

**LAPORAN PRAKTIKUM**  
**PEMROGRAMAN BERORIENTASI OBJEK**  
**MODUL 4**



Oleh :

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S1SI-07-C

**PROGRAM STUDI S1 SISTEM INFORMASI**  
**FAKULTAS REKAYASA INDUSTRI**  
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## I. GUIDED

1. Buat project baru dengan LatihanP9Nama. Nama diganti dengan nama kalian, contoh : LatihanP9SenaWijayanto
2. Ubah kode program PraktikGUI :

Jawab:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to
edit this template
 */
package manualgui;

import javax.swing.BoxLayout;
import javax.swing.ButtonGroup;
import javax.swing.JButton;
import javax.swing.JCheckBox;
import javax.swing.JComboBox;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JList;
import javax.swing.JOptionPane;
import javax.swing.JPanel;
import javax.swing.JRadioButton;
import javax.swing.JTextArea;

/**
 *
 * @author LENOVO
 */
public class PraktikGUI {
    public static void main(String [] args) {
        String hari [] = {"Senin", "Selasa", "Rabu", "Kamis", "Jumat", "Sabtu",
"Ahad"};
        JFrame myFrame = new JFrame ("My First Frame");
        JOptionPane.showMessageDialog(null, "Peringatan sebentar lagi slibur
!", "Warning", JOptionPane.WARNING_MESSAGE);
        JPanel myPanel = new JPanel();
        //myPanel.setLayout(new BoxLayout(myPanel, BoxLayout.Y_AXIS));
        myPanel.setLayout(new BoxLayout(myPanel, BoxLayout.Y_AXIS));
        JLabel myLabel = new JLabel("Label Pertama Ku.....");
        JButton myButton = new JButton("Tombol 1st");
        JButton myNdButton = new JButton("Tombol 2nd");
        JTextArea myTextArea = new JTextArea("My First Text Area....", 5,
50);
        JCheckBox myCbxOne = new JCheckBox("Libur Masih Sangat lama");
        JCheckBox myCbxTwo = new JCheckBox("Libur Agak Dekat");
        JCheckBox myCbxThree = new JCheckBox("Libur Sudah Dekat");
        JCheckBox myCbxFour = new JCheckBox("Libur Sudah Tiba");
        JRadioButton myRdoOne = new JRadioButton("Putera", true);
```

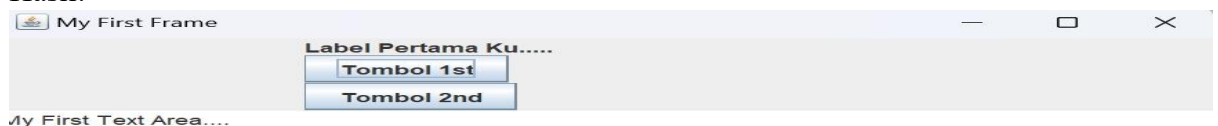
```

JRadioButton myRdoTwo = new JRadioButton("Puteri", false);
ButtonGroup grpRdo = new ButtonGroup();
grpRdo.add(myRdoOne);
grpRdo.add(myRdoTwo);
JList daftarHari = new JList(hari);
daftarHari.setSelectedIndex(0);
JComboBox cbbHari = new JComboBox(hari);
myPanel.add(myLabel);
myPanel.add(myButton);
myPanel.add(myNdButton);
myPanel.add(myTextArea);
myPanel.add(myCbxOne);
myPanel.add(myCbxTwo);
myPanel.add(myCbxThree);
myPanel.add(myCbxFour);
myPanel.add(myRdoOne);
myPanel.add(myRdoTwo);
myPanel.add(daftarHari);
myPanel.add(cbbHari);
myFrame.getContentPane().add(myPanel);
myFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
myFrame.setSize(600,600);
myFrame.setVisible(true);

    }
}

```

Hasil:



Penjelasan: Program diatas merupakan GUI dalam java swing dan untuk ukuran nya adalah 600 x 600.dan fitur-fitur didalam seperti label teks,dua buah tombol label, empat checkbox tentang status libur, dua radio button untuk memilih gender (Putera/Puteri), list dan combo box yang berisi daftar hari,area teks yang bisa diisi.fungsi mypanel adalah untuk menjalankan GUI dengan menggunakan myPanel.add().

## II. UNGUIDED

Buatlah suatu tampilan antar muka yang unik dan bagus untuk sebuah program. Cukup tampilannya saja. Cari Ide program yang sederhana dan unik.

Jawab:

Kode Program:

```
package gradecalculator;
```

```
import javax.swing.*;
```

```
import java.awt.*;
```

```
import javax.swing.border.*;
```

```
import java.awt.event.*;
```

```
public class GradeCalculatorUI extends JFrame {  
    private JPanel mainPanel, inputPanel, resultPanel;  
    private JTextField[] scoreFields;  
    private JLabel[] subjectLabels;  
    private JLabel averageLabel, gradeLabel;  
    private final String[] subjects = {  
        "Matematika", "Ips", "Ipa", "Penjas", "Inggris"  
    };  
};
```

```
private final Color[] pastelColors = {  
    new Color(255, 190, 190),  
    new Color(190, 255, 190),  
    new Color(190, 190, 255),  
    new Color(255, 255, 190),  
    new Color(255, 190, 255)  
};
```

```
public GradeCalculatorUI() {  
    setTitle("📐 Student Grade Calculator");  
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
    setSize(500, 700);  
    setLocationRelativeTo(null);
```

```
    // Main Panel Setup
```

```
    mainPanel = new JPanel();  
    mainPanel.setLayout(new BoxLayout(mainPanel, BoxLayout.Y_AXIS));  
    mainPanel.setBackground(new Color(248, 249, 250));  
    mainPanel.setBorder(new EmptyBorder(20, 20, 20, 20));
```

```
    JLabel headerLabel = createStyledLabel("Student Grade Calculator", 24);
```

```
    JLabel subHeaderLabel = createStyledLabel("Enter your scores below (0-100)",  
14);
```

```

inputPanel = new JPanel();
inputPanel.setLayout(new GridLayout(subjects.length, 1, 10, 10));
inputPanel.setBackground(new Color(248, 249, 250));

scoreFields = new JTextField[subjects.length];
subjectLabels = new JLabel[subjects.length];

for (int i = 0; i < subjects.length; i++) {
    JPanel subjectPanel = createSubjectPanel(i);
    inputPanel.add(subjectPanel);
}

resultPanel = new JPanel();
resultPanel.setLayout(new BoxLayout(resultPanel, BoxLayout.Y_AXIS));
resultPanel.setBackground(new Color(248, 249, 250));
resultPanel.setBorder(BorderFactory.createEmptyBorder(20, 0, 20, 0));

averageLabel = createStyledLabel("Average Score: -", 18);
gradeLabel = createStyledLabel("Final Grade: -", 18);

JButton calculateButton = new JButton("Calculate Grade");
calculateButton.setFont(new Font("Arial", Font.BOLD, 16));
calculateButton.setForeground(Color.WHITE);
calculateButton.setBackground(new Color(79, 129, 189));
calculateButton.setFocusPainted(false);
calculateButton.setBorder(new RoundedBorder(10));
calculateButton.setMaximumSize(new Dimension(200, 40));
calculateButton.setAlignmentX(Component.CENTER_ALIGNMENT);

calculateButton.addMouseListener(new MouseAdapter() {
    public void mouseEntered(MouseEvent e) {
        calculateButton.setBackground(new Color(68, 114, 196));
    }
    public void mouseExited(MouseEvent e) {
        calculateButton.setBackground(new Color(79, 129, 189));
    }
});

JButton resetButton = new JButton("Reset");
resetButton.setFont(new Font("Arial", Font.BOLD, 16));
resetButton.setForeground(new Color(79, 129, 189));

```

```

resetButton.setBackground(Color.WHITE);
resetButton.setFocusPainted(false);
resetButton.setBorder(new RoundedBorder(10));
resetButton.setMaximumSize(new Dimension(200, 40));
resetButton.setAlignmentX(Component.CENTER_ALIGNMENT);

// Add components to result panel
resultPanel.add(averageLabel);
resultPanel.add(Box.createRigidArea(new Dimension(0, 10)));
resultPanel.add(gradeLabel);

mainPanel.add(Box.createRigidArea(new Dimension(0, 5)));
mainPanel.add(subHeaderLabel);
mainPanel.add(Box.createRigidArea(new Dimension(0, 20)));
mainPanel.add(inputPanel);
mainPanel.add(Box.createRigidArea(new Dimension(0, 20)));
mainPanel.add(calculateButton);
mainPanel.add(Box.createRigidArea(new Dimension(0, 10)));
mainPanel.add(resetButton);
mainPanel.add(Box.createRigidArea(new Dimension(0, 20)));
mainPanel.add(resultPanel);

add(mainPanel);
}

private JPanel createSubjectPanel(int index) {
    JPanel panel = new JPanel();
    panel.setLayout(new BorderLayout(10, 0));
    panel.setBackground(pastelColors[index]);
    panel.setBorder(new RoundedBorder(15));
    panel.setMaximumSize(new Dimension(400, 60));

    subjectLabels[index] = new JLabel(subjects[index]);
    subjectLabels[index].setFont(new Font("Arial", Font.BOLD, 14));
    subjectLabels[index].setBorder(new EmptyBorder(10, 15, 10, 0));

    scoreFields[index] = new JTextField(4);
    scoreFields[index].setFont(new Font("Arial", Font.PLAIN, 14));
    scoreFields[index].setBorder(new EmptyBorder(5, 5, 5, 5));

    JPanel scorePanel = new JPanel(new FlowLayout(FlowLayout.RIGHT));
    scorePanel.setBackground(pastelColors[index]);
    scorePanel.add(scoreFields[index]);

```

```

        panel.add(subjectLabels[index], BorderLayout.WEST);
        panel.add(scorePanel, BorderLayout.EAST);

        return panel;
    }

    private JLabel createStyledLabel(String text, int fontSize) {
        JLabel label = new JLabel(text);
        label.setFont(new Font("Arial", Font.BOLD, fontSize));
        label.setAlignmentX(Component.CENTER_ALIGNMENT);
        return label;
    }

    private static class RoundedBorder implements Border {
        private int radius;

        RoundedBorder(int radius) {
            this.radius = radius;
        }

        public Insets getBorderInsets(Component c) {
            return new Insets(this.radius+1, this.radius+1, this.radius+2, this.radius);
        }

        public boolean isBorderOpaque() {
            return true;
        }

        public void paintBorder(Component c, Graphics g, int x, int y, int width, int height) {
            g.setColor(Color.LIGHT_GRAY);
            g.drawRoundRect(x, y, width-1, height-1, radius, radius);
        }
    }

    public static void main(String[] args) {
        SwingUtilities.invokeLater(() -> {
            GradeCalculatorUI frame = new GradeCalculatorUI();
            frame.setVisible(true);
        });
    }
}

```

Hasil:

Student Grade Calculator

Enter your scores below (0-100)

Matematika

Ips

Ipa

Penjas

Inggris

Calculate Grade

Reset

Penjelasan : Program diatas merupakan untuk menghitung nilai rata-rata dan nilai akhir.Fungsi Jpanel adalah untuk tata letak nilai dan hasil dan Jtextfield berfungsi untuk kolom untuk memasukkan nilai,dan JButton untuk melakukan kalkulasi dan reset melalui tombol dan terakhir JLabel untuk menampilkan hasil nilai rata-rata