

**LAPORAN TUGAS**  
**ALGORITMA PEMOGRAMAN**  
**PEKAN 8 – PEMROGRAMAN GUI OPERATOR ASSIGNMENT**

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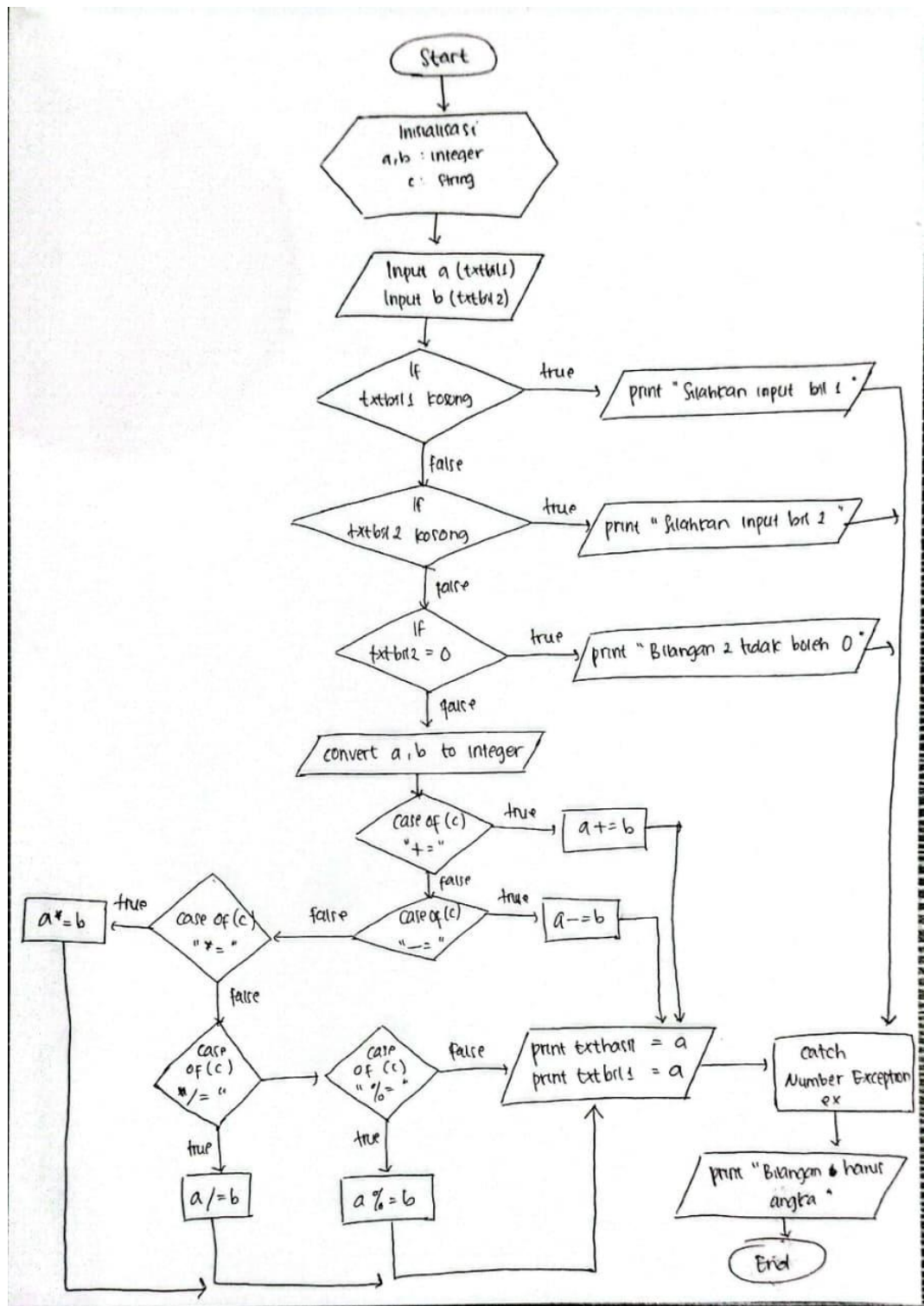
**Soal: Buatlah program GUI dengan menggunakan operator assignment**

- Pseudocode

<b>Judul</b>  Tugas Praktikum Alpro Pekan 8 Operator Assignment GUI
<b>Kamus</b>  Var a, b: Integer; Var c: String;
<b>Pseudocode</b>  <ol style="list-style-type: none"><li>1. Start</li><li>2. Input a←txtbil1</li><li>3. Input b←txtbil2</li><li>4. If txtbil1 isEmpty then</li><li>5.   Print “Silahkan input bilangan 1”</li><li>6. Else if txtbil2 isEmpty then</li><li>7.   Print “Silahkan input bilangan 2”</li><li>8. Else if txtbil2 == 0 then</li><li>9.   Print “Bilangan 2 tidak boleh 0”</li><li>10. Else</li><li>11.   a←convert txtbil1 to integer</li><li>12.   b←convert txtbil2 to integer</li><li>13.   c←comboBox</li><li>14.   Case of (c)</li><li>15.     “+=”: a+=b; break;</li><li>16.     “-=”: a-=b; break;</li><li>17.     “*=”: a*=b; break;</li></ol>

18.    “/=”: a/=b; break;
19.    “%=”: a%=b; break;
20.    End case
21.    Set txthasil←a
22.    Set txtbil1←a
23.    Print pesanError←catch NumberFormatException ex
24. End if
25. End

- Flowchart



- Kode Program

```

1 package pekan8_2511531011;
2
3 import java.awt.EventQueue;
4
5 import javax.swing.JFrame;
6 import javax.swing.JPanel;
7 import javax.swing.border.EmptyBorder;
8 import javax.swing.JLabel;
9 import javax.swing.JOptionPane;
10
11 import java.awt.Font;
12 import javax.swing.JTextField;
13 import javax.swing.JComboBox;
14 import javax.swing.JButton;
15 import javax.swing.DefaultComboBoxModel;
16 import java.awt.event.ActionListener;
17 import java.awt.event.ActionEvent;
18
19 public class tugasAlproPekan8 extends JFrame {
20
21     private static final long serialVersionUID = 1L;
22     private JPanel contentPane;
23     private JTextField txtbill;
24     private JTextField txtbil2;
25     private JTextField txthasil;
26
27     private void pesanPeringatan(String pesan) {
28         JOptionPane.showMessageDialog(this, pesan, "Peringatan", JOptionPane.WARNING_MESSAGE);
29     }
30     private void pesanError(String pesan) {
31         JOptionPane.showMessageDialog(this, pesan, "Kesalahan", JOptionPane.ERROR_MESSAGE);
32     }
33
34     /**
35      * Launch the application.
36      */
37     public static void main(String[] args) {
38         EventQueue.invokeLater(new Runnable() {
39             public void run() {
40                 try {

```

```

40                 try {
41                     tugasAlproPekan8 frame = new tugasAlproPekan8();
42                     frame.setVisible(true);
43                 } catch (Exception e) {
44                     e.printStackTrace();
45                 }
46             }
47         });
48     }
49
50     /**
51      * Create the frame.
52      */
53     public tugasAlproPekan8() {
54         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
55         setBounds(100, 100, 360, 270);
56         contentPane = new JPanel();
57         contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
58         setContentPane(contentPane);
59         contentPane.setLayout(null);
60
61         JLabel lbjudul = new JLabel("OPERATOR ASSIGNMENT");
62         lbjudul.setFont(new Font("Nirmala UI", Font.BOLD, 14));
63         lbjudul.setBounds(86, 11, 169, 25);
64         contentPane.add(lbjudul);
65
66         JLabel bil1 = new JLabel("Bilangan 1");
67         bil1.setFont(new Font("Serif", Font.PLAIN, 13));
68         bil1.setBounds(21, 47, 77, 25);
69         contentPane.add(bil1);
70
71         JLabel bil2 = new JLabel("Bilangan 2");
72         bil2.setFont(new Font("Serif", Font.PLAIN, 13));
73         bil2.setBounds(21, 83, 77, 25);
74         contentPane.add(bil2);
75
76         JLabel operator = new JLabel("Operator");
77         operator.setFont(new Font("Serif", Font.PLAIN, 13));
78         operator.setBounds(21, 133, 77, 25);
79         contentPane.add(operator);

```

```

75
76     JLabel operator = new JLabel("Operator");
77     operator.setFont(new Font("Serif", Font.PLAIN, 13));
78     operator.setBounds(21, 133, 77, 25);
79     contentPane.add(operator);
80
81     JLabel hasil = new JLabel("Hasil");
82     hasil.setFont(new Font("Serif", Font.PLAIN, 13));
83     hasil.setBounds(21, 169, 77, 25);
84     contentPane.add(hasil);
85
86     txtbill1 = new JTextField();
87     txtbill1.setBounds(96, 50, 67, 20);
88     contentPane.add(txtbill1);
89     txtbill1.setColumns(10);
90
91     txtbil2 = new JTextField();
92     txtbil2.setColumns(10);
93     txtbil2.setBounds(96, 86, 67, 20);
94     contentPane.add(txtbil2);
95
96     txthasil = new JTextField();
97     txthasil.setEditable(false);
98     txthasil.setColumns(10);
99     txthasil.setBounds(96, 172, 67, 20);
100    contentPane.add(txthasil);
101
102    JComboBox comboBox = new JComboBox();
103    comboBox.setModel(new DefaultComboBoxModel(new String[] {"+=", "-=", "*=", "/=", "%="}));
104    comboBox.setBounds(96, 135, 67, 22);
105    contentPane.add(comboBox);
106
107    JButton btnNewButton = new JButton("Proses");
108    btnNewButton.addActionListener(new ActionListener() {
109
110        public void actionPerformed(ActionEvent e) {
111            int a;
112            if (txtbill1.getText().trim().isEmpty()) {
113                pesanPeringatan ("Silahkan input bilangan 1");
114            } else if (txtbil2.getText().trim().isEmpty()) {
115                pesanPeringatan ("Silahkan input bilangan 2");
116            } else if (txtbil2.getText().trim().startsWith("0")) {
117                pesanPeringatan ("Bilangan 2 tidak boleh 0");
118            } else {
119                try {
120                    a = Integer.parseInt(txtbill1.getText());
121                    int b = Integer.parseInt(txtbil2.getText());
122                    String c = (String) comboBox.getSelectedItem();
123
124                    switch (c) {
125                        case "+=":
126                            a+=b;
127                            break;
128                        case "-=":
129                            a-=b;
130                            break;
131                        case "*=":
132                            a*=b;
133                            break;
134                        case "/=":
135                            a/=b;
136                            break;
137                        case "%=":
138                            a%=b;
139                            break;
140                    }
141                    txthasil.setText(String.valueOf(a));
142                    txtbill1.setText(String.valueOf(a));
143
144                } catch (NumberFormatException ex) {
145                    pesanError ("Bilangan 1 dan Bilangan 2 harus angka");
146                }
147            }
148        }
149    });
150    btnNewButton.setBounds(182, 135, 89, 23);

```

```

111    int a;
112    if (txtbill1.getText().trim().isEmpty()) {
113        pesanPeringatan ("Silahkan input bilangan 1");
114    } else if (txtbil2.getText().trim().isEmpty()) {
115        pesanPeringatan ("Silahkan input bilangan 2");
116    } else if (txtbil2.getText().trim().startsWith("0")) {
117        pesanPeringatan ("Bilangan 2 tidak boleh 0");
118    } else {
119        try {
120            a = Integer.parseInt(txtbill1.getText());
121            int b = Integer.parseInt(txtbil2.getText());
122            String c = (String) comboBox.getSelectedItem();
123
124            switch (c) {
125                case "+=":
126                    a+=b;
127                    break;
128                case "-=":
129                    a-=b;
130                    break;
131                case "*=":
132                    a*=b;
133                    break;
134                case "/=":
135                    a/=b;
136                    break;
137                case "%=":
138                    a%=b;
139                    break;
140            }
141            txthasil.setText(String.valueOf(a));
142            txtbill1.setText(String.valueOf(a));
143
144        } catch (NumberFormatException ex) {
145            pesanError ("Bilangan 1 dan Bilangan 2 harus angka");
146        }
147    }
148    }
149    });
150    btnNewButton.setBounds(182, 135, 89, 23);

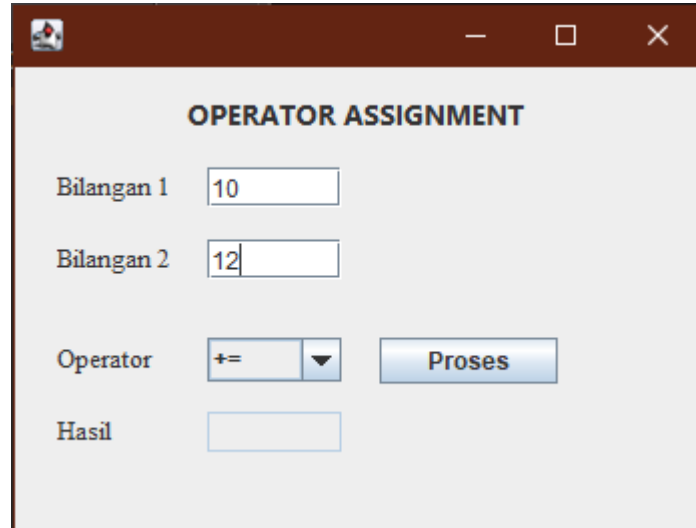
```

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149    });
150    btnNewButton.setBounds(182, 135, 89, 23);
151    contentPane.add(btnNewButton);
152
153    }
154    }
155

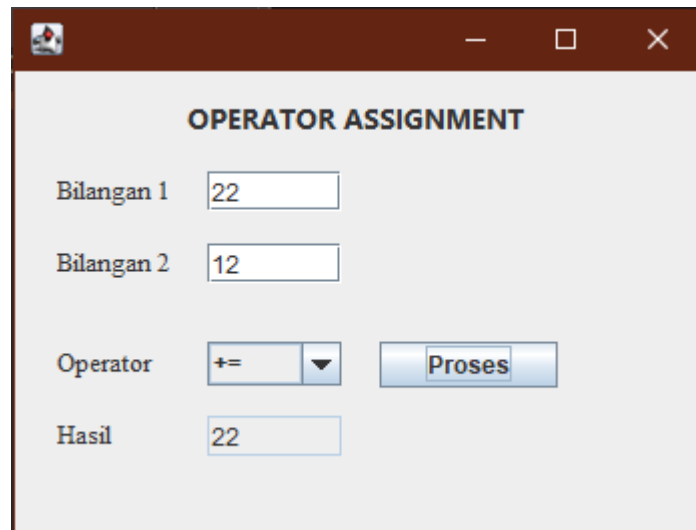
```

- Output
  - a. Output yang benar
    - Masukkan bilangan 1 dan 2 (angka)



The screenshot shows a window titled "OPERATOR ASSIGNMENT". It contains four input fields and a button. The first field, labeled "Bilangan 1", contains the value "10". The second field, labeled "Bilangan 2", contains the value "12". The third field, labeled "Operator", is a dropdown menu showing the value "+=". To the right of the dropdown is a blue button labeled "Proses". Below these fields is a fourth field labeled "Hasil", which is currently empty.

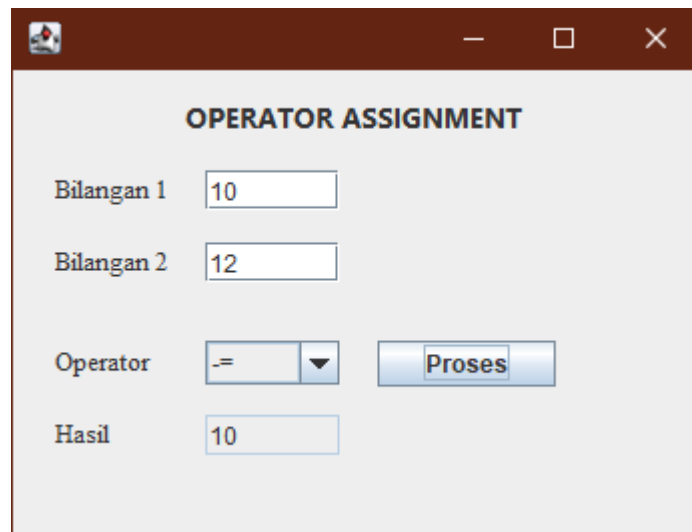
- Setelah memilih operator dan menekan tombol proses:



This screenshot shows the same "OPERATOR ASSIGNMENT" window after the "Proses" button has been clicked. The "Bilangan 1" field still shows "10" and "Bilangan 2" shows "12". The "Operator" dropdown still shows "+=". However, the "Hasil" field now contains the value "22", which is the result of adding 10 and 12.

Nilai a akan selalu berubah ketika kita menekan tombol proses sesuai dengan prinsip dalam operator assignment.

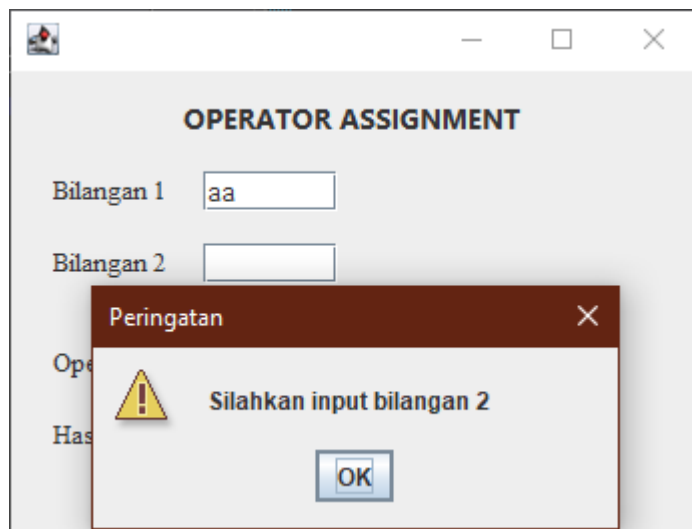
- Melakukan proses kedua:



The screenshot shows a window titled "OPERATOR ASSIGNMENT". It contains four input fields: "Bilangan 1" with the value "10", "Bilangan 2" with the value "12", "Operator" with a dropdown menu showing "=", and "Hasil" with the value "10". A "Proses" button is located to the right of the "Operator" field.

- b. Output ketika salah dalam melakukan input

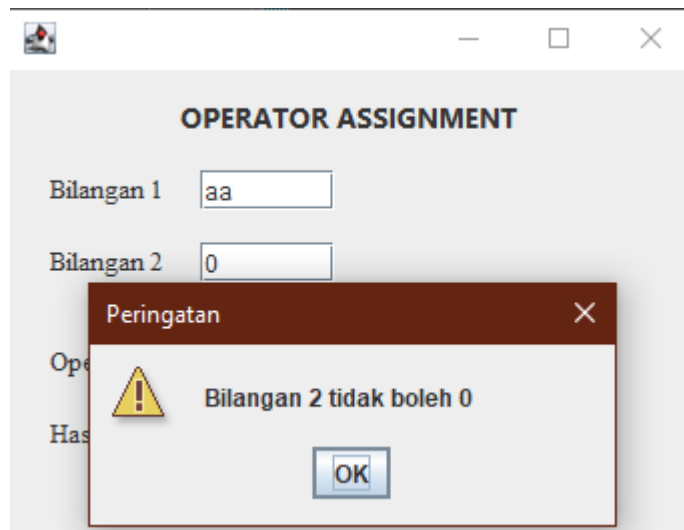
- Ketika bilangan tidak diinputkan



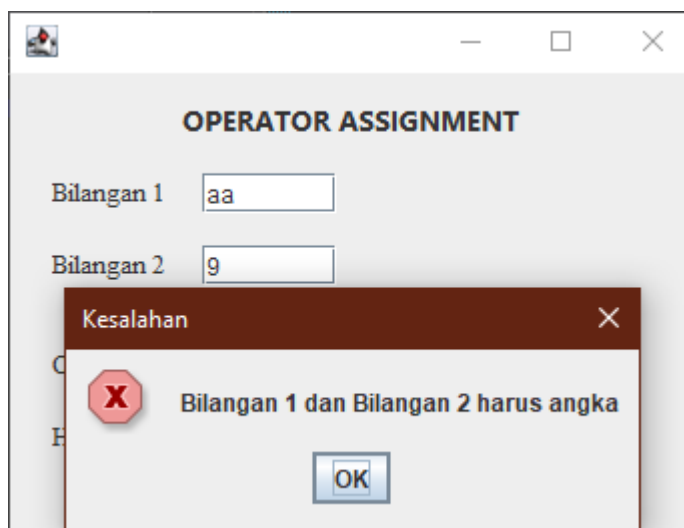
The screenshot shows the "OPERATOR ASSIGNMENT" window with "Bilangan 1" containing the text "aa" and "Bilangan 2" being empty. A modal dialog box titled "Peringatan" (Warning) is displayed in the foreground. It contains a yellow warning triangle icon and the text "Silahkan input bilangan 2" (Please input number 2). An "OK" button is at the bottom of the dialog.



- Ketika bilangan 2 adalah 0



- Ketika salah satu atau kedua bilangan diinputkan selain angka



- Penjelasan singkat program

Pada program ini, nilai dari bilangan 1 akan terus berubah seiring dengan menekan tombol proses. Hal ini terjadi sesuai dengan prinsip operator assignment yang mana nilai a akan terus berubah jika dioperasikan dengan b. Kalkulator operator assignment akan terus bekerja ketika user tidak lagi mengubah nilai dari a di tengah-tengah proses.