LAPORAN TUGAS

ALGORITMA DAN PEMOGRAMAN

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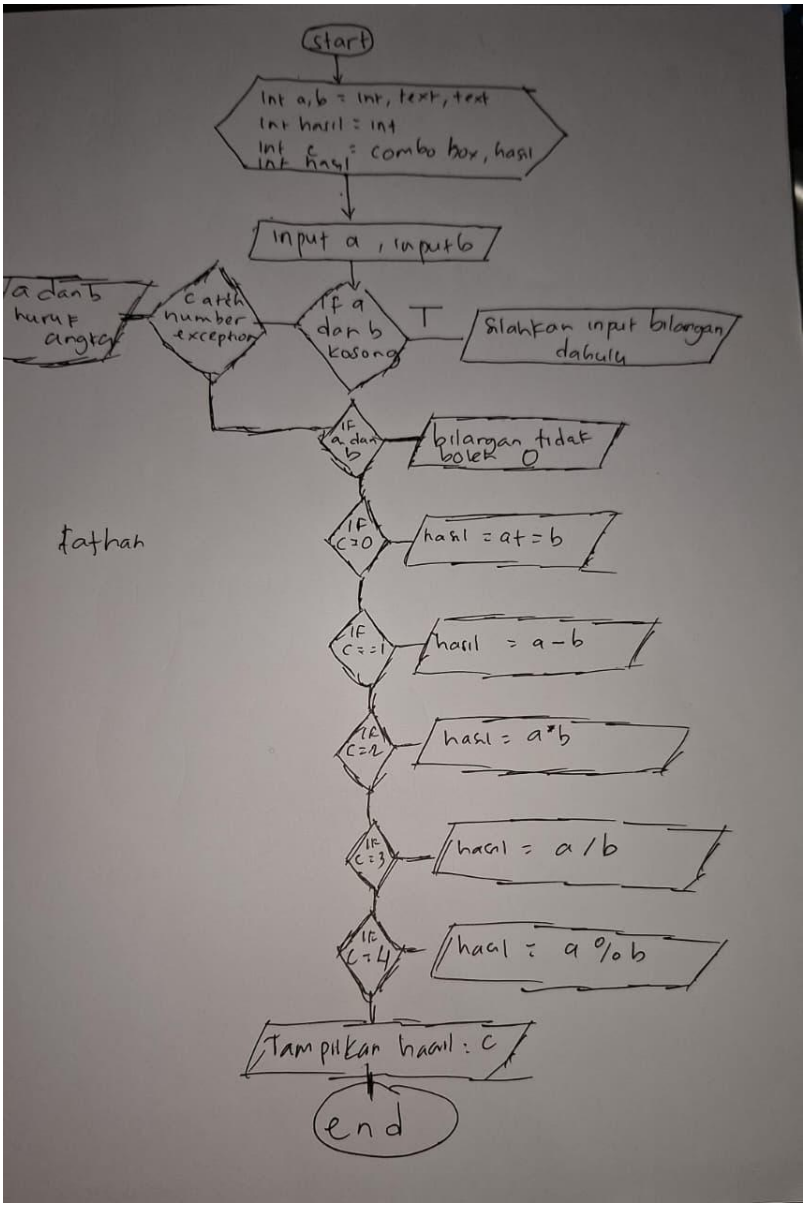
TUGAS PEKAN 8 PRAKTIKUM ALGORITMA DAN PEMOGRAMAN

Buatlah program java dan desain sederhana GUI untuk operator assignment disertai dengan flowchart dan pseudocode untuk kode program bagian logikanya.

JAWABAN

A. Flowchart



B. Pseudocode

Judul

Operator assignment

{Program untuk membuat operator assignment}

Deklarasi

Function OperatorAss (a: integer, b: integer, c: integer) → Integer

PesanPeringatan,PesanError: String; a,b : integer; Hasil : integer;

Input1,Input2 : integer;

Pseucode

1. Inisialisasi a,b,c dan hasil
2. input a dan b
3. if a isempty, then

a. true, silahkan input bilangan dahulu

4. If b isempty, then

a. true, silahkan input bilangan dahulu

5. If catch NumberFormatException

a. a,b harus angka

6. If a=0, then

a. true, bilangan tidak boleh 0

7. If b=0, then

a. true, bilangan tidak boleh 0

8. If c==0, then

a. true hasil= a+=b

9. If c==1, then

a. true hasil= a-=b

10. If c==2, then

a. true hasil= a*=b

11. If c==3, then

a. true hasil= a/=b

12. If c==4, then

a. true hasil= a%=b

13. End if

14. Tampilkan hasil

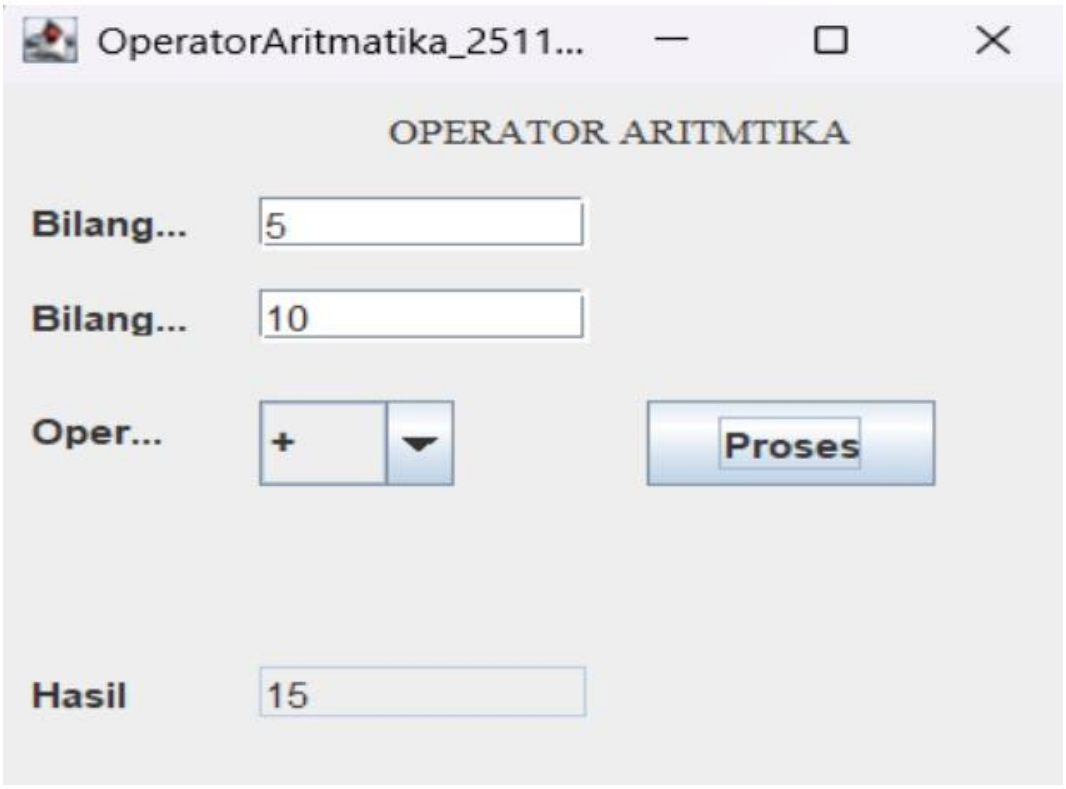
C. Kode Java

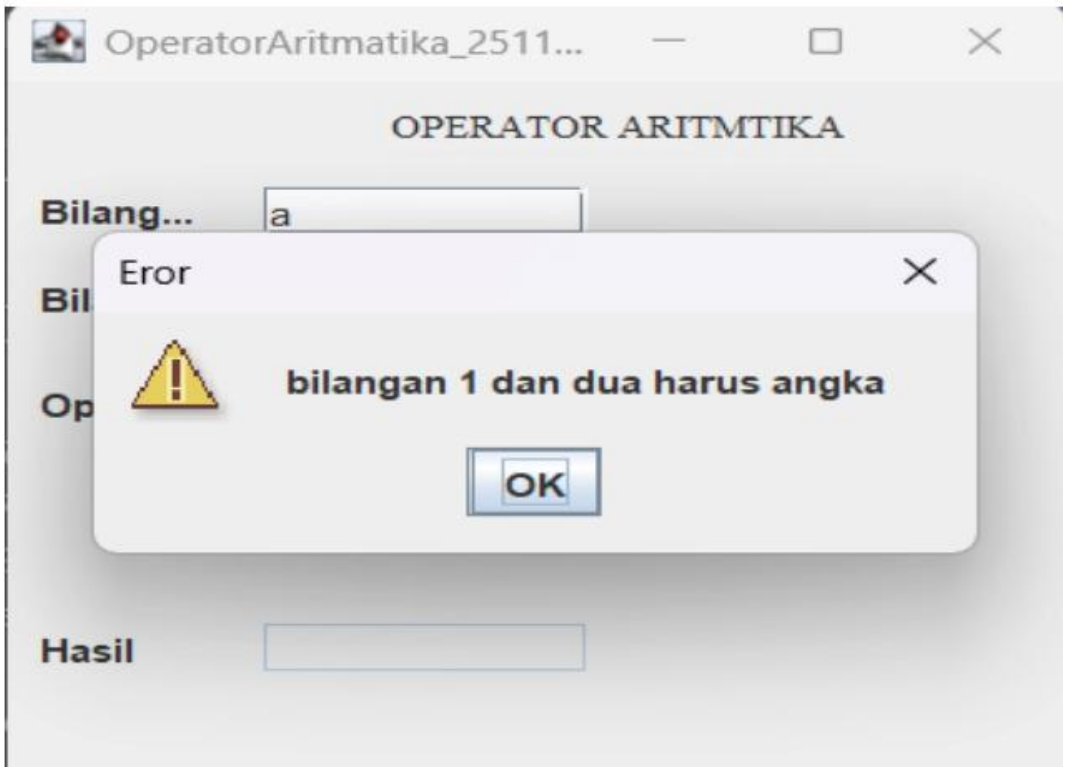
```java
package pekan8_2511533029;

import java.awt.BorderLayout;
import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import java.awt.GridLayout;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.SwingConstants;
import java.awt.Font;
import java.awt.FlowLayout;
import javax.swing.JTextField;
import javax.swing.JButton;
import javax.swing.JComboBox;
import javax.swing.DefaultComboBoxModel;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;

public class OperatorAritmatikaGUI_2511533029 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 pesanEror(String pesan) {
        JOptionPane.showMessageDialog(this, pesan,"Eror",JOptionPane.WARNING_MESSAGE);
```

```java
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.println("=== Registrasi Akun Baru ===");
        System.out.print("Masukkan Username: ");
        String Username = input.nextLine();
        System.out.print("Masukkan Password: ");
        String password = input.nextLine();
        System.out.print("Masukkan Email: ");
        String email = input.nextLine();
        System.out.print("Masukkan PIN (Angka 6 Digit): ");
        int pin = input.nextInt();

        Akun_2511533029 akun= new Akun_2511533029();
        akun.setUsername(Username);
        akun.setPassword(password);
        akun.setEmail(email);
        akun.setPinAngka(pin);

        if (!akun.isEmailValid()) {
            System.out.println("--- REGISTRASI GAGAL ---");
            System.out.println("Email Untuk Akun \""+ Username +"\" Salah. email harus terdapat '@' dan '.'");
            return;
        }
        if (!akun.isPasswordValid()) {
            System.out.println("--- REGISTRASI GAGAL ---");
            System.out.println("PASSWORD MINIMAL TERDAPAT 8 KARAKTER");
            return;
        }
        System.out.println();
        System.out.println("--- Registrasi Berhasil ---");
        System.out.println("Akun untuk \""+ Username +"\" Telah Berhasil dibuat.");
        System.out.println();
        System.out.println("--- Detail Akun ---");
        System.out.println("Username (Lowercase) : " + Username.toLowerCase());
        System.out.println("Email (Uppercase) : " + email.toUpperCase());
        System.out.println("ID Pengguna (Gabungan) : " + Username + pin);
        System.out.println();
        System.out.println("--- Uji Tipe Data (Pin Anda: " + pin + ") ---");
        System.out.println("PIN (int) + 10 = " + (pin + 10));
        System.out.println("PIN (String) + 10 = " + (String.valueOf(pin) + 10));
```

```
69          lblNewLabel_2.setBounds(10, 43, 47, 13);
70          lblNewLabel_2.setVerticalAlignment(SwingConstants.BOTTOM);
71          lblNewLabel_2.setHorizontalAlignment(SwingConstants.CENTER);
72          contentPane.add(lblNewLabel_2);
73
74          JLabel lblNewLabel = new JLabel("OPERATOR ARITMTIKA");
75          lblNewLabel.setBounds(114, 10, 134, 15);
76          lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
77          lblNewLabel.setFont(new Font("Times New Roman", Font.PLAIN, 12));
78          lblNewLabel.setVerticalAlignment(SwingConstants.TOP);
79          contentPane.add(lblNewLabel);
80
81          JLabel lblNewLabel_3 = new JLabel("Operator");
82          lblNewLabel_3.setBounds(10, 114, 41, 13);
83          contentPane.add(lblNewLabel_3);
84
85          JLabel lblNewLabel_4 = new JLabel("Hasil");
86          lblNewLabel_4.setBounds(10, 205, 47, 13);
87          contentPane.add(lblNewLabel_4);
88
89          txtBil1 = new JTextField();
90          txtBil1.setBounds(76, 40, 96, 18);
91          contentPane.add(txtBil1);
92          txtBil1.setColumns(10);
93
94          txtBil2 = new JTextField();
95          txtBil2.setBounds(76, 72, 96, 18);
96          contentPane.add(txtBil2);
97          txtBil2.setColumns(10);
98
99          JComboBox cbOperator = new JComboBox();
100         JButton btnNewButton = new JButton("Proses");
101         btnNewButton.addActionListener(new ActionListener() {
102             int hasil;
```

```
103             public void actionPerformed(ActionEvent e) {
104                 if (txtBil1.getText().trim().isEmpty()) {
105                     pesanPeringatan ("silakan input bilangan dahlulu");
106                     } else if (txtBil2.getText().trim().isEmpty()) {
107                         pesanPeringatan ("silakan input bilangan dahulu");
108                     } else if (txtBil2.getText().trim().startsWith("0")) {
109                         pesanPeringatan ("bilangan tidak boleh 0");
110                     } else {
111
112                       try {
113                     int a = Integer.parseInt(txtBil1.getText());
114                     int b = Integer.parseInt(txtBil2.getText());
115                     int c = cbOperator.getSelectedIndex();
116                     if (c==0) {
117                         hasil = a+b;
118                     }
119                     if (c==1) {
120                         hasil = a-b;
121                     }
122                     if (c==2) {
123                         hasil = a*b;
124                     }
125                     if (c==3) {
126                         hasil = a/b;
127                     }
128                     if (c==4) {
129                         hasil = a%b;
130                     }
131                         } catch (NumberFormatException ex) {
132                         pesanEror ("bilangan 1 dan dua harus angka " );
133                             }
134                         }
135                      txtHasil.setText(String.valueOf(hasil));
136             }
```


OperatorAritmatika_2511...
OPERATOR ARITMTIKA
Bilang...
5
Bilang...
10
Oper...
+
Proses
Hasil
15


OperatorAritmatika_2511...
OPERATOR ARITMTIKA
Bilang...
a
Eror
bilangan 1 dan dua harus angka
OK
Hasil