RAGHU ENGINEERING COLLEGE

Roll No:14981A0543

Mid Term Java Project No 26

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Evaluator Signature with date:
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24/02/17   24/02/17

Contents

Instructions

You need to update this document with your source code and a sample output run of the code.

It should be submitted through blackboard that is "your mail id" -> "Teacher mailid(satyacomp@gmail.com)".

Your program needs to compile cleanly with no warnings or errors.

Points **will be deducted** if

a. If you do not use proper names and standards to all identifiers(variables, constants, class names, objects and functions)
b. The code is not properly indented
c. There aren't enough comments explaining the program
d. The code does not work
e. If you do not include the input/output(Screen shots) of the program in this document
f. If you do not submit the project back in this word/pdf document template and spiral binded
g. If you do not check for invalid user inputs
h. Plagiarism is strictly checked, 20% copying is allowed
i. Save this documentation and convert to pdf and filename should be **<rollno>_project<no>.pdf.** Example if your rollno is **15981A0564** and assigned with project no. 32. Then file name is **15981A0564 _project32.pdf**

The Project

The calculator is a little unusual. It does not have any buttons representing binary operators (this would require a little more Java than you know at this point). Instead it has buttons that perform unary operations (like squaring, doubling, halving, negating), digit buttons, and a clear key. There are several ways you can track down the problems. You can use the graphical user interface to see what the behavior is.

For example, clicking '3' should cause the number 3 to appear in the display. Clicking '7' right after should change the number in the display to 37.

Clicking the 'x/2' button should change the number in the display to 18 (integer division produces an integer value:
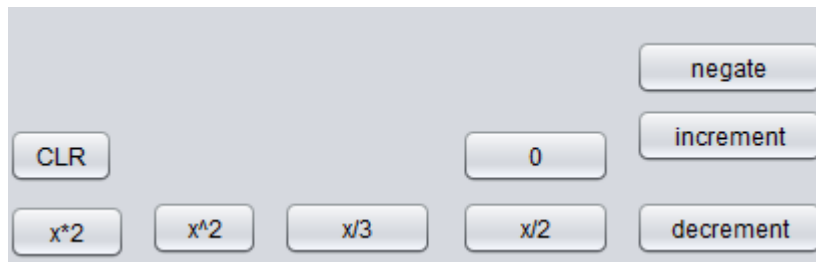
37/2 has quotient 18 with remainder

You can inspect the behaviour and implement as per the directions and screenshot colors/alignments.

Project Analysis/Design:

Algorithm for main page

STEP 1:   Start

      2:    Display the buttons along with the Textfield for input.

      3:    User types the input into the Textfield

      4:    If User selects Negate button

      5:        The int present in the TextField is Negated.

      6:    Else If The User selects Increment button

      7:        The int present in the TextField is incremented by 1.

      8:    Else If The User selects Decrement button

      9:        The int present in the TextField is decremented by 1.

      10:    Else If The User selects x/2 button

      11:        The int present in the TextField is divided by 2.

      12:    Else If The User selects x/3 button

      13:        The int present in the TextField is divided by 3.

      14:    Else If The User selects x^2 button

      15:        The int present in the TextField is squared.

      16:    Else If The User selects x*2 button

      17:        The int present in the TextField is multiplied by 2.

      18:    Else If The User selects CLR button

      19:        The int present in the TextField is cleared.

          [End If]

    20:Stop

Buttons on main page

				negate
				increment
CLR			0	
x*2	x^2	x/3	x/2	decrement

Source Code

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package Calc;

import javax.swing.JTextField;

/**
 *
 * @author Aditya Singh
 */
public class Calculator extends javax.swing.JFrame {

    /**
     * Creates new form calc1
     */
    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">//GEN-
BEGIN:initComponents
```

```java
private void initComponents() {

    jScrollPane1 = new javax.swing.JScrollPane();
    jTextArea1 = new javax.swing.JTextArea();
    jDesktopPane1 = new javax.swing.JDesktopPane();
    jTabbedPane1 = new javax.swing.JTabbedPane();
    jDesktopPane2 = new javax.swing.JDesktopPane();
    jTabbedPane2 = new javax.swing.JTabbedPane();
    jTextField1 = new javax.swing.JTextField();
    jButton2 = new javax.swing.JButton();
    jButton3 = new javax.swing.JButton();
    jButton4 = new javax.swing.JButton();
    jButton5 = new javax.swing.JButton();
    jButton6 = new javax.swing.JButton();
    jButton7 = new javax.swing.JButton();
    jButton8 = new javax.swing.JButton();
    jButton9 = new javax.swing.JButton();
    jButton10 = new javax.swing.JButton();
    jButton11 = new javax.swing.JButton();
    jButton12 = new javax.swing.JButton();
    jButton13 = new javax.swing.JButton();
    jButton14 = new javax.swing.JButton();
    jButton15 = new javax.swing.JButton();
    jButton16 = new javax.swing.JButton();
    jButton20 = new javax.swing.JButton();
    jButton21 = new javax.swing.JButton();
    jButton22 = new javax.swing.JButton();

    jTextArea1.setColumns(20);
    jTextArea1.setRows(5);
    jScrollPane1.setViewportView(jTextArea1);
```

```java
        javax.swing.GroupLayout jDesktopPane1Layout = new
javax.swing.GroupLayout(jDesktopPane1);

        jDesktopPane1.setLayout(jDesktopPane1Layout);

        jDesktopPane1Layout.setHorizontalGroup(

jDesktopPane1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

            .addGap(0, 100, Short.MAX_VALUE)

        );

        jDesktopPane1Layout.setVerticalGroup(

jDesktopPane1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

            .addGap(0, 100, Short.MAX_VALUE)

        );


        javax.swing.GroupLayout jDesktopPane2Layout = new
javax.swing.GroupLayout(jDesktopPane2);

        jDesktopPane2.setLayout(jDesktopPane2Layout);

        jDesktopPane2Layout.setHorizontalGroup(

jDesktopPane2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

            .addGap(0, 100, Short.MAX_VALUE)

        );

        jDesktopPane2Layout.setVerticalGroup(

jDesktopPane2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)

            .addGap(0, 100, Short.MAX_VALUE)

        );


        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);


        jTextField1.addActionListener(new java.awt.event.ActionListener() {

            public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```java
            jTextField1ActionPerformed(evt);

        }

    });


    jButton2.setText("x*2");

    jButton2.addActionListener(new java.awt.event.ActionListener() {

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

            jButton2ActionPerformed(evt);

        }

    });


    jButton3.setText("x^2");

    jButton3.addActionListener(new java.awt.event.ActionListener() {

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

            jButton3ActionPerformed(evt);

        }

    });


    jButton4.setText("CLR");

    jButton4.addActionListener(new java.awt.event.ActionListener() {

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

            jButton4ActionPerformed(evt);

        }

    });


    jButton5.setText("3");

    jButton5.addActionListener(new java.awt.event.ActionListener() {

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

            jButton5ActionPerformed(evt);

        }

    });
```

```java
jButton6.setText("4");

jButton6.addActionListener(new java.awt.event.ActionListener() {

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

        jButton6ActionPerformed(evt);

    }

});


jButton7.setText("7");

jButton7.addActionListener(new java.awt.event.ActionListener() {

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

        jButton7ActionPerformed(evt);

    }

});


jButton8.setText("8");

jButton8.addActionListener(new java.awt.event.ActionListener() {

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

        jButton8ActionPerformed(evt);

    }

});


jButton9.setText("5");

jButton9.addActionListener(new java.awt.event.ActionListener() {

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

        jButton9ActionPerformed(evt);

    }

});


jButton10.setText("2");

jButton10.addActionListener(new java.awt.event.ActionListener() {

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

        jButton10ActionPerformed(evt);
```

```java
    }
});


jButton11.setText("0");
jButton11.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton11ActionPerformed(evt);
    }
});


jButton12.setText("x/2");
jButton12.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton12ActionPerformed(evt);
    }
});


jButton13.setText("x/3");
jButton13.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton13ActionPerformed(evt);
    }
});


jButton14.setText("9");
jButton14.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton14ActionPerformed(evt);
    }
});


jButton15.setText("6");
```

```java
jButton15.addActionListener(new java.awt.event.ActionListener() {

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

        jButton15ActionPerformed(evt);

    }

});


jButton16.setText("1");

jButton16.addActionListener(new java.awt.event.ActionListener() {

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

        jButton16ActionPerformed(evt);

    }

});


jButton20.setText("negate");

jButton20.addActionListener(new java.awt.event.ActionListener() {

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

        jButton20ActionPerformed(evt);

    }

});


jButton21.setText("increment");

jButton21.addActionListener(new java.awt.event.ActionListener() {

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

        jButton21ActionPerformed(evt);

    }

});


jButton22.setText("decrement");

jButton22.addActionListener(new java.awt.event.ActionListener() {

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

        jButton22ActionPerformed(evt);

    }
```

```java
        });


        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)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                        .addComponent(jButton11,
javax.swing.GroupLayout.PREFERRED_SIZE, 75,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addGroup(layout.createSequentialGroup()

                        .addComponent(jButton2,
javax.swing.GroupLayout.PREFERRED_SIZE, 59,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

                        .addComponent(jButton3,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

                        .addComponent(jButton13,
javax.swing.GroupLayout.PREFERRED_SIZE, 75,
javax.swing.GroupLayout.PREFERRED_SIZE)

                        .addGap(14, 14, 14)

                        .addComponent(jButton12,
javax.swing.GroupLayout.PREFERRED_SIZE, 75,
javax.swing.GroupLayout.PREFERRED_SIZE)))
```

```
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADI
NG, false)

            .addComponent(jButton20, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(jButton22, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

            .addComponent(jButton21,
javax.swing.GroupLayout.PREFERRED_SIZE, 95,
javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADI
NG)

            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.CENTE
R)

                .addGroup(javax.swing.GroupLayout.Alignment.LEADING,
layout.createSequentialGroup()

                .addComponent(jButton7,
javax.swing.GroupLayout.PREFERRED_SIZE, 129,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

                .addComponent(jButton8,
javax.swing.GroupLayout.PREFERRED_SIZE, 129,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

                .addComponent(jButton14,
javax.swing.GroupLayout.PREFERRED_SIZE, 130,
javax.swing.GroupLayout.PREFERRED_SIZE))

                .addGroup(layout.createSequentialGroup()
```

```
                    .addComponent(jButton6,
javax.swing.GroupLayout.PREFERRED_SIZE, 129,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

                    .addComponent(jButton9,
javax.swing.GroupLayout.PREFERRED_SIZE, 129,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(6, 6, 6)

                    .addComponent(jButton15,
javax.swing.GroupLayout.PREFERRED_SIZE, 130,
javax.swing.GroupLayout.PREFERRED_SIZE))))
            .addGroup(layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADI
NG)

                    .addGroup(layout.createSequentialGroup()

                    .addGap(58, 58, 58)

                    .addComponent(jTextField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 291,
javax.swing.GroupLayout.PREFERRED_SIZE))

                    .addGroup(layout.createSequentialGroup()

                    .addContainerGap()

                    .addComponent(jButton5,
javax.swing.GroupLayout.PREFERRED_SIZE, 129,
javax.swing.GroupLayout.PREFERRED_SIZE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

                    .addComponent(jButton10,
javax.swing.GroupLayout.PREFERRED_SIZE, 129,
javax.swing.GroupLayout.PREFERRED_SIZE)

                    .addGap(6, 6, 6)

                    .addComponent(jButton16,
javax.swing.GroupLayout.PREFERRED_SIZE, 130,
javax.swing.GroupLayout.PREFERRED_SIZE)))

                    .addGap(0, 0, Short.MAX_VALUE)))

            .addContainerGap())
    );
```

```java
        layout.linkSize(javax.swing.SwingConstants.HORIZONTAL, new
java.awt.Component[] {jButton10, jButton14, jButton15, jButton16, jButton5,
jButton6, jButton7, jButton8, jButton9});


        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jTextField1,
javax.swing.GroupLayout.PREFERRED_SIZE, 47,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(31, 31, 31)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jButton7, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton8, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton14, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jButton6, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton9, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                    .addComponent(jButton15, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jButton5, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
```

```
                .addComponent(jButton10, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

                .addComponent(jButton16, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

            .addGap(31, 31, 31)

            .addComponent(jButton20, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)


.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILI
NG)

                .addComponent(jButton2)

                .addGroup(layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADI
NG)

                    .addGroup(layout.createSequentialGroup()

                      .addComponent(jButton21)

                      .addGap(18, 18, 18))

                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)

                        .addComponent(jButton11)

                        .addComponent(jButton4))

                      .addGap(8, 8, 8)))


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELI
NE)

                    .addComponent(jButton22)

                    .addComponent(jButton12)

                    .addComponent(jButton13)

                    .addComponent(jButton3))

                  .addGap(2, 2, 2)))

            .addContainerGap())
```

```
        );


        pack();
    }// </editor-fold>//GEN-END:initComponents



    private void jButton15ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton15ActionPerformed

        jTextField1.setText(jTextField1.getText() + "6");

    }//GEN-LAST:event_jButton15ActionPerformed



    private void jButton16ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton16ActionPerformed

        jTextField1.setText(jTextField1.getText() +"1");

    }//GEN-LAST:event_jButton16ActionPerformed



    private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton10ActionPerformed

        jTextField1.setText(jTextField1.getText() +"2");

    }//GEN-LAST:event_jButton10ActionPerformed



    private void jButton21ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton21ActionPerformed

        jTextField1.setText(Integer.toString(Integer.parseInt(jTextField1.getText())+1));

    }//GEN-LAST:event_jButton21ActionPerformed



    private void jButton22ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton22ActionPerformed

jTextField1.setText(Integer.toString(Integer.parseInt(jTextField1.getText())-1));


    }//GEN-LAST:event_jButton22ActionPerformed



    private void jButton12ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton12ActionPerformed

  jTextField1.setText(Integer.toString(Integer.parseInt(jTextField1.getText())/2));
```

```java
    }//GEN-LAST:event_jButton12ActionPerformed


    private void jButton20ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton20ActionPerformed

        jTextField1.setText(Integer.toString(Integer.parseInt(jTextField1.getText())*(-
1)));

    }//GEN-LAST:event_jButton20ActionPerformed


    private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton4ActionPerformed

        jTextField1.setText("");

    }//GEN-LAST:event_jButton4ActionPerformed


    private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_jTextField1ActionPerformed

        // TODO add your handling code here:


    }//GEN-LAST:event_jTextField1ActionPerformed


    private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton6ActionPerformed

        jTextField1.setText(jTextField1.getText() + "4");

    }//GEN-LAST:event_jButton6ActionPerformed


    private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton5ActionPerformed

        jTextField1.setText(jTextField1.getText() + "3");

    }//GEN-LAST:event_jButton5ActionPerformed


    private void jButton9ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton9ActionPerformed

        jTextField1.setText(jTextField1.getText() + "5");

    }//GEN-LAST:event_jButton9ActionPerformed
```

```java
    private void jButton7ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton7ActionPerformed

        jTextField1.setText(jTextField1.getText() + "7");

    }//GEN-LAST:event_jButton7ActionPerformed


    private void jButton8ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton8ActionPerformed

        jTextField1.setText(jTextField1.getText() + "8");

    }//GEN-LAST:event_jButton8ActionPerformed


    private void jButton14ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton14ActionPerformed

        jTextField1.setText(jTextField1.getText() + "9");

    }//GEN-LAST:event_jButton14ActionPerformed


    private void jButton11ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton11ActionPerformed

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

    }//GEN-LAST:event_jButton11ActionPerformed


    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton2ActionPerformed

jTextField1.setText(Integer.toString(Integer.parseInt(jTextField1.getText())*2));

    }//GEN-LAST:event_jButton2ActionPerformed


    private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton3ActionPerformed

jTextField1.setText(Integer.toString(Integer.parseInt(jTextField1.getText())*(Integer.parseInt(jTextField1.getText()))));

    }//GEN-LAST:event_jButton3ActionPerformed


    private void jButton13ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-FIRST:event_jButton13ActionPerformed

        jTextField1.setText(Integer.toString(Integer.parseInt(jTextField1.getText())/3));
```

```java
    }//GEN-LAST:event_jButton13ActionPerformed


    /**
     * @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.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

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

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

```java
        java.util.logging.Logger.getLogger(Calculator.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>
        //</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//GEN-BEGIN:variables
    private javax.swing.JButton jButton10;
    private javax.swing.JButton jButton11;
    private javax.swing.JButton jButton12;
    private javax.swing.JButton jButton13;
    private javax.swing.JButton jButton14;
    private javax.swing.JButton jButton15;
    private javax.swing.JButton jButton16;
    private javax.swing.JButton jButton2;
    private javax.swing.JButton jButton20;
    private javax.swing.JButton jButton21;
    private javax.swing.JButton jButton22;
    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;
```
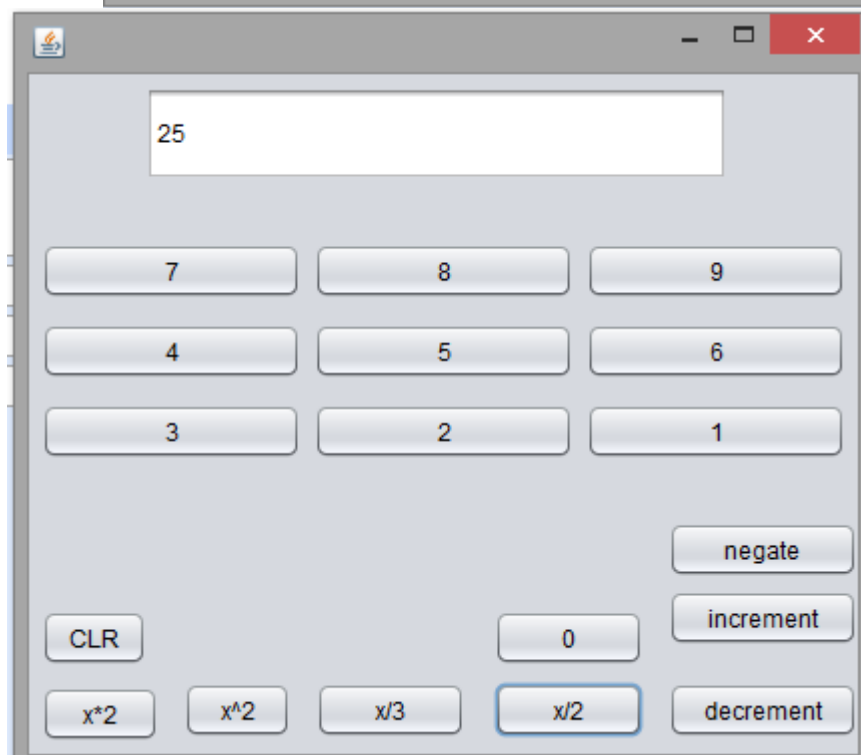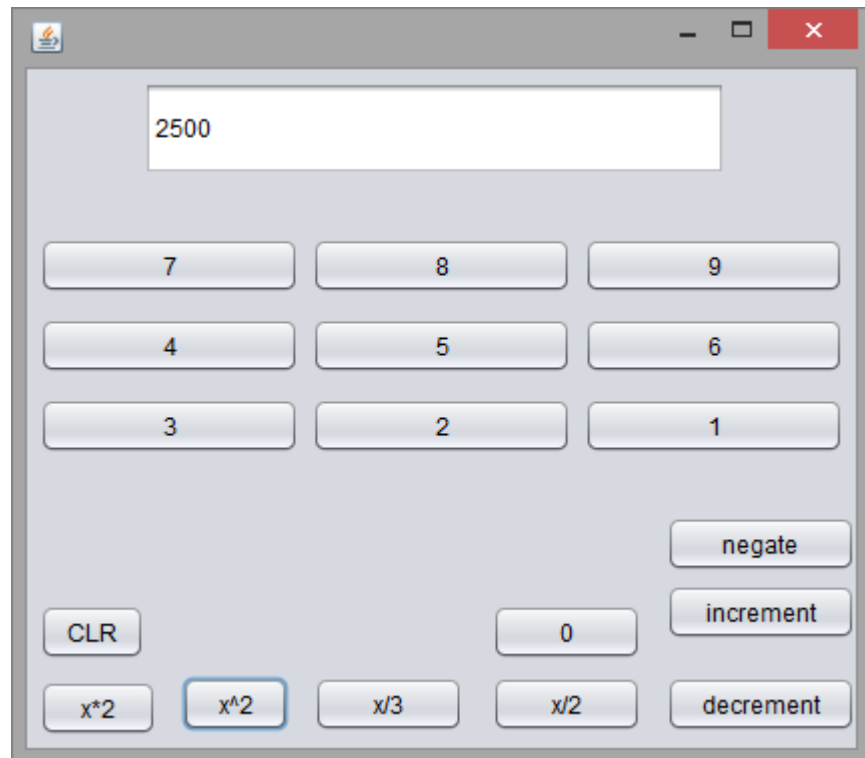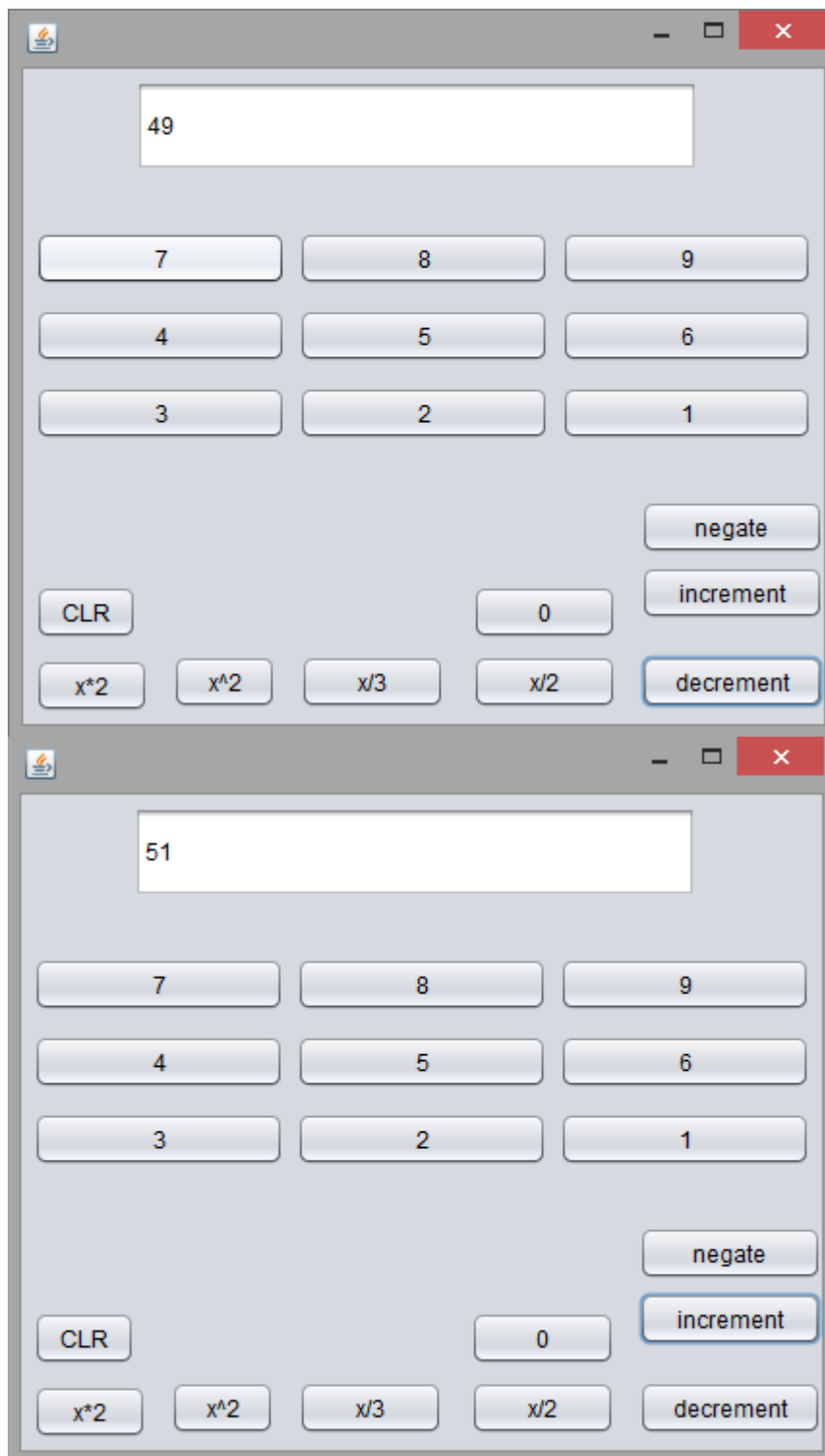
```java
    private javax.swing.JButton jButton9;

    private javax.swing.JDesktopPane jDesktopPane1;

    private javax.swing.JDesktopPane jDesktopPane2;

    private javax.swing.JScrollPane jScrollPane1;

    private javax.swing.JTabbedPane jTabbedPane1;

    private javax.swing.JTabbedPane jTabbedPane2;

    private javax.swing.JTextArea jTextArea1;

    private javax.swing.JTextField jTextField1;

    // End of variables declaration//GEN-END:variables
}
```
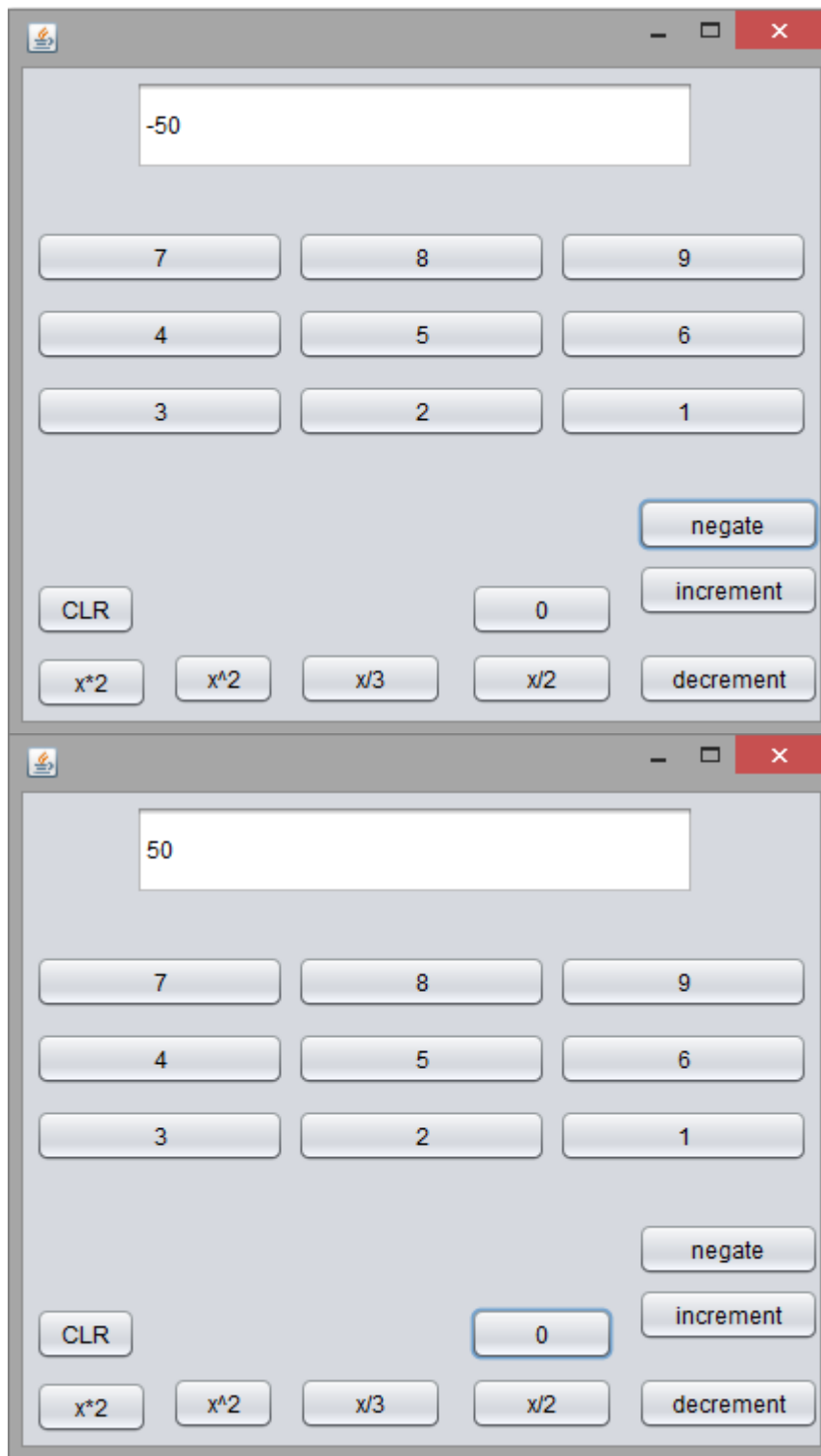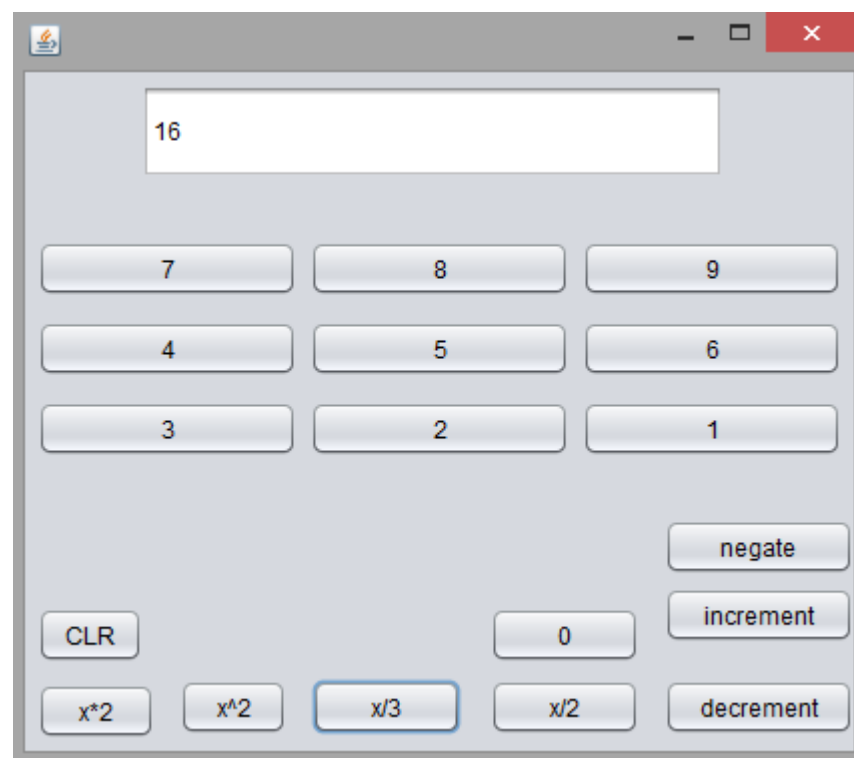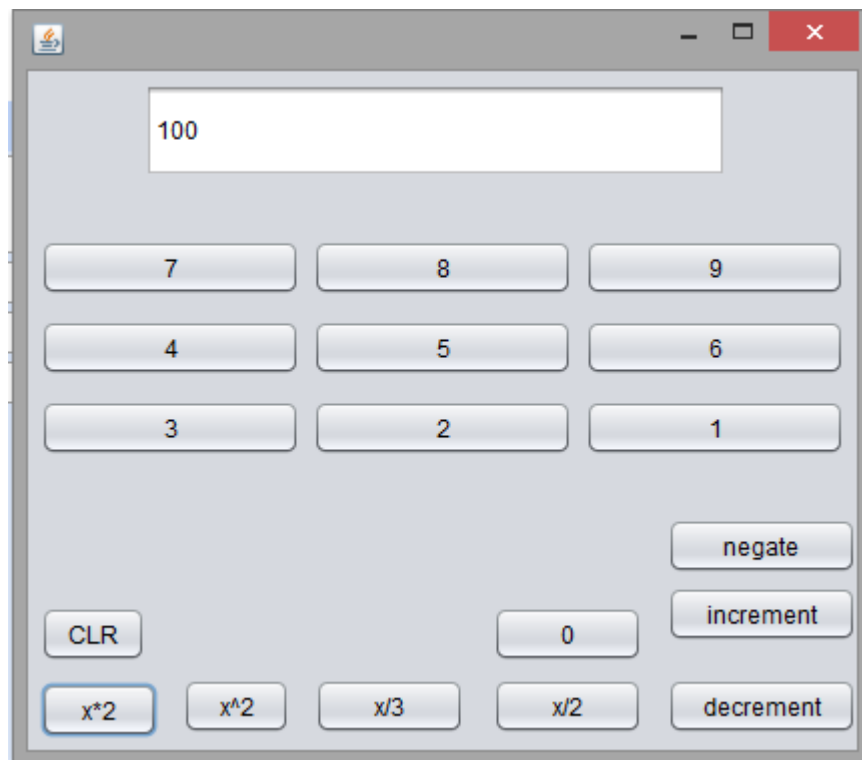
Program Input/Output Screen shots

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7   8   9
4   5   6
3   2   1

negate
increment
CLR   0
decrement
x*2   x^2   x/3   x/2

50

7   8   9
4   5   6
3   2   1

negate
increment
CLR   0
decrement
x*2   x^2   x/3   x/2

References/Bibliography

/////None
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