Experiment – 02

Advance Java Lab (5CS4-24)

Class – B.Tech III Year, V Sem.

Objective: Write a program in java to implement calculator using swing technology.

Code:

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

class Calc implements ActionListener
{
                    JFrame f;
                    JTextField t;
                    JButton b1,b2,b3,b4,b5,b6,b7,b8,b9,b0,bdiv,bmul,bsub,badd,bdec,beq,bdel,bclr;

                    static double a=0,b=0,result=0;
                    static int operator=0;

                    Calc()
                    {
                        f=new JFrame("Calculator");
                        t=new JTextField();
                        b1=new JButton("1");
                        b2=new JButton("2");
                        b3=new JButton("3");
                        b4=new JButton("4");
                        b5=new JButton("5");
                        b6=new JButton("6");
                        b7=new JButton("7");
                        b8=new JButton("8");
```

```
b9=new JButton("9");
b0=new JButton("0");
bdiv=new JButton("/");
bmul=new JButton("*");
bsub=new JButton("-");
badd=new JButton("+");
bdec=new JButton(".");
beq=new JButton("=");
bdel=new JButton("Delete");
bclr=new JButton("Clear");

t.setBounds(30,40,280,30);
b7.setBounds(40,100,50,40);
b8.setBounds(110,100,50,40);
b9.setBounds(180,100,50,40);
bdiv.setBounds(250,100,50,40);

b4.setBounds(40,170,50,40);
b5.setBounds(110,170,50,40);
b6.setBounds(180,170,50,40);
bmul.setBounds(250,170,50,40);

b1.setBounds(40,240,50,40);
b2.setBounds(110,240,50,40);
b3.setBounds(180,240,50,40);
bsub.setBounds(250,240,50,40);

bdec.setBounds(40,310,50,40);
b0.setBounds(110,310,50,40);
beq.setBounds(180,310,50,40);
badd.setBounds(250,310,50,40);
```

```
bdel.setBounds(60,380,100,40);
bclr.setBounds(180,380,100,40);

f.add(t);
f.add(b7);
f.add(b8);
f.add(b9);
f.add(bdiv);
f.add(b4);
f.add(b5);
f.add(b6);
f.add(bmul);
f.add(b1);
f.add(b2);
f.add(b3);
f.add(bsub);
f.add(bdec);
f.add(b0);
f.add(beq);
f.add(badd);
f.add(bdel);
f.add(bclr);

f.setLayout(null);
f.setVisible(true);
f.setSize(350,500);
f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
f.setResizable(false);

b1.addActionListener(this);
b2.addActionListener(this);
b3.addActionListener(this);
```

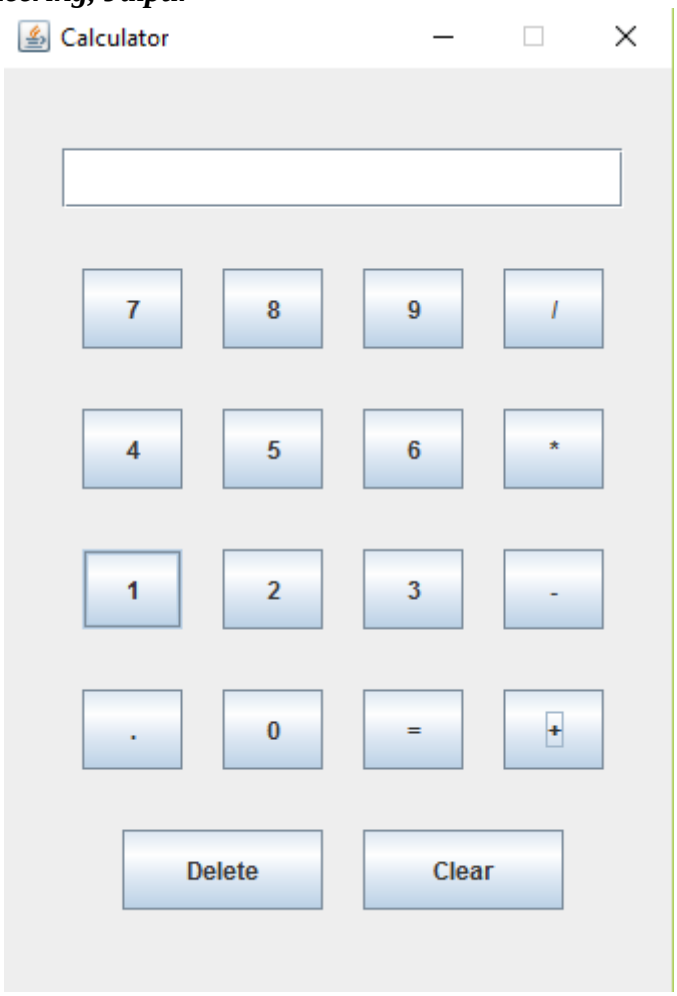
```
        b4.addActionListener(this);
        b5.addActionListener(this);
        b6.addActionListener(this);
        b7.addActionListener(this);
        b8.addActionListener(this);
        b9.addActionListener(this);
        b0.addActionListener(this);
        badd.addActionListener(this);
        bdiv.addActionListener(this);
        bmul.addActionListener(this);
        bsub.addActionListener(this);
        bdec.addActionListener(this);
        beq.addActionListener(this);
        bdel.addActionListener(this);
        bclr.addActionListener(this);
    }

    public void actionPerformed(ActionEvent e)
    {
        if(e.getSource()==b1)
                t.setText(t.getText().concat("1"));

        if(e.getSource()==b2)
                t.setText(t.getText().concat("2"));

        if(e.getSource()==b3)
                t.setText(t.getText().concat("3"));

        if(e.getSource()==b4)
                t.setText(t.getText().concat("4"));

        if(e.getSource()==b5)
```

```
                t.setText(t.getText().concat("5"));

            if(e.getSource()==b6)
                t.setText(t.getText().concat("6"));

            if(e.getSource()==b7)
                t.setText(t.getText().concat("7"));

            if(e.getSource()==b8)
                t.setText(t.getText().concat("8"));

            if(e.getSource()==b9)
                t.setText(t.getText().concat("9"));

            if(e.getSource()==b0)
                t.setText(t.getText().concat("0"));

            if(e.getSource()==bdec)
                t.setText(t.getText().concat("."));

            if(e.getSource()==badd)
            {
                a=Double.parseDouble(t.getText());
                operator=1;
                t.setText("");
            }

            if(e.getSource()==bsub)
            {
                a=Double.parseDouble(t.getText());
                operator=2;
                t.setText("");
```

```
}

if(e.getSource()==bmul)
{
        a=Double.parseDouble(t.getText());
        operator=3;
        t.setText("");
}

if(e.getSource()==bdiv)
{
        a=Double.parseDouble(t.getText());
        operator=4;
        t.setText("");
}

if(e.getSource()==beq)
{
        b=Double.parseDouble(t.getText());

        switch(operator)
        {
                case 1: result=a+b;
                        break;

                case 2: result=a-b;
                        break;

                case 3: result=a*b;
                        break;

                case 4: result=a/b;
```

```
                                        break;

                                default: result=0;
                        }

                        t.setText(""+result);
                }

                if(e.getSource()==bclr)
                        t.setText("");

                if(e.getSource()==bdel)
                {
                        String s=t.getText();
                        t.setText("");
                        for(int i=0;i<s.length()-1;i++)
                        t.setText(t.getText()+s.charAt(i));
                }
        }

        public static void main(String...s)
        {
                new Calc();
        }
}
```

Output:


Calculator
7
8
9
/
4
5
6
*
1
2
3
-
.
0
=
+
Delete
Clear