Object Oriented Programming Lab – 08

Course Code: CSE215

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1. List

Code:

```java
package jList;

import java.awt.FlowLayout;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.util.ArrayList;

import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JList;

public class PrintJList extends JFrame {

    public PrintJList() {
        setDefaultCloseOperation(EXIT_ON_CLOSE);
        getContentPane().setLayout(new FlowLayout());
        ArrayList<String> items = new ArrayList<String>();
        for(int i = 0; i < 10; i++) {

            items.add("Item " + i);
        }

        final JList<String> list = new JList(items.toArray());
        getContentPane().add(list);

        JButton btn = new JButton("Print");
        getContentPane().add(btn);

        btn.addActionListener(new ActionListener() {

            @Override
            public void actionPerformed(ActionEvent e1) {
                // TODO Auto-generated method stub

                int[] indices = list.getSelectedIndices();
                for(int i = 0; i < indices.length; i++) {
```

```java
                    System.out.println("Item " + indices[i]);
                }

            }
        });

        setSize(300, 300);
    }

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        new PrintJList().setVisible(true);
    }
}
```

Problem 2:

package simplecalculator;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JOptionPane;

import javax.swing.JTextField;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JLabel;

```java
public class SimpleCalculator {

	private JFrame frame;

	private JTextField textFieldNumber1;

	private JTextField textFieldNumber2;

	private JTextField textFieldResult;


	/**
	 * Launch the application.
	 */
	public static void main(String[] args) {
		EventQueue.invokeLater(new Runnable() {
			public void run() {
				try {
					SimpleCalculator window = new SimpleCalculator();

					window.frame.setVisible(true);
				} catch (Exception e) {
					e.printStackTrace();
				}
			}
		});
	}
```

```java
/**
 * Create the application.
 */
public SimpleCalculator() {
        initialize();
}


/**
 * Initialize the contents of the frame.
 */
private void initialize() {
        frame = new JFrame();
        frame.getContentPane().setBackground(new Color(127, 255, 212));
        frame.getContentPane().setForeground(new Color(175, 238, 238));
        frame.setBounds(100, 100, 450, 330);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.getContentPane().setLayout(null);

        textFieldNumber1 = new JTextField();
        textFieldNumber1.setText("00");
        textFieldNumber1.setFont(new Font("Tahoma", Font.BOLD, 16));
        textFieldNumber1.setBounds(10, 11, 198, 49);
        frame.getContentPane().add(textFieldNumber1);
        textFieldNumber1.setColumns(10);
```

```java
textFieldNumber2 = new JTextField();

textFieldNumber2.setText("00");

textFieldNumber2.setFont(new Font("Tahoma", Font.BOLD, 16));

textFieldNumber2.setColumns(10);

textFieldNumber2.setBounds(226, 11, 198, 49);

frame.getContentPane().add(textFieldNumber2);


JButton btnNewButton = new JButton("ADDITION");

btnNewButton.setBackground(new Color(255, 255, 0));

btnNewButton.addActionListener(new ActionListener() {

        public void actionPerformed(ActionEvent e) {


                try {

                        int num1 =
Integer.parseInt(textFieldNumber1.getText());

                        int num2 =
Integer.parseInt(textFieldNumber2.getText());

                        int result = num1 + num2;

                        textFieldResult.setText(Integer.toString(result));


                }
                catch(Exception e1) {

                        JOptionPane.showMessageDialog(null, "Error! Try
Again with correct input.");
```

```java
				}
			}
		});
		btnNewButton.setForeground(new Color(0, 0, 255));

		btnNewButton.setFont(new Font("Tahoma", Font.BOLD, 14));

		btnNewButton.setBounds(10, 71, 198, 39);

		frame.getContentPane().add(btnNewButton);


		JButton btnSubtraction = new JButton("SUBTRACTION");

		btnSubtraction.setBackground(new Color(255, 255, 0));

		btnSubtraction.addActionListener(new ActionListener() {
			public void actionPerformed(ActionEvent e) {


				try {

					int num1 =
Integer.parseInt(textFieldNumber1.getText());

					int num2 =
Integer.parseInt(textFieldNumber2.getText());

					int result = num1 - num2;

					textFieldResult.setText(Integer.toString(result));


				}
				catch(Exception e2) {
```

```java
                    JOptionPane.showMessageDialog(null, "Error! Try
Again with correct input.");

                }
            }
        });
        btnSubtraction.setForeground(new Color(0, 0, 255));
        btnSubtraction.setFont(new Font("Tahoma", Font.BOLD, 14));
        btnSubtraction.setBounds(226, 71, 198, 39);
        frame.getContentPane().add(btnSubtraction);


        JButton btnMultiplication = new JButton("MULTIPLICATION");
        btnMultiplication.setBackground(new Color(255, 255, 0));
        btnMultiplication.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {


                try {
                    int num1 =
Integer.parseInt(textFieldNumber1.getText());
                    int num2 =
Integer.parseInt(textFieldNumber2.getText());
                    int result = num1 * num2;
                    textFieldResult.setText(Integer.toString(result));


                }
```

```java
                catch(Exception e1) {
                    JOptionPane.showMessageDialog(null, "Error! Try
Again with correct input.");

                }
            }
        });
        btnMultiplication.setForeground(new Color(0, 0, 255));
        btnMultiplication.setFont(new Font("Tahoma", Font.BOLD, 14));
        btnMultiplication.setBounds(10, 121, 198, 39);
        frame.getContentPane().add(btnMultiplication);


        JButton btnDivision = new JButton("DIVISION");
        btnDivision.setBackground(new Color(255, 255, 0));
        btnDivision.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {


                try {
                    int num1 =
Integer.parseInt(textFieldNumber1.getText());
                    int num2 =
Integer.parseInt(textFieldNumber2.getText());
                        if(num2 == 0) {

                            JOptionPane.showMessageDialog(null,
"Error! Try Again with correct input.");
```

```java
                }

            else {

                int result = num1 / num2;

textFieldResult.setText(Integer.toString(result));

                }

        }
        catch(Exception e1) {
                JOptionPane.showMessageDialog(null, "Error! Try
Again with correct input.");

        }
    }
});
btnDivision.setForeground(new Color(0, 0, 255));
btnDivision.setFont(new Font("Tahoma", Font.BOLD, 14));
btnDivision.setBounds(226, 121, 198, 39);
frame.getContentPane().add(btnDivision);


JButton btnReset = new JButton("RESET");
btnReset.setBackground(new Color(50, 205, 50));
```

```java
btnReset.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {


                textFieldNumber1.setText("00");

                textFieldNumber2.setText("00");

                textFieldResult.setText("");

        }
});
btnReset.setForeground(new Color(255, 255, 255));

btnReset.setFont(new Font("Tahoma", Font.BOLD, 14));

btnReset.setBounds(10, 231, 198, 39);

frame.getContentPane().add(btnReset);


JButton btnExit = new JButton("EXIT");

btnExit.setBackground(new Color(220, 20, 60));

btnExit.setForeground(new Color(255, 255, 255));

btnExit.setFont(new Font("Tahoma", Font.BOLD, 14));

btnExit.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {


                System.exit(0);

        }
});
btnExit.setBounds(226, 231, 198, 39);
```

```java
		frame.getContentPane().add(btnExit);

		textFieldResult = new JTextField();

		textFieldResult.setFont(new Font("Tahoma", Font.BOLD, 16));

		textFieldResult.setColumns(10);

		textFieldResult.setBounds(10, 171, 414, 49);

		frame.getContentPane().add(textFieldResult);
	}
}
```