

শিক্ষা নিয়ে গড়বো দেশ

তথ্য-প্রযুক্তির বাংলাদেশ

Bangabandhu Sheikh Mujibur Rahman Digital University, Bangladesh



LAB REPORT-07

COURSE NO.- PROG 112

COURSE TITLE- OBJECT ORIENTED
PROGRAMMING SESSIONAL

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Problem No.: 01

Problem Name: A GUI Project using Java.

Code:

```
package firstgui;

import java.awt.BorderLayout;
import java.awt.GridLayout;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import javax.swing.BorderFactory;
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JPanel;

public class GUI implements ActionListener{
    private int count=0;
    private JFrame frame;
    private JLabel label;
    private JPanel panel;

    public GUI(){
        frame = new JFrame();

        JButton button = new JButton("Click me!");
        button.addActionListener(this);

        label = new JLabel("Number of clicks : 0");

        panel = new JPanel();
        panel.setBorder(BorderFactory.createEmptyBorder(30,30,10,30));
        panel.setLayout(new GridLayout(0,1));
        panel.add(button);
        panel.add(label);

        frame.add(panel, BorderLayout.CENTER);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setTitle("Our GUI");
    }
}
```

```
    frame.pack();  
    frame.setVisible(true);  
      
      
    }  
      
    public static void main(String[] args) {  
        new GUI();  
    }  
      
    @Override  
    public void actionPerformed(ActionEvent e) {  
        count++;  
        label.setText("Number of clicks : "+count);  
    }  
}
```

Output:

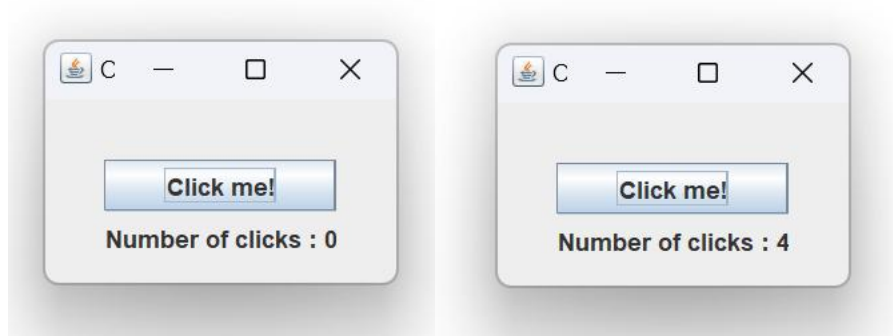


Fig 1.1: Output window.

Explanation:

In this code, Java is used to create Graphical User Interface or GUI for short. This code generates a simple window with a button for which on click the text below changes ie. The number of clicks increases.

Problem No.: 02

Problem Name: Login form, a GUI Project using Java.

Code:

```
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JPanel;
import javax.swing.JPasswordField;
import javax.swing.JTextField;

public class GUI implements ActionListener{
    private static JFrame frame;
    private static JPanel panel;
    private static JLabel UserLabel;
    private static JButton button;
    private static JLabel success;
    private static JTextField userText;
    private static JPasswordField passwordText;

    public static void main(String[] args) {
        frame = new JFrame();
        panel = new JPanel();

        frame.setSize(400,400);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        frame.add(panel);

        panel.setLayout(null);

        UserLabel = new JLabel("User");
        UserLabel.setBounds(10, 20, 80, 25);
        panel.add(UserLabel);

        userText = new JTextField(20);
        userText.setBounds(100,20,165,25);
```

```

panel.add(userText);

JLabel passwordLabel = new JLabel("Password");
passwordLabel.setBounds(10,50, 80, 25);
panel.add(passwordLabel);

passwordText = new JPasswordField();
passwordText.setBounds(100, 50, 165, 25);
panel.add(passwordText);

button = new JButton("Login");
button.setBounds(10,80,80, 25);
button.addActionListener(new GUI());
panel.add(button);

success = new JLabel("");
success.setBounds(10,110,300,25);
panel.add(success);
//success.setText

frame.setVisible(true);
}

@Override
public void actionPerformed(ActionEvent e) {
    String user = userText.getText();
    String password = passwordText.getText();
    if(user.equals("Alex") && password.equals("1234")){
        success.setText("Successfull login");
    }
}
}

```

Output:

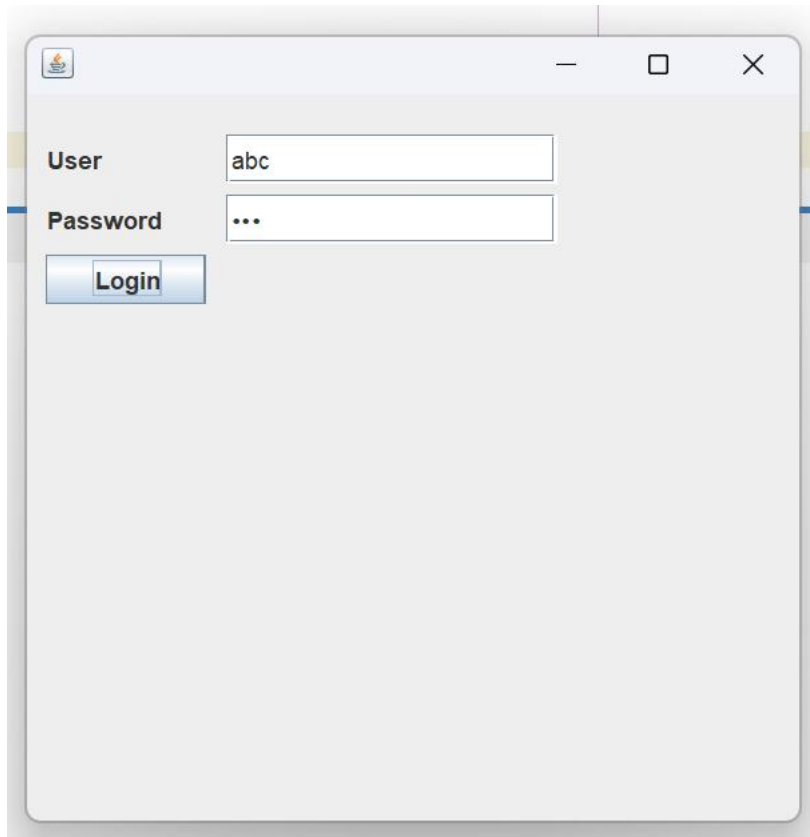


Fig 2.1: Output Window.

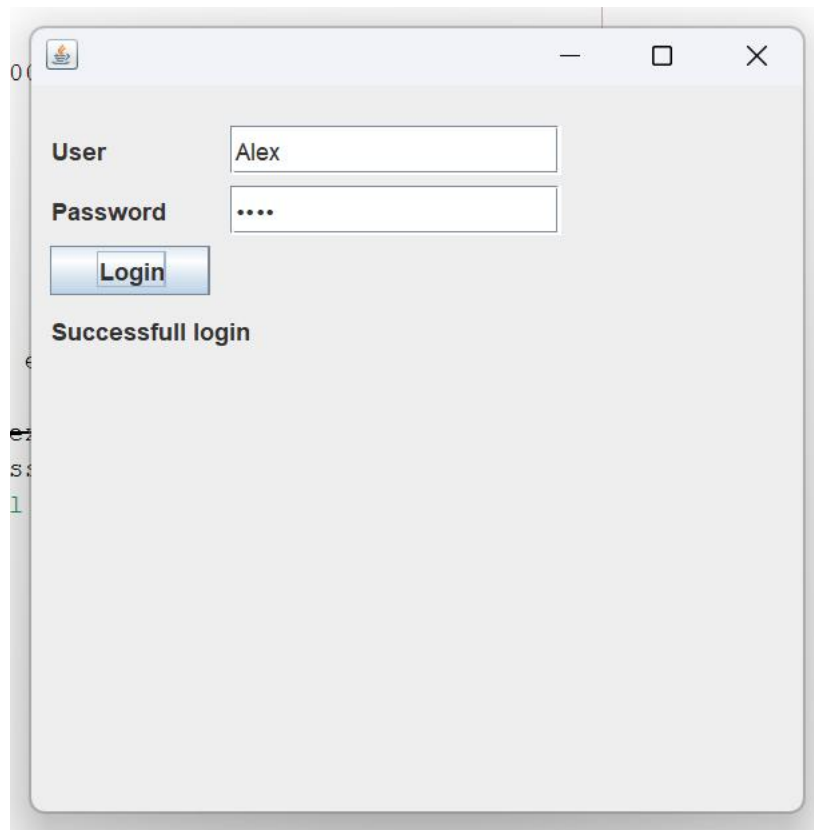


Fig 2.2: Output Window.

Explanation:

This code done in java is creates a login form window where if username is given “Alex” with “1234” being the password shows “Successful login”.

Problem No.: 03

Problem Name: Java project, Calculator.

Code:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license
 *
 * Click
nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to
edit this template
 */
package calc;

/**
 *
 * @author BAB AL SAFA
 */
public class calculator extends javax.swing.JFrame {

    /**
     * Creates new form calculator
     */
    public calculator() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the
form.
     * WARNING: Do NOT modify this code. The content of this method
is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jButton20 = new javax.swing.JButton();
```

```

jButton21 = new javax.swing.JButton();
buttonGroup1 = new javax.swing.ButtonGroup();
jTextField1 = new javax.swing.JTextField();
jRadioButtonON = new javax.swing.JRadioButton();
jRadioButtonOFF = new javax.swing.JRadioButton();
jButtonBackspace = new javax.swing.JButton();
jButtonClear = new javax.swing.JButton();
jButtonPlus = new javax.swing.JButton();
jButton1 = new javax.swing.JButton();
jButton2 = new javax.swing.JButton();
jButton3 = new javax.swing.JButton();
jButtonMultiply = new javax.swing.JButton();
jButtonDevide = new javax.swing.JButton();
jButton6 = new javax.swing.JButton();
jButton5 = new javax.swing.JButton();
jButton4 = new javax.swing.JButton();
jButton7 = new javax.swing.JButton();
jButton8 = new javax.swing.JButton();
jButton9 = new javax.swing.JButton();
jButtonEqual = new javax.swing.JButton();
jButtonDot = new javax.swing.JButton();
jButton0 = new javax.swing.JButton();
jButtonMinus = new javax.swing.JButton();

jButton20.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton20.setText("C");
jButton20.setToolTipText("");

jButton21.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton21.setText("C");
jButton21.setToolTipText("");

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setTitle("Calculator");
setAlwaysOnTop(true);
setType(java.awt.Window.Type.UTILITY);

jTextField1.setEditable(false);
jTextField1.setFont(new java.awt.Font("Tahoma", 1, 24)); //
NOI18N
jTextField1.setToolTipText("");

```

```

        jTextField1.addActionListener(new java.awt.event.ActionListener()
        {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jTextField1ActionPerformed(evt);
            }
        });

        buttonGroup1.add(jRadioButtonON);
        jRadioButtonON.setFont(new java.awt.Font("Tahoma", 1, 12)); //
        NOI18N
        jRadioButtonON.setText("ON");
        jRadioButtonON.setToolTipText("");
        jRadioButtonON.addActionListener(new
        java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jRadioButtonONActionPerformed(evt);
            }
        });

        buttonGroup1.add(jRadioButtonOFF);
        jRadioButtonOFF.setFont(new java.awt.Font("Tahoma", 1, 12)); //
        NOI18N
        jRadioButtonOFF.setText("OFF");
        jRadioButtonOFF.setToolTipText("");
        jRadioButtonOFF.addActionListener(new
        java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jRadioButtonOFFActionPerformed(evt);
            }
        });

        jButtonBackspace.setFont(new java.awt.Font("Tahoma", 1, 14)); //
        NOI18N
        jButtonBackspace.setText("<--");
        jButtonBackspace.addActionListener(new
        java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButtonBackspaceActionPerformed(evt);
            }
        });

        jButtonClear.setFont(new java.awt.Font("Tahoma", 1, 18)); //
        NOI18N

```

```

jButtonClear.setText("C");
jButtonClear.setToolTipText("");
jButtonClear.addActionListener(new java.awt.event.ActionListener()
{
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButtonClearActionPerformed(evt);
    }
});

jButtonPlus.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButtonPlus.setText("+");
jButtonPlus.setToolTipText("");
jButtonPlus.addActionListener(new java.awt.event.ActionListener()
{
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButtonPlusActionPerformed(evt);
    }
});

jButton1.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton1.setText("1");
jButton1.setToolTipText("");
jButton1.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton1ActionPerformed(evt);
    }
});

jButton2.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton2.setText("2");
jButton2.setToolTipText("");
jButton2.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton2ActionPerformed(evt);
    }
});

jButton3.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton3.setText("3");
jButton3.setToolTipText("");
jButton3.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {

```

```

        jButton3ActionPerformed(evt);
    }
});

jButtonMultiply.setFont(new java.awt.Font("Tahoma", 1, 18)); //
NOI18N
jButtonMultiply.setText("*");
jButtonMultiply.setToolTipText("");
jButtonMultiply.addActionListener(new
java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButtonMultiplyActionPerformed(evt);
    }
});

jButtonDevide.setFont(new java.awt.Font("Tahoma", 1, 18)); //
NOI18N
jButtonDevide.setText("/");
jButtonDevide.setToolTipText("");
jButtonDevide.addActionListener(new
java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButtonDevideActionPerformed(evt);
    }
});

jButton6.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton6.setText("6");
jButton6.setToolTipText("");
jButton6.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton6ActionPerformed(evt);
    }
});

jButton5.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton5.setText("5");
jButton5.setToolTipText("");
jButton5.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton5ActionPerformed(evt);
    }
});

```

```

jButton4.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton4.setText("4");
jButton4.setToolTipText("");
jButton4.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton4ActionPerformed(evt);
    }
});

jButton7.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton7.setText("7");
jButton7.setToolTipText("");
jButton7.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton7ActionPerformed(evt);
    }
});

jButton8.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton8.setText("8");
jButton8.setToolTipText("");
jButton8.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton8ActionPerformed(evt);
    }
});

jButton9.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jButton9.setText("9");
jButton9.setToolTipText("");
jButton9.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton9ActionPerformed(evt);
    }
});

jButtonEqual.setFont(new java.awt.Font("Tahoma", 1, 18)); //
NOI18N
jButtonEqual.setText("=");
jButtonEqual.setToolTipText("");
jButtonEqual.addActionListener(new java.awt.event.ActionListener()
{

```

```

        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButtonEqualActionPerformed(evt);
        }
    });

    jButtonDot.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
    jButtonDot.setText(".");
    jButtonDot.setToolTipText("");
    jButtonDot.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButtonDotActionPerformed(evt);
        }
    });

    jButton0.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
    jButton0.setText("0");
    jButton0.setToolTipText("");
    jButton0.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButton0ActionPerformed(evt);
        }
    });

    jButtonMinus.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
    jButtonMinus.setText("-");
    jButtonMinus.setToolTipText("");
    jButtonMinus.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            jButtonMinusActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout layout = new
    javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

```

```

        .addGroup(layout.createSequentialGroup()
            .addContainerGap()
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addComponent(jButton4,
                        javax.swing.GroupLayout.PREFERRED_SIZE, 51,
                        javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
                        javax.swing.GroupLayout.DEFAULT_SIZE,
                        Short.MAX_VALUE)
                    .addComponent(jButton5,
                        javax.swing.GroupLayout.PREFERRED_SIZE, 51,
                        javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(jButton6,
                        javax.swing.GroupLayout.PREFERRED_SIZE, 51,
                        javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addGroup(layout.createSequentialGroup()
                            .addComponent(jButtonMinus,
                                javax.swing.GroupLayout.PREFERRED_SIZE, 51,
                                javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGap(0, 0, Short.MAX_VALUE))
                        .addGroup(layout.createSequentialGroup()
                            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                                    .addGap(0, 1, Short.MAX_VALUE)
                                    .addComponent(jButtonMultiply,
                                        javax.swing.GroupLayout.PREFERRED_SIZE, 51,
                                        javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addGroup(layout.createSequentialGroup()
                                    .addComponent(jButtonDevide,
                                        javax.swing.GroupLayout.PREFERRED_SIZE, 51,
                                        javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addGap(0, 0, Short.MAX_VALUE)))
                            .addContainerGap()))
                )
            )
        )
    )

```



```

        .addGroup(layout.createSequentialGroup())
        .addComponent(jButton0,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPla
cement.RELATED)
        .addComponent(jButtonDot,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPla
cement.RELATED)
        .addComponent(jButtonEqual,
javax.swing.GroupLayout.PREFERRED_SIZE,          108,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(0, 0, Short.MAX_VALUE))
        .addGroup(layout.createSequentialGroup())
        .addGroup(layout.createParallelGroup(javax.swing.Group
Layout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup())
        .addComponent(jButton1,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.Compone
ntPlacement.RELATED)
        .addComponent(jButton2,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.Compone
ntPlacement.RELATED)
        .addComponent(jButton3,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGroup(layout.createSequentialGroup())
        .addComponent(jButton7,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.Compone
ntPlacement.RELATED)
        .addComponent(jButton8,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.Compone
ntPlacement.RELATED)

```

```

        .addComponent(jButton9,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_
SIZE, Short.MAX_VALUE))
        .addGroup(layout.createSequentialGroup())
        .addGroup(layout.createParallelGroup(javax.swing.Group
Layout.Alignment.LEADING)
        .addComponent(jTextField1,
javax.swing.GroupLayout.Alignment.TRAILING)
        .addGroup(layout.createSequentialGroup())
        .addGroup(layout.createParallelGroup(javax.swing.G
roupLayout.Alignment.LEADING)
        .addComponent(jRadioButtonON)
        .addComponent(jRadioButtonOFF))
        .addPreferredGap(javax.swing.LayoutStyle.Compone
ntPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
        .addComponent(jButtonBackspace,
javax.swing.GroupLayout.PREFERRED_SIZE,          53,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.Compone
ntPlacement.RELATED)
        .addComponent(jButtonClear,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(8, 8, 8)
        .addComponent(jButtonPlus,
javax.swing.GroupLayout.PREFERRED_SIZE,          51,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(0, 0, Short.MAX_VALUE)))
        .addContainerGap()))
    );
    layout.setVerticalGroup(

    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADI
NG)
        .addGroup(layout.createSequentialGroup())
        .addGap(24, 24, 24)
        .addComponent(jTextField1,
javax.swing.GroupLayout.PREFERRED_SIZE,          53,
javax.swing.GroupLayout.PREFERRED_SIZE)

```

```

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jRadioButtonON)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addComponent(jRadioButtonOFF)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
                    javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
                    javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING, false)
                    .addComponent(jButtonBackspace,
                        javax.swing.GroupLayout.Alignment.LEADING,
                        javax.swing.GroupLayout.DEFAULT_SIZE,
                        javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                        .addComponent(jButtonClear)
                        .addComponent(jButtonPlus))))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)))
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jButtonMinus)
            .addGroup(layout.createSequentialGroup()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jButton1)
                    .addComponent(jButton2)
                    .addComponent(jButton3))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jButton6)

```

```

        .addComponent(jButton5)
        .addComponent(jButton4)
        .addComponent(jButtonMultiply))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacem
cement.RELATED)
        .addGroup(layout.createParallelGroup(javax.swing.Group
Layout.Alignment.BASELINE)
        .addComponent(jButton7)
        .addComponent(jButton8)
        .addComponent(jButton9)
        .addComponent(jButtonDevide))))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlaceme
nt.RELATED)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayo
ut.Alignment.BASELINE)
        .addComponent(jButtonEqual)
        .addComponent(jButtonDot)
        .addComponent(jButton0))
        .addContainerGap()
    );

```

```

    pack();
} // </editor-fold>

```

```

private void jButtonBackspaceActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

```

```

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"1");
}

```

```

private void jButton3ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"3");
}

```

```

private void jButton5ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"5");
}

```

```

private void jButton7ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"7");
}

private void jButtonRadioOFFActionPerformed(java.awt.event.ActionEvent evt) {
}

private void jTextField1ActionPerformed(java.awt.event.ActionEvent
evt) {
    // TODO add your handling code here:
}

private void jButton6ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"6");
}

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"2");
}

private void jButton4ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"4");
}

private void jButton8ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"8");
}

private void jButton9ActionPerformed(java.awt.event.ActionEvent evt)
{
    jTextField1.setText(jTextField1.getText()+"9");
}

private void jButton0ActionPerformed(java.awt.event.ActionEvent evt)
{

```

```

        jTextField1.setText(jTextField1.getText()+"0");
    }

    private void jButtonDotActionPerformed(java.awt.event.ActionEvent
    evt) {
        jTextField1.setText(jTextField1.getText()+".");
    }

    private void
    jButtonEqualActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void
    jButtonDevideActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void
    jButtonMultiplyActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void
    jButtonMinusActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void jButtonPlusActionPerformed(java.awt.event.ActionEvent
    evt) {
        // TODO add your handling code here:
    }

    private void jButtonClearActionPerformed(java.awt.event.ActionEvent
    evt) {
        // TODO add your handling code here:
    }

    private void
    jButtonRadioONActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

```

```

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting
code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
        *           For           details           see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
        */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(calculator.class.getName()).log(java.u
til.logging.Level.SEVERE, null, ex);
    } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(calculator.class.getName()).log(java.u
til.logging.Level.SEVERE, null, ex);
    } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(calculator.class.getName()).log(java.u
til.logging.Level.SEVERE, null, ex);
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(calculator.class.getName()).log(java.u
til.logging.Level.SEVERE, null, ex);
    }
}
//</editor-fold>

/* Create and display the form */
java.awt.EventQueue.invokeLater(new Runnable() {
    public void run() {

```

```

        new calculator().setVisible(true);
    }
});
}

// Variables declaration - do not modify
private javax.swing.ButtonGroup buttonGroup1;
private javax.swing.JButton jButton0;
private javax.swing.JButton jButton1;
private javax.swing.JButton jButton2;
private javax.swing.JButton jButton20;
private javax.swing.JButton jButton21;
private javax.swing.JButton jButton3;
private javax.swing.JButton jButton4;
private javax.swing.JButton jButton5;
private javax.swing.JButton jButton6;
private javax.swing.JButton jButton7;
private javax.swing.JButton jButton8;
private javax.swing.JButton jButton9;
private javax.swing.JButton jButtonBackspace;
private javax.swing.JButton jButtonClear;
private javax.swing.JButton jButtonDevide;
private javax.swing.JButton jButtonDot;
private javax.swing.JButton jButtonEqual;
private javax.swing.JButton jButtonMinus;
private javax.swing.JButton jButtonMultiply;
private javax.swing.JButton jButtonPlus;
private javax.swing.JRadioButton jRadioButtonOFF;
private javax.swing.JRadioButton jRadioButtonON;
private javax.swing.JTextField jTextField1;
// End of variables declaration
}

```


Output:

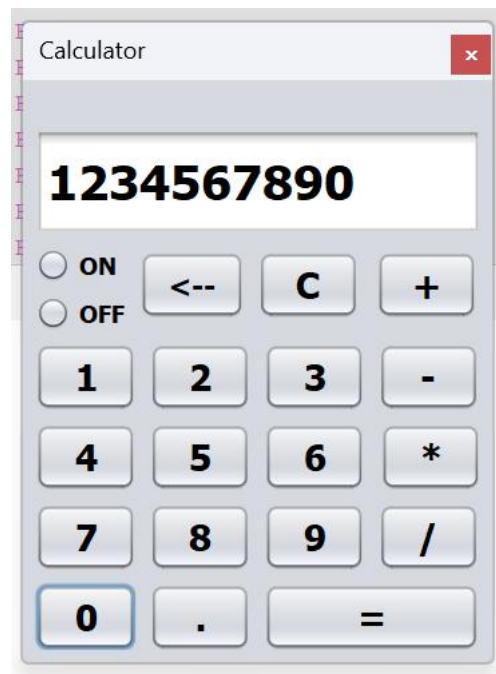


Fig 3.1: Output window.

Explanation:

The code is creates a GUI calculator window that can only display numbers. On click on the number pad the display field would concatenate and display the numbers.