**UNIVERSITATEA TEHNICĂ A MOLDOVEI**

**FACULTATEA CALCULATOARE, INFORMATICĂ ȘI MICROELECTRONICĂ**

**CATEDRA CALCULATOARE**

**Raport**

**LUCRARE DE LABORATOR NR.7**

**la Tehnici avansate de programare**

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##### Lucrare de laborator nr. 7

**1. Tema lucrării:**

### Programarea în mediul vizual a proectelor.

**2.**  **Scopul lucrării:**

* Însuşirea modalităţilor de creare şi realizare a colecţiilor în Java;

**3. Etapele de realizare:**

1. Crearea colecţiilor şi a hărţilor;
2. Metode de realizare a colecţiilor şi a hărţilor;
3. Metode de complectare şi exstragere a obiectelor din colecţii şi hărţi;
4. Crearea interfeţii programului;
5. Prezentarea lucrării.
6. Înmulţiţi două polinoame de grad fix, coeficienţii de polinoame sunt stocate în List.

***Program Listingul***

import java.awt.Color;

import java.awt.Cursor;

import java.awt.EventQueue;

import java.util.\*;

import javax.swing.\*;

import java.awt.event.\*;

public class App7 extends JFrame{

public App7(){

initComponents();

}

JLabel title = new JLabel();

JLabel result= new JLabel("Rezultat:");

JLabel errors = new JLabel();

JTextField pol1 = new JTextField();

JTextField pol2 =new JTextField();

JTextArea text\_result = new JTextArea();

JButton go = new JButton("Calculeaza");

JButton clear = new JButton("Sterge");

JLabel text1 = new JLabel("polinom 1:");

JLabel text2 = new JLabel("polinom 2:");

JLabel additional = new JLabel(" ");

void initComponents(){

text\_result.setFocusable(false);

text\_result.setOpaque(false);

text\_result.setText("");

text\_result.setCursor(Cursor.getDefaultCursor());

additional.setForeground(Color.ORANGE);

title.setText("Introduceti datele separate prin spatiu");

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

pol1.setText("1 3 5 7");

pol2.setText("2 2 5 5");

pol1.addMouseListener(new MouseAdapter(){

public void mouseClicked(MouseEvent evt) {

pol1.selectAll();

}

});

pol2.addMouseListener(new MouseAdapter(){

public void mouseClicked(MouseEvent evt) {

pol2.selectAll();

}

});

this.addMouseListener(new MouseAdapter(){

public void mouseClicked(MouseEvent evt){

pol1.select(pol1.getText().length(), pol1.getText().length());

pol2.select(pol2.getText().length(), pol2.getText().length());

}

});

text\_result.addMouseListener(new MouseAdapter(){

public void mouseClicked(MouseEvent evt){

pol1.select(pol1.getText().length(), pol1.getText().length());

pol2.select(pol2.getText().length(), pol2.getText().length());

}

});

errors.setText("");

go.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent evt) {

goClick(evt);

} });

clear.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent evt) {

clearClick(evt);

}});

GroupLayout layout = new GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup().addGap(26, 26, 26)

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

.addComponent(errors, GroupLayout.DEFAULT\_SIZE, 296, Short.MAX\_VALUE)

.addComponent(title)

.addGroup(layout.createSequentialGroup().addComponent(text1).addGap(10,10,10).addComponent(pol1, GroupLayout.DEFAULT\_SIZE, 296, Short.MAX\_VALUE))

.addGroup(layout.createSequentialGroup().addComponent(text2).addGap(10,10,10).addComponent(pol2,GroupLayout.DEFAULT\_SIZE,296,Short.MAX\_VALUE))

.addGroup(layout.createSequentialGroup()

.addComponent(go).addGap(18, 18, 18)

.addComponent(clear))

.addGroup(layout.createSequentialGroup().addComponent(result).addGap(10,10,10).addComponent(text\_result, GroupLayout.DEFAULT\_SIZE, GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))

.addComponent(additional))

.addContainerGap()) );

layout.setVerticalGroup(layout.createParallelGroup( GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup().addGap(54, 54, 54)

.addComponent(title).addPreferredGap( LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup().addComponent(text1)

.addComponent(pol1, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE)).addPreferredGap( LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup().addComponent(text2).addComponent(pol2, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE)).addPreferredGap(LayoutStyle.ComponentPlacement.RELATED)

.addComponent(errors).addPreferredGap( LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup().addComponent(result).addComponent(text\_result, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

.addComponent(additional)

.addGroup( layout.createParallelGroup(GroupLayout.Alignment.BASELINE)

.addComponent(go).addComponent(clear))

.addContainerGap(25, Short.MAX\_VALUE)));

pack();

}

public void goClick(MouseEvent evt){

List<Integer> item1 = new ArrayList<>();

List<Integer> item2 = new ArrayList<Integer>();

List<Integer> item3 = new ArrayList<Integer>();

int len=0;

String str1[],str2[];

try{

if(pol1.getText().matches("[0-9 ]+")==false){

throw new Exception("Inscrierea 1 Contine erori");

}else if(pol2.getText().matches("[0-9 ]+")==false){

throw new Exception("Inscrierea 2 Contine erori");

}else{

str1 = pol1.getText().split(" ");

str2 = pol2.getText().split(" ");

try{

if(str1.length!=str2.length) throw new newEx("Marimi diferite");

else{

len=str1.length;

for(int i=0;i<len;i++){

item1.add(Integer.parseInt(str1[i]));

item2.add(Integer.parseInt(str2[i]));

item3.add(item1.get(i)\*item2.get(i));

}

String line="";

String addto=" ";

Iterator it = item3.iterator();

Integer l =len;

while(it.hasNext()){

l--;

if(l>1){

line+=" "+it.next().toString()+" ";

addto+="x"+l.toString()+" ";

}else if(l==1){

line+=" "+it.next().toString()+" ";

addto+=" x"+" ";

}else {

line+=it.next().toString()+" ";

addto+=" ";

}

}

text\_result.setText(line);

additional.setText(addto);

}

}catch(newEx o){

errors.setText(o.getMessage());

errors.setForeground(Color.red);

}

}

}catch(Exception e){

errors.setText(e.getMessage());

errors.setForeground(Color.red);

}

}

public void clearClick(MouseEvent evt){

errors.setText("");

text\_result.setText("");

pol1.setText("");

pol2.setText("");

pol1.requestFocus();

}

public static void main(String args[]) {

EventQueue.invokeLater(new Runnable() {

public void run() {

new App7().setVisible(true);

}});}

}

class newEx extends Exception{

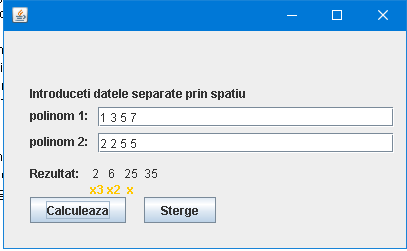
newEx(String message){

super(message);

}

}

***Rezultatul executarii:***



**Concluzie:**

In urma efectuarii acestei lucrari am insusit modalitatile de creare si realizare a collectiilor in Java, am Utilizat colectia Array List care este o implementare a interfetii List. Pentru afisarea interfetii grafice am utilizat GroupLayout din biblioteca swing care deasemenea este o colectie de containere.