**Week 1 - Prerequisites - GUI Programs**

**Practical 1:** Write Swing Program to divide screen in horizontally in 3 equal

parts and fill it with different colors.

**Ans:**

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.

**Ans:**

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) { }

}

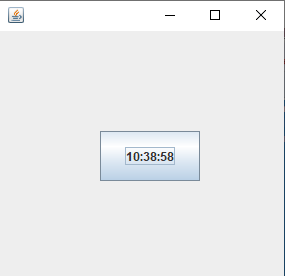
public static void main(String[] args) {

new DigiteClock();

}

}

**Output:**

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**Practical 3:** Write a Program in Java to implement Calculator (+, -, \*, /, %, sqrt,

pow, sin, cos, tan) using Swing.

**Ans:**

🡪(Button = Action Code)

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 – Code(Same as +,/,\*)

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");

}

});

🡪(Button C code)

JButton btnC = new JButton("C");

btnC.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

textField.setText("0");

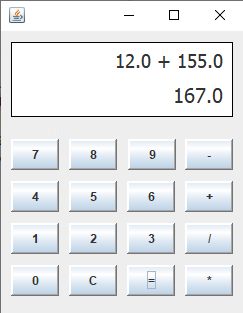
textField\_1.setText(null);

actionRecived.setText(null);

}

});

**Output:**

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