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Kelas : C

1. Soal : **operasi relational pada GUI**
2. Pseudocode

Program dadu

Kamus

- Inisialisasi GUI dengan tulisan Operasi relational
- Buat kotak untuk input bilangan 1,bilangan 2 dan hasil
- Tambah combo box: ==, !=, <, >, <=, >=
- Buat tombol proses

Deskipsi

a) Mulai
b) Input bilangan 1
c) Input bilangan 2
d) Pilih operasi
e) Ketika tombol proses di tekan:
    a. WHEN button "process" is clicked:
        i. If bilangan1 empty:
            1. Display warning message: "Bilangan Harus diisi"
        ii. Else if bilangan 2 empty:
            1. Display warning message: "Bilangan 2 Harus diisi"
        iii. Else:
            1. TRY:
                a. Convert bilangan1 to int a
                b. Convert bilangan2 to int b
                c. Select operation
                    i. IF c == 0:
                        1. If hasil = (a == b):
                            a. Hasil = true
                        2. Else:
                            a. Hasil = false
                    ii. ELSE IF c == 1 THEN

1. If hasil = (a != b)
    a. Hasil = true
2. Else:
    a. Hasil = false

iii. ELSE IF c == 2 THEN
1. ifhasil = (a < b)
    a. Hasil = true
2. Else:
    a. Hasil = false

iv. ELSE IF c == 3 THEN
1. If hasil = (a > b)
    a. Hasil = true
2. Else:
    a. Hasil = false

v. ELSE IF c == 4 THEN
1. If hasil = (a <= b)
    a. Hasil = true
2. Else:
    a. Hasil = false

vi. ELSE IF c == 5 THEn
1. hasil = (a >= b)
    a. Hasil = true
2. Else:
    a. Hasil = false

vii. END IF

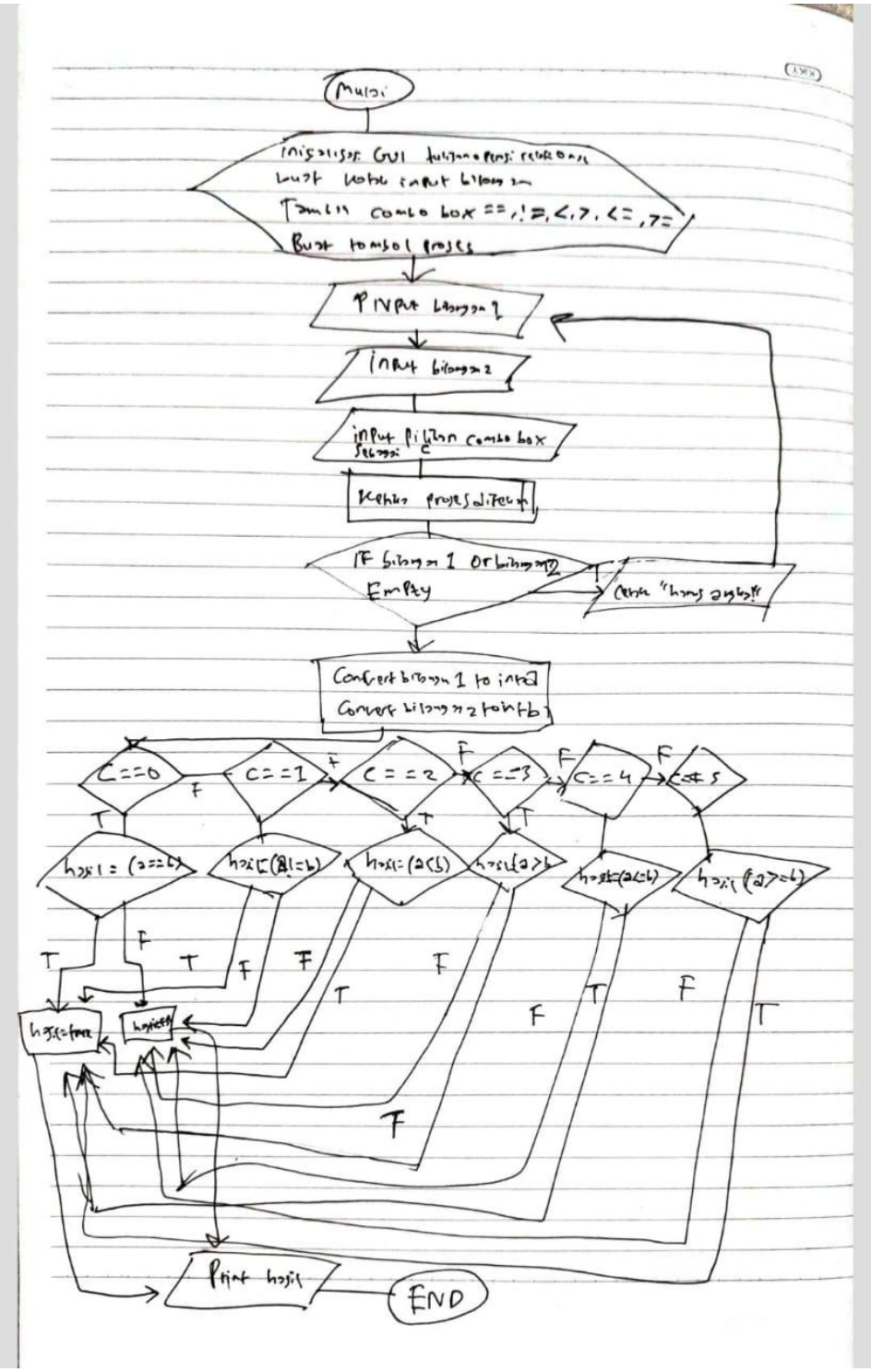
2. Print hasil in GUI

iv. END TRY

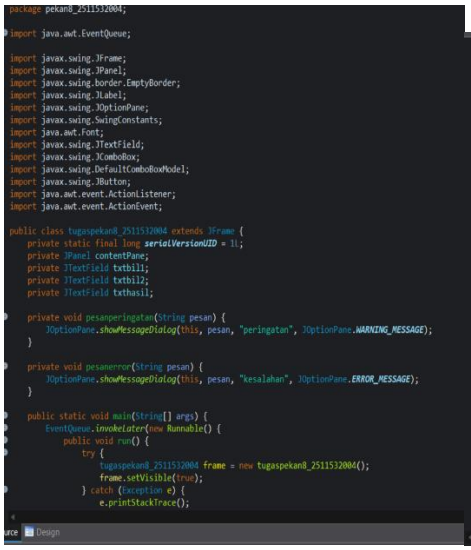
f) END IF

g)

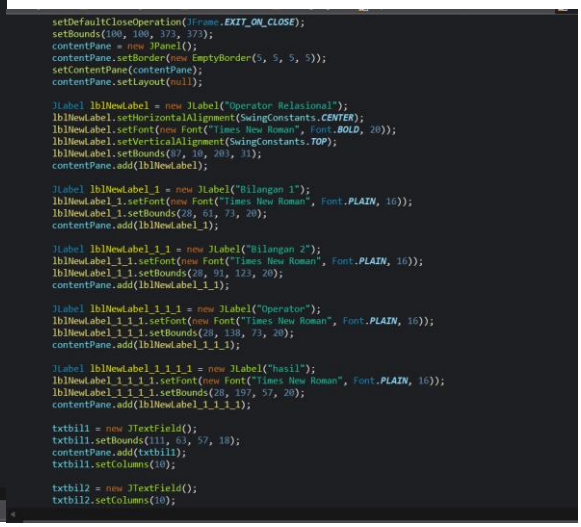
3. flowchart



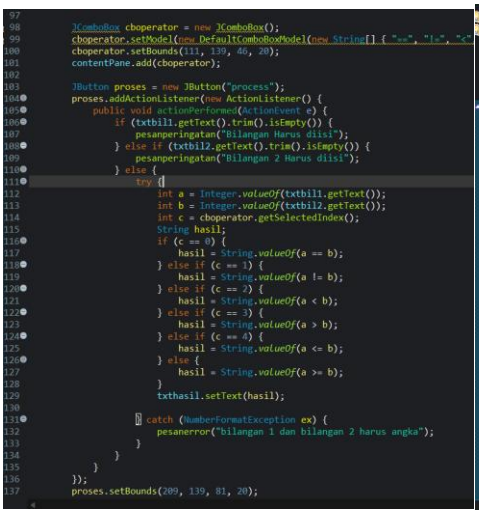
4. Source code



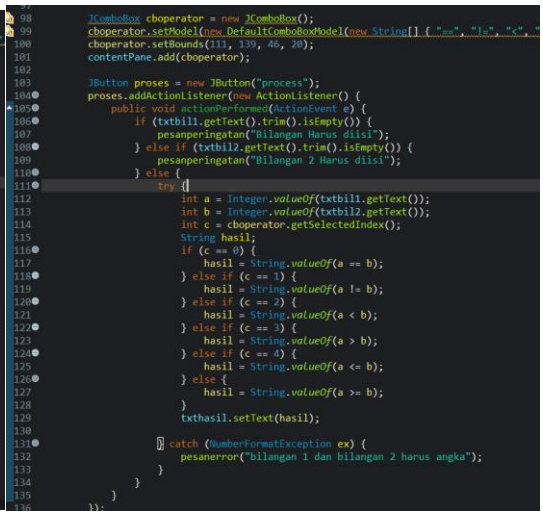
```
package pekan8_2511532004;

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 javax.swing.SwingConstants;
import java.awt.Font;
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 tugaspekan8_2511532004 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);
    }

    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    tugaspekan8_2511532004 frame = new tugaspekan8_2511532004();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
```



```
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setBounds(100, 100, 373, 373);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
setContentPane(contentPane);
contentPane.setLayout(null);

JLabel lblNewLabel = new JLabel("Operator Relasional");
lblNewLabel.setHorizontalAlignment(SwingConstants.CENTER);
lblNewLabel.setFont(new Font("Times New Roman", Font.BOLD, 20));
lblNewLabel.setVerticalAlignment(SwingConstants.TOP);
lblNewLabel.setBounds(87, 10, 203, 31);
contentPane.add(lblNewLabel);

JLabel lblNewLabel_1 = new JLabel("Bilangan 1");
lblNewLabel_1.setFont(new Font("Times New Roman", Font.PLAIN, 16));
lblNewLabel_1.setBounds(28, 61, 73, 20);
contentPane.add(lblNewLabel_1);

JLabel lblNewLabel_1_1 = new JLabel("Bilangan 2");
lblNewLabel_1_1.setFont(new Font("Times New Roman", Font.PLAIN, 16));
lblNewLabel_1_1.setBounds(28, 91, 123, 20);
contentPane.add(lblNewLabel_1_1);

JLabel lblNewLabel_1_1_1 = new JLabel("Operator");
lblNewLabel_1_1_1.setFont(new Font("Times New Roman", Font.PLAIN, 16));
lblNewLabel_1_1_1.setBounds(28, 138, 73, 20);
contentPane.add(lblNewLabel_1_1_1);

JLabel lblNewLabel_1_1_1_1 = new JLabel("hasil");
lblNewLabel_1_1_1_1.setFont(new Font("Times New Roman", Font.PLAIN, 16));
lblNewLabel_1_1_1_1.setBounds(28, 197, 57, 20);
contentPane.add(lblNewLabel_1_1_1_1);

txtbil1 = new JTextField();
txtbil1.setBounds(111, 63, 57, 18);
contentPane.add(txtbil1);
txtbil1.setColumns(10);

txtbil2 = new JTextField();
txtbil2.setColumns(10);
```



```
JComboBox cboperator = new JComboBox();
cboperator.setModel(new DefaultComboBoxModel(new String[] { "==", "!=", "<"
cboperator.setBounds(111, 139, 46, 20);
contentPane.add(cboperator);

JButton proses = new JButton("process");
proses.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
        if (txtbil1.getText().trim().isEmpty()) {
            pesanperingatan("Bilangan Harus diisi");
        } else if (txtbil2.getText().trim().isEmpty()) {
            pesanperingatan("Bilangan 2 Harus diisi");
        } else {
            try {
                int a = Integer.valueOf(txtbil1.getText());
                int b = Integer.valueOf(txtbil2.getText());
                int c = cboperator.getSelectedIndex();
                String hasil;
                if (c == 0) {
                    hasil = String.valueOf(a == b);
                } else if (c == 1) {
                    hasil = String.valueOf(a != b);
                } else if (c == 2) {
                    hasil = String.valueOf(a < b);
                } else if (c == 3) {
                    hasil = String.valueOf(a > b);
                } else if (c == 4) {
                    hasil = String.valueOf(a <= b);
                } else {
                    hasil = String.valueOf(a >= b);
                }
                txthasil.setText(hasil);

            } catch (NumberFormatException ex) {
                pesanerror("bilangan 1 dan bilangan 2 harus angka");
            }
        }
    }
});
proses.setBounds(209, 139, 81, 20);
```



```
JComboBox cboperator = new JComboBox();
cboperator.setModel(new DefaultComboBoxModel(new String[] { "==", "!=", "<", "
cboperator.setBounds(111, 139, 46, 20);
contentPane.add(cboperator);

JButton proses = new JButton("process");
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    public void actionPerformed(ActionEvent e) {
        if (txtbil1.getText().trim().isEmpty()) {
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        } else {
            try {
                int a = Integer.valueOf(txtbil1.getText());
                int b = Integer.valueOf(txtbil2.getText());
                int c = cboperator.getSelectedIndex();
                String hasil;
                if (c == 0) {
                    hasil = String.valueOf(a == b);
                } else if (c == 1) {
                    hasil = String.valueOf(a != b);
                } else if (c == 2) {
                    hasil = String.valueOf(a < b);
                } else if (c == 3) {
                    hasil = String.valueOf(a > b);
                } else if (c == 4) {
                    hasil = String.valueOf(a <= b);
                } else {
                    hasil = String.valueOf(a >= b);
                }
                txthasil.setText(hasil);

            } catch (NumberFormatException ex) {
                pesanerror("bilangan 1 dan bilangan 2 harus angka");
            }
        }
    }
});
```
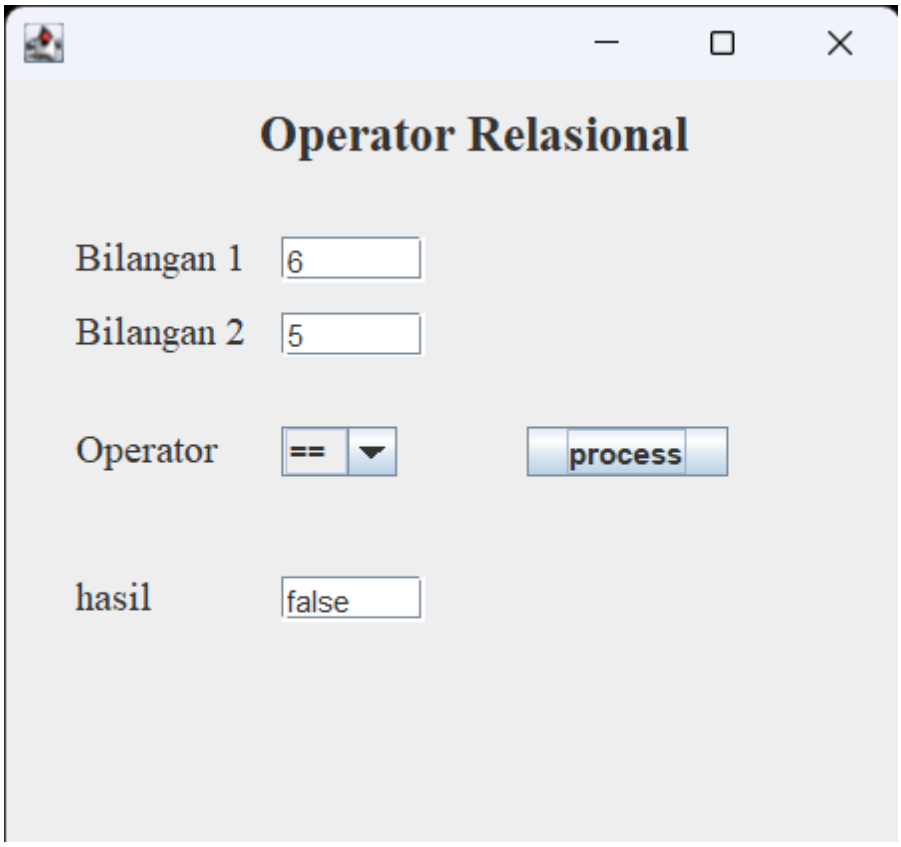
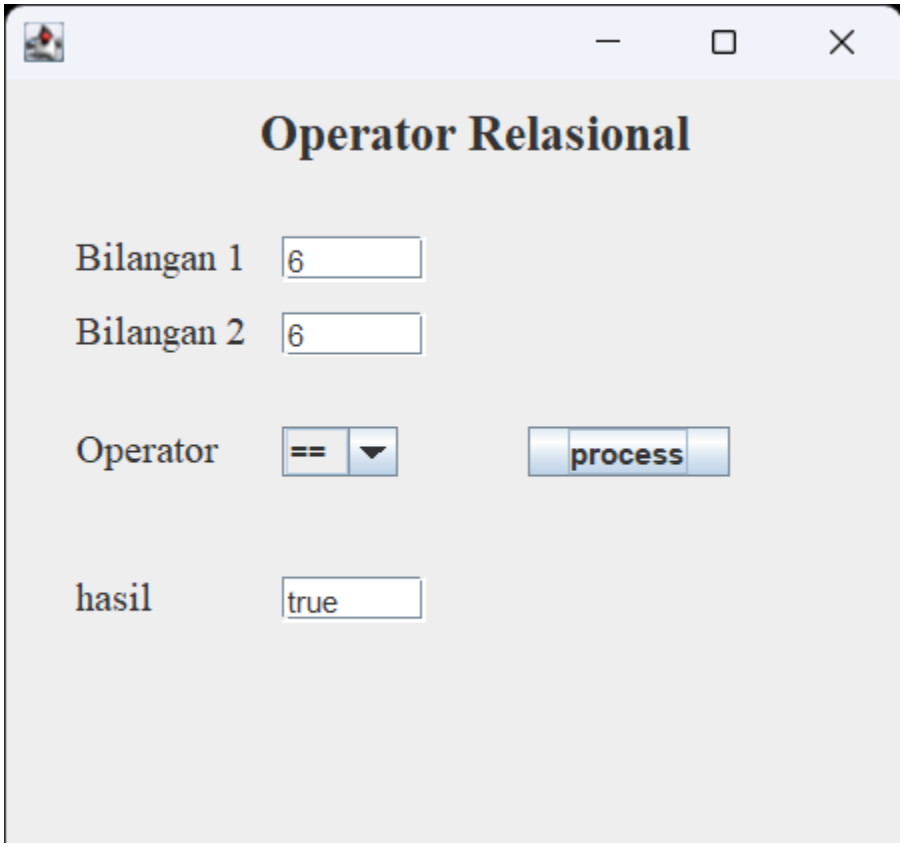

5. Screenshot output (minimal 2-3 test case)

1. 

2. 

5.Penjelasan program

Ini adalah program untuk memungkinkan kita melakukan operasi relational paa GUI, disini kitab isa inputkan 2 angka atau bilangan dan memilih beberapa operasi yang akan di cek true dan false nya

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Kelas A