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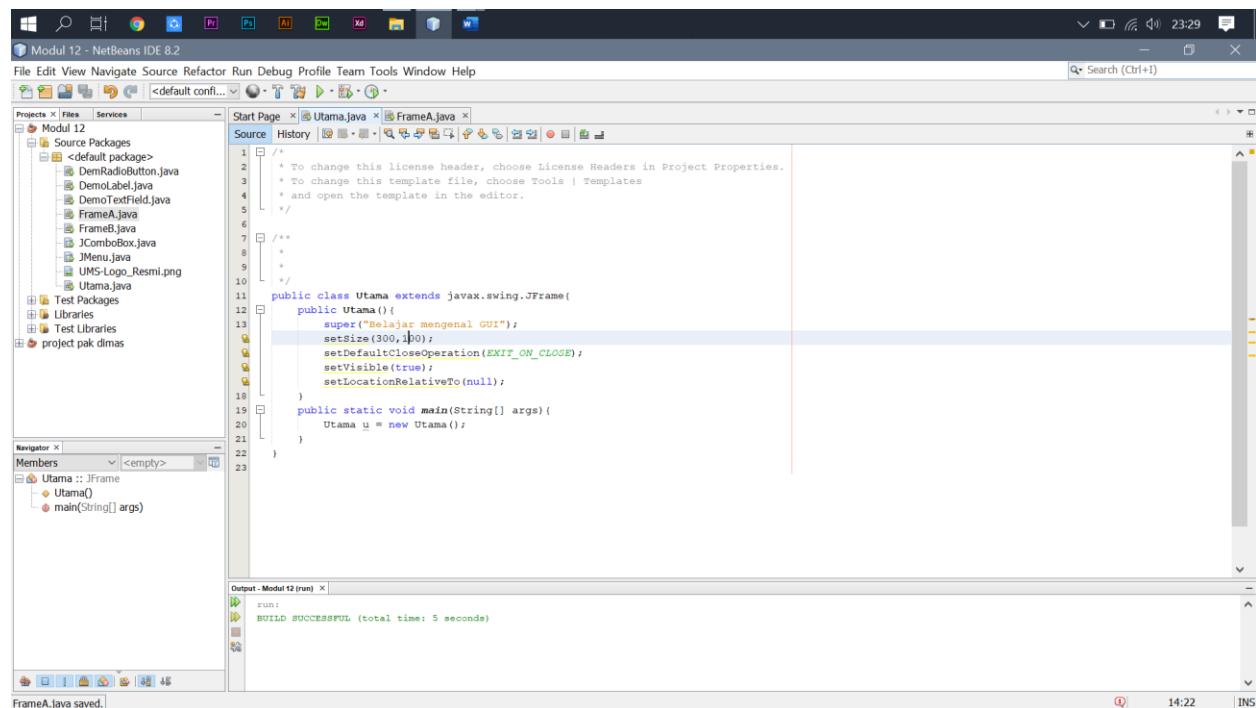
Kelas : B

## MODUL 12 – GRAPHICAL USER INTERFACE (GUI)

Latihan

Frame

Class Utama



The screenshot shows the NetBeans IDE interface with the following details:

- Title Bar:** Modul 12 - NetBeans IDE 8.2
- Menu Bar:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Toolbar:** Standard NetBeans toolbar with icons for file operations.
- Project Explorer:** Shows a single module named "Modul 12" containing several source packages and files, including "Utama.java".
- Code Editor:** Displays the "Utama.java" code, which extends javax.swing.JFrame. The code initializes a frame titled "Belajar mengenal GUI", sets its size to 300x180, and makes it visible.
- Output Window:** Shows the build log: "BUILD SUCCESSFUL (total time: 5 seconds)".
- Status Bar:** Shows the current time as 14:22 and the status "INS".

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package <default package>;
import javax.swing.JFrame;
public class Utama extends javax.swing.JFrame{
    public Utama(){
        super("Belajar mengenal GUI");
        setSize(300,180);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
        setVisible(true);
        setLocationRelativeTo(null);
    }
    public static void main(String[] args){
        Utama u = new Utama();
    }
}
```

Output

```

1 /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6
7 /**
8  *
9  */
10
11 public class Utama extends javax.swing.JFrame{
12     public Utama(){
13         super("Belajar mengenal GUI");
14         setSize(300,100);
15         setDefaultCloseOperation(EXIT_ON_CLOSE);
16         setVisible(true);
17         setLocationRelativeTo(null);
18     }
19     public static void main(String[] args){
20         Utama u = new Utama();
21     }
22 }

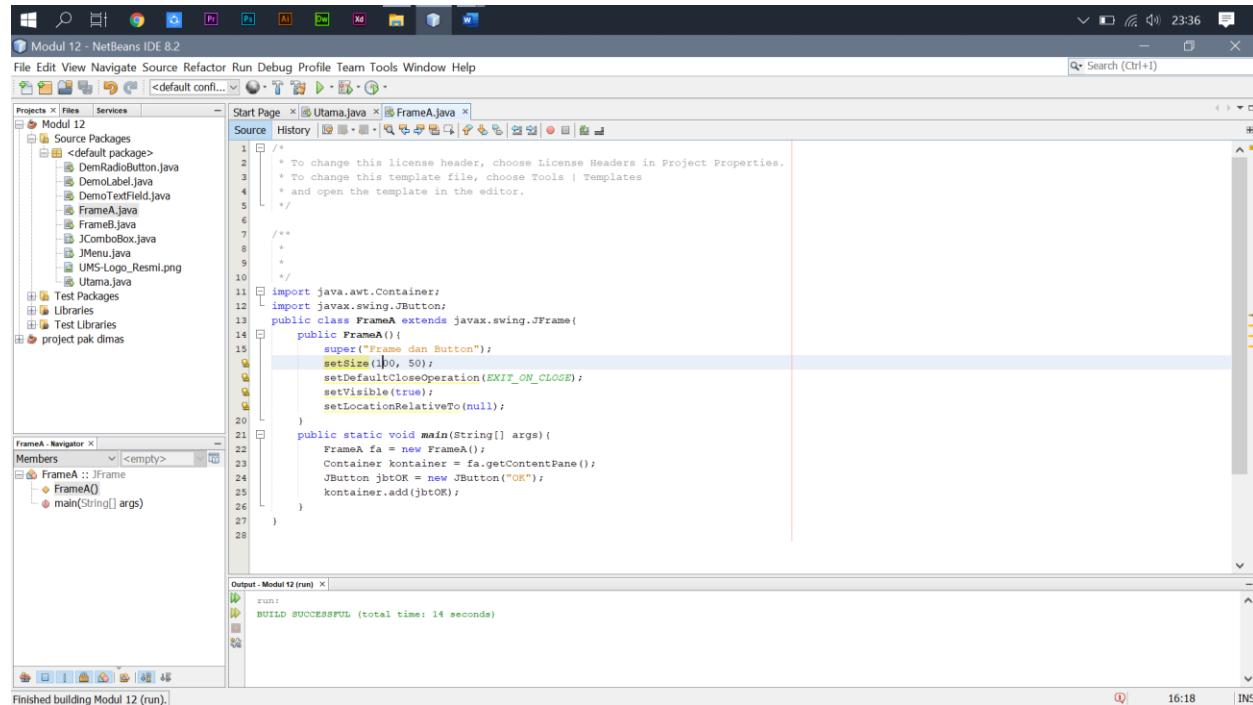
```

Konstruktor	Keterangan
JFrame ()	<ul style="list-style-type: none"> <li>Jendela utama yang digunakan untuk menampilkan komponen yang kita inginkan.</li> <li>Membuat JFrame tanpa judul.</li> </ul>
JFrame (String Judul)	<ul style="list-style-type: none"> <li>Pemberian nama pada jendela utama yang ditampilkan.</li> <li>Membuat JFrame dengan judul.</li> </ul>

Metode	Keterangan
void setSize (int lebar, int tinggi)	Mengatur ukuran frame.
void setLocation (int x, int y)	Mengatur lokasi frame dihitung dari kiri atas.
void setVisible (boolean)	Menentukan JFrame ditampilkan atau tidak.
void setLocationRelativeTo(Component)	Menentukan letak JFrame relative dengan komponen lainnya. Jika diset null, maka JFrame akan ditampilkan di tengah.

## Button

### Class FrameA



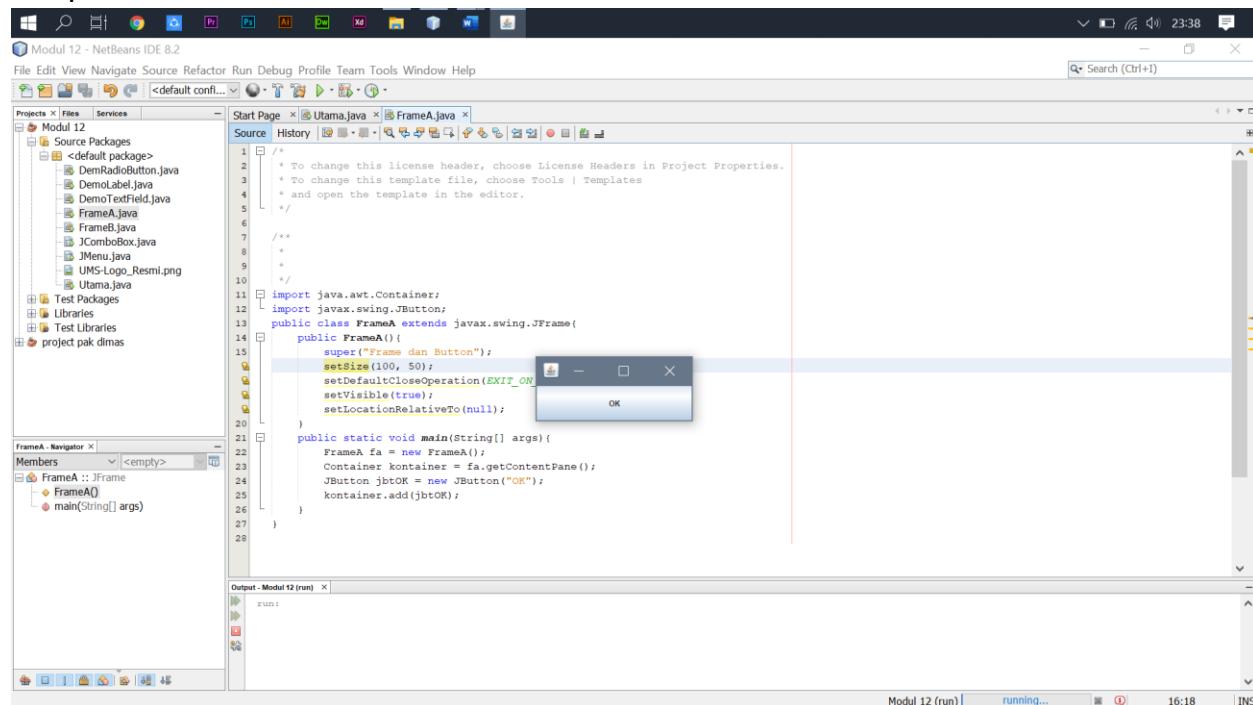
The screenshot shows the NetBeans IDE interface with the following details:

- Toolbar:** Standard NetBeans icons for File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help.
- MenuBar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help.
- Project Explorer:** Shows a project named "Modul 12 - NetBeans IDE 8.2" containing a "Source Packages" folder with files: DemiRadioButton.java, DemoLabel.java, DemoTextField.java, FrameA.java, FrameB.java, JComboBox.java, JMenu.java, and Utama.java. It also contains "Test Packages", "Libraries", and "Test Libraries". A file "UMS-Logo\_Resmi.png" is listed under "project pak dimas".
- Code Editor:** The "FrameA.java" file is open, showing Java code for creating a frame and adding a button. The code is as follows:

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6
7  /**
8  *
9  */
10
11 import java.awt.Container;
12 import javax.swing.JButton;
13 public class FrameA extends javax.swing.JFrame{
14     public FrameA(){
15         super("Frame dan Button");
16         setSize(100, 50);
17         setDefaultCloseOperation(EXIT_ON_CLOSE);
18         setVisible(true);
19         setLocationRelativeTo(null);
20     }
21     public static void main(String[] args){
22         FrameA fa = new FrameA();
23         Container kontainer = fa.getContentPane();
24         JButton jbtOK = new JButton("OK");
25         kontainer.add(jbtOK);
26     }
27 }
28
```

- Output Window:** Shows the build output: "run: BUILD SUCCESSFUL (total time: 14 seconds)".
- Status Bar:** Shows "Finished building Modul 12 (run).", the current time "16:18", and the IDE status "INS".

### Output



Konstruktor	Keterangan
JButton()	Membuat JButton tanpa teks maupun icon.
JButton(String teks)	Membuat JButton dengan teks.
JButton(Icon icon)	Membuat JButton dengan icon.
JButton(String teks, Icon icon)	Membuat JButton dengan teks dan icon.

## Container

### Class FrameB

```

Modul 12 - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Projects Files Services
Modul 12
Source Packages
<default package>
  DemiRadioButton.java
  DemoLabel.java
  DemoTextField.java
  FrameA.java
  FrameB.java
  JComboBox.java
  JMenu.java
  Utama.java
  adidas red shoes.jpg
Test Packages
Libraries
Test Libraries
project pak dimas

main - Navigator x
Members <empty>
FrameB :: JFrame
  -> FrameB()
  main(String[] args)

Output - Modul 12 (run) x
zum:
BUILD SUCCESSFUL (total time: 43 seconds)

```

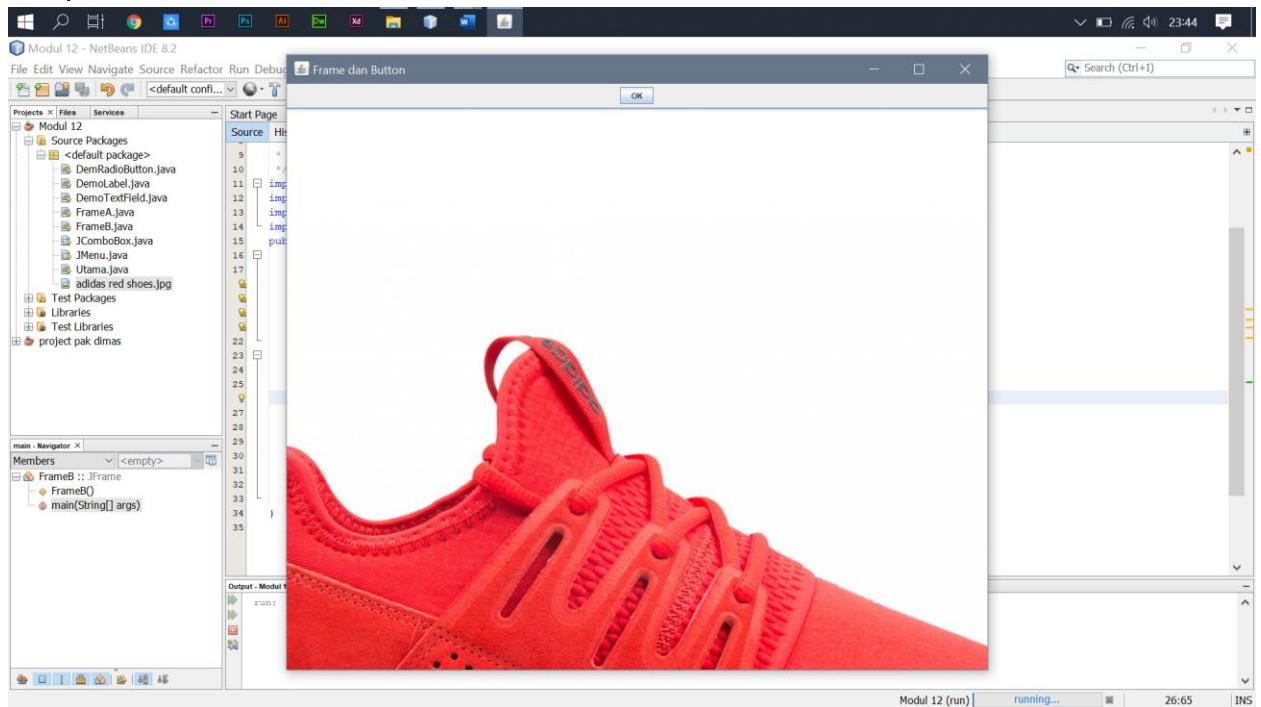
Finished building Modul 12 (run). | 26:65 | INS

```

9  /*
10 */
11 import java.net.URL;
12 import javax.swing.ImageIcon;
13 import javax.swing.JButton;
14 import javax.swing.JPanel;
15 public class FrameB extends javax.swing.JFrame{
16     public FrameB() {
17         super("Frame dan Button");
18         setSize(500, 500);
19         setDefaultCloseOperation(EXIT_ON_CLOSE);
20         setVisible(true);
21         setLocationRelativeTo(null);
22     }
23     public static void main(String[] args){
24         FrameB fb = new FrameB();
25         JPanel panel = new JPanel();
26         URL img = FrameB.class.getResource("adidas red shoes.jpg");
27         JButton jbOK = new JButton("OK");
28         JButton jbImg = new JButton(new ImageIcon(img));
29         panel.add(jbOK);
30         panel.add(jbImg);
31         fb.add(panel);
32         fb.setVisible(true);
33     }
34 }

```

## Output



Konstruktor	Keterangan
JLabel(String teks)	Label dengan teks.
JLabel(String teks, int i)	Label dengan teks dan alignment (perataan). Terdapat tiga jenis alignment, yaitu LEFT, CENTER, dan RIGHT.
JLabel(String teks, Icon ic, int i)	Label dengan teks, icon, dan alignment.

## Label

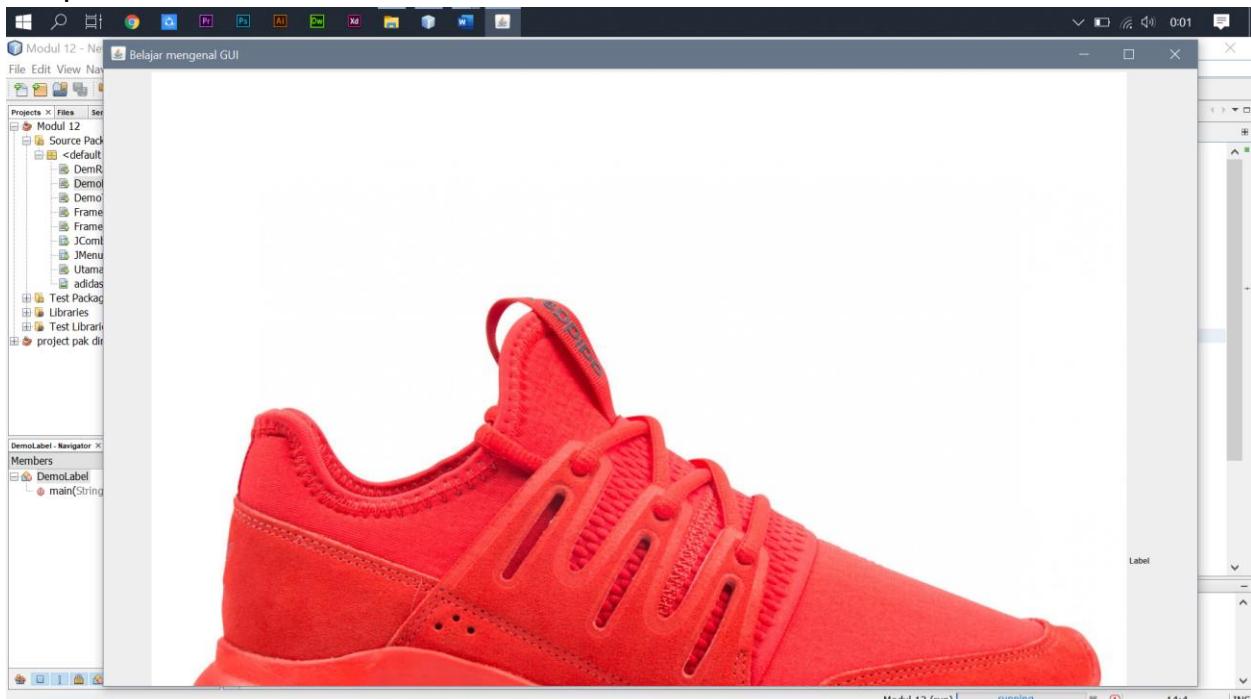
## Class DemoLabel

The screenshot shows the NetBeans IDE interface with the following details:

- File Menu:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Search Bar:** Search (Ctrl+I)
- Projects Tab:** Modul 12
- Source Packages:** <default package> contains DemiRadioButton.java, DemoLabel.java, DemoTextField.java, FrameA.java, FrameB.java, JComboBox.java, JMenu.java, Utama.java, and adidas red shoes.jpg.
- Source Editor:** DemoLabel.java (selected tab) contains the following code:

```
1 import java.net.URL;
2 import javax.swing.ImageIcon;
3 import javax.swing.JLabel;
4 import javax.swing.JPanel;
5 import javax.swing.SwingConstants;
6
7 /**
8 * To change this license header, choose License Headers in Project Properties.
9 * To change this template file, choose Tools | Templates
10 * and open the template in the editor.
11 */
12
13 /**
14 * 
15 * 
16 * 
17 */
18 public class DemoLabel {
19     public static void main(String[] args){
20         Utama u = new Utama();
21         u.setSize(500, 500);
22         URL img = FrameB.class.getResource("adidas red shoes.jpg");
23         ImageIcon ikon = new ImageIcon(img);
24         JLabel label = new JLabel("Label", ikon, SwingConstants.CENTER);
25         JPanel panel = new JPanel();
26         panel.add(label);
27         u.add(panel);
28     }
29 }
```
- Output Tab:** BUILD SUCCESSFUL (total time: 21 seconds)
- Bottom Status Bar:** 25:37

## Output

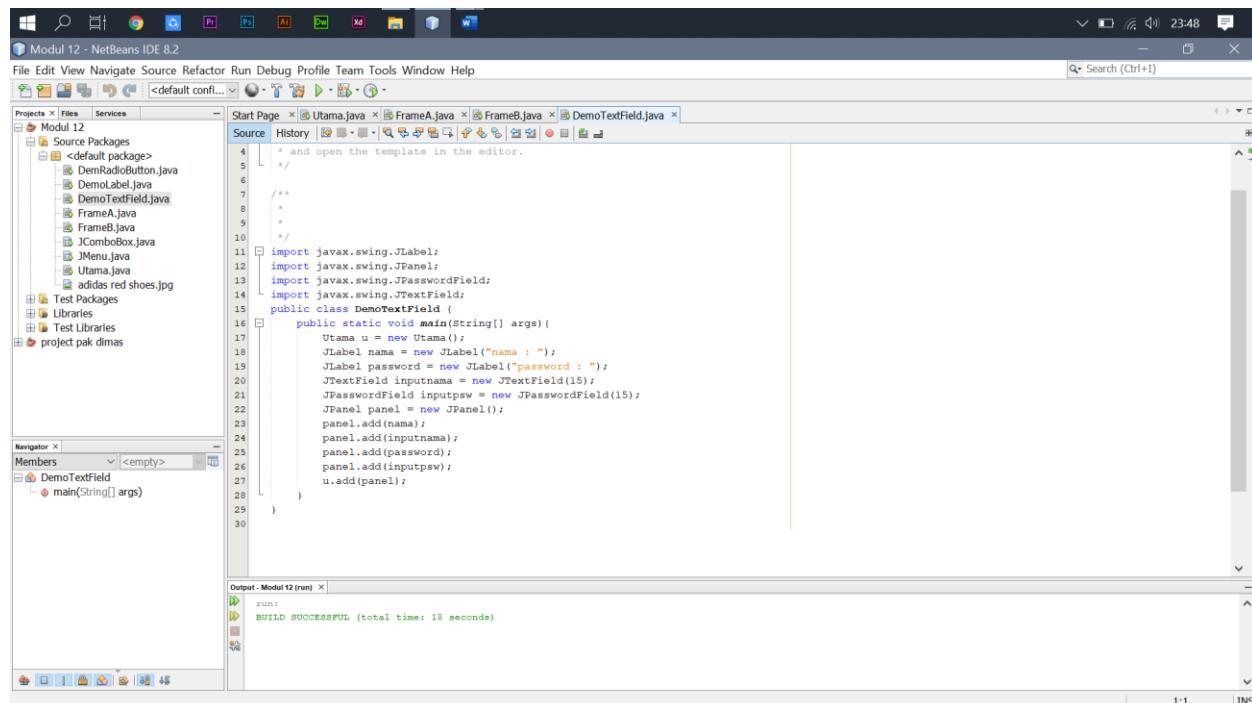


Konstruktor	Keterangan
JLabel(String teks)	Label dengan teks.

<code>JLabel(String teks, int i)</code>	Label dengan teks dan alignment (perataan). Terdapat tiga jenis alignment, yaitu LEFT, CENTER, dan RIGHT.
<code>JLabel(String teks, Icon ic, int i)</code>	Label dengan teks, icon, dan alignment.

## TextField dan Password Field

### Class DemoTextField



The screenshot shows the NetBeans IDE interface with the following details:

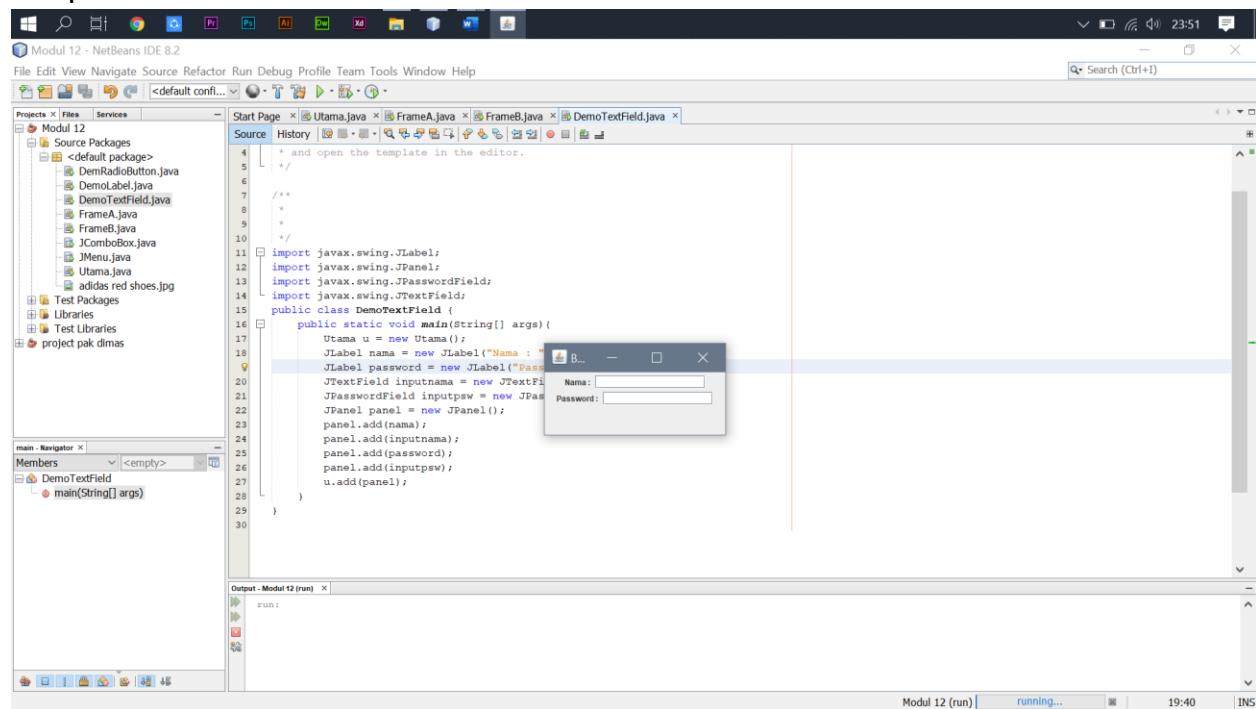
- Title Bar:** Modul 12 - NetBeans IDE 8.2
- Menu Bar:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Toolbar:** Standard NetBeans toolbar icons.
- Project Explorer:** Shows a project named "Modul 12" containing several source packages and files, including Utama.java, FrameA.java, FrameB.java, and DemoTextField.java.
- Code Editor:** The main window displays the code for DemoTextField.java. The code imports javax.swing.JLabel, javax.swing.JPanel, javax.swing.JPasswordField, and javax.swing.JTextField. It defines a public static void main method that creates an Utama object, adds JLabels for name and password, and JTextField and JPasswordField components to a JPanel, which is then added to the Utama frame.
- Output Window:** Shows the build log: "BUILD SUCCESSFUL (total time: 18 seconds)".

```

4  * and open the template in the editor.
5  */
6
7 /**
8 *
9 *
10 */
11 import javax.swing.JLabel;
12 import javax.swing.JPanel;
13 import javax.swing.JPasswordField;
14 import javax.swing.JTextField;
15
16 public class DemoTextField {
17     public static void main(String[] args) {
18         Utama u = new Utama();
19         JLabel nama = new JLabel("nama : ");
20         JLabel password = new JLabel("password : ");
21         JTextField inputnama = new JTextField(15);
22         JPasswordField inputpsw = new JPasswordField(15);
23         JPanel panel = new JPanel();
24         panel.add(nama);
25         panel.add(inputnama);
26         panel.add(password);
27         panel.add(inputpsw);
28         u.add(panel);
29     }
30 }

```

## Output

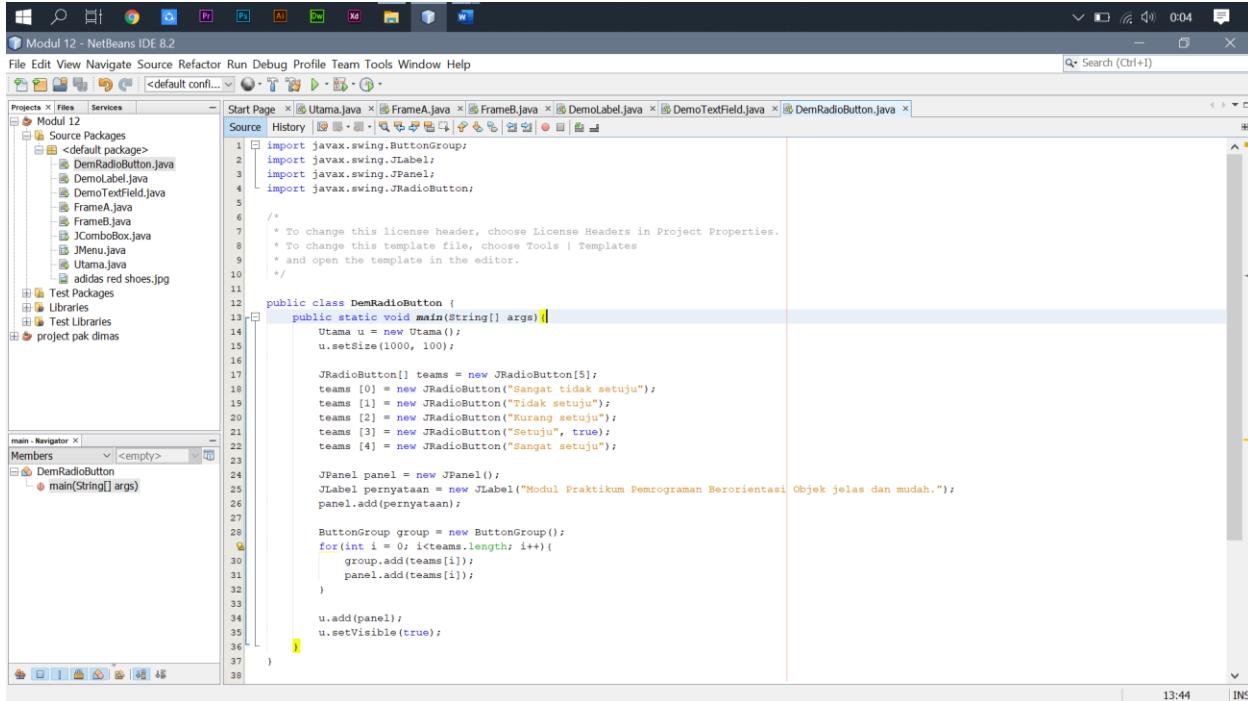


Konstruktor	Penjelasan
<code>JTextField()</code>	Text Field kosong tanpa tulisan.
<code>JTextField(int i)</code>	Text Field dengan panjang yang ditentukan.
<code>JTextField(String i)</code>	Teks Field dengan teks yang sudah ditentukan.
<code>JTextField(String teks, int i)</code>	Teks Field dengan teks dan panjang kolom yang sudah ditentukan

Parameter dalam class JTextField	Penjelasan
<code>String Text</code>	Teks dalam Text Field.
<code>Boolean Editable</code>	Menentukan bisa tidaknya teks dalam Text Field untuk diedit.
<code>Int columns</code>	Jumlah kolom pada Text Field.
<code>Int horizontalAlignment</code>	Perataan horizontal pada Text Field.

## Radio Button dan CheckBox

### Class DemRadioButton



The screenshot shows the NetBeans IDE interface with the title bar "Modul 12 - NetBeans IDE 8.2". The main area displays the Java code for `DemRadioButton.java`. The code creates a window titled "Belajar mengenal GUI" with a label and five radio buttons labeled "Sangat tidak setuju", "Tidak setuju", "Kurang setuju", "Setuju", and "Sangat setuju". The "Setuju" button is selected by default.

```
import javax.swing.ButtonGroup;
import javax.swing.JLabel;
import javax.swing.JPanel;
import javax.swing.JRadioButton;

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

public class DemRadioButton {
    public static void main(String[] args) {
        Utama u = new Utama();
        u.setSize(1000, 100);

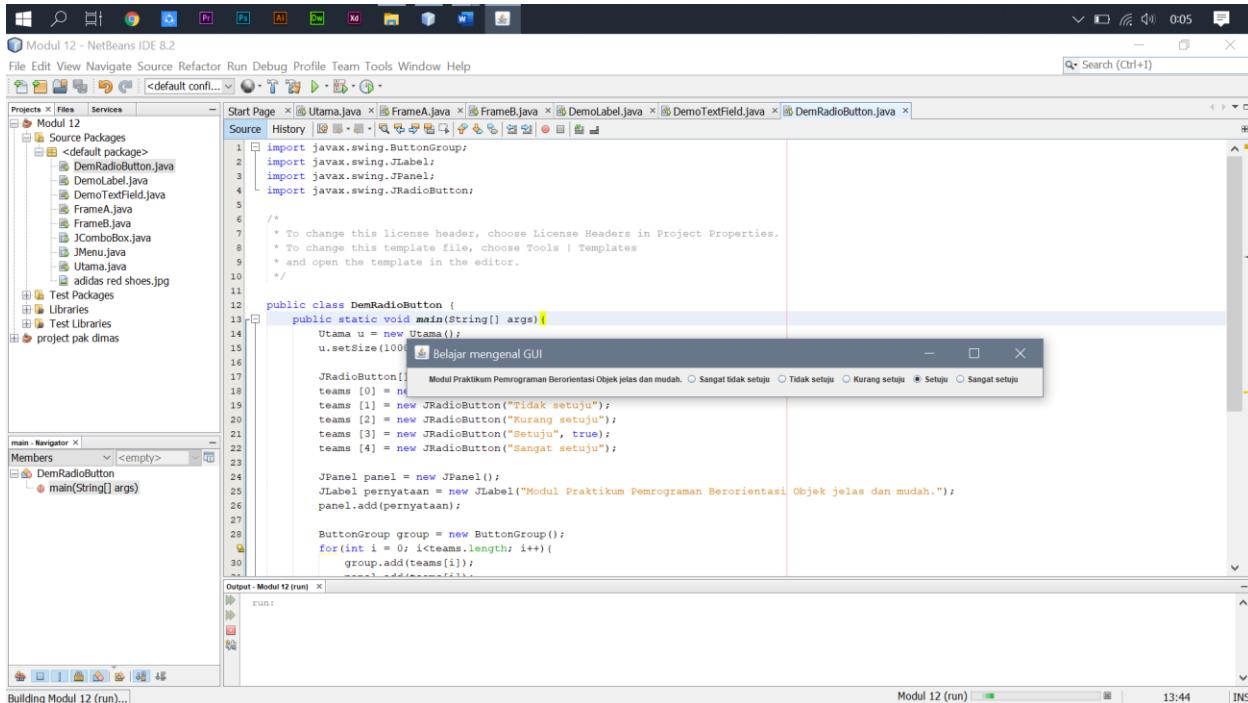
        JRadioButton[] teams = new JRadioButton[5];
        teams [0] = new JRadioButton("Sangat tidak setuju");
        teams [1] = new JRadioButton("Tidak setuju");
        teams [2] = new JRadioButton("Kurang setuju");
        teams [3] = new JRadioButton("Setuju", true);
        teams [4] = new JRadioButton("Sangat setuju");

        JPanel panel = new JPanel();
        JLabel pernyataan = new JLabel("Modul Praktikum Pemrograman Berorientasi Objek jelas dan mudah.");
        panel.add(pernyataan);

        ButtonGroup group = new ButtonGroup();
        for(int i = 0; i<teams.length; i++){
            group.add(teams[i]);
            panel.add(teams[i]);
        }

        u.add(panel);
        u.setVisible(true);
    }
}
```

### Output



The screenshot shows the NetBeans IDE interface with the title bar "Modul 12 - NetBeans IDE 8.2". The main area displays the Java code for `DemRadioButton.java`. The output window shows the application running with the title "Belajar mengenal GUI". The window contains a label "Modul Praktikum Pemrograman Berorientasi Objek jelas dan mudah." and five radio buttons labeled "Sangat tidak setuju", "Tidak setuju", "Kurang setuju", "Setuju", and "Sangat setuju". The "Setuju" button is selected. The status bar at the bottom indicates "Building Modul 12 (run)...".

```
import javax.swing.ButtonGroup;
import javax.swing.JLabel;
import javax.swing.JPanel;
import javax.swing.JRadioButton;

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

public class DemRadioButton {
    public static void main(String[] args) {
        Utama u = new Utama();
        u.setSize(1000, 100);

        JRadioButton[] teams = new JRadioButton[5];
        teams [0] = new JRadioButton("Sangat tidak setuju");
        teams [1] = new JRadioButton("Tidak setuju");
        teams [2] = new JRadioButton("Kurang setuju");
        teams [3] = new JRadioButton("Setuju", true);
        teams [4] = new JRadioButton("Sangat setuju");

        JPanel panel = new JPanel();
        JLabel pernyataan = new JLabel("Modul Praktikum Pemrograman Berorientasi Objek jelas dan mudah.");
        panel.add(pernyataan);

        ButtonGroup group = new ButtonGroup();
        for(int i = 0; i<teams.length; i++){
            group.add(teams[i]);
        }
    }
}
```

Konstruktor	Penjelasan
JCheckBox(String Teks)	Check box dengan teks yang ditentukan.
JCheckBox(String, Boolean)	Check box dengan teks yang ditentukan, jika kondisi pada parameter kedua true, maka Check box ini akan dipilih.
JCheckBox(icon)	Check box dengan gambar icon.
JCheckBox(icon, Boolean)	Check box dengan gambar icon dan terpilih jika true.
JCheckBox(String, Icon)	Check box dengan tulisan dan gambar icon.
JCheckBox(String, Icon, Boolean)	Check box dengan tulisan dan gambar icon, akan dipilih secara default jika kondisi true.

## Tugas

1. Menggunakan class JComboBox untuk membuat program GUI berdasarkan gambar

The screenshot shows the NetBeans IDE interface with the title "Modul 12 - NetBeans IDE 8.2". The menu bar includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help. The toolbar has icons for New Project, Open Project, Save, Build, Run, Stop, and Exit. The left sidebar shows the project structure under "Modul 12" with packages like "com.dimas.pakdimas" containing classes such as DemoRadioButton, DemoLabel, DemoTextField, DemoFrame, FrameB, DemoLabel, DemoText, DemoRadioButton, and JCombobox. It also lists Test Packages, Libraries, and project files like "adidas red shoes.jpg". The main workspace shows the code editor with "JComboBox.java" open. The code defines a JComboBox class that extends javax.swing.JFrame. It includes a constructor that initializes the frame with the title "Tugas 1" and calls initComponents(). The class also contains a method sangat\_tidak\_setuju() that throws an UnsupportedOperationException. The code editor has syntax highlighting and line numbers. The Navigator tool on the left shows the members of the JComboBox class, including its constructor and main method. The status bar at the bottom right indicates "6:1 INS".

Modul 12 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+F)

Projects Files Services

Modul 12

Source Packages <default package>

- DemoRadioButton.java
- DemoLabel.java
- DemoTextField.java
- FrameA.java
- FrameB.java
- JComboBox.java
- JMenu.java
- Utama.java
- adidas red shoes.jpg

Test Packages Libraries Test Libraries project pak dimas

Start Page Utama.java FrameA.java FrameB.java DemoLabel.java DemoTextField.java DemoRadioButton.java JComboBox.java

```

79
80
81
82
83 /**
84 * @param args the command line arguments
85 */
86 public static void main(String args[]) {
87     /* Set the Nimbus look and feel
88      Look and feel setting code (optional)
89
90     /* Create and display the form */
91     java.awt.EventQueue.invokeLater(new Runnable() {
92         public void run() {
93             new JComboBox().setVisible(true);
94         }
95     });
96 }
97
98 // Variables declaration - do not modify
99 private javax.swing.JComboBox<String> jComboBox1;
100 private javax.swing.JLabel jLabel1;
101 private java.awt.Menu menu1;
102 private java.awt.Menu menu2;
103 private java.awtMenuBar menuBar1;
104 // End of variables declaration
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123

```

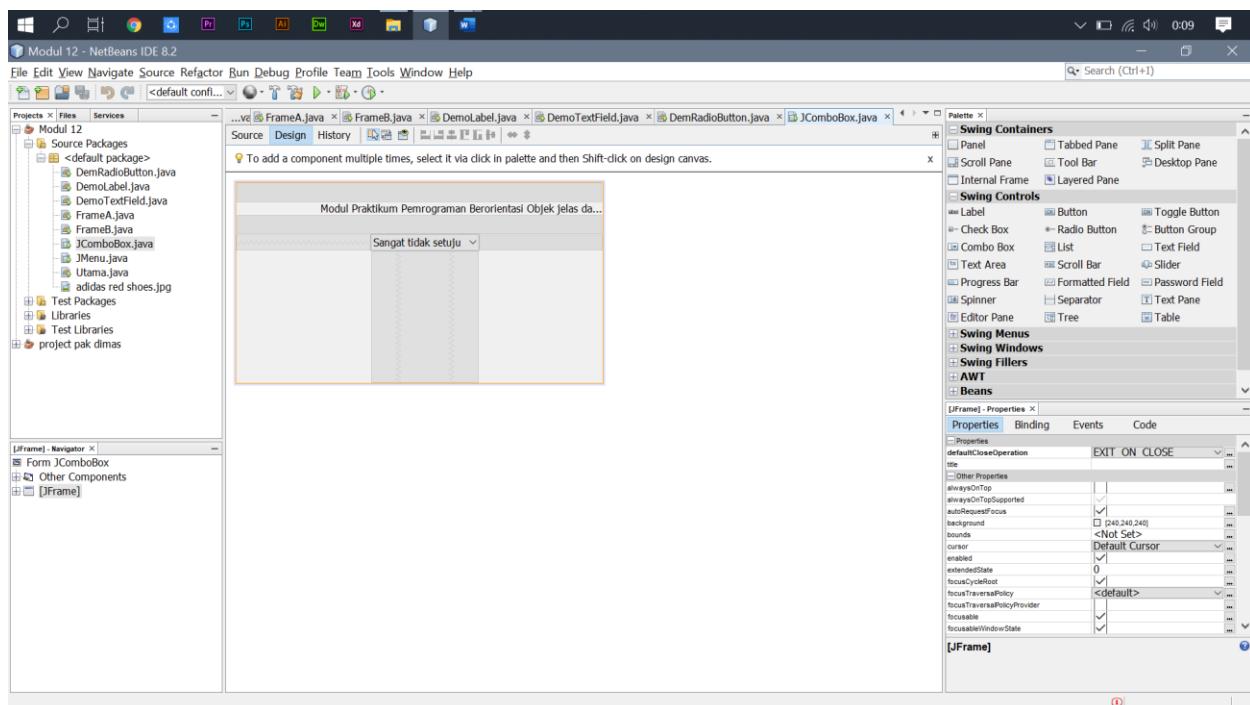
JComboBox - Navigator Members <empty>

Members

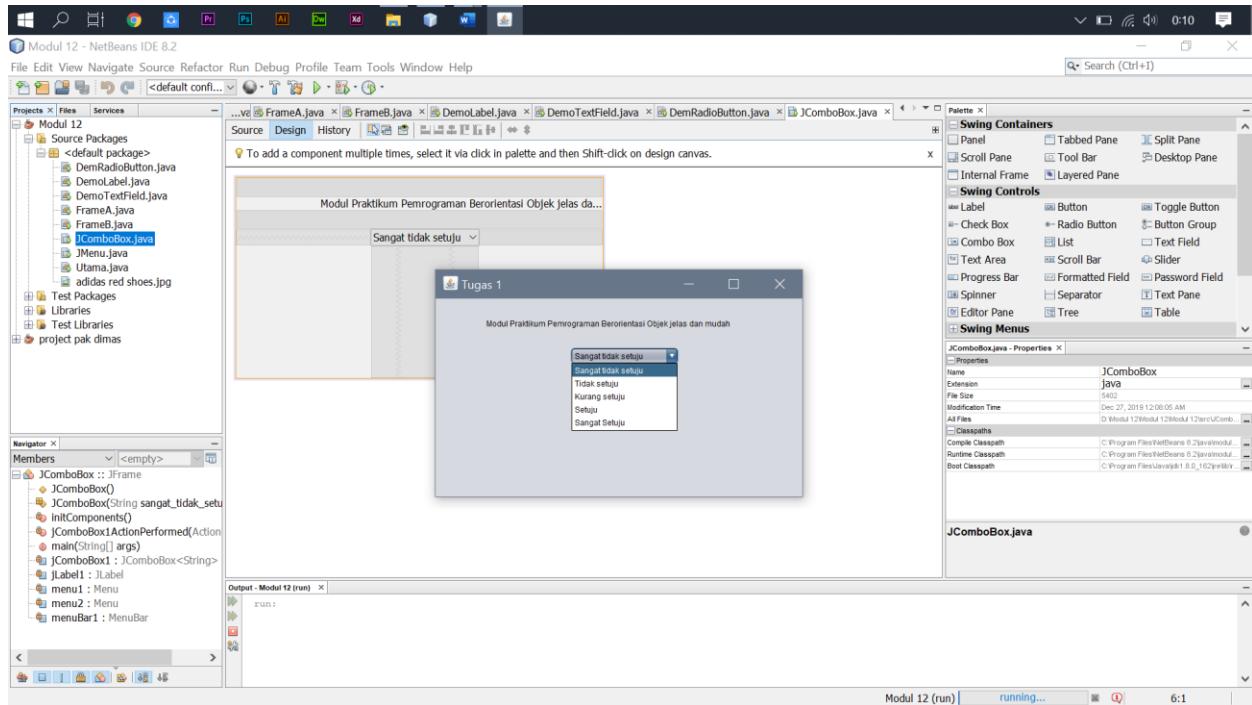
JComboBox :: JFrame

- JComboBox()
- JComboBox<String sangat\_tidak\_Setuju>
- initComponents()
- [ComboBoxActionPerfomed] args
- JComboBox : JComboBox<String>
- JLabel1 : JLabel
- menu1 : Menu
- menu2 : Menu
- menuBar1 :MenuBar

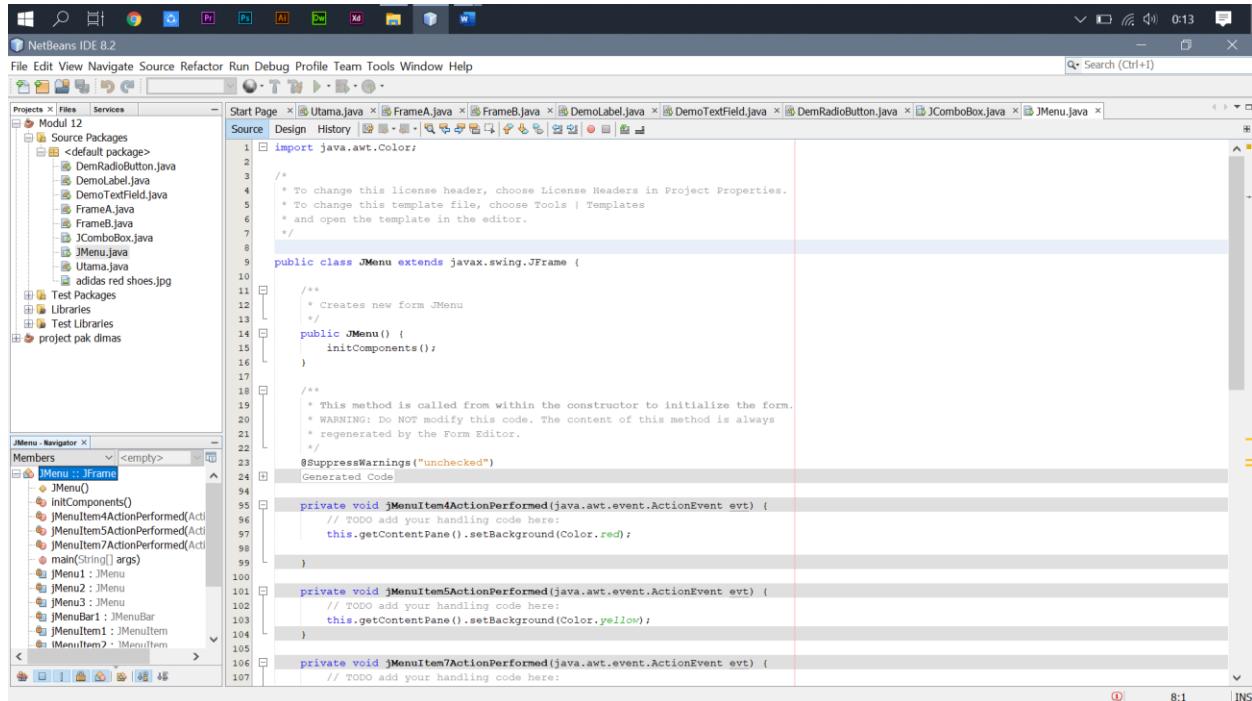
6:1 INS



## Output



2. Membuat program GUI untuk menambah menu. Apabila salah satu menu dipilih maka akan mengubah warna background



Modul 12 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+F)

Projects Files Services

Modul 12

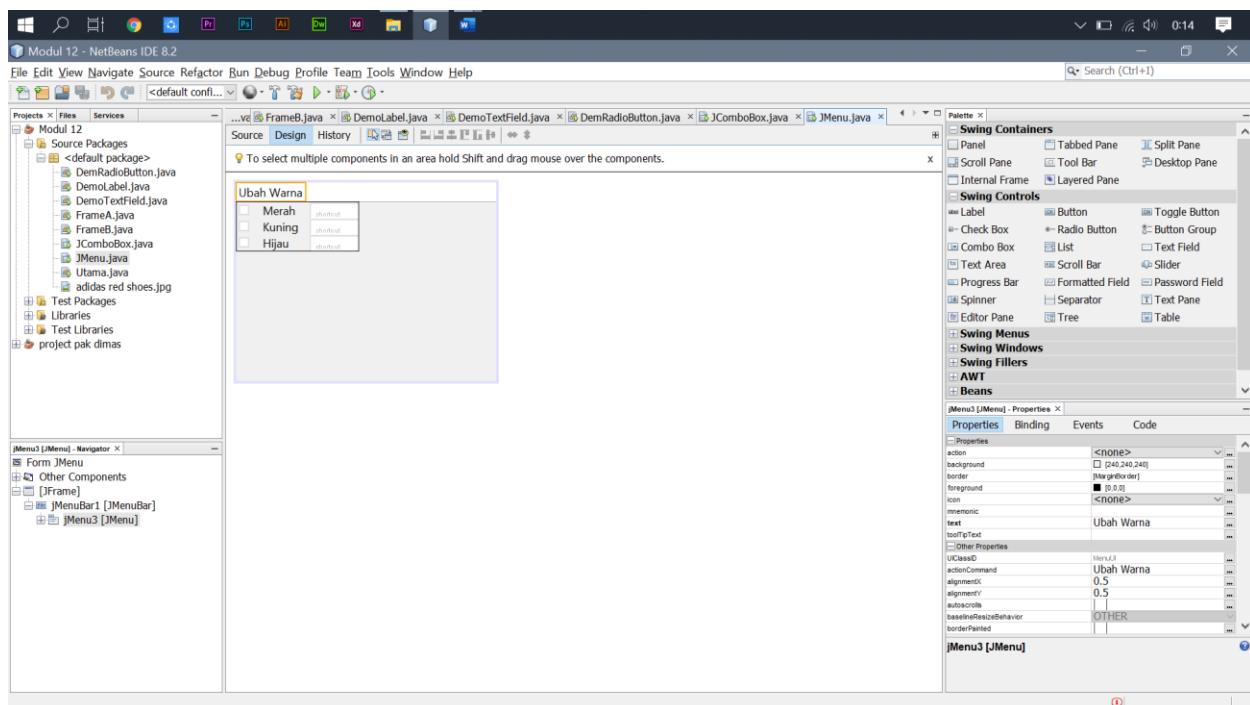
- Source Packages
  - <default package>
    - DemiRadioButton.java
    - DemoLabel.java
    - DemoTextField.java
    - FrameA.java
    - FrameB.java
    - JComboBox.java
    - JMenu.java
    - Utama.java
    - adidas red shoes.jpg
- Test Packages
- Libraries
- Test Libraries
- project pak dimas

JMenu - Navigator

Members <empty>

107     // TODO add your handling code here:  
108     this.getContentPane().setBackground(Color.green);  
109 }  
110  
111 /\*\*  
112 \* @param args the command line arguments  
113 \*/  
114 public static void main(String args[]) {  
115     /\* Set the Nimbus look and feel \*/  
116     Look and feel setting code (optional)  
117  
118     /\* Create and display the form \*/  
119     java.awt.EventQueue.invokeLater(new Runnable() {  
120         public void run() {  
121             new JMenu().setVisible(true);  
122         }  
123     });  
124  
125     // Variables declaration - do not modify  
126     private javax.swing.JMenuBar jMenuBar1;  
127     private javax.swing.JMenu jMenu1;  
128     private javax.swing.JMenu jMenu2;  
129     private javax.swing.JMenuBar jMenuBar3;  
130     private javax.swing.JPopupMenu jPopupMenu1;  
131     private javax.swing.JMenuItem jMenuItem1;  
132     private javax.swing.JMenuItem jMenuItem2;  
133     private javax.swing.JMenuItem jMenuItem3;  
134     private javax.swing.JMenuItem jMenuItem4;  
135     private javax.swing.JMenuItem jMenuItem5;  
136     private javax.swing.JMenuItem jMenuItem6;  
137     private javax.swing.JMenuItem jMenuItem7;  
138     // End of variables declaration  
139 }  
140  
141 }  
142  
143 }  
144  
145 }  
146  
147 // Variables declaration - do not modify  
148 private javax.swing.JMenu jMenu1;  
149 private javax.swing.JMenu jMenu2;  
150 private javax.swing.JMenuBar jMenuBar1;  
151 private javax.swing.JMenuItem jMenuItem1;  
152 private javax.swing.JMenuItem jMenuItem2;  
153 private javax.swing.JMenuItem jMenuItem3;  
154 private javax.swing.JMenuItem jMenuItem4;  
155 private javax.swing.JMenuItem jMenuItem5;  
156 private javax.swing.JMenuItem jMenuItem6;  
157 private javax.swing.JMenuItem jMenuItem7;  
158 // End of variables declaration  
159 }  
160  
161 }

8:1 INS



## Output

