Practical 1: Write Swing Program to divide screen in horizontally in 3 equal parts and fill it with different colours.

```
import javax.swing.*;
import java.awt.*;
public class LayoutColor {
public static void main(String[] args) {
                    JFrame f= new JFrame();
                    JPanel panel=new JPanel();
                    panel.setBackground(Color.orange);
                    JPanel b1=new JPanel();
                    b1.setBackground(Color.white);
                    JPanel b2=new JPanel();
                    b2.setBackground(Color.green);
                    f.add(panel);
                    f.add(b1);
                    f.add(b2);
                    f.setLayout(new GridLayout(3,1));
                    f.setSize(400,600);
                    f.setVisible(true);
          }
}
```

OUTPUT:

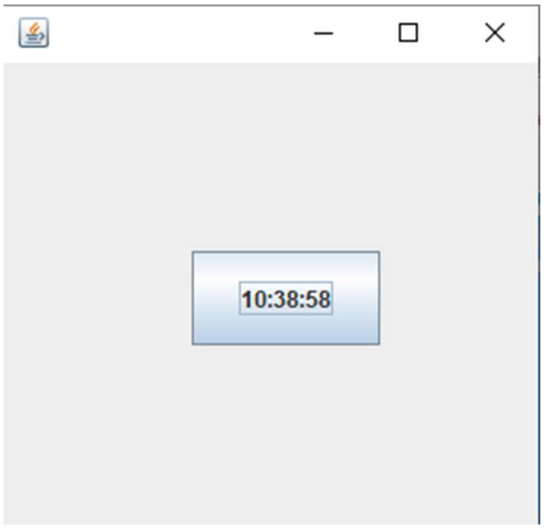
Practical 2: Write Swing code to display digital clock .

```
import javax.swing.*;
import java.awt.*;
import java.text.*;
import java.util.*;
public class DigiteClock implements Runnable{
	JFrame f;
	Thread t=null;
	int hours=0, minutes=0, seconds=0;
	String timeString = "";
	JButton b;

	DigiteClock(){
	   f=new JFrame();
	   t=new Thread(this);
	   t.start();
	   b=new JButton();
	   b.setBounds(100,100,100,50);
	   f.add(b);
	   f.setSize(300,400);
	   f.setLayout(null);
	   f.setVisible(true);
	}
	public void run() {
		try {
			while (true) {
				Calendar cal = Calendar.getInstance();
				hours = cal.get( Calendar.HOUR_OF_DAY );
				minutes = cal.get( Calendar.MINUTE );
				seconds = cal.get( Calendar.SECOND );
				SimpleDateFormat formatter = new SimpleDateFormat("hh:mm:ss");
```

```
                                Date date = cal.getTime();
                                timeString = formatter.format( date );
                                b.setText(timeString);
                            }
                        }
                        catch (Exception e) { }
                }
                public static void main(String[] args) {
                new DigiteClock();
                }
}
```

OUTPUT:



Practical 3: Write a Program in Java to implement Calculator (+, -, *, /, %, sqrt,pow, sin, cos, tan) using Swing..

- "=" Button Actions

```
JButton button_10 = new JButton("=");
button_10.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
double second=Double.parseDouble(textField.getText());
double first=Double.parseDouble(textField_1.getText());

        if(actionRecived.getText().equals("Sub")) {
                double sub=first-second;
                textField_1.setText(first+" - "+second);
                textField.setText(Double.toString(sub));
        }
        else if(actionRecived.getText().equals("Sum")) {
                double sum=first+second;
                textField_1.setText(first+" + "+second);
                textField.setText(Double.toString(sum));
        }
        else if(actionRecived.getText().equals("Div")) {
                double div=first/second;
                textField_1.setText(first+" / "+second);
                textField.setText(Double.toString(div));
        }
        else if(actionRecived.getText().equals("Mul")) {
                double mul=first*second;
                textField_1.setText(first+" * "+second);
                textField.setText(Double.toString(mul));
        }

}
```

```
});
```

- “+,/,*,-“ Button Actions

```
JButton button_11 = new JButton("-");
button_11.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
                textField_1.setText(textField.getText());
                actionRecived.setText("Sub");
                textField.setText("0");
        }
});
```

- “C” Button Actions(Clear)

```
JButton btnC = new JButton("C");
btnC.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
                textField.setText("0");
                textField_1.setText(null);
                actionRecived.setText(null);
        }
});
```

OUTPUT: