# *SYNOPSIS*

**Title**: My Resistor java Application ( Used to identify and buy resistors )

**Introduction:** Our project is related to electronics domain , it is used to find out the value of resistance of a resistor using colour code printed on it and vice versa . The java application also provides a facility to buy resistors , the data which user enters is stored in database .

## Implementation Details:

### a) Hardware/software requirement:

- java i.e.jdk( java development kit ) and jre ( java runtime environment ).
- Any jdbc software , in this project we used MySQL server and MySQL connector .
- Eclipse software (Luna), for GUI ( graphical user interface )

## Software Details: (JAVA Code)

- **First JFrame(Which combines other 3 JFrames):**

```
package mainrc;


import java.awt.BorderLayout;

import java.awt.EventQueue;


import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;
```

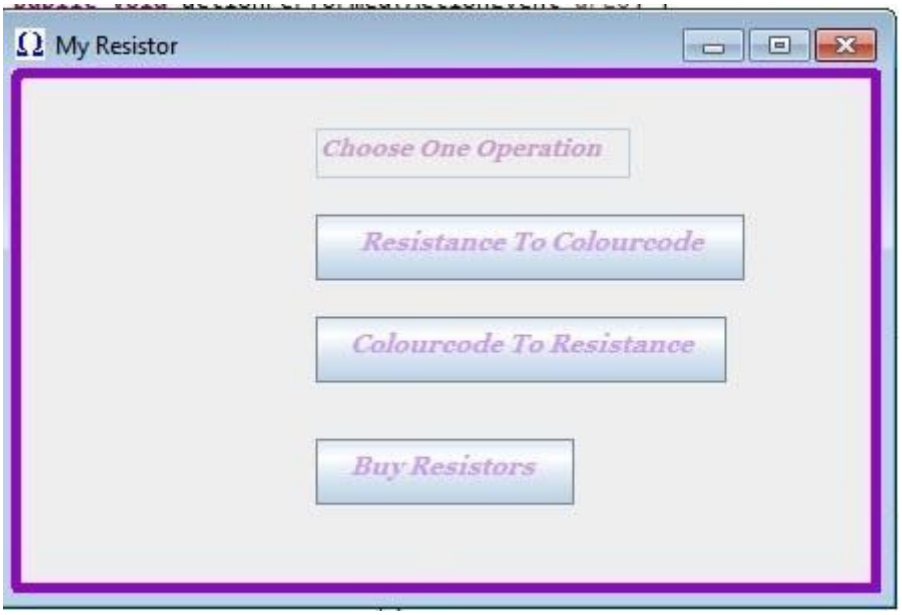
```
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JButton;
import javax.swing.JTextField;
import javax.swing.LayoutStyle.ComponentPlacement;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.awt.Toolkit;
import java.awt.Font;
import java.awt.Color;
import javax.swing.border.LineBorder;
import javax.swing.JComboBox;

public class mainrc extends JFrame {

	private JPanel contentPane;
	private JTextField t11;
	private JButton btnBuyResistors;

	/**
	 * Launch the application.
	 */
	public static void main(String[] args) {
		EventQueue.invokeLater(new Runnable() {
			public void run() {
				try {
```

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

    /**
     * Create the frame.
     */
    public mainrc() {
        setForeground(Color.PINK);
        setFont(new Font("Bodoni MT", Font.BOLD | Font.ITALIC, 16));
        setTitle("My Resistor");

setIconImage(Toolkit.getDefaultToolkit().getImage("C:\\Users\\Rakesh\\Desktop\\symbol.png"));
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setBounds(100, 100, 450, 300);
        contentPane = new JPanel();
        contentPane.setForeground(new Color(255, 204, 204));
        contentPane.setBorder(new LineBorder(new Color(153, 0, 204), 5, true));
        setContentPane(contentPane);
```

```
JButton btnResistanceToColourcode = new JButton("Resistance To
Colourcode");
btnResistanceToColourcode.setForeground(new Color(204, 153, 255));
btnResistanceToColourcode.setFont(new Font("Vani", Font.BOLD |
Font.ITALIC, 13));
btnResistanceToColourcode.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
rc h=new rc();
h.setVisible(true);
setVisible(false);
}
});

JButton btnColourcodeToResistance = new JButton("Colourcode To
Resistance");
btnColourcodeToResistance.setForeground(new Color(204, 153, 255));
btnColourcodeToResistance.setFont(new Font("Vani", Font.BOLD |
Font.ITALIC, 13));
btnColourcodeToResistance.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
cr x=new cr();
x.setVisible(true);
setVisible(false);
}
});

t11 = new JTextField();
t11.setForeground(new Color(204, 153, 204));
```

```
t11.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));
t11.setText("Choose One Operation ");
t11.setColumns(10);
t11.setEditable(false);

btnBuyResistors = new JButton("Buy Resistors ");
btnBuyResistors.setForeground(new Color(204, 153, 255));
btnBuyResistors.setFont(new Font("Vani", Font.BOLD | Font.ITALIC,
13));
btnBuyResistors.addActionListener(new ActionListener() {
	public void actionPerformed(ActionEvent arg0) {
		rest r=new rest();
		r.setVisible(true);
		setVisible(false);
	}
});
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
	gl_contentPane.createParallelGroup(Alignment.LEADING)
		.addGroup(gl_contentPane.createSequentialGroup()
			.addGap(147)

.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
					.addComponent(btnBuyResistors)
					.addComponent(btnColourcodeToResistance)
					.addComponent(t11, 157, 157, 157)
```

```
.addGroup(gl_contentPane.createSequentialGroup()

.addPreferredGap(ComponentPlacement.RELATED)

.addComponent(btnResistanceToColourcode, GroupLayout.PREFERRED_SIZE, 214,
GroupLayout.PREFERRED_SIZE)))
                                .addContainerGap(91, Short.MAX_VALUE))
        );
        gl_contentPane.setVerticalGroup(
            gl_contentPane.createParallelGroup(Alignment.LEADING)
                .addGroup(gl_contentPane.createSequentialGroup()
                    .addGap(25)
                    .addComponent(t11,
GroupLayout.PREFERRED_SIZE, GroupLayout.DEFAULT_SIZE,
GroupLayout.PREFERRED_SIZE)
                    .addGap(18)
                    .addComponent(btnResistanceToColourcode)
                    .addGap(18)
                    .addComponent(btnColourcodeToResistance)
                    .addGap(28)
                    .addComponent(btnBuyResistors)
                    .addContainerGap(66, Short.MAX_VALUE))
        );
        contentPane.setLayout(gl_contentPane);
    }}
```




❖ **Second JFrame:**

```
package mainrc;


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.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JComboBox;

import javax.swing.LayoutStyle.ComponentPlacement;

import javax.swing.DefaultComboBoxModel;

import javax.swing.JTextField;
```

```
import javax.swing.JButton;


import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.awt.Font;
import java.awt.Color;
import javax.swing.border.LineBorder;
import java.awt.Toolkit;


public class rc extends JFrame {


	private JPanel contentPane;
	private JTextField t5;


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

```
            });
    }

    /**
     * Create the frame.
     */
    public rc() {
            setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 17));
            setTitle("My Resistor");
setIconImage(Toolkit.getDefaultToolkit().getImage("C:\\Users\\Rakesh\\Desktop\\symbol.png"));
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            setBounds(100, 100, 450, 414);
            contentPane = new JPanel();
            contentPane.setBorder(new LineBorder(new Color(255, 102, 0), 5, true));
            setContentPane(contentPane);

            JLabel lblNewLabel = new JLabel("Enter First Digit:");
            lblNewLabel.setForeground(new Color(204, 102, 255));
            lblNewLabel.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));

            JLabel lblEnterSecondDigit = new JLabel("Enter Second Digit:");
            lblEnterSecondDigit.setForeground(new Color(204, 102, 204));
            lblEnterSecondDigit.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));

            JLabel lblEnterMultiplier = new JLabel("Enter Multiplier:");
            lblEnterMultiplier.setForeground(new Color(204, 102, 255));
```

```
        lblEnterMultiplier.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));


        JLabel lblEnterTolerance = new JLabel("Enter Tolerance:");

        lblEnterTolerance.setForeground(new Color(204, 102, 255));

        lblEnterTolerance.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));


        final JComboBox t1 = new JComboBox();

        t1.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));

        t1.setModel(new DefaultComboBoxModel(new String[] {"0", "1", "2", "3", "4",
"5", "6", "7", "8", "9"}));


        final JComboBox t2 = new JComboBox();

        t2.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));

        t2.setModel(new DefaultComboBoxModel(new String[] {"0", "1", "2", "3", "4",
"5", "6", "7", "8", "9"}));


        final JComboBox t3 = new JComboBox();

        t3.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));

        t3.setModel(new DefaultComboBoxModel(new String[] {"10^0", "10^1", "10^2",
"10^3", "10^4", "10^5", "10^6", "10^7", "10^8", "10^9"}));


        final JComboBox t4 = new JComboBox();

        t4.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));

        t4.setModel(new DefaultComboBoxModel(new String[] {"1", "2", "0.5", "0.25",
"0.1", "5", "10", "20"}));


        JLabel lblColourBandsOf = new JLabel("Colour Band's of Required Resistance :");

        lblColourBandsOf.setForeground(new Color(204, 51, 153));

        lblColourBandsOf.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));
```

```
t5 = new JTextField();
t5.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));
t5.setColumns(10);

JButton btnConvert = new JButton("Convert");
btnConvert.setForeground(new Color(255, 102, 0));
btnConvert.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));
btnConvert.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent arg0) {
                int a,b;
                String s1="null",s2="null",s3="null",s4="null",r,d;
                a=Integer.parseInt((String) t1.getSelectedItem());
                b=Integer.parseInt((String) t2.getSelectedItem());
                r=(String) t3.getSelectedItem();
                d=(String) t4.getSelectedItem();
                switch(a)
                {
                case 0:
                        s1="black";
                        break;
                case 1:
                        s1="brown";
                        break;
                case 2:
                        s1="red";
                        break;
```

```
case 3:
        s1="orange";
        break;
case 4:
        s1="yellow";
        break;
case 5:
        s1="green";
        break;
case 6:
        s1="blue";
        break;
case 7:
        s1="violet";
        break;
case 8:
        s1="grey";
        break;
case 9:
        s1="white";
        break;
}
switch(b)
{
case 0:
        s2="black";
        break;
```

```
case 1:
        s2="brown";
        break;
case 2:
        s2="red";
        break;
case 3:
        s2="orange";
        break;
case 4:
        s2="yellow";
        break;
case 5:
        s2="green";
        break;
case 6:
        s2="blue";
        break;
case 7:
        s2="violet";
        break;
case 8:
        s2="grey";
        break;
case 9:
        s2="white";
        break;
```

```
}
switch(r)
{
case "10^0":
        s3="black";
        break;
case "10^1":
        s3="brown";
        break;
case "10^2":
        s3="red";
        break;
case "10^3":
        s3="orange";
        break;
case "10^4":
        s3="yellow";
        break;
case "10^5":
        s3="green";
        break;
case "10^6":
        s3="blue";
        break;
case "10^7":
        s3="violet";
        break;
```

```
case "10^8":
        s3="grey";
        break;
case "10^9":
        s3="white";
        break;
}
switch(d)
{
case "1":
        s4="brown";
        break;
case "2":
        s4="red";
        break;
case "0.5":
        s4="green";
        break;
case "0.25":
        s4="blue";
        break;
case "0.1":
        s4="violet";
        break;
case "5":
        s4="gold";
        break;
```

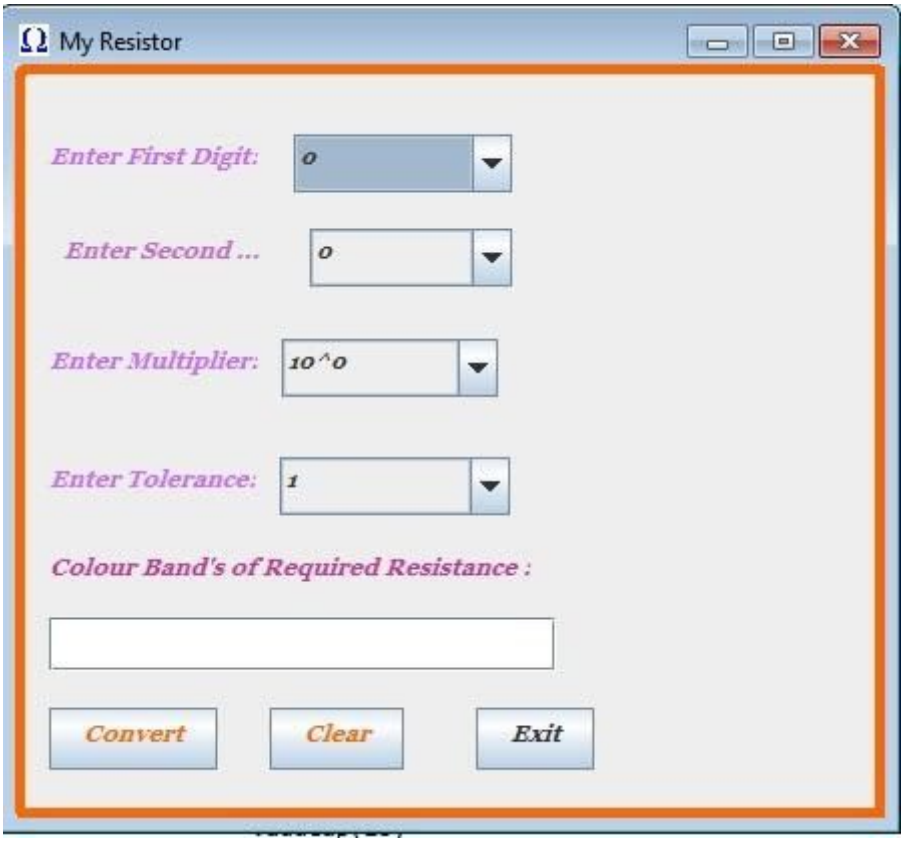
```
                    case "10":
                            s4="silver";
                            break;
                    case "20":
                            s4="no colour";
                            break;

                    }
                    t5.setText(s1+"  "+s2+"  "+s3+"  "+s4);


            }
});

JButton btnClear = new JButton("Clear");
btnClear.setForeground(new Color(255, 102, 0));
btnClear.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));
btnClear.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                    t5.setText("");

            }
});

JButton btnExit = new JButton("Exit");
btnExit.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));
btnExit.addActionListener(new ActionListener() {
```

```
                public void actionPerformed(ActionEvent e) {
                        setVisible(false);
                        mainrc y=new mainrc();
                        y.setVisible(true);
                }
        });
        GroupLayout gl_contentPane = new GroupLayout(contentPane);
        gl_contentPane.setHorizontalGroup(
                gl_contentPane.createParallelGroup(Alignment.LEADING)
                        .addGroup(gl_contentPane.createSequentialGroup()
                                .addContainerGap()
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
                                                .addGroup(Alignment.TRAILING,
gl_contentPane.createSequentialGroup()
.addComponent(lblEnterSecondDigit, GroupLayout.PREFERRED_SIZE, 105,
GroupLayout.PREFERRED_SIZE)
                                                        .addGap(18)
                                                        .addComponent(t2,
GroupLayout.PREFERRED_SIZE, 101, GroupLayout.PREFERRED_SIZE)
.addPreferredGap(ComponentPlacement.RELATED))
.addGroup(gl_contentPane.createSequentialGroup()
                                                        .addComponent(lblNewLabel)
.addPreferredGap(ComponentPlacement.UNRELATED)
```

```
                                                .addComponent(t1,
GroupLayout.PREFERRED_SIZE, 109, GroupLayout.PREFERRED_SIZE)))

.addGroup(gl_contentPane.createSequentialGroup()

                                                .addComponent(lblEnterTolerance)

.addPreferredGap(ComponentPlacement.RELATED)

                                                .addComponent(t4,
GroupLayout.PREFERRED_SIZE, 115, GroupLayout.PREFERRED_SIZE))

.addGroup(gl_contentPane.createSequentialGroup()

                                                .addComponent(lblEnterMultiplier)

.addPreferredGap(ComponentPlacement.RELATED)

                                                .addComponent(t3,
GroupLayout.PREFERRED_SIZE, 108, GroupLayout.PREFERRED_SIZE))

                                            .addComponent(t5, GroupLayout.PREFERRED_SIZE,
253, GroupLayout.PREFERRED_SIZE)

.addGroup(gl_contentPane.createSequentialGroup()

                                                .addComponent(btnConvert)

                                                .addGap(26)

                                                .addComponent(btnClear)

                                                .addGap(36)

                                                .addComponent(btnExit))

                                            .addComponent(lblColourBandsOf))

                                        .addContainerGap(161, Short.MAX_VALUE))

            );

            gl_contentPane.setVerticalGroup(

                    gl_contentPane.createParallelGroup(Alignment.LEADING)

                            .addGroup(gl_contentPane.createSequentialGroup()
```

```
                .addGap(30)

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                .addComponent(lblNewLabel)
                .addComponent(t1, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                .addGap(18)

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                .addComponent(lblEnterSecondDigit)
                .addComponent(t2, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                .addGap(26)

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                .addComponent(lblEnterMultiplier)
                .addComponent(t3, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                .addGap(30)

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                .addComponent(lblEnterTolerance)
                .addComponent(t4, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                .addGap(18)
                .addComponent(lblColourBandsOf)
                .addGap(12)
                .addComponent(t5, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE)
                .addGap(18)
```

```
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                                                .addComponent(btnConvert)
                                                .addComponent(btnClear)
                                                .addComponent(btnExit))
                                        .addContainerGap())
            );
            contentPane.setLayout(gl_contentPane);}}
```




- **Third JFrame:**

```
package mainrc;


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.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JComboBox;
import javax.swing.LayoutStyle.ComponentPlacement;
import javax.swing.JTextField;
import javax.swing.JButton;
import javax.swing.DefaultComboBoxModel;

import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.awt.Font;
import java.awt.Color;
import java.awt.Toolkit;
import javax.swing.border.LineBorder;

public class cr extends JFrame {

    private JPanel contentPane;
    private JTextField t4;

    /**
     * Launch the application.
```

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

	/**
	 * Create the frame.
	 */
	public cr() {
		setTitle("My Resistor\r\n");

setIconImage(Toolkit.getDefaultToolkit().getImage("C:\\Users\\Rakesh\\Desktop\\symbol.png"));
		setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
		setBounds(100, 100, 450, 399);
		contentPane = new JPanel();
		contentPane.setBorder(new LineBorder(new Color(255, 102, 0), 5, true));
		setContentPane(contentPane);
```

```
JLabel lblEnterFirstBands = new JLabel("Enter First Band's Colour:");

lblEnterFirstBands.setForeground(new Color(204, 102, 255));

lblEnterFirstBands.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));


JLabel lblEnterSecondBands = new JLabel("Enter Second Band's Colour:");

lblEnterSecondBands.setForeground(new Color(204, 102, 204));

lblEnterSecondBands.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));


JLabel lblEnterThirdBands = new JLabel("Enter Third Band's Colour:");

lblEnterThirdBands.setForeground(new Color(204, 102, 204));

lblEnterThirdBands.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));


JLabel lblEnterFourthTolerancs = new JLabel("Enter Fourth Tolerancs Band's
Colour: ");

lblEnterFourthTolerancs.setForeground(new Color(204, 102, 204));

lblEnterFourthTolerancs.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));


final JComboBox t1 = new JComboBox();

t1.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));

t1.setModel(new DefaultComboBoxModel(new String[] {"black", "brown", "red",
"orange", "yellow", "green", "blue", "violet", "grey", "white"}));


final JComboBox t2 = new JComboBox();

t2.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));

t2.setForeground(new Color(0, 0, 0));

t2.setModel(new DefaultComboBoxModel(new String[] {"black", "brown", "red",
"orange", "yellow", "green", "blue", "violet", "grey", "white"}));
```

```
final JComboBox t3 = new JComboBox();

t3.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));

t3.setModel(new DefaultComboBoxModel(new String[] {"black", "brown", "red",
"orange", "yellow", "green", "blue", "violet", "grey", "white"}));


final JComboBox t5 = new JComboBox();

t5.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));

t5.setModel(new DefaultComboBoxModel(new String[] {"brown", "red", "green",
"blue", "violet", "gold", "silver", "no colour"}));


JLabel lblResistanceValueIs = new JLabel("Resistance Value is:");

lblResistanceValueIs.setForeground(new Color(255, 102, 153));

lblResistanceValueIs.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));


t4 = new JTextField();

t4.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));

t4.setColumns(10);

t4.setEditable(false);


JButton btnConvert = new JButton("Convert");

btnConvert.setForeground(new Color(255, 102, 0));

btnConvert.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));

btnConvert.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {

                String x1="null";

                int x2=0,d=0;

                double t=0;

                String a=(String) t1.getSelectedItem();
```

```
String b=(String) t2.getSelectedItem();
String c=(String) t3.getSelectedItem();
String h=(String) t5.getSelectedItem();
switch(a)
{
case "black":
            x2=0;
            break;
            case "brown":
             x2=1;
            break;
            case "red":
            x2=2;
            break;
            case "orange":
            x2=3;
            break;
            case "yellow":
            x2=4;
            break;
            case "green":
            x2=5;
            break;
            case "blue":
            x2=6;
            break;
            case "violet":
```

```
            x2=7;
            break;
            case "grey":
            x2=8;
            break;
            case "white":
            x2=9;
            break;
}
switch(b)
{
case "black":
            d=0;
            break;
            case "brown":
             d=1;
            break;
            case "red":
            d=2;
            break;
            case "orange":
            d=3;
            break;
            case "yellow":
            d=4;
            break;
            case "green":
```

```
            d=5;
            break;
            case "blue":
            d=6;
            break;
            case "violet":
            d=7;
            break;
            case "grey":
            d=8;
            break;
            case "white":
            d=9;
            break;
}
switch (c)
{
case "black":
x1="10^0";
break;
case "brown":
x1="10^1";
break;
case "red":
x1="10^2";
break;
case "orange":
```

```
x1="10^3";
break;
case "yellow":
x1="10^4";
break;
case "green":
x1="10^5";
break;
case "blue":
x1="10^6";
break;
case "violet":
x1="10^7";
break;
case "grey":
x1="10^8";
break;
case "white":
x1="10^9";
break;
}
switch(h)
{
case "brown":
        t=1;
        break;
case "red":
```

```
                    t=2;
                    break;
                case "green":
                    t=0.5;
                    break;
                case "blue":
                    t=0.25;
                    break;
                case "violet":
                    t=0.1;
                    break;
                case "gold":
                    t=5;
                    break;
                case "silver":
                    t=10;
                    break;
                case "no colour":
                    t=20;
                    break;
                }
                t4.setText("("+x2+""+d+"*"+x1+")+/-"+t+"%");

        }
});

JButton btnClear = new JButton("Clear");
```

```
btnClear.setForeground(new Color(255, 102, 0));
btnClear.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 14));
btnClear.addActionListener(new ActionListener() {
	public void actionPerformed(ActionEvent e) {
		t4.setText("");
	}
});

JButton btnExit = new JButton("Exit");
btnExit.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 14));
btnExit.addActionListener(new ActionListener() {
	public void actionPerformed(ActionEvent e) {
		setVisible(false);
		mainrc h=new mainrc();
		h.setVisible(true);
	}
});
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
	gl_contentPane.createParallelGroup(Alignment.LEADING)
		.addGroup(gl_contentPane.createSequentialGroup()
			.addContainerGap()

.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)

.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING, false)

.addGroup(gl_contentPane.createSequentialGroup()
```

**.addComponent(lblEnterFirstBands)**

**.addPreferredGap(ComponentPlacement.RELATED)**

**.addComponent(t1, GroupLayout.PREFERRED_SIZE, 93, GroupLayout.PREFERRED_SIZE))**

**.addGroup(gl_contentPane.createSequentialGroup()**

**.addComponent(lblEnterThirdBands)**

**.addPreferredGap(ComponentPlacement.UNRELATED)**

**.addComponent(t3, 0, GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))**

**.addGroup(gl_contentPane.createSequentialGroup()**

**.addComponent(lblEnterFourthTolerancs)**

**.addPreferredGap(ComponentPlacement.UNRELATED)**

**.addComponent(t5, GroupLayout.PREFERRED_SIZE, 100, GroupLayout.PREFERRED_SIZE))**

**.addGroup(gl_contentPane.createSequentialGroup()**

**.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)**

**.addComponent(lblResistanceValueIs)**

**.addComponent(btnConvert))**

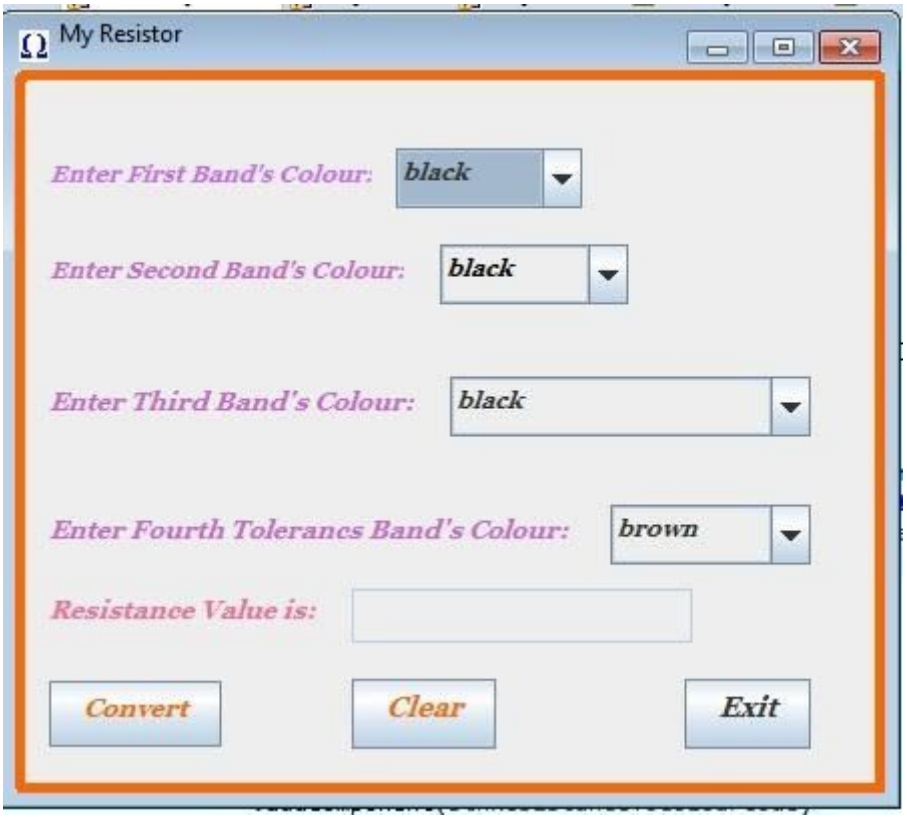
**.addPreferredGap(ComponentPlacement.UNRELATED)**

**.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)**

```
.addGroup(gl_contentPane.createSequentialGroup()

.addComponent(btnClear)

.addPreferredGap(ComponentPlacement.RELATED, 82, Short.MAX_VALUE)

.addComponent(btnExit))

                                                    .addComponent(t4,
GroupLayout.PREFERRED_SIZE, 170, GroupLayout.PREFERRED_SIZE))))

.addGroup(gl_contentPane.createSequentialGroup()

                                                .addComponent(lblEnterSecondBands)

.addPreferredGap(ComponentPlacement.UNRELATED)

                                                .addComponent(t2,
GroupLayout.PREFERRED_SIZE, 94, GroupLayout.PREFERRED_SIZE)))

                                        .addContainerGap(119, Short.MAX_VALUE))

            );

            gl_contentPane.setVerticalGroup(

                    gl_contentPane.createParallelGroup(Alignment.LEADING)

                            .addGroup(gl_contentPane.createSequentialGroup()

                                    .addGap(34)

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)

                                            .addComponent(lblEnterFirstBands)

                                            .addComponent(t1, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))

                                    .addGap(18)

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
```

```
                                        .addComponent(lblEnterSecondBands)
                                        .addComponent(t2, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                                    .addGap(36)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                                        .addComponent(lblEnterThirdBands)
                                        .addComponent(t3, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                                    .addGap(34)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                                        .addComponent(lblEnterFourthTolerancs)
                                        .addComponent(t5, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                                    .addPreferredGap(ComponentPlacement.UNRELATED)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                                        .addComponent(lblResistanceValueIs)
                                        .addComponent(t4, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
                                    .addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
                                        .addComponent(btnConvert)
                                        .addComponent(btnClear)
                                        .addComponent(btnExit))
                                    .addContainerGap(48, Short.MAX_VALUE))
            );
            contentPane.setLayout(gl_contentPane);
```

}




## ❖ Fourth JFrame (With JDBC connection):

```
package mainrc;


import java.awt.BorderLayout;

import java.sql.*;

import java.awt.EventQueue;


import javax.swing.JFrame;

import javax.swing.JOptionPane;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.JLabel;
```

```
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JTextField;
import javax.swing.JButton;

import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import java.awt.event.KeyAdapter;
import java.awt.event.KeyEvent;

import javax.swing.LayoutStyle.ComponentPlacement;

import java.awt.Font;
import java.awt.Color;
import java.awt.Toolkit;

import javax.swing.border.LineBorder;
import javax.swing.JComboBox;
import javax.swing.DefaultComboBoxModel;

public class rest extends JFrame {

    private JPanel contentPane;
    private JTextField t1;
    private JTextField t4;
    private JLabel lblResistanceValue;
    private JLabel lblYourDeliveryAddress;
```

```
private JTextField t2;
private JButton btnExit;
private JLabel lblTotalPrice;
private JTextField t5;


/**
 * Launch the application.
 */
public static void main(String[] args) {
	EventQueue.invokeLater(new Runnable() {
		public void run() {
			try {
				rest frame = new rest();
				frame.setVisible(true);
			} catch (Exception e) {
				e.printStackTrace();
			}
		}
	});
}


/**
 * Create the frame.
 */
public rest() {
	setTitle("My Resistor");
```

```
setIconImage(Toolkit.getDefaultToolkit().getImage("C:\\Users\\Rakesh\\Desktop\\symbol.png"));
                setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                setBounds(100, 100, 481, 372);
                contentPane = new JPanel();
                contentPane.setBorder(new LineBorder(new Color(255, 102, 0), 5, true));
                setContentPane(contentPane);

                JLabel lblName = new JLabel("Your Name:");
                lblName.setForeground(new Color(204, 51, 255));
                lblName.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));

                t1 = new JTextField();
                t1.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));
                t1.setColumns(10);
                t1.addKeyListener(new KeyAdapter(){
        public void keyPressed(KeyEvent e){

           char ch = e.getKeyChar();

if(ch=='#'||ch=='$'||ch=='%'||ch=='@'||ch=='&'||ch=='*'||ch=='('||ch==')'||ch=='!'||ch=='+'||ch=='_'||ch=='1'||ch=='2'||ch=='3'||
                        ch=='4'||ch=='5'||ch=='6'||ch=='7'||ch=='8'||ch=='9'||ch=='0'){
              JOptionPane.showMessageDialog(null, "Only alphabets are allowed are allowed!");
             t1.setText("");
            }
            else{
```

```
            }
        }
});

                final JComboBox t3 = new JComboBox();
                t3.setForeground(new Color(0, 0, 0));
                t3.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 12));
                t3.setModel(new DefaultComboBoxModel(new String[] {"1Kohm", "10Kohm",
"100Kohm", "1Mohm"}));

                JLabel lblId = new JLabel("quantity:");
                lblId.setForeground(new Color(204, 51, 255));
                lblId.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));

                t4 = new JTextField();
                t4.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));
                t4.setColumns(10);
                t4.addKeyListener(new KeyAdapter(){
        public void keyPressed(KeyEvent e){

            char ch = e.getKeyChar();

if(ch=='1'||ch=='2'||ch=='3'||ch=='4'||ch=='5'||ch=='6'||ch=='7'||ch=='8'||ch=='9'||ch=='0'){
            }
            else{
                JOptionPane.showMessageDialog(null, "Only numbers are allowed are allowed!");
               t4.setText("");
```

```
            }
        }
});

        JButton btnAdd = new JButton("submit");
        btnAdd.setForeground(new Color(255, 102, 0));
        btnAdd.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));
        btnAdd.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent arg0) {
                String a,b,c,d;
                int m,n;
                a=t1.getText();
                b=t2.getText();
                d=(String)t3.getSelectedItem();
                m=Integer.parseInt(t4.getText());
                switch(d)
                {
                case "1Kohm":n=1*m;
                t5.setText(Integer.toString(n));
                break;
                case "10Kohm":n=2*m;
                t5.setText(Integer.toString(n));
                break;
                case "100Kohm":n=3*m;
                t5.setText(Integer.toString(n));
                break;
                case"1Mohm":n=5*m;
```

```
                                t5.setText(Integer.toString(n));

                                break;

                                default:t5.setText("Not Available");

                                break;

                                }

                                try{

                                    Class.forName("com.mysql.jdbc.Driver");

                                    Connection con=DriverManager.getConnection(
"jdbc:mysql://localhost:3306/mydata","root","yogesh");

                                                Statement stmt=con.createStatement();

                                                c="INSERT INTO
data1(name,address,resistancevalue,quantity)
VALUES("+"'"+a+"'"+","+"'"+b+"'"+","+"'"+d+"'"+","+m+")";

                                                int rs=stmt.executeUpdate(c);

                        System.out.println("done");

                                        con.close();}catch(Exception e){ System.out.println(e);}

                            }

                });


                lblResistanceValue = new JLabel("Resistance Value:");

                lblResistanceValue.setForeground(new Color(204, 51, 255));

                lblResistanceValue.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));


                lblYourDeliveryAddress = new JLabel("Your Delivery Address:");

                lblYourDeliveryAddress.setForeground(new Color(204, 51, 255));

                lblYourDeliveryAddress.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));


                t2 = new JTextField();
```

```
            t2.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));

            t2.setColumns(10);

            t2.addKeyListener(new KeyAdapter(){

        public void keyPressed(KeyEvent e){


          char ch = e.getKeyChar();


if(ch=='#'||ch=='$'||ch=='%'||ch=='@'||ch=='&'||ch=='*'||ch=='('||ch==')'||ch=='!'||ch=='+'||ch=='_'){

            JOptionPane.showMessageDialog(null, "Only alphabets and numbers are allowed are allowed!");

           t2.setText("");

          }

          else{


          }

        }

});


            btnExit = new JButton("Exit");

            btnExit.setForeground(new Color(0, 0, 0));

            btnExit.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));

            btnExit.addActionListener(new ActionListener() {

                public void actionPerformed(ActionEvent e) {

                    setVisible(false);

                    mainrc y=new mainrc();

                    y.setVisible(true);

                }
```

```
        });

        lblTotalPrice = new JLabel("Total Price :");
        lblTotalPrice.setForeground(new Color(204, 51, 255));
        lblTotalPrice.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 13));

        t5 = new JTextField();
        t5.setFont(new Font("Vani", Font.BOLD | Font.ITALIC, 11));
        t5.setColumns(10);
        t5.setEditable(false);

        GroupLayout gl_contentPane = new GroupLayout(contentPane);
        gl_contentPane.setHorizontalGroup(
                gl_contentPane.createParallelGroup(Alignment.LEADING)
                        .addGroup(gl_contentPane.createSequentialGroup()
                                .addContainerGap()

.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)

.addGroup(gl_contentPane.createSequentialGroup()

.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)

.addComponent(lblYourDeliveryAddress)

.addGroup(gl_contentPane.createSequentialGroup()
                                                                .addComponent(lblId)
                                                                .addGap(18)
```

**.addComponent(t4, GroupLayout.PREFERRED_SIZE, GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE)))**

**.addPreferredGap(ComponentPlacement.RELATED)**

**.addComponent(t2, GroupLayout.PREFERRED_SIZE, 214, GroupLayout.PREFERRED_SIZE))**

**.addGroup(gl_contentPane.createSequentialGroup()**

**.addComponent(lblName)**

**.addGap(18)**

**.addComponent(t1, GroupLayout.PREFERRED_SIZE, 248, GroupLayout.PREFERRED_SIZE))**

**.addGroup(gl_contentPane.createSequentialGroup()**

**.addComponent(lblResistanceValue)**

**.addPreferredGap(ComponentPlacement.UNRELATED)**

**.addComponent(t3, GroupLayout.PREFERRED_SIZE, 123, GroupLayout.PREFERRED_SIZE))**

**.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING, false)**

**.addGroup(gl_contentPane.createSequentialGroup()**

**.addComponent(btnAdd)**

**.addPreferredGap(ComponentPlacement.RELATED, GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)**

**.addComponent(btnExit))**

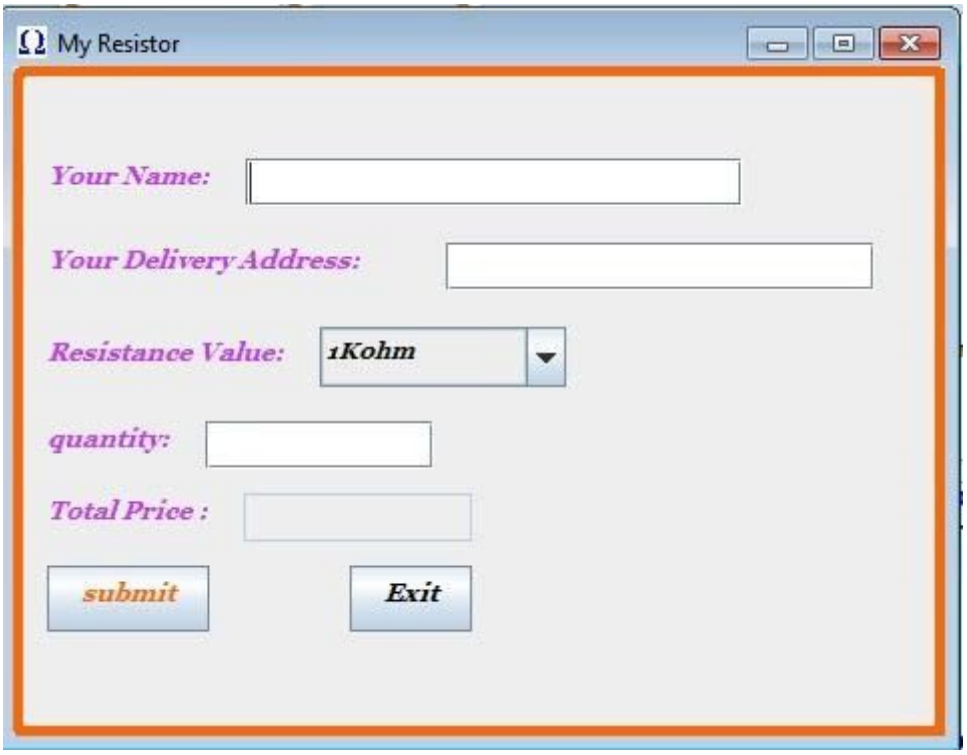
**.addGroup(gl_contentPane.createSequentialGroup()**

**.addComponent(lblTotalPrice)**

**.addPreferredGap(ComponentPlacement.UNRELATED)**

```
                                                .addComponent(t5,
GroupLayout.PREFERRED_SIZE, GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))))

                                .addContainerGap(30, Short.MAX_VALUE))

        );

        gl_contentPane.setVerticalGroup(

                gl_contentPane.createParallelGroup(Alignment.LEADING)

                        .addGroup(gl_contentPane.createSequentialGroup()

                                .addGap(41)


.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)

                                        .addComponent(lblName)

                                        .addComponent(t1, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))

                                .addGap(18)


.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)

                                        .addComponent(lblYourDeliveryAddress)

                                        .addComponent(t2, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))

                                .addGap(18)


.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)

                                        .addComponent(lblResistanceValue)

                                        .addComponent(t3, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))

                                .addGap(17)


.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)

                                        .addComponent(lblId)

                                        .addComponent(t4, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
```

```
                                        .addPreferredGap(ComponentPlacement.UNRELATED)

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)

                                                .addComponent(lblTotalPrice)

                                                .addComponent(t5, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))

                                        .addPreferredGap(ComponentPlacement.UNRELATED)

.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)

                                                .addComponent(btnAdd)

                                                .addComponent(btnExit))

                                        .addGap(44))

            );

            contentPane.setLayout(gl_contentPane);

    }}
```



**Applications:**

- It is a time saving option because it can help you in finding any resistor based on colour code .
- You can identify the value of resistance easily .
- You don't need to memorize any colour code table .
- It can take input from user and store it in Database .
- It can be easily used in laboratories by students because it is user friendly. .

**Conclusion:**

We learned how to work with Basics of GUI (Graphical User Interface).

We understood how to connect a java program to Database using JDBC .

We learned how to interface one JFrame with other.

**Guide: Mrs. Manju Ahuja**

**Group Members**: **Yogesh Tembe ,D6A 54**

**Amey Sonje , D6A 51**