LAPORAN TUGAS

ALGORITMA PEMOGRAMAN

PEKAN 8 – PEMROGRAMAN GUI OPERATOR ASSIGNMENT

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Soal: Buatlah program GUI dengan menggunakan operator asssignment

- Pseudocode

Judul

Tugas Praktikum Alpro Pekan 8

Operator Assignment GUI

Kamus

Var a, b: Integer;

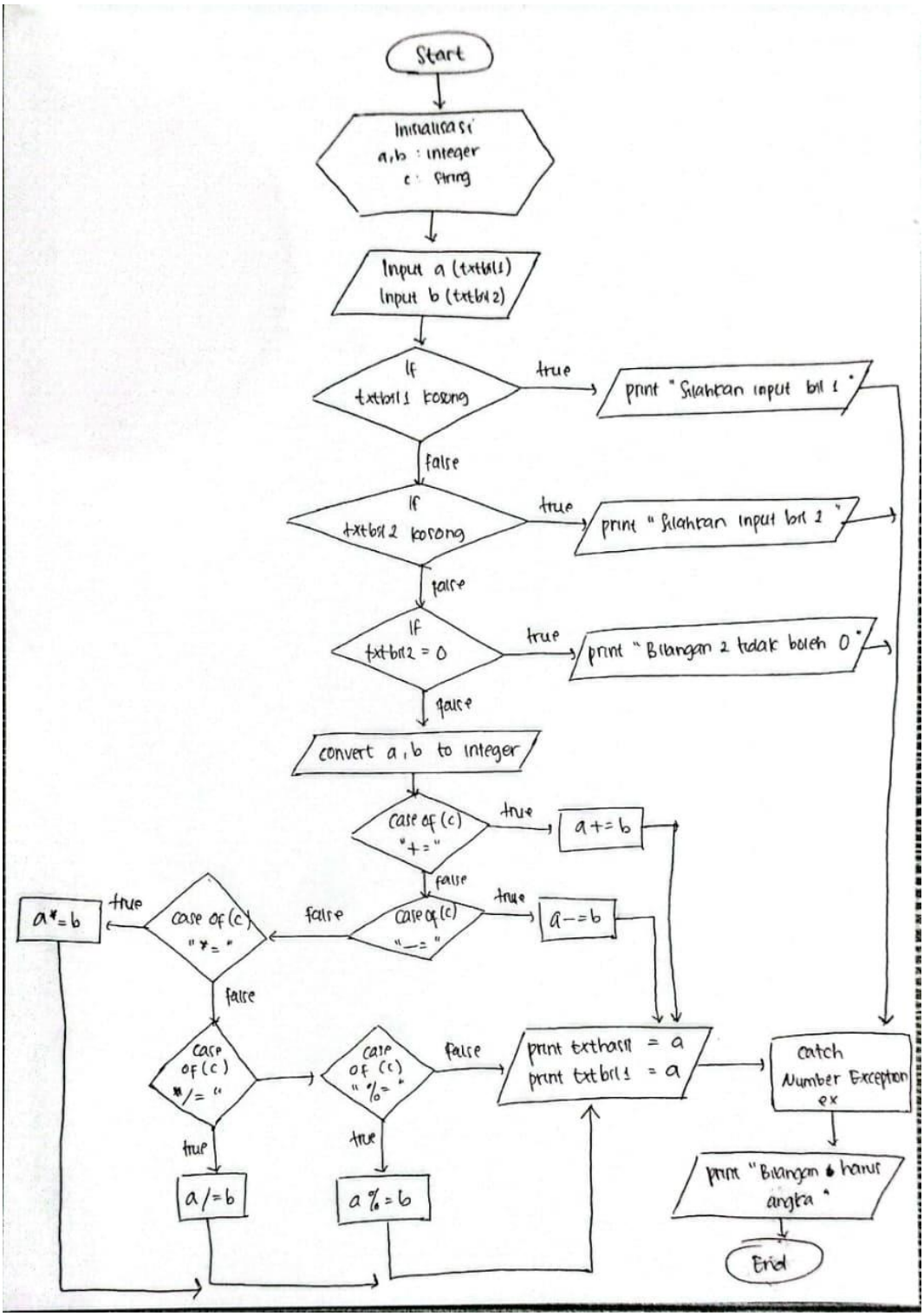
Var c: String;

Pseudocode

1. Start
2. Input a←txtbil1
3. Input b←txtbil2
4. If txtbil1 isEmpty then
5. Print “Silahkan input bilangan 1”
6. Else if txtbil2 isEmpty then
7. Print “Silahkan input bilangan 2”
8. Else if txtbil2 == 0 then
9. Print “Bilangan 2 tidak boleh 0”
10. Else
11. a←convert txtbil1 to integer
12. b←convert txtbil2 to integer
13. c←comboBox
14. Case of (c)
15. “+=”: a+=b; break;
16. “-=”: a-=b; break;
17. “*=”: a*=b; break;

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


Start
Initialisasi
a,b : integer
c : String
Input a (txtbil1)
Input b (txtbil2)
If
txtbil1 kosong
true
print " Silahkan input bil 1 "
false
If
txtbil2 kosong
true
print " Silahkan input bil 2 "
false
If
txtbil2 = 0
true
print " Bilangan 2 tidak boleh 0 "
false
convert a,b to integer
case of (c)
"+="
true
a+=b
false
case of (c)
"-="
true
a-=b
false
case of (c)
"*="
true
a*=b
false
case of (c)
"/="
true
a/=b
false
case of (c)
"%="
true
a%=b
false
print txthasil = a
print txtbil1 = a
catch
Number Exception
ex
print " Bilangan harus
angka "
End

- Kode Program

```java
package pekan8_2511531011;

import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.JLabel;
import javax.swing.JOptionPane;

import java.awt.Font;
import javax.swing.JTextField;
import javax.swing.JComboBox;
import javax.swing.JButton;
import javax.swing.DefaultComboBoxModel;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;

public class tugasAlproPekan8 extends JFrame {

    private static final long serialVersionUID = 1L;
    private JPanel contentPane;
    private JTextField txtbil1;
    private JTextField txtbil2;
    private JTextField txthasil;

    private void pesanPeringatan(String pesan) {
        JOptionPane.showMessageDialog(this, pesan, "Peringatan", JOptionPane.WARNING_MESSAGE);
    }
    private void pesanError(String pesan) {
        JOptionPane.showMessageDialog(this, pesan, "Kesalahan", JOptionPane.ERROR_MESSAGE);
    }

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
```

```java
                try {
                    tugasAlproPekan8 frame = new tugasAlproPekan8();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public tugasAlproPekan8() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setBounds(100, 100, 360, 270);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
        setContentPane(contentPane);
        contentPane.setLayout(null);

        JLabel lbjudul = new JLabel("OPERATOR ASSIGNMENT");
        lbjudul.setFont(new Font("Nirmala UI", Font.BOLD, 14));
        lbjudul.setBounds(86, 11, 169, 25);
        contentPane.add(lbjudul);

        JLabel bil1 = new JLabel("Bilangan 1");
        bil1.setFont(new Font("Serif", Font.PLAIN, 13));
        bil1.setBounds(21, 47, 77, 25);
        contentPane.add(bil1);

        JLabel bil2 = new JLabel("Bilangan 2");
        bil2.setFont(new Font("Serif", Font.PLAIN, 13));
        bil2.setBounds(21, 83, 77, 25);
        contentPane.add(bil2);

        JLabel operator = new JLabel("Operator");
        operator.setFont(new Font("Serif", Font.PLAIN, 13));
        operator.setBounds(21, 133, 77, 25);
        contentPane.add(operator);
```

```
        JLabel operator = new JLabel("Operator");
        operator.setFont(new Font("Serif", Font.PLAIN, 13));
        operator.setBounds(21, 133, 77, 25);
        contentPane.add(operator);

        JLabel hasil = new JLabel("Hasil");
        hasil.setFont(new Font("Serif", Font.PLAIN, 13));
        hasil.setBounds(21, 169, 77, 25);
        contentPane.add(hasil);

        txtbil1 = new JTextField();
        txtbil1.setBounds(96, 50, 67, 20);
        contentPane.add(txtbil1);
        txtbil1.setColumns(10);

        txtbil2 = new JTextField();
        txtbil2.setColumns(10);
        txtbil2.setBounds(96, 86, 67, 20);
        contentPane.add(txtbil2);

        txthasil = new JTextField();
        txthasil.setEditable(false);
        txthasil.setColumns(10);
        txthasil.setBounds(96, 172, 67, 20);
        contentPane.add(txthasil);

        JComboBox comboBox = new JComboBox();
        comboBox.setModel(new DefaultComboBoxModel(new String[] {"+=", "-=", "*=", "/=", "%="}));
        comboBox.setBounds(96, 135, 67, 22);
        contentPane.add(comboBox);

        JButton btnNewButton = new JButton("Proses");
        btnNewButton.addActionListener(new ActionListener() {

            public void actionPerformed(ActionEvent e) {
                int a;
                if (txtbil1.getText().trim().isEmpty()) {
                    pesanPeringatan ("Silahkan input bilangan 1");
                } else if (txtbil2.getText().trim().isEmpty()) {
```

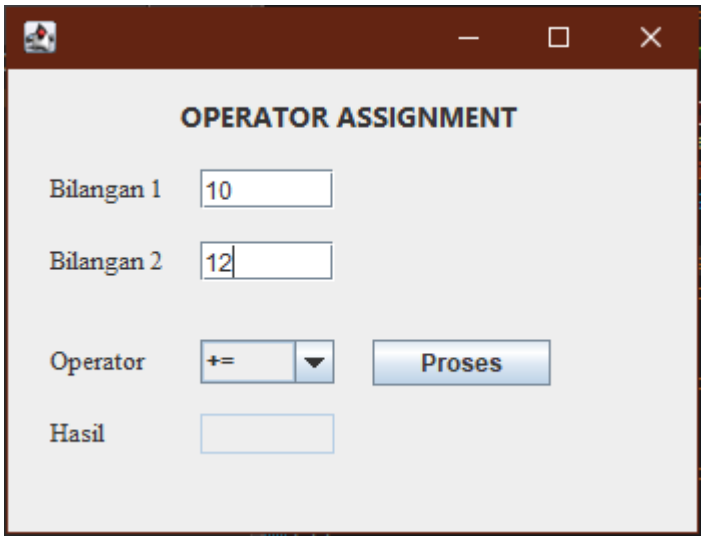
Source Design

```
                int a;
                if (txtbil1.getText().trim().isEmpty()) {
                    pesanPeringatan ("Silahkan input bilangan 1");
                } else if (txtbil2.getText().trim().isEmpty()) {
                    pesanPeringatan ("Silahkan input bilangan 2");
                } else if (txtbil2.getText().trim().startsWith("0")) {
                    pesanPeringatan ("Bilangan 2 tidak boleh 0");
                } else {
                    try {
                        a = Integer.parseInt(txtbil1.getText());
                        int b = Integer.parseInt(txtbil2.getText());
                        String c = (String) comboBox.getSelectedItem();

                        switch (c) {
                        case "+=":
                            a+=b;
                            break;
                        case "-=":
                            a-=b;
                            break;
                        case "*=":
                            a*=b;
                            break;
                        case "/=":
                            a/=b;
                            break;
                        case "%=":
                            a%=b;
                            break;
                        }
                        txthasil.setText(String.valueOf(a));
                        txtbil1.setText(String.valueOf(a));

                    } catch (NumberFormatException ex) {
                        pesanError ("Bilangan 1 dan Bilangan 2 harus angka");
                    }
                }
            }
        });
        btnNewButton.setBounds(182, 135, 89, 23);
```

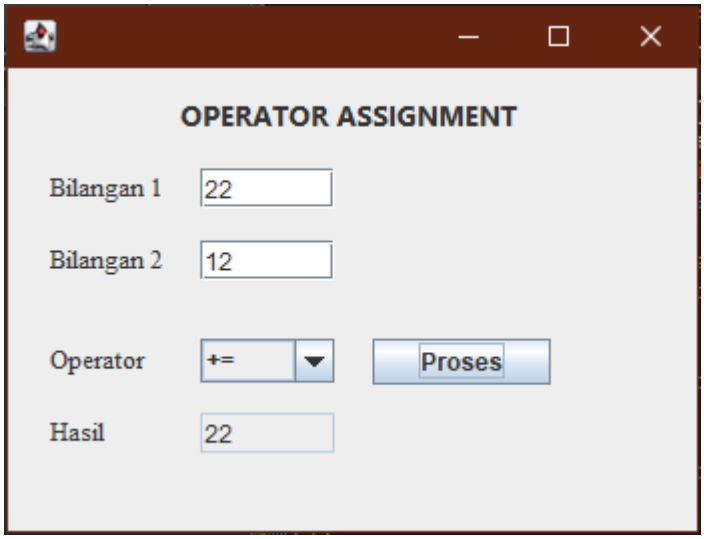
Source Design

```
        });
        btnNewButton.setBounds(182, 135, 89, 23);
        contentPane.add(btnNewButton);

    }
}
```

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

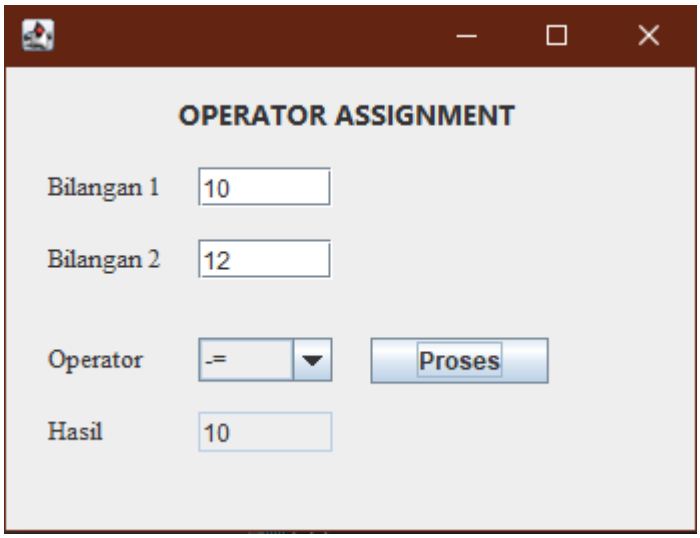


        - Setelah memilih operator dan menekan tombol proses:



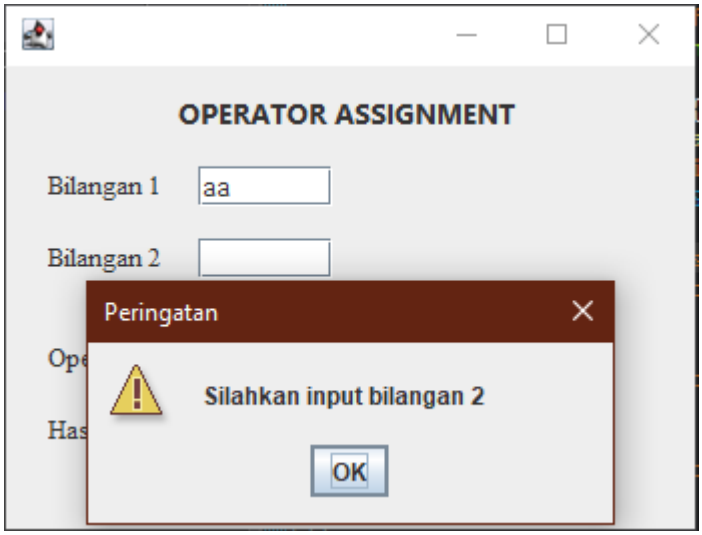
Nilai a akan selalu berubah ketika kita menekan tombol proses sesuai dengan prinsip dalam operator assignment.

- Melakukan proses kedua:

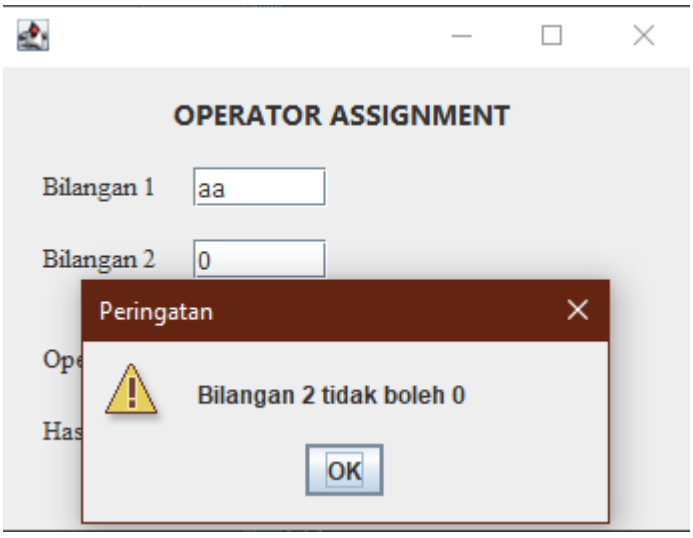


b. Output ketika salah dalam melakukan input

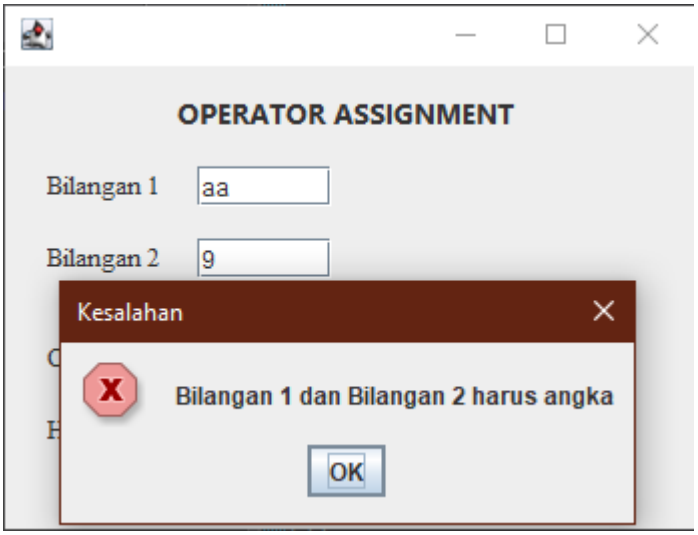
- Ketika bilangan tidak diinputkan



- 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 di operasikan dengan b. Kalkulator operator assignment akan terus bekerja ketika user tidak lagi mengubah nilai dari a di tengah-tengah proses.