LAPORAN TUGAS PEKAN 8

MATA KULIAH ALGORITMA PEMROGRAMAN

DOSEN PENGAMPU:

DR. WAHYUDI S.T M.T

OLEH:

AZ ZAHRAND SOLICHUL TAJUSSALATHIN

NIM 2511532001

FAKULTAS TEKNOLOGI INFORMASI

DEPARTEMEN INFORMATIKA

UNIVERSITAS ANDALAS

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Soal : Program Operator Assignment

Program ini digunakan untuk melakukan operasi *assignment aritmatika* dengan satu input angka. Pengguna memasukkan sebuah nilai bilangan dan memilih jenis operator assignment (+=, -=, *=, /=, %=). Program akan menyimpan hasil sebelumnya dalam variabel hasil, lalu menghitung nilai baru berdasarkan operator yang dipilih. Setiap kali "Proses" ditekan, hasil yang baru akan terus diperbarui dari hasil sebelumnya.

Pseudocode

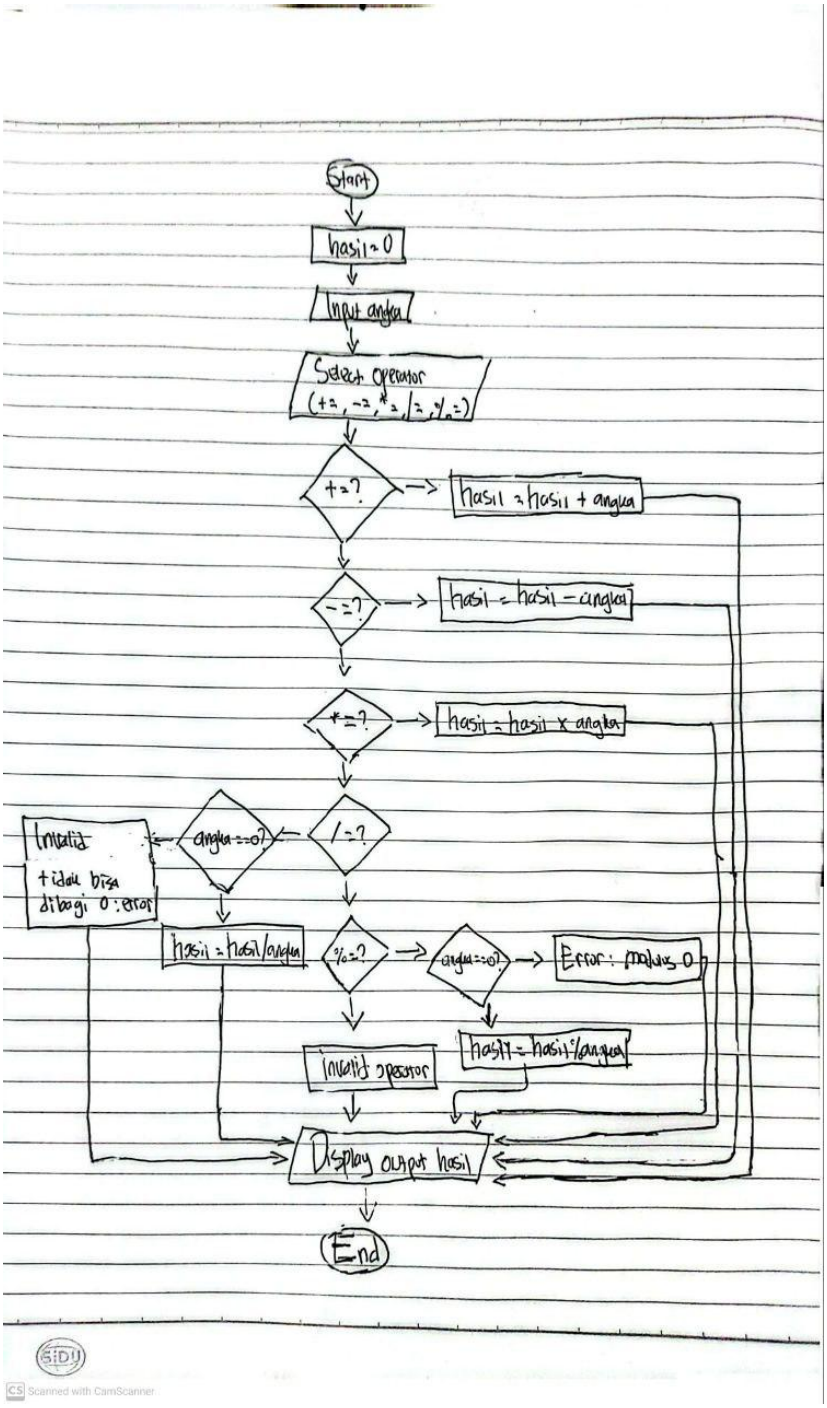
Judul
Program Operator Assignment
{Program melakukan operasi assignment aritmatika (+=, -=, *=, /=, %=)
menggunakan satu input angka dan menyimpan hasil sebelumnya secara berulang.}

Deklarasi
Var nilai : int
Var hasil : int ← 0 (nilai awal penyimpanan)
Var operator : string

Pseudocode
1. hasil ← 0
2. LOOP setiap "Proses" ditekan
3. IF input txtBil1 kosong THEN
4. print peringatan "Angka harus diisi"
5. CONTINUE
6. END IF
7.
8. nilai ← konversi input txtBil1 ke integer
9. operator ← nilai operator dari ComboBox
10.
11. SWITCH(operator)
12. CASE "+=" :
13. hasil ← hasil + nilai
14. CASE "-=" :
15. hasil ← hasil - nilai
16. CASE "*=" :
17. hasil ← hasil × nilai
18. CASE "/=" :
19. IF nilai = 0 THEN
20. tampilkan pesan “Tidak bisa membagi dengan 0”
21. CONTINUE
22. END IF
23. hasil ← hasil ÷ nilai
24. CASE "%=" :
25. IF nilai = 0 THEN
26. tampilkan pesan “Tidak bisa modulus dengan 0”

```
27. CONTINUE
28. END IF
29. hasil ← hasil mod nilai
30. END SWITCH
31.
32. tampilkan hasil pada txtHasil
33. END LOOP
```

Flowchart

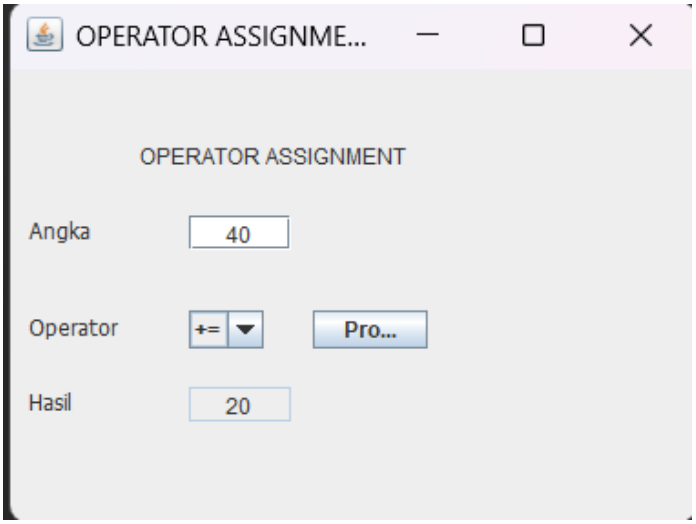


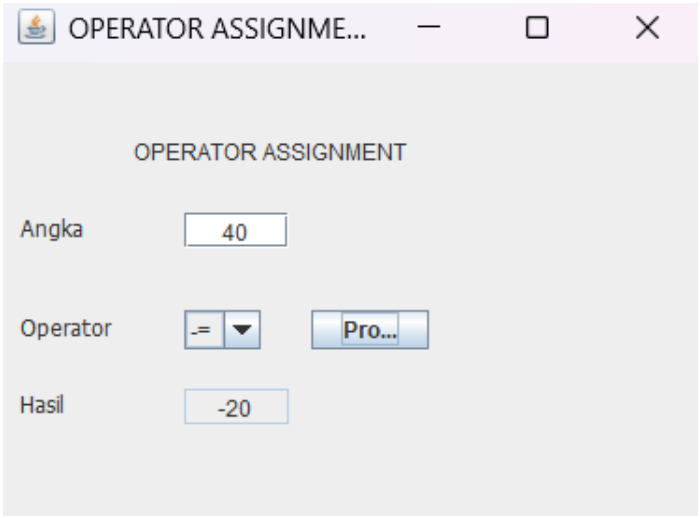
Source Code

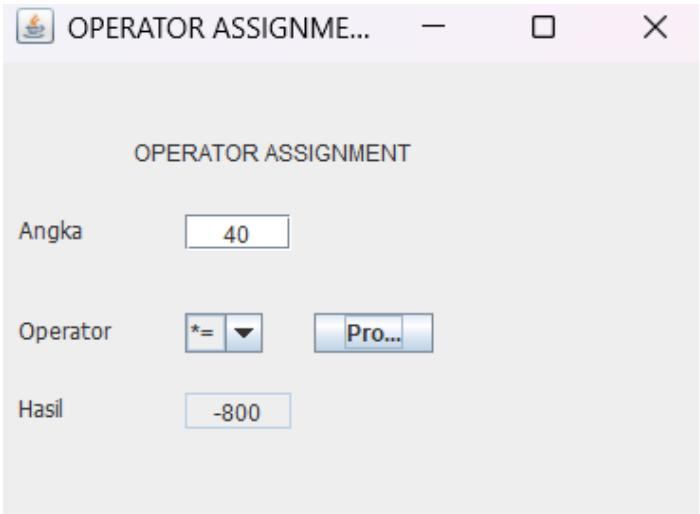
```java
package pekan8_2511532001;

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

public class OperatorAssignmentGUI_2511532001 extends JFrame {
    private static final long serialVersionUID = 1L;
    private JPanel contentPane;
    private JTextField txtBil1;
    private JTextField txtHasil;
    private int hasil=0;



    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 {
                    OperatorAssignmentGUI_2511532001 frame = new OperatorAssignmentGUI_2511532001();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public OperatorAssignmentGUI_2511532001() {
        setTitle("OPERATOR ASSIGNMENT");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setBounds(100, 100, 394, 295);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
        setContentPane(contentPane);
        contentPane.setLayout(null);

        JLabel lblNewLabel = new JLabel("OPERATOR ASSIGNMENT");
        lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
        lblNewLabel.setFont(new Font("Formula1 Display Bold", Font.PLAIN, 12));
        lblNewLabel.setBounds(38, 32, 213, 31);
        contentPane.add(lblNewLabel);

        JLabel lblNewLabel_1 = new JLabel("Angka");
        lblNewLabel_1.setFont(new Font("Tahoma", Font.PLAIN, 12));
        lblNewLabel_1.setBounds(10, 73, 78, 31);
        contentPane.add(lblNewLabel_1);

        JLabel lblNewLabel_1_1_1 = new JLabel("Operator");
        lblNewLabel_1_1_1.setFont(new Font("Tahoma", Font.PLAIN, 12));
        lblNewLabel_1_1_1.setBounds(10, 126, 78, 31);
        contentPane.add(lblNewLabel_1_1_1);

        JLabel lblNewLabel_1_1_1_1 = new JLabel("Hasil");
        lblNewLabel_1_1_1_1.setFont(new Font("Tahoma", Font.PLAIN, 12));
        lblNewLabel_1_1_1_1.setBounds(10, 167, 78, 31);
        contentPane.add(lblNewLabel_1_1_1_1);
```

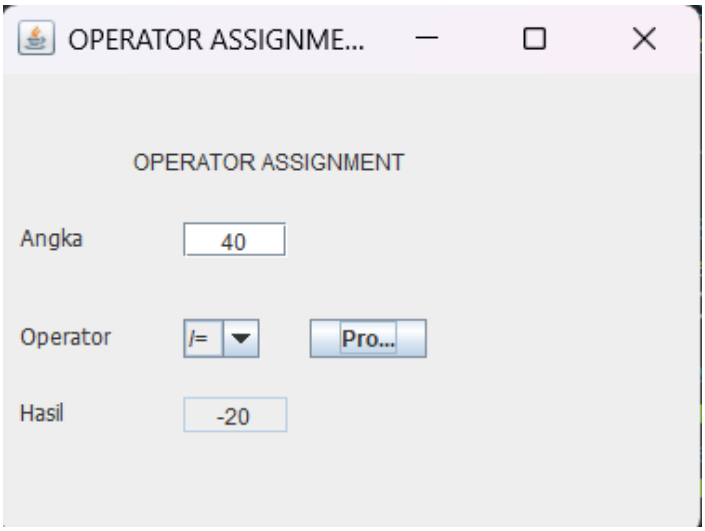
```
84
85          txtBil1 = new JTextField();
86          txtBil1.setHorizontalAlignment(SwingConstants.CENTER);
87          txtBil1.setBounds(98, 80, 56, 19);
88          contentPane.add(txtBil1);
89          txtBil1.setColumns(10);
90
91
92          JComboBox cbOperator = new JComboBox();
93          cbOperator.setModel(new DefaultComboBoxModel(new String[] {"+=", "-=", "*=", "/=", "%="}));
94          cbOperator.setBounds(98, 132, 41, 21);
95          contentPane.add(cbOperator);
96
97          txtHasil = new JTextField();
98          txtHasil.setEditable(false);
99          txtHasil.setHorizontalAlignment(SwingConstants.CENTER);
100         txtHasil.setColumns(10);
101         txtHasil.setBounds(98, 174, 56, 19);
102         contentPane.add(txtHasil);
103
104         JButton btnNewButton = new JButton("Proses");
105         btnNewButton.addActionListener(new ActionListener() {
106             int hasil;
107             public void actionPerformed(ActionEvent e) {
108
109                 if(txtBil1.getText().trim().isEmpty()) pesanPeringatan("Angka harus diisi");
110                 else {
111                     int nilai;
112                     try {
113                         nilai = Integer.parseInt(txtBil1.getText().trim());
114                         int op = cbOperator.getSelectedIndex();
115
116                         switch (op) {
117                         case 0: hasil += nilai; break;
118                         case 1: hasil -= nilai; break;
119                         case 2: hasil *= nilai; break;
120                         case 3:
121                             if (nilai == 0) {
122                                 JOptionPane.showMessageDialog(null, "Tidak bisa membagi dengan 0!");
123                                 return:
124                             }
125                             hasil /= nilai;
126                             break;
127                         case 4:
128                             if (nilai == 0) {
129                                 JOptionPane.showMessageDialog(null, "Tidak bisa modulus dengan 0!");
130                                 return;
131                             }
132                             hasil %= nilai;
133                             break;
134                     }
135                     } catch (NumberFormatException ex) {
136                         pesanError("Input harus berupa angka!");
137                     }
138                 }
139
140
141                 txtHasil.setText(String.valueOf(hasil));
142             }
143         });
144         btnNewButton.setBounds(166, 132, 63, 21);
145         contentPane.add(btnNewButton);
146
147     }
148 }
149
```

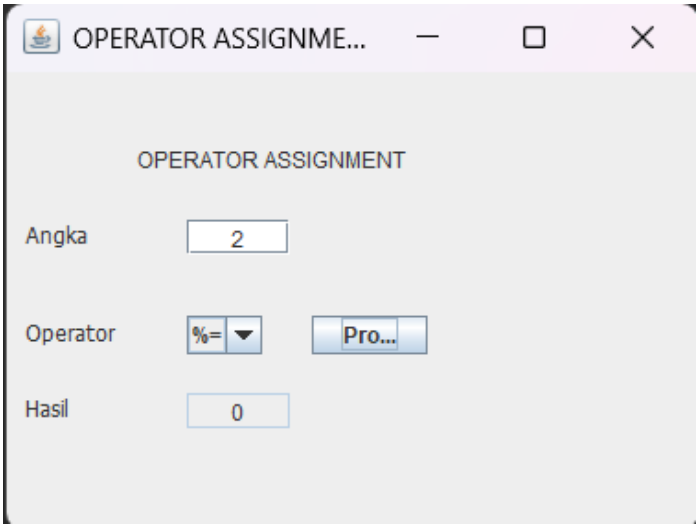
Output (5 Test Case)








OPERATOR ASSIGNME...
OPERATOR ASSIGNMENT
Angka
40
Operator
/=
Pro...
Hasil
-20


OPERATOR ASSIGNME...
OPERATOR ASSIGNMENT
Angka
2
Operator
%=
Pro...
Hasil
0