Swapnanil Dutta Roll: 12

1.

Code:

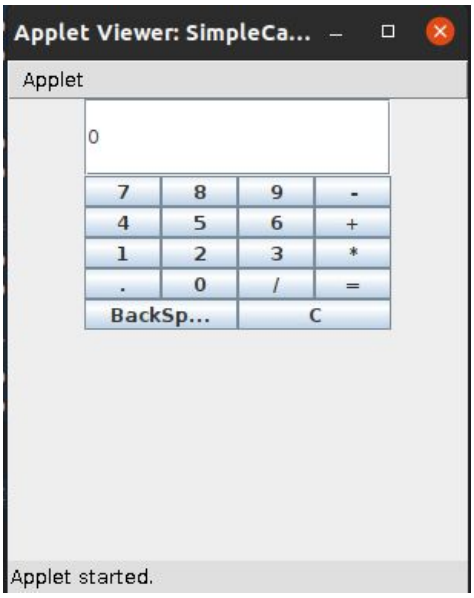
```
/* <applet code="SimpleCalculator.class" width="300"
height="300"></applet>  */
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class SimpleCalculator extends JApplet implements ActionListener {
   String currInput = "0", operator = "", firstNum = "0";
   JTextField display;
   JButton b1, b2, b3, b4, b5, b6, b7, b8, b9, b0, add, sub, mul, div, eq,
cls, bspa, bp;
   public void init() {
       setBackground(Color.gray);
       display = new JTextField(12);
       display.setBackground(Color.white);
       display.setBounds(50, 0, 200, 50);
       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");
       bp = new JButton(".");
       add = new JButton("+");
       sub = new JButton("-");
       mul = new JButton("*");
       div = new JButton("/");
       eq = new JButton("=");
       cls = new JButton("C");
       bspa = new JButton("BackSpace");
       b7.setBounds(50, 50, 50, 20);
       b8.setBounds(100, 50, 50, 20);
```

```
        b9.setBounds(150, 50, 50, 20);
        sub.setBounds(200, 50, 50, 20);
        b4.setBounds(50, 70, 50, 20);
        b5.setBounds(100, 70, 50, 20);
        b6.setBounds(150, 70, 50, 20);
        add.setBounds(200, 70, 50, 20);
        b1.setBounds(50, 90, 50, 20);
        b2.setBounds(100, 90, 50, 20);
        b3.setBounds(150, 90, 50, 20);
        mul.setBounds(200, 90, 50, 20);
        bp.setBounds(50, 110, 50, 20);
        b0.setBounds(100, 110, 50, 20);
        div.setBounds(150, 110, 50, 20);
        eq.setBounds(200, 110, 50, 20);
        bspa.setBounds(50, 130, 100, 20);
        cls.setBounds(150, 130, 100, 20);
        add(display);
        add(b7);
        add(b8);
        add(b9);
        add(sub);
        add(b4);
        add(b5);
        add(b6);
        add(add);
        add(b1);
        add(b2);
        add(b3);
        add(mul);
        add(bp);
        add(b0);
        add(cls);
        add(div);
        add(eq);
        add(bspa);
        setLayout(null);
        display.setText("0");
        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);
        add.addActionListener(this);
        sub.addActionListener(this);
        mul.addActionListener(this);
        div.addActionListener(this);
        eq.addActionListener(this);
        bspa.addActionListener(this);
        bp.addActionListener(this);
        cls.addActionListener(this);
    }
    public void actionPerformed(ActionEvent e) {
        JButton target = (JButton) e.getSource();
        if (e.getSource() == cls) {
            currInput = "0";
        } else if (target == b1 || target == b2 || target == b3 || target
== b4 || target == b5 || target == b6
                || target == b7 || target == b8 || target == b9 || target
== b0 || target == bp) {
            if (currInput == "0") {
                currInput = target.getLabel();
            } else {
                currInput += target.getLabel();
            }
        } else if (target == bspa) {
            if (currInput.length() == 1) {
                currInput = "0";
            } else {
                currInput = currInput.substring(0, currInput.length() - 1);
            }
        } else if (target == add || target == sub || target == mul ||
target == div) {
            operator = target.getLabel();
            firstNum = currInput;
            currInput = "0";
```

```
        } else if (target == eq) {
            Double a, b;
            a = Double.parseDouble(firstNum);
            b = Double.parseDouble(currInput);
            if (operator == "+") {
                a = a + b;
                currInput = a.toString();
                operator = "";
            } else if (operator == "-") {
                a = a - b;
                currInput = a.toString();
                operator = "";
            } else if (operator == "*") {
                a = a * b;
                currInput = a.toString();
                operator = "";
            } else if (operator == "/") {
                a = a / b;
                currInput = a.toString();
                operator = "";
            }
        }
        display.setText(currInput);
    }
}
```

Output:

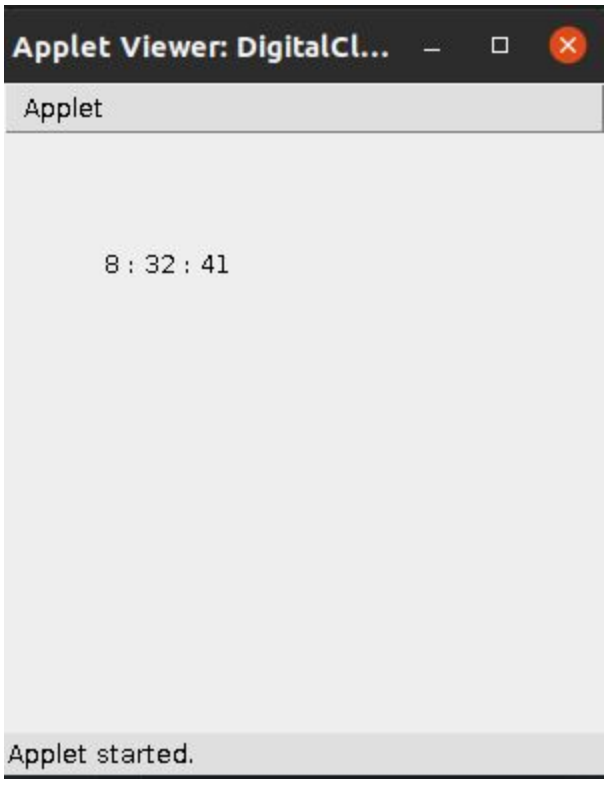


2.
Code:

```
/* <applet code="DigitalClock.class" width="300" height="300"></applet>
*/

import java.awt.Color;
import java.awt.Graphics;
import java.util.Calendar;
import java.util.Date;
import java.util.GregorianCalendar;
import javax.swing.*;

public class DigitalClock extends JApplet implements Runnable {
   String str = "";
   Thread t;
   boolean stopFlag = false;

   public void run() {
       for (;;) {
           try {
               repaint();
               Thread.sleep(150);
               if (stopFlag)
                   break;
           } catch (InterruptedException e) {
               System.out.println(e);
           }
       }
   }

   public void init() {
       setBackground(Color.gray);
       setForeground(Color.green);
   }

   public void start() {
       t = new Thread(this);
       t.start();
   }
```

```
    public void stop() {
        stopFlag = true;
        t = null;
    }

    public void destroy() {
    }

    public void paint(Graphics g) {
        super.paint(g);
        Calendar cal = new GregorianCalendar();
        String hh = String.valueOf(cal.get(Calendar.HOUR));
        String mm = String.valueOf(cal.get(Calendar.MINUTE));
        String ss = String.valueOf(cal.get(Calendar.SECOND));
        str = hh + " : " + mm + " : " + ss;
        g.drawString(str, 50, 70);
    }
}
```

Output:



3.
Code:

```
import java.awt.Color;
import java.awt.event.ActionEvent;
import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class ColorFrame extends JFrame implements ActionListener {
   JFrame f;
   JButton red, green, blue, yellow, black, gray;
   public void create() {
       f = new JFrame();
       red = new JButton("Red");
       green = new JButton("Green");
       blue = new JButton("Blue");
       yellow = new JButton("Yellow");
       black = new JButton("Black");
       gray = new JButton("Gray");
       red.setBounds(50, 50, 100, 40);
       green.setBounds(50, 90, 100, 40);
       blue.setBounds(50, 130, 100, 40);
       yellow.setBounds(50, 170, 100, 40);
       black.setBounds(50, 210, 100, 40);
       gray.setBounds(50, 250, 100, 40);
       red.addActionListener(this);
       green.addActionListener(this);
       blue.addActionListener(this);
       yellow.addActionListener(this);
       black.addActionListener(this);
       gray.addActionListener(this);
       f.setSize(500, 600);
       f.setLayout(null);
       f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
       f.setVisible(true);
       f.add(red);
       f.add(green);
       f.add(blue);
       f.add(yellow);
       f.add(black);
       f.add(gray);
```

```
    }
    public void actionPerformed(ActionEvent e) {
        JButton target = (JButton) e.getSource();
        if (target == red) {
            f.getContentPane().setBackground(Color.RED);
        }
        if (target == green) {
            f.getContentPane().setBackground(Color.GREEN);
        }
        if (target == blue) {
            f.getContentPane().setBackground(Color.BLUE);
        }
        if (target == yellow) {
            f.getContentPane().setBackground(Color.YELLOW);
        }
        if (target == black) {
            f.getContentPane().setBackground(Color.BLACK);
        }
        if (target == gray) {
            f.getContentPane().setBackground(Color.GRAY);
        }
    }
    public static void main(String[] args) {
        ColorFrame ob = new ColorFrame();
        ob.create();
    }
}
```

Output:

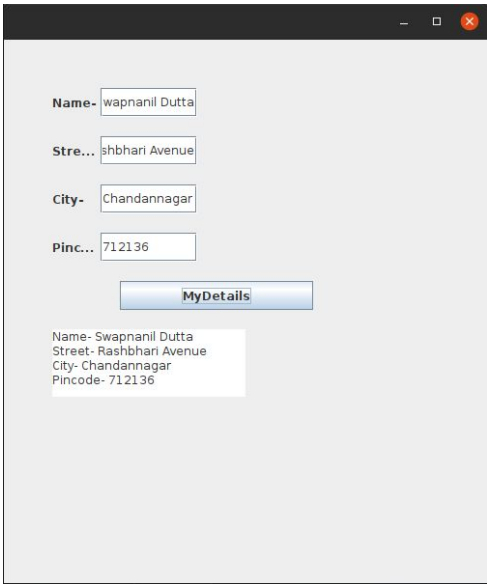
4.

Code:

```
import java.awt.Color;
import java.awt.Font;
import java.awt.event.ActionEvent;
import javax.swing.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class Swing4 extends JFrame implements ActionListener {
   JFrame f;
   JLabel lname, lstreet, lcity, lpin;
   JTextField name, street, city, pin;
   JTextArea display;
   JButton b;
   public void create() {
       f = new JFrame();
       lname = new JLabel("Name- ");
       lname.setBounds(50, 50, 50, 30);
       name = new JTextField();
       name.setBounds(100, 50, 100, 30);
       lstreet = new JLabel("Street- ");
       street = new JTextField();
       lstreet.setBounds(50, 100, 50, 30);
       street.setBounds(100, 100, 100, 30);
       lcity = new JLabel("City- ");
       city = new JTextField();
       lcity.setBounds(50, 150, 50, 30);
       city.setBounds(100, 150, 100, 30);
       lpin = new JLabel("Pincode- ");
       pin = new JTextField();
       lpin.setBounds(50, 200, 50, 30);
       pin.setBounds(100, 200, 100, 30);
       b = new JButton("MyDetails");
       b.addActionListener(this);
       b.setBounds(120, 250, 200, 30);
       f.setLayout(null);
       f.setVisible(true);
       f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
       f.setSize(500, 600);
       f.add(lname);
```

```
        f.add(name);
        f.add(lstreet);
        f.add(street);
        f.add(lcity);
        f.add(city);
        f.add(lpin);
        f.add(pin);
        f.add(b);
        display = new JTextArea();
        display.setBounds(50, 300, 200, 70);
        f.add(display);
    }
    public void actionPerformed(ActionEvent e) {
        Font fo = new Font("Arial", Font.ITALIC, 30);
        f.setFont(fo);
        String str = "Name- " + name.getText() + "\nStreet- " +
street.getText() + "\nCity- " + city.getText()
                + "\nPincode- " + pin.getText();
        display.setText(str);
    }
    public static void main(String[] args) {
        Swing4 ob = new Swing4();
        ob.create();
    }
}
```

Output:



5.
Code:

```
import java.awt.Color;
import java.awt.Font;
import javax.swing.*;

public class Swing5 extends JFrame {
   JFrame f;
   JLabel lname, lage, lqua, ladd;
   JTextField name, age, qua;
   JTextArea add;

   public void create() {
       f = new JFrame();
       lname = new JLabel("Name- ");
       lage = new JLabel("Age- ");
       lqua = new JLabel("Qualification- ");
       ladd = new JLabel("Address- ");
       name = new JTextField();
       age = new JTextField();
       qua = new JTextField();
       add = new JTextArea();
       lname.setBounds(50, 50, 70, 30);
       name.setBounds(120, 50, 100, 30);
       lage.setBounds(50, 100, 70, 30);
       age.setBounds(120, 100, 100, 30);
       lqua.setBounds(50, 150, 70, 30);
       qua.setBounds(120, 150, 100, 30);
       ladd.setBounds(50, 200, 70, 30);
       add.setBounds(120, 200, 100, 100);
       f.setLayout(null);
       f.setVisible(true);
       f.setSize(500, 600);
       f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
       f.add(lname);
       f.add(name);
       f.add(lage);
       f.add(age);
```

```
        f.add(lqua);
        f.add(qua);
        f.add(ladd);
        f.add(add);
    }

    public static void main(String[] args) {
        Swing5 ob = new Swing5();
        ob.create();
    }
}
```

Output: