University of Liberal Arts Bangladesh

Course Code: CSE 413

Course Title: Programming with Java Lab

Class work-4

Submitted to

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Objectives of the project

Create a basic registration form using GUI.

Problem statement

1)Java's GUI (Graphical User Interface) is a simple tool for creating visual experiences for Java apps.

2)It is primarily composed of graphical elements that allow the user to interact with a program, such as,

- **Buttons.**
- **Labels.**
- **Windows etc.**

Modern Tools

1)To develop a java code i have used NetBeans

Problem analysis:

Creating a registration form with the help of a graphical user interface where we have put full name, password, gender, email address, mobile number, course, department, and semester in the form. And finally, there is an OK button, which has an action called an event. With this OK button, we can enter the direct source field.

Source code

///NewJFrame.java

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package library.gui;

import javax.swing.JOptionPane;

/**
 *
 * @author DELL
 */
public class NewJFrame extends javax.swing.JFrame {

    /**
     * Creates new form NewJFrame
     */
    public NewJFrame() {
        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() {

        jPanel1 = new javax.swing.JPanel();
        jLabel1 = new javax.swing.JLabel();
        jTextField1 = new javax.swing.JTextField();
        jLabel2 = new javax.swing.JLabel();
        jTextField2 = new javax.swing.JTextField();
        jLabel3 = new javax.swing.JLabel();
```

```java
        jRadioButton1 = new javax.swing.JRadioButton();
        jRadioButton2 = new javax.swing.JRadioButton();
        jRadioButton3 = new javax.swing.JRadioButton();
        jLabel4 = new javax.swing.JLabel();
        jTextField3 = new javax.swing.JTextField();
        jLabel5 = new javax.swing.JLabel();
        jTextField4 = new javax.swing.JTextField();
        jLabel6 = new javax.swing.JLabel();
        jTextField5 = new javax.swing.JTextField();
        jLabel7 = new javax.swing.JLabel();
        jTextField6 = new javax.swing.JTextField();
        jLabel8 = new javax.swing.JLabel();
        jTextField7 = new javax.swing.JTextField();
        jButton2 = new javax.swing.JButton();

        setDefaultCloseOperation( operation: javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jPanel1.setBackground(new java.awt.Color( r:204,  g:255,  b:204));

        jLabel1.setText( text: "Full Name");

        jTextField1.setBackground(new java.awt.Color( r:255,  g:255,  b:153));

        jLabel2.setText( text: "Password");

        jTextField2.setBackground(new java.awt.Color( r:255,  g:255,  b:153));

        jLabel3.setText( text: "Gender");

        jRadioButton1.setBackground(new java.awt.Color( r:204,  g:255,  b:204));
        jRadioButton1.setText( text: "Female");

        jRadioButton2.setText( text: "Male");

        jRadioButton3.setText( text: "Other");
```

```java
jLabel4.setText(text:"Email Address");


jTextField3.setBackground(new java.awt.Color(r:255, g:255, b:153));


jLabel5.setText(text:"Moblie No");


jTextField4.setBackground(new java.awt.Color(r:255, g:255, b:153));


jLabel6.setText(text:"Course");


jTextField5.setBackground(new java.awt.Color(r:255, g:255, b:153));


jLabel7.setText(text:"Department");


jTextField6.setBackground(new java.awt.Color(r:255, g:255, b:153));


jLabel8.setText(text:"Semester");


jTextField7.setBackground(new java.awt.Color(r:255, g:255, b:153));


jButton2.setBackground(new java.awt.Color(r:255, g:255, b:153));
jButton2.setText(text:"OK");
jButton2.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        jButton2ActionPerformed(evt);
    }
});


javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(host:jPanel1);
jPanel1.setLayout(mgr:jPanel1Layout);
jPanel1Layout.setHorizontalGroup(
    group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(group:jPanel1Layout.createSequentialGroup()
        .addContainerGap()
        .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.LEADING)
```

```java
108                     .addGroup( group: jPanel1Layout.createSequentialGroup()
109                         .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.TRAILING, resizabl
110                             .addComponent( component: jLabel2, min: javax.swing.GroupLayout.DEFAULT_SIZE, pref: javax.swing.GroupLayout.DE
111                             .addComponent( component: jLabel1, min: javax.swing.GroupLayout.DEFAULT_SIZE, pref: 121, max: Short.MAX_VALUE))
112                         .addGap( min: 59, pref: 59, max: 59)
113                         .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.LEADING, resizable:
114                             .addComponent( component: jTextField1, min: javax.swing.GroupLayout.DEFAULT_SIZE, pref: 180, max: Short.MAX_VALU
115                             .addComponent( component: jTextField2))
116                         .addGap( min: 0, pref: 0, max: Short.MAX_VALUE))
117                     .addGroup( group: jPanel1Layout.createSequentialGroup()
118                         .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.LEADING, resizable:
119                             .addGroup( group: jPanel1Layout.createSequentialGroup()
120                                 .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.TRAILING,
121                                     .addComponent( component: jLabel5, alignment: javax.swing.GroupLayout.Alignment.LEADING, min: javax.swin
122                                     .addComponent( component: jLabel4, alignment: javax.swing.GroupLayout.Alignment.LEADING, min: javax.swin
123                                     .addComponent( component: jLabel3, min: javax.swing.GroupLayout.DEFAULT_SIZE, pref: javax.swing.GroupLa
124                                 .addGap( min: 59, pref: 59, max: 59))
125                             .addGroup( group: jPanel1Layout.createSequentialGroup()
126                                 .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.LEADING)
127                                     .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.LEAD
128                                         .addComponent( component: jLabel6, min: javax.swing.GroupLayout.DEFAULT_SIZE, pref: javax.swing.Gr
129                                         .addComponent( component: jLabel7, min: javax.swing.GroupLayout.DEFAULT_SIZE, pref: 112, max: Short.
130                                     .addComponent( component: jLabel8, min: javax.swing.GroupLayout.PREFERRED_SIZE, pref: 118, max: javax.sw
131                                 .addGap( min: 62, pref: 62, max: 62)))
132                         .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.LEADING)
133                             .addGroup( group: jPanel1Layout.createSequentialGroup()
134                                 .addComponent( component: jRadioButton1, min: javax.swing.GroupLayout.PREFERRED_SIZE, pref: 98, max: javax.s
135                                 .addPreferredGap( type: javax.swing.LayoutStyle.ComponentPlacement.RELATED)
136                                 .addComponent( component: jRadioButton2, min: javax.swing.GroupLayout.PREFERRED_SIZE, pref: 98, max: javax.s
137                                 .addPreferredGap( type: javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
138                                 .addComponent( component: jRadioButton3, min: javax.swing.GroupLayout.PREFERRED_SIZE, pref: 98, max: javax.s
139                             .addGroup( group: jPanel1Layout.createParallelGroup( alignment: javax.swing.GroupLayout.Alignment.TRAILING, res
140                                 .addComponent( component: jTextField7, alignment: javax.swing.GroupLayout.Alignment.LEADING, min: javax.swin
141                                 .addComponent( component: jTextField6, alignment: javax.swing.GroupLayout.Alignment.LEADING)
142                                 .addComponent( component: jTextField5, alignment: javax.swing.GroupLayout.Alignment.LEADING)
```

```java
143                            .addComponent(component:jTextField4, alignment:javax.swing.GroupLayout.Alignment.LEADING)
144                            .addComponent(component:jTextField3, alignment:javax.swing.GroupLayout.Alignment.LEADING)))
145                        .addContainerGap(pref:246, max:Short.MAX_VALUE))))
146            .addGroup(alignment:javax.swing.GroupLayout.Alignment.TRAILING, group:jPanel1Layout.createSequentialGroup()
147                .addContainerGap(pref:javax.swing.GroupLayout.DEFAULT_SIZE, max:Short.MAX_VALUE)
148                .addComponent(component:jButton2, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:234, max:javax.swing.GroupLayout.PRE
149                .addGap(min:159, pref:159, max:159))
150        );
151        jPanel1Layout.setVerticalGroup(
152            group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.LEADING)
153            .addGroup(group:jPanel1Layout.createSequentialGroup()
154                .addContainerGap()
155                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.BASELINE)
156                    .addComponent(component:jLabel1)
157                    .addComponent(component:jTextField1, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:javax.swing.GroupLayout.DEFA
158                .addGap(min:32, pref:32, max:32)
159                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.BASELINE)
160                    .addComponent(component:jLabel2)
161                    .addComponent(component:jTextField2, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:javax.swing.GroupLayout.DEFA
162                .addGap(min:33, pref:33, max:33)
163                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.BASELINE)
164                    .addComponent(component:jLabel3)
165                    .addComponent(component:jRadioButton1)
166                    .addComponent(component:jRadioButton2)
167                    .addComponent(component:jRadioButton3))
168                .addGap(min:44, pref:44, max:44)
169                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.BASELINE)
170                    .addComponent(component:jLabel4)
171                    .addComponent(component:jTextField3, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:javax.swing.GroupLayout.DEFA
172                .addGap(min:41, pref:41, max:41)
173                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.BASELINE)
174                    .addComponent(component:jLabel5)
175                    .addComponent(component:jTextField4, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:javax.swing.GroupLayout.DEFA
176                .addGap(min:42, pref:42, max:42)
177                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.BASELINE)
178                    .addComponent(component:jLabel6)
```
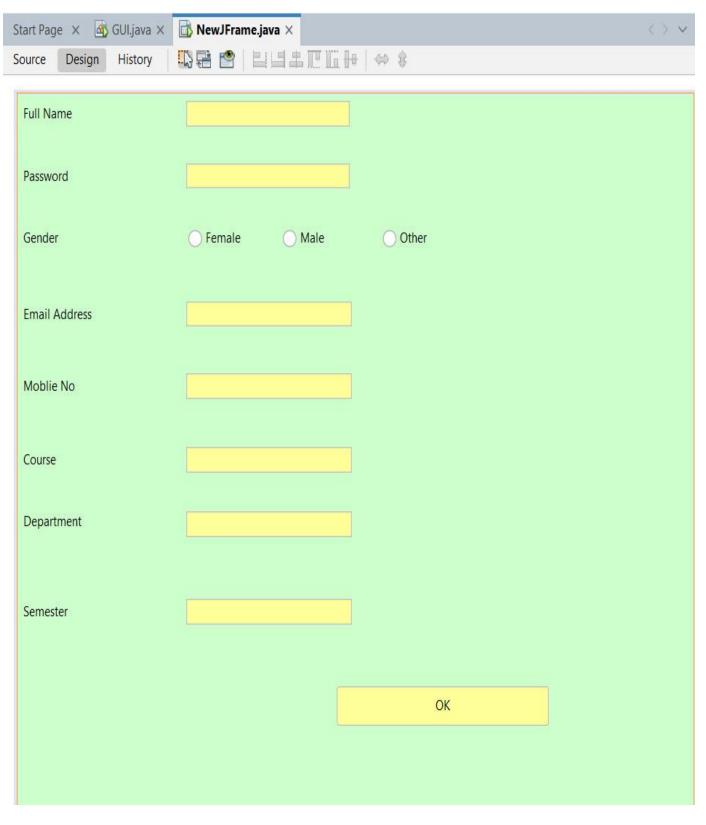
```java
                    .addComponent(component:jTextField5, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:javax.swing.GroupLayout.DEFA
                .addGap(min:34, pref:34, max:34)
                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(component:jLabel7)
                    .addComponent(component:jTextField6, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:javax.swing.GroupLayout.DEFA
                .addGap(min:54, pref:54, max:54)
                .addGroup(group:jPanel1Layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(component:jTextField7, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:javax.swing.GroupLayout.DEFA
                    .addComponent(component:jLabel8))
                .addGap(min:54, pref:54, max:54)
                .addComponent(component:jButton2, min:javax.swing.GroupLayout.PREFERRED_SIZE, pref:34, max:javax.swing.GroupLayout.PREF
                .addContainerGap(pref:70, max:Short.MAX_VALUE))
        );

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(host:getContentPane());
        getContentPane().setLayout(mgr:layout);
        layout.setHorizontalGroup(
            group:layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(component:jPanel1, alignment:javax.swing.GroupLayout.Alignment.TRAILING, min:javax.swing.GroupLayout.DEFAULT_S
        );
        layout.setVerticalGroup(
            group:layout.createParallelGroup(alignment:javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(component:jPanel1, alignment:javax.swing.GroupLayout.Alignment.TRAILING, min:javax.swing.GroupLayout.DEFAULT_S
        );

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

    private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
ptionPane.showConfirmDialog(parentComponent:null, message:"Thank You");        // TODO add your handling code here:
    }

    /**
     * @param args the command line arguments
     */
```

```
214    public static void main(String args[]) {
215        /* Set the Nimbus look and feel */
216        Look and feel setting code (optional)
237
238        /* Create and display the form */
           java.awt.EventQueue.invokeLater(new Runnable() {
               public void run() {
241               new NewJFrame().setVisible( b: true);
242           }
243        });
244    }
245
246    // Variables declaration - do not modify
247    private javax.swing.JButton jButton2;
248    private javax.swing.JLabel jLabel1;
249    private javax.swing.JLabel jLabel2;
250    private javax.swing.JLabel jLabel3;
251    private javax.swing.JLabel jLabel4;
252    private javax.swing.JLabel jLabel5;
253    private javax.swing.JLabel jLabel6;
254    private javax.swing.JLabel jLabel7;
255    private javax.swing.JLabel jLabel8;
256    private javax.swing.JPanel jPanel1;
257    private javax.swing.JRadioButton jRadioButton1;
258    private javax.swing.JRadioButton jRadioButton2;
259    private javax.swing.JRadioButton jRadioButton3;
260    private javax.swing.JTextField jTextField1;
261    private javax.swing.JTextField jTextField2;
262    private javax.swing.JTextField jTextField3;
263    private javax.swing.JTextField jTextField4;
264    private javax.swing.JTextField jTextField5;
265    private javax.swing.JTextField jTextField6;
266    private javax.swing.JTextField jTextField7;
267    // End of variables declaration
```
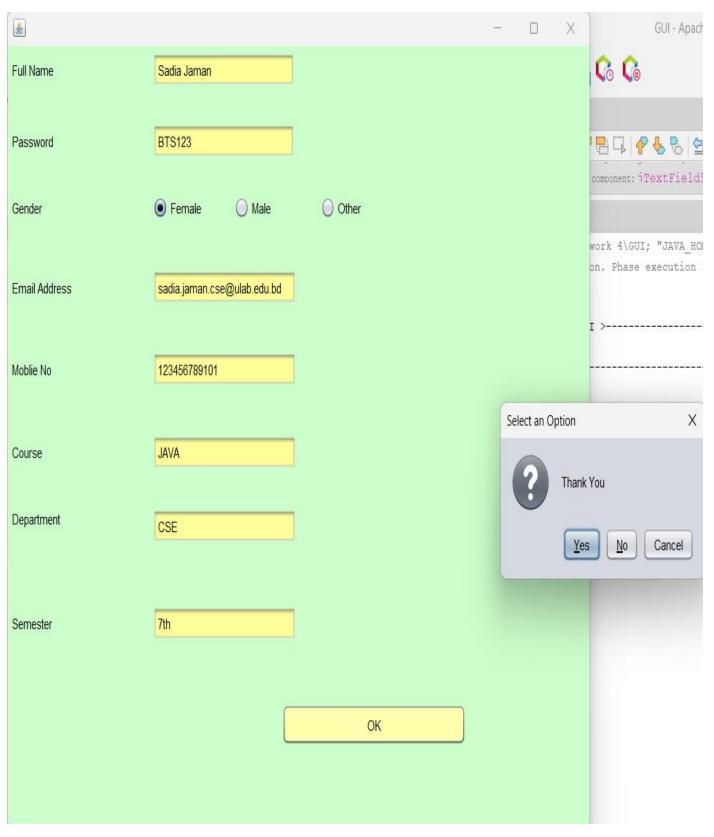
///GUI.java

```
1    /*
2     * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3     */
4
5    package library.gui;
6
7    /**
8     *
9     * @author DELL
10    */
11   public class GUI {
12
13       public static void main(String[] args) {
14           System.out.println( x:"Thank You!");
15       }
16   }
```

Design

Source   Design   History

Full Name

Password

Gender   ○ Female   ○ Male   ○ Other

Email Address

Moblie No

Course

Department

Semester

OK

Discussion:

The main purpose of using a graphic user interface in Java is to provide an easy-to-use visual experience builder for Java applications.

I created the registration form where I entered the following: full name, password, gender, email address, mobile number, course, department, and I have kept the semester.

And finally, there is an OK button, which has an action called an event. With this OK button, we can enter the direct source field.

Inside the source code, I have put a, **JOptionPane .show ConfirmDialog (null, "Thank You")** line that will print a thank you message and keep three selectable options, like yes, no, and cancel.