Ministerul Educației al Republicii Moldova

Universitatea Tehnică a Moldovei
Facultatea CIM

Catedra Automatica și Tehnologii Informaționale

RAPORT

Lucrare de laborator Nr.3
La MIDPS

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Chișinău 2016

Lucrarea de laborator nr.3

Tema: *GUI Development*

Scopul lucrării:

Realizeaza un simplu GUI Calculator

Sarcina lucrării:

Advanced Level (nota 9 —— 10):

1) – Realizeaza un simplu GUI calculator care suporta urmatoare functii: +, -, /, *, putere, radical,InversareSemn(+/-), operatii cu numere zecimale.
2) – Divizare proiectului in doua module - Interfata grafica(Modul GUI) si Modulul de baza(CoreModule).

Implimentarea programului

Listingul programului

```
import java.math.*;



public class Calculator extends javax.swing.JFrame {

    private boolean zerodisp;
    private boolean decdisp;

    private byte op;



    private double ina;
    private double inb;
    private double out;
```

```
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() {

    Rezultat = new javax.swing.JTextField();
    Opt = new javax.swing.JButton();
    Sapte = new javax.swing.JButton();
    Noua = new javax.swing.JButton();
    Scadere = new javax.swing.JButton();
    Adunare = new javax.swing.JButton();
    Cinci = new javax.swing.JButton();
    Sase = new javax.swing.JButton();
    Inmultire = new javax.swing.JButton();
    Patru = new javax.swing.JButton();
    Impartirea = new javax.swing.JButton();
    Doi = new javax.swing.JButton();
    Unu = new javax.swing.JButton();
    Trei = new javax.swing.JButton();
    Puterea = new javax.swing.JButton();
```

```
Fractie = new javax.swing.JButton();
Zero = new javax.swing.JButton();
Punct = new javax.swing.JButton();
Minus = new javax.swing.JButton();
Radical = new javax.swing.JButton();
Stergere = new javax.swing.JButton();
Egal = new javax.swing.JButton();
Reset = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

Rezultat.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Rezultat.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        RezultatActionPerformed(evt);
    }
});

Opt.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Opt.setText("8");
Opt.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        OptActionPerformed(evt);
    }
});

Sapte.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Sapte.setText("7");
Sapte.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        SapteActionPerformed(evt);
    }
});

Noua.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Noua.setText("9");
Noua.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        NouaActionPerformed(evt);
    }
});

Scadere.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Scadere.setText("-");
Scadere.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        ScadereActionPerformed(evt);
    }
});

Adunare.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Adunare.setText("+");
Adunare.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        AdunareActionPerformed(evt);
    }
});

Cinci.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Cinci.setText("5");
```

```
Cinci.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        CinciActionPerformed(evt);
    }
});

Sase.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Sase.setText("6");
Sase.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        SaseActionPerformed(evt);
    }
});

Inmultire.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Inmultire.setText("*");
Inmultire.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        InmultireActionPerformed(evt);
    }
});

Patru.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Patru.setText("4");
Patru.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        PatruActionPerformed(evt);
    }
});
```

```
Impartirea.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Impartirea.setText("/");
Impartirea.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        ImpartireaActionPerformed(evt);
    }
});

Doi.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Doi.setText("2");
Doi.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        DoiActionPerformed(evt);
    }
});

Unu.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Unu.setText("1");
Unu.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        UnuActionPerformed(evt);
    }
});

Trei.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Trei.setText("3");
Trei.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        TreiActionPerformed(evt);
    }
```

```
});

Puterea.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Puterea.setText("x^2");
Puterea.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        PutereaActionPerformed(evt);
    }
});

Fractie.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Fractie.setText("1/x");
Fractie.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        FractieActionPerformed(evt);
    }
});

Zero.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Zero.setText("0");
Zero.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        ZeroActionPerformed(evt);
    }
});

Punct.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Punct.setText(".");
Punct.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        PunctActionPerformed(evt);
    }
});

Minus.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Minus.setText("+/-");
Minus.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        MinusActionPerformed(evt);
    }
});

Radical.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Radical.setText("sqrt");
Radical.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        RadicalActionPerformed(evt);
    }
});

Stergere.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Stergere.setText("C");
Stergere.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        StergereActionPerformed(evt);
    }
});

Egal.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
Egal.setText("=");
```

```
        Egal.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                EgalActionPerformed(evt);
            }
        });

        Reset.setFont(new java.awt.Font("Verdana", 1, 14)); // NOI18N
        Reset.setText("CE");
        Reset.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ResetActionPerformed(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)
                    .addComponent(Rezultat)
                    .addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
false)
                            .addGroup(layout.createSequentialGroup()
                                .addComponent(Sapte,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

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

                                .addComponent(Opt,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE))

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


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

                                .addComponent(Patru,
javax.swing.GroupLayout.DEFAULT_SIZE, 57, Short.MAX_VALUE)

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


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


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                                .addComponent(Cinci,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                .addComponent(Doi,
javax.swing.GroupLayout.Alignment.TRAILING,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE))))


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


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

                            .addGroup(layout.createSequentialGroup()


.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING,
false)
```

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

                .addComponent(Sase,
javax.swing.GroupLayout.DEFAULT_SIZE, 57, Short.MAX_VALUE))

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

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

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

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

            .addGroup(layout.createSequentialGroup()

                .addComponent(Noua,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE)

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

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

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

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

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

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

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

                .addGroup(layout.createSequentialGroup()

                    .addComponent(Zero, javax.swing.GroupLayout.PREFERRED_SIZE,
57, javax.swing.GroupLayout.PREFERRED_SIZE)


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

                    .addComponent(Punct,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE)


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

                    .addComponent(Minus,
javax.swing.GroupLayout.PREFERRED_SIZE, 57,
javax.swing.GroupLayout.PREFERRED_SIZE)


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

                    .addComponent(Radical,
javax.swing.GroupLayout.PREFERRED_SIZE, 61,
javax.swing.GroupLayout.PREFERRED_SIZE)


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

                    .addComponent(Stergere,
javax.swing.GroupLayout.PREFERRED_SIZE, 63,
javax.swing.GroupLayout.PREFERRED_SIZE))

                .addGroup(layout.createSequentialGroup()

                    .addComponent(Egal, javax.swing.GroupLayout.PREFERRED_SIZE,
156, javax.swing.GroupLayout.PREFERRED_SIZE)


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

                    .addComponent(Reset,
javax.swing.GroupLayout.PREFERRED_SIZE, 156,
javax.swing.GroupLayout.PREFERRED_SIZE)))

                .addContainerGap())

        );
```

```
            layout.setVerticalGroup(
                layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(19, 19, 19)
                    .addComponent(Rezultat, javax.swing.GroupLayout.PREFERRED_SIZE,
45, javax.swing.GroupLayout.PREFERRED_SIZE)

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(Sapte, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(Opt, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(Noua, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                            .addComponent(Scadere,
javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(Adunare,
javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                        .addComponent(Cinci, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(Sase, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(Inmultire,
javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(Patru, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                .addComponent(Impartirea,
javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

                .addComponent(Doi, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Unu, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Trei, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Puterea, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Fractie, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

                .addComponent(Zero, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Punct, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Minus, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Radical, javax.swing.GroupLayout.PREFERRED_SIZE,
41, javax.swing.GroupLayout.PREFERRED_SIZE)

                .addComponent(Stergere,
javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE))

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

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
```

```
                    .addComponent(Reset, javax.swing.GroupLayout.DEFAULT_SIZE, 61,
Short.MAX_VALUE)
                    .addComponent(Egal, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                .addContainerGap())
        );

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

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

    private void SapteActionPerformed(java.awt.event.ActionEvent evt) {
        if(!zerodisp && !decdisp)
            Rezultat.setText(null);
        Rezultat.setText(Rezultat.getText() + "7");
        zerodisp = true;
    }

    private void TreiActionPerformed(java.awt.event.ActionEvent evt) {
        if(!zerodisp && !decdisp)
            Rezultat.setText(null);
        Rezultat.setText(Rezultat.getText() + "3");
        zerodisp = true;
    }

    private void OptActionPerformed(java.awt.event.ActionEvent evt) {
        if(!zerodisp && !decdisp)
            Rezultat.setText(null);
```

```
    Rezultat.setText(Rezultat.getText() + "8");
    zerodisp = true;
}

private void ZeroActionPerformed(java.awt.event.ActionEvent evt) {
    if(!zerodisp && !decdisp)
        Rezultat.setText(null);
    Rezultat.setText(Rezultat.getText() + "0");
}

private void NouaActionPerformed(java.awt.event.ActionEvent evt) {
    if(!zerodisp && !decdisp){
        Rezultat.setText(null);
    }
    Rezultat.setText(Rezultat.getText() + "9");
    zerodisp = true;
}

private void PatruActionPerformed(java.awt.event.ActionEvent evt) {
     if(!zerodisp && !decdisp)
        Rezultat.setText(null);
    Rezultat.setText(Rezultat.getText() + "4");
    zerodisp = true;
}

private void CinciActionPerformed(java.awt.event.ActionEvent evt) {
     if(!zerodisp && !decdisp)
        Rezultat.setText(null);
    Rezultat.setText(Rezultat.getText() + "5");
    zerodisp = true;
```

```
}

private void SaseActionPerformed(java.awt.event.ActionEvent evt) {
    if(!zerodisp && !decdisp)
       Rezultat.setText(null);
   Rezultat.setText(Rezultat.getText() + "6");
   zerodisp = true;
}

private void UnuActionPerformed(java.awt.event.ActionEvent evt) {
    if(!zerodisp && !decdisp)
       Rezultat.setText(null);
   Rezultat.setText(Rezultat.getText() + "1");
   zerodisp = true;
}

private void DoiActionPerformed(java.awt.event.ActionEvent evt) {
    if(!zerodisp && !decdisp)
       Rezultat.setText(null);
   Rezultat.setText(Rezultat.getText() + "2");
   zerodisp = true;
}

private void PunctActionPerformed(java.awt.event.ActionEvent evt) {
   if(!decdisp){
       Rezultat.setText(Rezultat.getText() + ".");
       decdisp = true;
   }
}
```

```
private void MinusActionPerformed(java.awt.event.ActionEvent evt) {
    inb = Double.parseDouble(String.valueOf(Rezultat.getText()));
    out = inb * -1;

    if(out > -100000000 && out < 100000000){
        Rezultat.setText(String.valueOf(out));
    }
    else
    {
        Rezultat.setText("Error");
    }

    decdisp = true;
    out = 0;
}

private void StergereActionPerformed(java.awt.event.ActionEvent evt) {
    Rezultat.setText("0");
    zerodisp = false;
    decdisp = false;
}

private void ResetActionPerformed(java.awt.event.ActionEvent evt) {
    Rezultat.setText("0");
    zerodisp = false;
    decdisp = false;
    ina = 0;
    inb = 0;
    out = 0;
}
```

```
private void FractieActionPerformed(java.awt.event.ActionEvent evt) {
    inb = Double.parseDouble(String.valueOf(Rezultat.getText()));
    out = 1 / inb;

    if(out > -100000000 && out < 100000000){
        Rezultat.setText(String.valueOf(out));
    }
    else
    {
        Rezultat.setText("Error");
    }

    out = 0;
}

private void RadicalActionPerformed(java.awt.event.ActionEvent evt) {
    inb = Double.parseDouble(String.valueOf(Rezultat.getText()));
    out = Math.sqrt(inb);


    Rezultat.setText(String.valueOf(out));

    out = 0;
}

private void PutereaActionPerformed(java.awt.event.ActionEvent evt) {
    inb = Double.parseDouble(String.valueOf(Rezultat.getText()));
    out = inb * inb;
```

```
    if(out > -100000000 && out < 100000000){
        Rezultat.setText(String.valueOf(out));
    }
    else
    {
        Rezultat.setText("Error");
    }

    out = 0;
}

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

        ina = Double.parseDouble(String.valueOf(Rezultat.getText()));
        inb = Double.parseDouble(String.valueOf(Rezultat.getText()));

    if( op == 1){
        ina = ina + inb;
    }

    if( op == 2){
        ina = ina - inb;
    }

    if( op == 3){
        ina = ina * inb;
    }

    if( op == 4){
        ina = ina / inb;
```

```
    }

    Rezultat.setText(String.valueOf(ina));

    op = 4;

    decdisp = false;
    zerodisp = false;
}

private void AdunareActionPerformed(java.awt.event.ActionEvent evt) {
    if(op == 0){
        ina = Double.parseDouble(String.valueOf(Rezultat.getText()));
    }
    else{
        inb = Double.parseDouble(String.valueOf(Rezultat.getText()));
    }

    if(op == 1){
        ina = ina + inb;
    }

    if(op == 2){
        ina = ina - inb;
    }

    if(op == 3){
        ina = ina * inb;
    }
```

```
    if(op == 4){
        ina = ina / inb;
    }

    Rezultat.setText(String.valueOf(ina));


    op = 1;

    decdisp = false;
    zerodisp = false;
}

private void ScadereActionPerformed(java.awt.event.ActionEvent evt) {
    if(op == 0){
        ina = Double.parseDouble(String.valueOf(Rezultat.getText()));
    }
    else{
        inb = Double.parseDouble(String.valueOf(Rezultat.getText()));
    }

    if( op == 1){
        ina = ina + inb;
    }

    if( op == 2){
        ina = ina - inb;
    }

    if( op == 3){
```

```
        ina = ina * inb;
    }

    if( op == 4){
        ina = ina / inb;
    }

    Rezultat.setText(String.valueOf(ina));

    op = 2;

    decdisp = false;
    zerodisp = false;
}

private void InmultireActionPerformed(java.awt.event.ActionEvent evt) {
    if(op == 0){
        ina = Double.parseDouble(String.valueOf(Rezultat.getText()));
    }
    else{
        inb = Double.parseDouble(String.valueOf(Rezultat.getText()));
    }

    if( op == 1){
        ina = ina + inb;
    }

    if( op == 2){
        ina = ina - inb;
    }
```

```
    if( op == 3){
        ina = ina * inb;
    }

    if( op == 4){
        ina = ina / inb;
    }

    Rezultat.setText(String.valueOf(ina));

    op = 3;

    decdisp = false;
    zerodisp = false;
}

private void EgalActionPerformed(java.awt.event.ActionEvent evt) {
    inb = Double.parseDouble(String.valueOf(Rezultat.getText()));

    if(op == 0)
    {
        out = inb;
    }
    if(op == 1)
    {
        out = ina + inb;
    }
    if(op == 2)
    {
```

```
        out = ina - inb;
    }
    if(op == 3)
    {
        out = ina * inb;
    }
    if(op == 4)
    {
        out = ina / inb;
    }

    if(out > -100000000 && out < 100000000){
        Rezultat.setText(String.valueOf(out));
    }
    else
    {
        Rezultat.setText("Error");
    }

    ina = 0;
    inb = 0;
    out = 0;

    op = 0;
    decdisp = false;
    zerodisp = false;
}

/**
 * @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.util.logging.Logger.getLogger(Calculator.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
            }
```

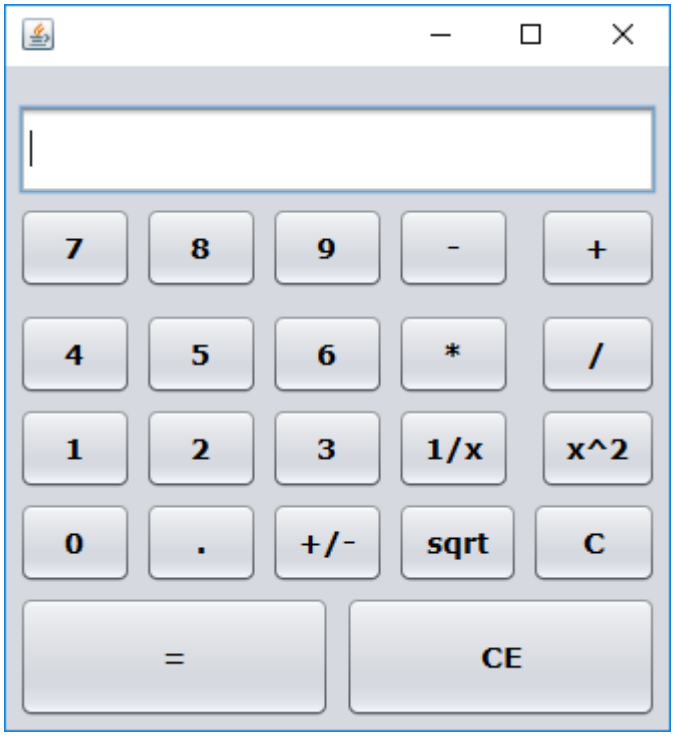
```
    //</editor-fold>

    /* 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.JButton Adunare;
private javax.swing.JButton Cinci;
private javax.swing.JButton Doi;
private javax.swing.JButton Egal;
private javax.swing.JButton Fractie;
private javax.swing.JButton Impartirea;
private javax.swing.JButton Inmultire;
private javax.swing.JButton Minus;
private javax.swing.JButton Noua;
private javax.swing.JButton Opt;
private javax.swing.JButton Patru;
private javax.swing.JButton Punct;
private javax.swing.JButton Puterea;
private javax.swing.JButton Radical;
private javax.swing.JButton Reset;
private javax.swing.JTextField Rezultat;
private javax.swing.JButton Sapte;
private javax.swing.JButton Sase;
private javax.swing.JButton Scadere;
```

```
    private javax.swing.JButton Stergere;
    private javax.swing.JButton Trei;
    private javax.swing.JButton Unu;
    private javax.swing.JButton Zero;
    // End of variables declaration
}
```

Captura de ecran



Concluzie:

In urma efectuarii acestei lucrari de laborator am facut cunostinta cu modulul GDI al programului NetBeans astfel am creat un simplu calculator in limbajul Java, avind functiile de baza+,-,*,/,putere, radical, schimbare semn. Efecuind acesta sarcina am luat cunostinta cu limbajul Javacare este un limbaj usor de implimentat in cod si poate fi usor construit un calculator simplu utilizindbutoane, si casete de text.