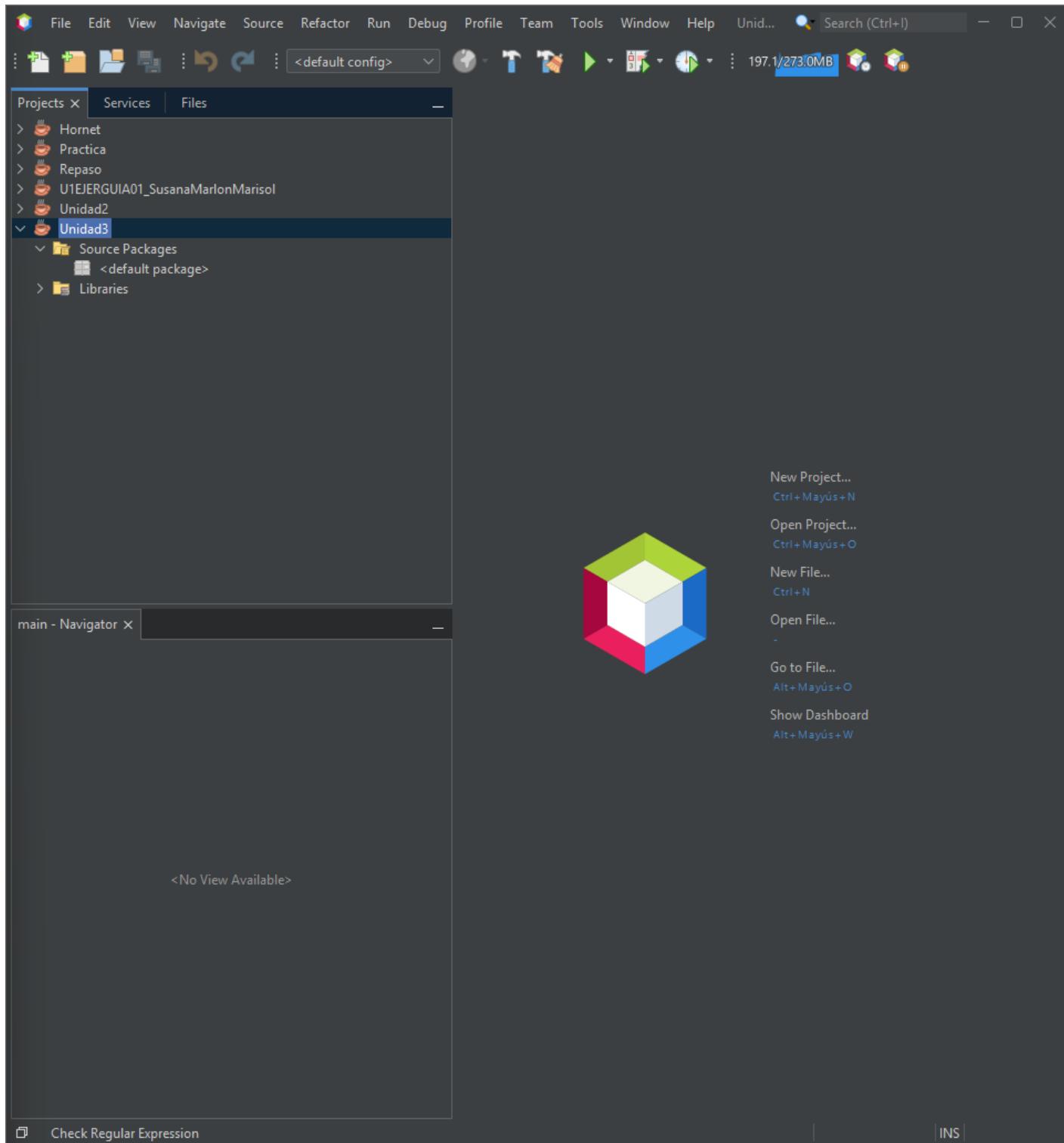
GTID-0141

Unidad III: Estructuras de Datos Avanzadas

Primera ventana en Swing

Docente: Gabriel Barrón Rodríguez

Dolores Hidalgo C.I.N.; 14 de noviembre de 2025



The screenshot shows a Java development environment with the following interface elements:

- Top Bar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, Unid..., Search (Ctrl+I).
- Toolbar:** Includes icons for file operations like Open, Save, Print, and others.
- Project Explorer (Projects X):** Shows a project structure with several packages and files.
- Output Window (Output - Unidad3 (run) X):** Displays the current configuration and memory usage (289.7/352.0MB).
- Code Editor (VentanaBasica.java X):** The main file being edited, containing Java code for a basic window.
- Code Editor (Main.java X):** A secondary file shown in the editor.
- Navigator (Navigator X):** Shows the members of the current class, including methods like VentanaBasica() and VentanaBasica().
- Status Bar:** Check Regular Expression, 19:20, INS Windows (CRLF).

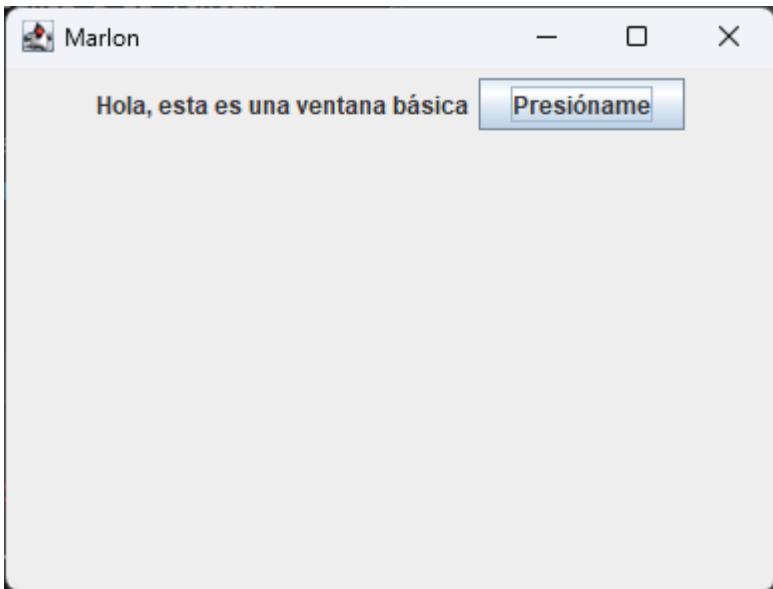
**Code Editor Content (VentanaBasica.java):**

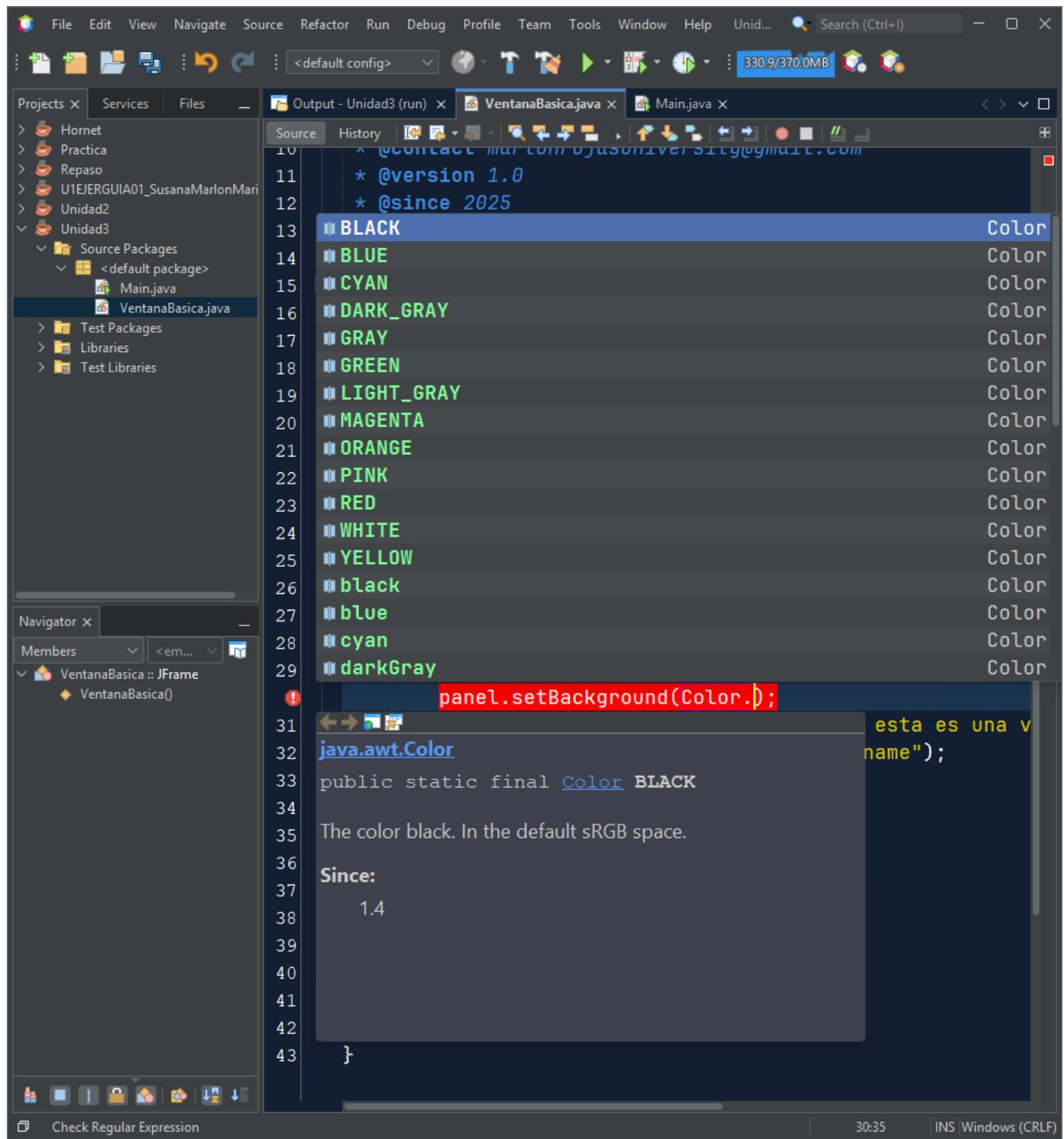
```
8 * @author Marlon Rojas Galindo
9 * @contact marlonrojasuniversity@gmail.com
10 * @version 1.0
11 * @since 2025
12 */
13 public class VentanaBasica extends JFrame {
14     public VentanaBasica() {
15         // Título de la ventana
16         setTitle("Marlon");
17
18         // Tamaño de la ventana
19         setSize(400, 300);
20
21         // Cerrar aplicación al cerrar ventana
22         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
23
24         // Centrar ventana
25         setLocationRelativeTo(null);
26
27         // Panel básico
28         JPanel panel = new JPanel();
29         JLabel etiqueta = new JLabel("Hola, esta es una v");
30         JButton boton = new JButton("Presíóname");
31
32         panel.add(etiqueta);
33         panel.add(boton);
34
35         // Agregar panel a la ventana
36         add(panel);
37
38         // Hacer visible
39         setVisible(true);
40     }
41 }
```

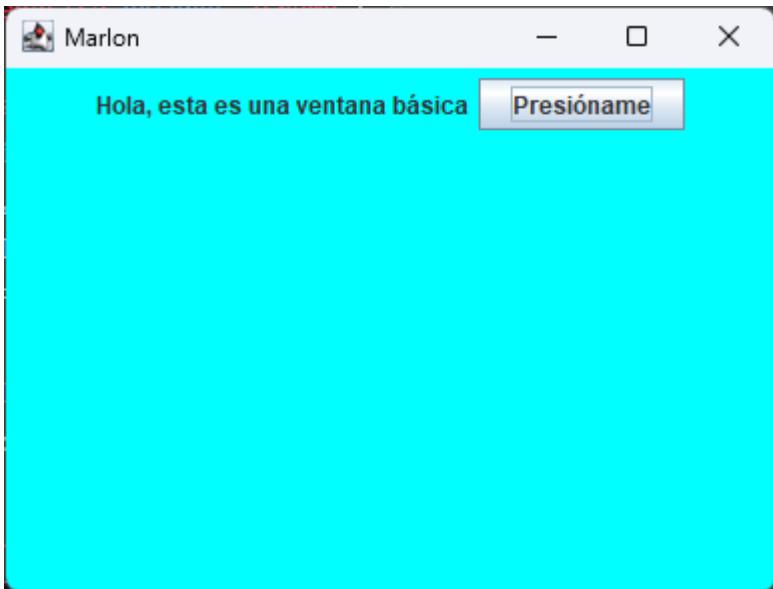
The screenshot shows a Java development environment with the following interface elements:

- Top Bar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, Unid..., Search (Ctrl+I), Minimize, Maximize, Close.
- Toolbar:** Includes icons for file operations like Open, Save, Print, and a search bar.
- Project Explorer (Projects X):** Shows projects: Hornet, Practica, Repaso, U1EJERGUISA01\_SusanaMarlonMarl, Unidad2, Unidad3, and a folder for Unidad3 containing Source Packages and <default package>. The <default package> folder contains Main.java and VentanaBasica.java.
- Output Bar:** Shows Output - Unidad3 (run) with 239.6/352.0MB free.
- Code Editor:** Displays the Main.java file with the following code:

```
1  /**
2  * Ejecuta la ventana en un método main
3  * @author Marlon Rojas Galindo
4  * @author marlonrojasuniversity@gmail.com
5  * @version 1.0
6  * @since 2025
7  */
8  public class Main {
9      public static void main(String[] args) {
10         new VentanaBasica();
11     }
12 }
```
- Navigator (Navigator X):** Shows the members of the Main class: Main() and main(String[] args).
- Bottom Bar:** Check Regular Expression, 6:15, INS Windows (CRLF).







The screenshot shows a Java development environment with the following interface elements:

- Top Bar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, Unid..., Search (Ctrl+I).
- Toolbar:** Includes icons for file operations like Open, Save, Print, and others.
- Project Explorer (Projects X):** Shows a tree view of projects: Hornet, Practica, Repaso, U1EJERGUISA01\_SusanaMarlonMar, Unidad2, and Unidad3. Unidad3 is expanded to show Source Packages, <default package>, Main.java, and VentanaBasica.java.
- Output:** Output - Unidad3 (run) showing VentanaBasica.java and Main.java.
- Code Editor:** Displays the source code for VentanaBasica.java. The code creates a JFrame, sets its size and default close operation, centers it, and adds a JPanel with various components (JLabel, JTextField, JButton). The JButton's text is currently set to "Aceptar".
- Navigator:** Shows members of the VentanaBasica class, including the constructor VentanaBasica().
- Bottom Status Bar:** Check Regular Expression, Unidad3 (run), running..., 36:34, INS Windows (CRLF).

```
setSize(400, 300);

// Cerrar aplicación al cerrar ventana
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

// Centrar ventana
 setLocationRelativeTo(null);

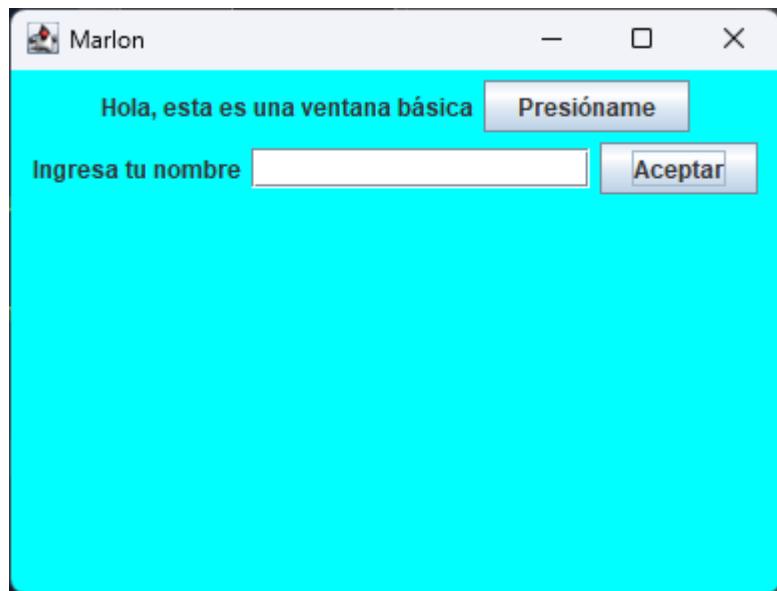
// Panel básico
 JPanel panel = new JPanel();
 panel.setBackground(Color.CYAN);
 JLabel etiqueta = new JLabel("Hola, esta es una v
 JButton boton = new JButton("Presióname");

 JLabel textoNombre = new JLabel("Ingresa tu nombr
 JTextField nombre = new JTextField(15);
 JButton aceptar = new JButton();
 aceptar.setSize(20, 30);
 aceptar.setText("Aceptar");

 panel.add(etiqueta);
 panel.add(boton);
 panel.add(textoNombre);
 panel.add(nombre);
 panel.add(aceptar);

 // Agregar panel a la ventana
 add(panel);

 // Hacer visible
 setVisible(true);
}
```



The screenshot shows a Java development environment with the following interface elements:

- Top Bar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, Unid..., Search (Ctrl+I), Minimize, Maximize, Close.
- Toolbar:** Includes icons for file operations like Open, Save, Print, and others.
- Project Explorer (Projects X):** Shows a tree view of projects: Hornet, Practica, Repaso, U1EJERGUISA01\_SusanaMarlonMar, Unidad2, and Unidad3. Unidad3 is expanded to show Source Packages, <default package>, Main.java, and VentanaBasica.java.
- Output:** Shows "Output - Unidad3 (run) x".
- Code Editor:** Displays the source code for VentanaBasica.java. The code creates a JFrame named "Formulario" with a cyan background and a GridLayout of 4 rows by 2 columns. It includes labels for Nombre, Apellido, and Ciudad, and text fields for each. A JButton named "Aceptar" is also defined.
- Navigator (Navigator X):** Shows the members of the VentanaBasica class, including the constructor VentanaBasica() and the method panel.
- Bottom Bar:** Check Regular Expression, 21:41, INS Windows (CRLF).

```
11  lic class VentanaBasica extends JFrame {  
12      public VentanaBasica() {  
13          setTitle("Formulario");  
14          setSize(400, 250);  
15          setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
16          setLocationRelativeTo(null);  
17  
18          // Panel principal  
19          JPanel panel = new JPanel();  
20          panel.setBackground(Color.CYAN);  
21          panel.setLayout(new GridLayout(4, 2, 10, 10));  
22          // 4 filas (3 campos + botón), 2 columnas, espacio entre filas y columnas  
23  
24          // Labels y campos  
25          JLabel lblNombre = new JLabel("Nombre:");  
26          JTextField txtNombre = new JTextField();  
27  
28          JLabel lblApellido = new JLabel("Apellido:");  
29          JTextField txtApellido = new JTextField();  
30  
31          JLabel lblCiudad = new JLabel("Ciudad de nacimiento:");  
32          JTextField txtCiudad = new JTextField();  
33  
34          JButton btnAceptar = new JButton("Aceptar");  
35  
36          // Agregar elementos al panel  
37          panel.add(lblNombre);  
38          panel.add(txtNombre);  
39  
40          panel.add(lblApellido);  
41          panel.add(txtApellido);  
42  
43          panel.add(lblCiudad);  
44          panel.add(txtCiudad);  
45      }  
}
```

Formulario

Nombre:	<input type="text"/>
Apellido:	<input type="text"/>
Ciudad de nacimiento:	<input type="text"/>
<input type="button" value="Aceptar"/>	

The screenshot shows a Java development environment with the following details:

- Projects View:** Shows several projects including "Hornet", "Practica", "Reposo", "U1EJERGUA01\_SusanaMarlonMari", "Unidad2", and "Unidad3". "Unidad3" is expanded, showing "Source Packages" which contains the package "" with files "Main.java" and "VentanaBasica.java".
- Output View:** Shows the configuration as "".
- File Bar:** Includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, and Unid... menus.
- Toolbar:** Includes standard icons for file operations like Open, Save, and Build.
- Code Editor:** Displays the source code for "VentanaBasica.java". The code initializes a JFrame titled "Formulario Registro" with a cyan background and a GridLayout of 7 columns and 2 rows. It also includes sections for Nombre, Apellido, and Municipio (Guanajuato) fields.
- Navigator View:** Shows the members of the "VentanaBasica" class, including the constructor "VentanaBasica()" and the method "esBisiesto(int anio) : boolean".
- Status Bar:** Shows the current time as 22:39 and the file encoding as Windows (CRLF).

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

/**
 * Ventana básica para aprender
 * @author Marlon Rojas Galindo
 * @contact marlonrojasuniversity@gmail.com
 * @version 1.0
 * @since 2025
 */
public class VentanaBasica extends JFrame {

    public VentanaBasica() {
        setTitle("Formulario Registro");
        setSize(650, 500);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLocationRelativeTo(null);

        JPanel panel = new JPanel();
        panel.setLayout(new GridLayout(7, 2, 10, 10));
        panel.setBackground(Color.CYAN);

        // -----
        // Nombre
        JLabel lblNombre = new JLabel("Nombre:");
        JTextField txtNombre = new JTextField();

        // Apellido
        JLabel lblApellido = new JLabel("Apellido:");
        JTextField txtApellido = new JTextField();

        // Municipio (Guanajuato)
        JLabel lblMunicipio = new JLabel("Municipio:");

        // -----
        // Campos
        panel.add(lblNombre);
        panel.add(txtNombre);
        panel.add(lblApellido);
        panel.add(txtApellido);
        panel.add(lblMunicipio);
    }
}
```

Formulario Registro

Nombre:

Apellido:

Municipio:  
Abasolo

Fecha de nacimiento:  
1 Día Enero Mes 2025 Año

Género:  
 Hombre  Mujer  Otro

Registrar

Formulario Registro

Nombre:	Marlon
Apellido:	Rojas Galindo
Municipio:	Dolores Hidalgo
Fecha de nacimiento:	11 Día Septiembre Mes 2003 Año
Género:	<input checked="" type="radio"/> Hombre <input type="radio"/> Mujer <input type="radio"/> Otro
Registrar	

