

```
public class Calculator
{
    private double currentValue = 0;

    public Calculator(double value)
    {
        currentValue = value;
    }

    public void setCurrentValue(double currentValue)
    {
        this.currentValue = currentValue;
    }

    public double getCurrentValue()
    {
        return currentValue;
    }

    public void clear()
    {
        currentValue = 0;
    }

    public void add(double pNumber)
    {
        currentValue = currentValue + pNumber;
    }

    public void subtract(double pNumber)
    {
        currentValue = currentValue - pNumber;
    }

    public void multiplyBy(double pNumber)
    {
        currentValue = currentValue * pNumber;
    }

    public void divideBy(double pNumber)
    {
        currentValue = currentValue / pNumber;
    }

    public void sqr()
    {
        currentValue = Math.pow(currentValue, 2);
    }

    public void sqrt()
    {
        currentValue = Math.sqrt(currentValue);
    }

    public void round()
    {
        currentValue = Math.round(currentValue);
    }

    public void sin()
    {
        currentValue = Math.sin(currentValue);
    }

    public void cos()
    {
        currentValue = Math.cos(currentValue);
    }

    public void tan()
    {
        currentValue = Math.tan(currentValue);
    }

    public void factorial()
    {
        int n = (int) Math.abs(currentValue);
        currentValue = 1;
        for (int i = 1; i <= n; i++)
            currentValue = currentValue * i;
    }
}
```

```

public class MainFrame extends javax.swing.JFrame
{
    /*
     * Version 3: Calculateur non RPN mais "std"
     * p.ex. 3 + 2 = ... - 5 =
     */

    private Calculator calculator = new Calculator(0);
    private String operation = "";

    public MainFrame()
    {
        initComponents();
    }

    public void updateView()
    {
        currentValueTextField.setText(String.valueOf(calculator.getCurrentValue()));
    }
    // Skipped: ... initComponents { ... }
    private void addButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_addButtonActionPerformed
        operation = "+";
    } //GEN-LAST:event_addButtonActionPerformed

    private void subtractButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_subtractButtonActionPerformed
        operation = "-";
    } //GEN-LAST:event_subtractButtonActionPerformed

    private void multiplyButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_multiplyButtonActionPerformed
        operation = "*";
    } //GEN-LAST:event_multiplyButtonActionPerformed

    private void divideButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_divideButtonActionPerformed
        operation = "/";
    } //GEN-LAST:event_divideButtonActionPerformed

    private void cosButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_cosButtonActionPerformed
        calculator.setCurrentValue(Double.valueOf(currentValueTextField.getText()));
        calculator.cos();
        updateView();
    } //GEN-LAST:event_cosButtonActionPerformed

    private void sqrButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_sqrButtonActionPerformed
        calculator.setCurrentValue(Double.valueOf(currentValueTextField.getText()));
        calculator.sqr();
        updateView();
    } //GEN-LAST:event_sqrButtonActionPerformed

    private void roundButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_roundButtonActionPerformed
        calculator.setCurrentValue(Double.valueOf(currentValueTextField.getText()));
        calculator.round();
        updateView();
    } //GEN-LAST:event_roundButtonActionPerformed

    private void sinButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_sinButtonActionPerformed
        calculator.setCurrentValue(Double.valueOf(currentValueTextField.getText()));
        calculator.sin();
        updateView();
    } //GEN-LAST:event_sinButtonActionPerformed

    private void tanButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_tanButtonActionPerformed
        calculator.setCurrentValue(Double.valueOf(currentValueTextField.getText()));
        calculator.tan();
        updateView();
    } //GEN-LAST:event_tanButtonActionPerformed

    private void factorialButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_factorialButtonActionPerformed
        calculator.setCurrentValue(Double.valueOf(currentValueTextField.getText()));
        calculator.factorial();
        updateView();
    } //GEN-LAST:event_factorialButtonActionPerformed

    private void sqrtButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_sqrtButtonActionPerformed
        calculator.setCurrentValue(Double.valueOf(currentValueTextField.getText()));
        calculator.sqrt();
        updateView();
    } //GEN-LAST:event_sqrtButtonActionPerformed

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

        double v = Double.valueOf(currentValueTextField.getText());
        if (operation.equals("+"))
            calculator.add(v);
        else if (operation.equals("-"))
            calculator.subtract(v);
        else if (operation.equals("*"))
            calculator.multiplyBy(v);
        else if (operation.equals("/"))
            calculator.divideBy(v);
        else
        {
            // NE RIEN FAIRE! car pas d'opération définie
        }

        // opération terminée...
        operation = "";
        updateView();
    } //GEN-LAST:event_resultButtonActionPerformed
}

```

```
/**
 * @param args the command line arguments
 */
public static void main(String args[])
{
    java.awt.EventQueue.invokeLater(new Runnable()
    {
        public void run()
        {
            new MainFrame().setVisible(true);
        }
    });
}

// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JButton addButton;
private javax.swing.JButton cosButton;
private javax.swing.JTextField currentValueTextField;
private javax.swing.JButton divideButton;
private javax.swing.JButton factorialButton;
private javax.swing.JButton multiplyButton;
private javax.swing.JButton resultButton;
private javax.swing.JButton roundButton;
private javax.swing.JButton sinButton;
private javax.swing.JButton sqrButton;
private javax.swing.JButton sqrtButton;
private javax.swing.JButton subtractButton;
private javax.swing.JButton tanButton;
// End of variables declaration//GEN-END:variables
}
```