

King Saud University
College of Computer and Information Sciences
Department of Computer Sciences
CSC-113, Computer Programming II – Fall (2016/2017)
“Graphical User Interface (GUI)”
(SOLUTION)

Lab Exercise:

Implement the Java Class *PersonalInforRegistration* extends *JFrame*, import “*javax.swing*” components; *ButtonGroup*, *JFrame*, *JLabel*, *TextField*, *JRadioButton*, *PasswordField*, *Button* and “.awt” component *Font*.

The class should implement a Java Graphical User Interface (GUI) displaying four text fields, radio button group and two buttons with proper Labels as illustrated below:

The screenshot shows a window titled "Personal Information Form" with a standard Windows-style title bar (minimize, maximize, close). The form contains the following elements:

- National ID: A text field containing "123456789".
- Full Name: A text field containing "Ahmed Ahmed".
- Gender: A radio button group with "Male" selected (indicated by a filled circle) and "Female" unselected (indicated by an empty circle).
- Username: A text field containing "user1".
- Password: A password field containing "*****".
- Buttons: Two buttons at the bottom, "Submit" and "Cancel".

Solution:

```
// Personal Information Registration class
import javax.swing.ButtonGroup;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JTextField;
import javax.swing.JRadioButton;
import java.awt.Font;
```

```

import javax.swing.JPasswordField;
import javax.swing.JButton;
public class PersonalInformaatRegistration extends JFrame {
    //Serialization of Class version number to the class load for
    Sender/Receiver
    private static final long serialVersionUID = 1L;

    //Component that allows editing of a single line text
    public JTextField getTextField_5() {

        return UID;
    }

    //Setting the Text of JTextField Component

    public void setTextField_5(JTextField textField_5) {
        this.UID = textField_5;
    }
    //JFrame Class
private JFrame frame;

//JPasswordField, used to allow editing of a single line text with showing
characters
public JPasswordField getPasswordField() {
    return passwordField;
}
public void setPasswordField(JPasswordField passwordField) {
    this.passwordField = passwordField;
}
private JTextField txtFName;

//initializing button group object. Turn ON one of the buttons and turning OFF
others
ButtonGroup bg = new ButtonGroup();
    public JTextField UID;
    JButton btnNewButton;
    JButton btnCancel;
    PersonalInformaatRegistration window;
    private JPasswordField passwordField;
public static void main(String[] args) {
try { //Initializing the try block in-case of exceptions
    PersonalInformaatRegistration window = new PersonalInformaatRegistration();
    //Show/Hide window parameter
    window.frame.setVisible(true);
window.pack();//used to make the window size fit according to its subcomponents
} catch (Exception e) { //handles the exception that occurs within the associated
try
e.printStackTrace(); //prints stack trace on the output stream
}
}
public PersonalInformaatRegistration() {
initialize();
}
private void initialize() { //Initializing GUI Components
frame = new JFrame();
frame.setBounds(100, 100, 450, 468); //specify x, y and width and height

```

```

frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
frame.getContentPane().setLayout(null); //this will prevent the invalidation of
component hierarchy
JLabel lblFullName = new JLabel("Full Name"); //non editable Label
lblFullName.setBounds(44, 94, 76, 14);
frame.getContentPane().add(lblFullName); //Returns the object for the frame
JLabel lblNewLabel_3 = new JLabel("Personal Information Form");
lblNewLabel_3.setFont(new Font("Tahoma", Font.PLAIN, 15));
lblNewLabel_3.setBounds(115, 11, 200, 50);
frame.getContentPane().add(lblNewLabel_3);
txtFName = new JTextField();
txtFName.setColumns(10); //Number of columns in the text field
txtFName.setBounds(159, 91, 180, 20);
frame.getContentPane().add(txtFName);
JLabel lblSex = new JLabel("Gender");
lblSex.setBounds(44, 174, 92, 14);
frame.getContentPane().add(lblSex);
JRadioButton rdbtnMale = new JRadioButton("Male"); //implementation of radio button
used with ButtonGroup object
rdbtnMale.setBounds(169, 168, 60, 23);
frame.getContentPane().add(rdbtnMale);
bg.add(rdbtnMale); //adds the item to the group
JRadioButton rdbtnFemale = new JRadioButton("Female");
rdbtnFemale.setBounds(240, 168, 75, 23);
frame.getContentPane().add(rdbtnFemale);
bg.add(rdbtnFemale);
JLabel lblNationalId = new JLabel("National ID");
lblNationalId.setBounds(44, 67, 76, 14);
frame.getContentPane().add(lblNationalId);
JTextField txtNatid = new JTextField();
txtNatid.setColumns(10);
txtNatid.setBounds(159, 60, 180, 20);
frame.getContentPane().add(txtNatid);
JLabel lblUserId = new JLabel("Username");
lblUserId.setBounds(44, 248, 76, 14);
frame.getContentPane().add(lblUserId);
UID = new JTextField();
UID.setColumns(10);
UID.setBounds(159, 245, 180, 20);
frame.getContentPane().add(UID);
JLabel lblPassword = new JLabel("Password");
lblPassword.setBounds(44, 296, 76, 14);
frame.getContentPane().add(lblPassword);
btnNewButton = new JButton("Submit");
btnNewButton.setBounds(159, 360, 89, 23);
frame.getContentPane().add(btnNewButton);
btnCancel = new JButton("Cancel");
btnCancel.setBounds(258, 360, 89, 23);
frame.getContentPane().add(btnCancel);
passwordField = new JPasswordField();
passwordField.setEchoChar('*'); //Setting the echo character to display while
typing. Value 0 means no hiding
passwordField.setBounds(159, 293, 180, 20);
frame.getContentPane().add(passwordField);
actionlogin();

```

```
}  
private void actionlogin() { /* OPTIONAL */  
    //Login method (OPTIONAL)  
}  
}
```