

**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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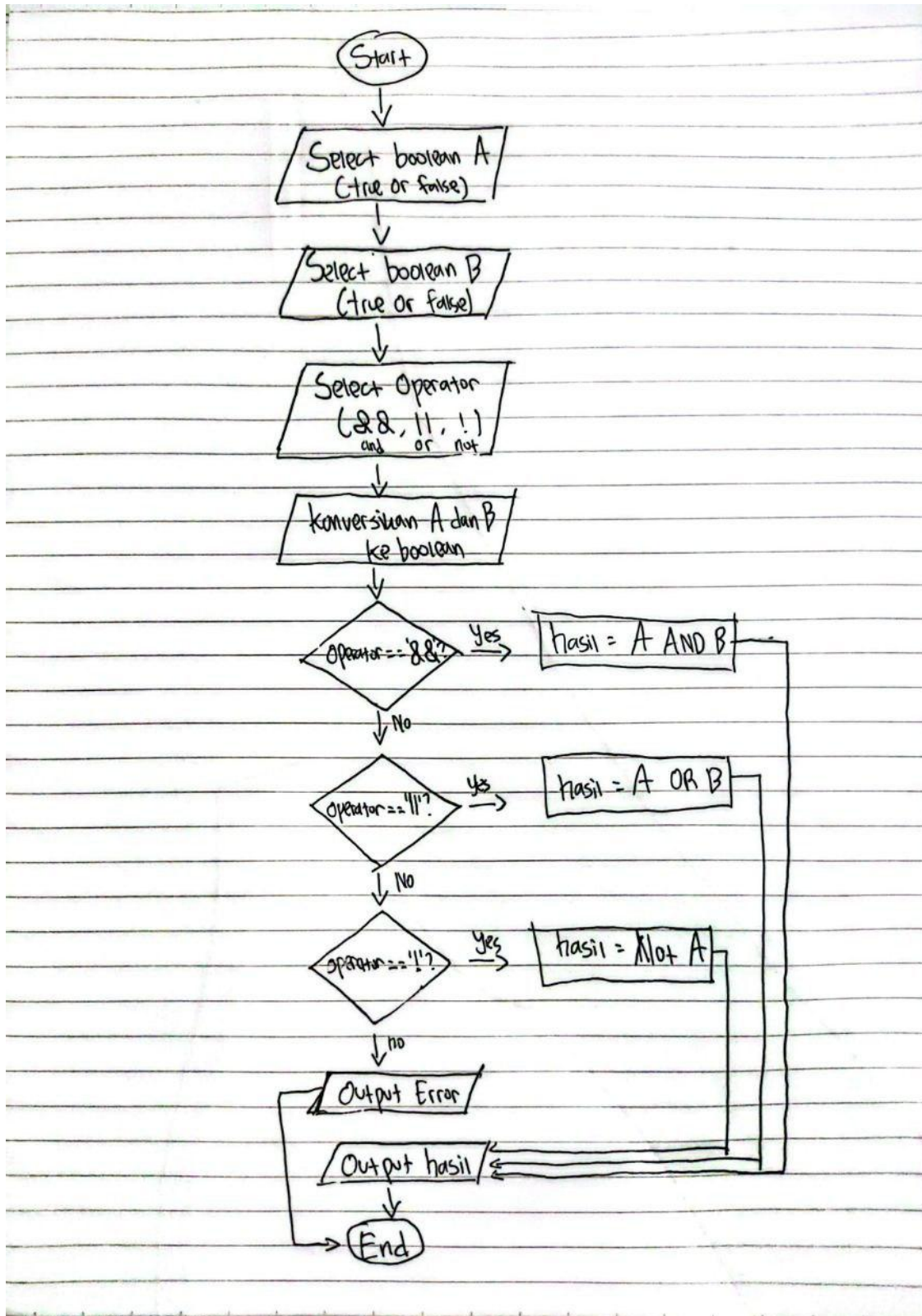
## Soal : Program Operator Logika

Program ini melakukan operasi logika berdasarkan input pengguna. Pengguna memilih nilai boolean A dan B melalui dropdown serta memilih operator logika (AND, OR, atau NOT). Program kemudian mengubah nilai input menjadi boolean dan memproses operasi sesuai operator yang dipilih. Hasil operasi logika ditampilkan pada bagian output.

### Pseudocode

|  |
|--|
| <b>Judul</b>   |
| Program Operator Logika {Program menerima input boolean, memilih operator logika (AND, OR, NOT), kemudian menampilkan hasil operasi logika pada GUI.}  |
| <b>Deklarasi</b>   |
| Var cbA : JComboBox<String><br>Var cbB : JComboBox<String><br>Var cbOp : JComboBox<String><br>Var txtHasil : JTextField<br>Var A, B : String<br>Var op : String<br>Var aBool : boolean<br>Var bBool : boolean<br>Var hasil : boolean   |
| <b>Pseudocode</b>  |
| 1. A ← nilai dari dropdown Boolean A<br>2. B ← nilai dari dropdown Boolean B<br>3. op ← nilai dari dropdown Operator<br>4. aBool ← konversi A menjadi boolean<br>5. bBool ← konversi B menjadi boolean<br><br>6. IF op = "&&" THEN<br>7. hasil ← aBool AND bBool<br>8. ELSE IF op = "  " THEN<br>9. hasil ← aBool OR bBool<br>10. ELSE IF op = "!" THEN<br>11. hasil ← NOT aBool<br>12. END IF<br>13. Print Output |

## Flowchart



## Source Code

```
1 package pekan8_2511532001;
2
3 import java.awt.EventQueue;
4 import javax.swing.*;
5 import java.awt.Font;
6 import java.awt.event.ActionEvent;
7 import java.awt.event.ActionListener;
8
9 public class TugasPekan8_2511532001 extends JFrame {
10
11     private static final long serialVersionUID = 1L;
12     private JPanel contentPane;
13     private JComboBox<String> cbA;
14     private JComboBox<String> cbB;
15     private JTextField txtHasil;
16
17     private void warning(String msg) {
18         JOptionPane.showMessageDialog(this, msg, "Warning", JOptionPane.WARNING_MESSAGE);
19     }
20
21     private void error(String msg) {
22         JOptionPane.showMessageDialog(this, msg, "Error", JOptionPane.ERROR_MESSAGE);
23     }
24
25     public static void main(String[] args) {
26         EventQueue.invokeLater(() -> {
27             try {
28                 TugasPekan8_2511532001 frame = new TugasPekan8_2511532001();
29                 frame.setVisible(true);
30             } catch (Exception e) {
31                 e.printStackTrace();
32             }
33         });
34     }
35
36     public TugasPekan8_2511532001() {
37         setTitle("Operator Logika");
38         setResizable(false);
39         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
40         setBounds(100, 100, 520, 380);
41
42         contentPane = new JPanel();
43         contentPane.setLayout(null);
44         setContentPane(contentPane);
45
46         JLabel lblTitle = new JLabel("OPERATOR LOGIKA");
47         lblTitle.setFont(new Font("Segoe UI Black", Font.PLAIN, 16));
48         lblTitle.setBounds(165, 10, 200, 30);
49         contentPane.add(lblTitle);
50
51         JLabel lblA = new JLabel("Boolean A");
52         lblA.setBounds(55, 60, 100, 25);
53         contentPane.add(lblA);
54
55         JLabel lblB = new JLabel("Boolean B");
56         lblB.setBounds(55, 100, 100, 25);
57         contentPane.add(lblB);
58
59         JLabel lblOp = new JLabel("Operator");
60         lblOp.setBounds(55, 140, 100, 25);
61         contentPane.add(lblOp);
62
63         JLabel lblHasil = new JLabel("Hasil");
64         lblHasil.setBounds(55, 180, 100, 25);
65         contentPane.add(lblHasil);
66
67         cbA = new JComboBox<>();
68         cbA.setModel(new DefaultComboBoxModel<>(new String[]{"true", "false"}));
69         cbA.setBounds(150, 60, 80, 25);
70         contentPane.add(cbA);
71
72         cbB = new JComboBox<>();
73         cbB.setModel(new DefaultComboBoxModel<>(new String[]{"true", "false"}));
74         cbB.setBounds(150, 100, 80, 25);
75         contentPane.add(cbB);
76
77         txtHasil = new JTextField();
78         txtHasil.setEditable(false);
79         txtHasil.setBounds(150, 180, 80, 25);
80     }
81 }
```

```

80     contentPane.add(txtHasil);
81
82     JComboBox<String> cbOp = new JComboBox<>();
83     cbOp.setModel(new DefaultComboBoxModel<>(new String[]{"&&", "||", "!"}));
84     cbOp.setBounds(150, 140, 80, 25);
85     contentPane.add(cbOp);
86
87     JButton btnProses = new JButton("Proses");
88     btnProses.setBounds(270, 140, 100, 25);
89     contentPane.add(btnProses);
90
91     btnProses.addActionListener(new ActionListener() {
92         public void actionPerformed(ActionEvent e) {
93
94             String A = cbA.getSelectedItem().toString();
95             String B = cbB.getSelectedItem().toString();
96             String op = cbOp.getSelectedItem().toString();
97
98             boolean a = Boolean.parseBoolean(A);
99             boolean b = Boolean.parseBoolean(B);
100             boolean hasil = false;
101
102             switch (op) {
103                 case "&&":
104                     hasil = a && b;
105                     break;
106
107                 case "||":
108                     hasil = a || b;
109                     break;
110
111                 case "!":
112                     hasil = !a;
113                     break;
114             }
115
116             txtHasil.setText(String.valueOf(hasil));
117         }
118     });
119 }

```

## Output (3 Test Case)

Operator Logika

**OPERATOR LOGIKA**

Boolean A

Boolean B

Operator

Hasil

Operator Logika

**OPERATOR LOGIKA**

Boolean A

Boolean B

Operator

Hasil

Operator Logika

**OPERATOR LOGIKA**

Boolean A

Boolean B

Operator

Hasil