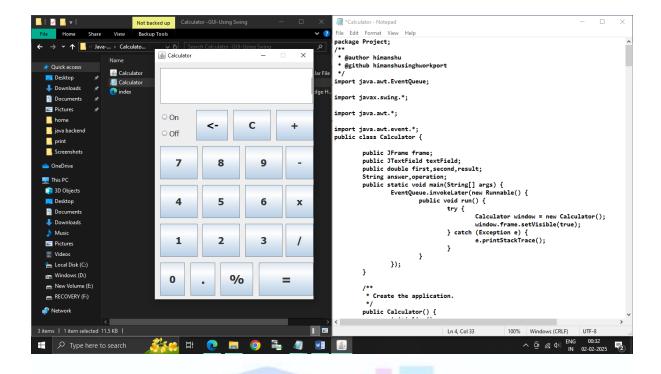


By Himanshu Singh

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Notes available at www.studentdriveacademy.com



```
package Project;

/**

* @author himanshu

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*/
import java.awt.EventQueue;

import javax.swing.*;

import java.awt.*;

import java.awt.event.*;

public class Calculator {

public JFrame frame;

public JTextField textField;
```

Notes by Himanshu Singh [Lecturer Govt. Polytechnic Kanpur]

```
public double first, second, result;
String answer, operation;
public static void main(String[] args) {
     EventQueue.invokeLater(new Runnable() {
          public void run() {
                try {
                     Calculator window = new Calculator();
                     window.frame.setVisible(true);
                } catch (Exception e) {
                     e.printStackTrace();
                }
          }
     });
}
/**
 * Create the application.
 */
public Calculator() {
     initialize();
private void initialize() {
     frame = new JFrame("Calculator");
     frame.setSize(376, 576);
frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
     frame.setResizable(false);
```

```
frame.getContentPane().setLayout(null);
         textField = new JTextField();
    textField.setHorizontalAlignment(SwingConstants.RIGHT);
         textField.setFont(new Font("Tahoma", Font.PLAIN,
32));
         textField.setBounds(12, 13, 348, 82);
         frame.getContentPane().add(textField);
         textField.setColumns(10);
         ButtonGroup btg=new ButtonGroup();
         JRadioButton rdbtnNewRadioButton = new
JRadioButton("On");
         rdbtnNewRadioButton.setFont(new Font("Tahoma",
Font.PLAIN, 17));
         rdbtnNewRadioButton.setBounds(12, 108, 74, 32);
         frame.getContentPane().add(rdbtnNewRadioButton);
         JRadioButton rdbtnNewRadioButton_1 = new
JRadioButton("Off");
         rdbtnNewRadioButton_1.setFont(new Font("Tahoma",
Font.PLAIN, 17));
         rdbtnNewRadioButton_1.setBounds(12, 145, 74, 32);
         frame.getContentPane().add(rdbtnNewRadioButton_1);
         btg.add(rdbtnNewRadioButton);
         btg.add(rdbtnNewRadioButton_1);
```

```
JButton bspc = new JButton("<-");</pre>
          bspc.addActionListener(new ActionListener() {
               public void actionPerformed(ActionEvent e) {
                     try {
                          String bsp;
                          if(textField.getText().length()>0)
                               StringBuilder obj=new
StringBuilder(textField.getText());
     obj.deleteCharAt(textField.getText().length()-1);
                                bsp=obj.toString();
                               textField.setText(bsp);
                          }
                          } catch (Exception e1) {
               }
          }):
          bspc.setFont(new Font("Tahoma", Font.BOLD, 22));
          bspc.setForeground(new Color(0, 0, 0));
          bspc.setBounds(94, 108, 72, 69);
          frame.getContentPane().add(bspc);
          JButton bc = new JButton("C");
          bc.setFont(new Font("Tahoma", Font.BOLD, 22));
          bc.addActionListener(new ActionListener() {
               public void actionPerformed(ActionEvent e) {
```

```
textField.setText(null);
         }
    });
    bc.setBounds(178, 108, 85, 69);
    frame.getContentPane().add(bc);
    JButton bplus = new JButton("+");
    bplus.addActionListener(new ActionListener() {
          public void actionPerformed(ActionEvent e) {
              try {
first=Double.parseDouble(textField.getText());
                   textField.setText("");
                    operation="+";
                   } catch (Exception e1) {
    }):
    bplus.setFont(new Font("Tahoma", Font.BOLD, 22));
    bplus.setBounds(275, 108, 85, 69);
    frame.getContentPane().add(bplus);
```

```
JButton b7 = new JButton("7");
          b7.addActionListener(new ActionListener() {
               public void actionPerformed(ActionEvent e) {
                     String num=textField.getText()+b7.getText();
                    textField.setText(num);
               }
          }):
          b7.setFont(new Font("Tahoma", Font.BOLD, 22));
          b7.setBounds(12, 190, 85, 75);
          frame.getContentPane().add(b7);
          JButton b8 = new JButton();
          b8.setText("8");
          b8.addActionListener(new ActionListener() {
                     public void actionPerformed(ActionEvent e)
{
                          String
num=textField.getText()+b8.getText();
                          textField.setText(num);
                    }
          });
          b8.setFont(new Font("Tahoma", Font.BOLD, 22));
          b8.setBounds(108, 190, 85, 75);
          frame.getContentPane().add(b8);
          JButton b9 = new JButton("9");
          b9.addActionListener(new ActionListener() {
```

```
public void actionPerformed(ActionEvent e) {
               String num=textField.getText()+b9.getText();
              textField.setText(num);
         }
    });
    b9.setFont(new Font("Tahoma", Font.BOLD, 22));
    b9.setBounds(205, 190, 85, 75);
    frame.getContentPane().add(b9);
     JButton bmin = new JButton("-");
    bmin.addActionListener(new ActionListener() {
          public void actionPerformed(ActionEvent e) {
              try {
first=Double.parseDouble(textField.getText());
                   textField.setText("");
                   operation="-";
                   } catch (Exception e1) {
    });
    bmin.setFont(new Font("Tahoma", Font.BOLD, 22));
    bmin.setBounds(297, 190, 63, 75);
    frame.getContentPane().add(bmin);
```

```
JButton b4 = new JButton("4");
b4.addActionListener(new ActionListener() {
     public void actionPerformed(ActionEvent e) {
          String num=textField.getText()+b4.getText();
          textField.setText(num);
     }
});
b4.setFont(new Font("Tahoma", Font.BOLD, 22));
b4.setBounds(12, 278, 85, 75);
frame.getContentPane().add(b4);
JButton b5 = new JButton("5");
b5.addActionListener(new ActionListener() {
     public void actionPerformed(ActionEvent e) {
          String num=textField.getText()+b5.getText();
          textField.setText(num);
     }
}):
b5.setFont(new Font("Tahoma", Font.BOLD, 22));
b5.setBounds(108, 278, 85, 75);
frame.getContentPane().add(b5);
JButton b6 = new JButton("6");
b6.addActionListener(new ActionListener() {
     public void actionPerformed(ActionEvent e) {
          String num=textField.getText()+b6.getText();
```

```
textField.setText(num);
          }
     });
     b6.setFont(new Font("Tahoma", Font.BOLD, 22));
     b6.setBounds(205, 278, 85, 75);
     frame.getContentPane().add(b6);
     JButton bx = new JButton("x");
     bx.addActionListener(new ActionListener() {
          public void actionPerformed(ActionEvent e) {
               try {
first=Double.parseDouble(textField.getText());
                    textField.setText("");
                    operation="x";
                    } catch (Exception e1) {
     });
     bx.setFont(new Font("Tahoma", Font.BOLD, 22));
     bx.setBounds(297, 278, 63, 75);
     frame.getContentPane().add(bx);
     //////Row 4
```

```
JButton b1 = new JButton("1");
b1.addActionListener(new ActionListener() {
     public void actionPerformed(ActionEvent e) {
          String num=textField.getText()+b1.getText();
          textField.setText(num);
     }
}):
b1.setFont(new Font("Tahoma", Font.BOLD, 22));
b1.setBounds(12, 366, 85, 75);
frame.getContentPane().add(b1);
JButton b2 = new JButton("2");
b2.addActionListener(new ActionListener() {
     public void actionPerformed(ActionEvent e) {
          String num=textField.getText()+b2.getText();
          textField.setText(num);
});
b2.setFont(new Font("Tahoma", Font.BOLD, 22));
b2.setBounds(108, 366, 85, 75);
frame.getContentPane().add(b2);
JButton b3 = new JButton("3");
b3.addActionListener(new ActionListener() {
     public void actionPerformed(ActionEvent e) {
     String num=textField.getText()+b3.getText();
     textField.setText(num);
```

```
}
    });
    b3.setFont(new Font("Tahoma", Font.BOLD, 22));
    b3.setBounds(205, 366, 85, 75);
    frame.getContentPane().add(b3);
    JButton bd = new JButton("/");
    bd.addActionListener(new ActionListener() {
         public void actionPerformed(ActionEvent e) {
              try {
first=Double.parseDouble(textField.getText());
                  textField.setText("");
                   operation="/";
                  } catch (Exception e1) {
    });
    bd.setFont(new Font("Tahoma", Font.BOLD, 22));
    bd.setBounds(297, 366, 63, 75);
    frame.getContentPane().add(bd);
    JButton b0 = new JButton("0");
```

```
b0.addActionListener(new ActionListener() {
          public void actionPerformed(ActionEvent e) {
               String num=textField.getText()+b0.getText();
               textField.setText(num);
          }
     }):
     b0.setFont(new Font("Tahoma", Font.BOLD, 22));
     b0.setBounds(12, 454, 56, 75);
     frame.getContentPane().add(b0);
     JButton bp = new JButton("%");
     bp.addActionListener(new ActionListener() {
          public void actionPerformed(ActionEvent e) {
               try {
first=Double.parseDouble(textField.getText());
                     textField.setText("");
                     operation="%";
                    } catch (Exception e1) {
          }
     });
     bp.setFont(new Font("Tahoma", Font.BOLD, 28));
     bp.setBounds(149, 454, 74, 75);
     frame.getContentPane().add(bp);
```

```
JButton btnNewButton = new JButton(".");
          btnNewButton.addActionListener(new ActionListener() {
               public void actionPerformed(ActionEvent e) {
                    try{
                         String
num=textField.getText()+btnNewButton.getText();
                         textField.setText(num);
                         } catch (Exception e1) {
               }
          });
          btnNewButton.setFont(new Font("Tahoma",
Font.BOLD, 28));
          btnNewButton.setBounds(81, 454, 56, 75);
          frame.getContentPane().add(btnNewButton);
          JButton begl = new JButton("=");
          beql.setFont(new Font("Tahoma", Font.BOLD, 28));
          beql.addActionListener(new ActionListener() {
               public void actionPerformed(ActionEvent e) {
                    try{
     second=Double.parseDouble(textField.getText());
                         switch(operation)
                               case "+":
```

```
result=first+second;
answer=String.format("%.2f",result);
                                 textField.setText(answer);
                                 break;
                           case "-":
                                 result=first-second;
answer=String.format("%.2f",result);
                                 textField.setText(answer);
                                 break;
                           case "x":
                                 result=first*second:
answer=String.format("%.2f",result);
                                 textField.setText(answer);
                                 break;
                           case "/":
                                 result=first/second;
answer=String.format("%.2f",result);
                                 textField.setText(answer);
                                 break;
                           case "%":
                                 result=first%second;
answer=String.format("%.2f",result);
                                 textField.setText(answer);
                                 break;
```

```
}
                     }
                     catch(Exception e1){
                     }
               }
          });
          beql.setBounds(236, 454, 124, 75);
          frame.getContentPane().add(beql);
          rdbtnNewRadioButton.addActionListener(new
ActionListener() {
               public void actionPerformed(ActionEvent e) {
                     rdbtnNewRadioButton.setEnabled(false);
                     rdbtnNewRadioButton_1.setEnabled(true);
                     textField.setEnabled(true);
                     b1.setEnabled(true);
                     b2.setEnabled(true);
                     b3.setEnabled(true);
                     b4.setEnabled(true);
                     b5.setEnabled(true);
                     b6.setEnabled(true);
                     b7.setEnabled(true);
                     b8.setEnabled(true);
                     b9.setEnabled(true);
```

```
b0.setEnabled(true);
                     bspc.setEnabled(true);
                     bplus.setEnabled(true);
                     bmin.setEnabled(true);
                     bx.setEnabled(true);
                     bd.setEnabled(true);
                     beql.setEnabled(true);
                     bc.setEnabled(true);
                     bp.setEnabled(true);
                     btnNewButton.setEnabled(true);
               }
          });
          rdbtnNewRadioButton_1.addActionListener(new
ActionListener() {
               public void actionPerformed(ActionEvent e) {
                     rdbtnNewRadioButton.setEnabled(true);
                     rdbtnNewRadioButton_1.setEnabled(false);
                     textField.setEnabled(false);
                     b1.setEnabled(false);
                     b2.setEnabled(false);
                     b3.setEnabled(false);
                     b4.setEnabled(false);
                     b5.setEnabled(false);
                     b6.setEnabled(false);
                     b7.setEnabled(false);
                     b8.setEnabled(false);
                     b9.setEnabled(false);
```

```
b0.setEnabled(false);
bspc.setEnabled(false);
bplus.setEnabled(false);
bmin.setEnabled(false);
bx.setEnabled(false);
bd.setEnabled(false);
beql.setEnabled(false);
bc.setEnabled(false);
bp.setEnabled(false);
bp.setEnabled(false);
}
btnNewButton.setEnabled(false);
}
});
}
```

