**Lab 11,12 Tasks**

**Roll # 21SW028**

**Name: wasatullah**

1. Task #1: Write an GUI Application that capture following information of a Student :

1. Reg. No. 2. Name 3. Batch 4. Section

5. Gender (must be a choice object) e.g. Radio Button

6. Qualification (must be a choice object) e.g. Check Box

7. Address (must have multiple lines) e.g. Text Area

8. Country (must be list item) e.g. Combo Box

This application must have 2 buttons on the screen one is for Save and one for Display, when user selects Save then all fields will be initialized and data will be stored in JSON file. On pressing display button all the data will be shown on new frame.

Create a colorful GUI by adding background color or image to buttons and frame.

**Answer:**

**GitHub Link:**

**https://github.com/WusatullahJamali/Lab-11\_12-Tasks**

**Code:**

import java.io.FileReader;

import java.io.FileWriter;

import org.json.simple.\*;

import org.json.simple.parser.JSONParser;

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

public class Lab11Task {

JFrame frame;

JPanel panel;

JLabel name,roll,batch,section,gender,qualification,address,country;

JTextField t1,t2,t3,t4;

JTextArea textArea;

JCheckBox c1,c2,c3,c4;

String[] countryList={"Pakistan","India","Australia","England","Sri Lanka","Bangladesh","New Zealand"};

JComboBox comboBox=new JComboBox<>(countryList);

JRadioButton r1,r2;

JButton b1,b2;

ButtonGroup buttonGroup1,buttonGroup2;

JSONObject jsonObject=new JSONObject();

Lab11Task()

{

frame=new JFrame("Student Registration");

panel=new JPanel();

name=new JLabel("Name: ");

roll=new JLabel("Roll Number: ");

batch=new JLabel("Batch: ");

section=new JLabel("Section: ");

gender=new JLabel("Gender: ");

qualification=new JLabel("Qualification");

address=new JLabel("Address");

country=new JLabel("Country");

c1=new JCheckBox("Matric");

c2=new JCheckBox("Intermediate");

c3=new JCheckBox("Graduate");

c4=new JCheckBox("Post Graduate");

buttonGroup1=new ButtonGroup();

buttonGroup2=new ButtonGroup();

t1=new JTextField();

t2=new JTextField();

t3=new JTextField();

t4=new JTextField();

textArea=new JTextArea();

r1=new JRadioButton("Male");

r2=new JRadioButton("Female");

b1=new JButton("Save");

b2=new JButton("Print");

panel.setLayout(null);

frame.setSize(700,700);

panel.setSize(700,700);

panel.setBackground(Color.yellow);

name.setBounds(50,50,100,50);

roll.setBounds(50,100,100,50);

batch.setBounds(50,150,100,50);

section.setBounds(50,200,100,50);

gender.setBounds(50,250,100,50);

qualification.setBounds(50,300,100,50);

address.setBounds(50,400,100,50);

country.setBounds(50,490,100,50);

c1.setBounds(180,310,100,30);

c2.setBounds(330,310,100,30);

c3.setBounds(180,360,100,30);

c4.setBounds(330,360,120,30);

t1.setBounds(180,60,150,30);

t2.setBounds(180,110,150,30);

t3.setBounds(180,160,150,30);

t4.setBounds(180,210,150,30);

textArea.setBounds(180,400,220,75);

comboBox.setBounds(180,500,200,30);

comboBox.setEditable(false);

r1.setBounds(180,260,70,30);

r2.setBounds(280,260,70,30);

b1.setBounds(50,600,70,30);

b2.setBounds(320,600,70,30);

buttonGroup1.add(r1);

buttonGroup1.add(r2);

buttonGroup2.add(c1);

buttonGroup2.add(c2);

buttonGroup2.add(c3);

buttonGroup2.add(c4);

panel.add(name);

panel.add(roll);

panel.add(batch);

panel.add(section);

panel.add(gender);

panel.add(qualification);

panel.add(address);

panel.add(country);

panel.add(c1);

panel.add(c2);

panel.add(c3);

panel.add(c4);

panel.add(t1);

panel.add(t2);

panel.add(t3);

panel.add(t4);

panel.add(textArea);

panel.add(comboBox);

panel.add(r1);

panel.add(r2);

panel.add(b1);

panel.add(b2);

frame.add(panel);

frame.setVisible(true);

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

b1.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

Data\_save();

}

});

b2.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

Data\_view();

}

});

}

public void Data\_save()

{

String gender;

String qualification;

if(c1.isSelected())qualification="Matric";

else if(c2.isSelected())qualification="Intermediate";

else if(c3.isSelected())qualification="Graduate";

else qualification="Post Graduate";

if(r1.isSelected())gender="Male";

else gender="Female";

String name=t1.getText();

String rollNumber=t2.getText();

String batch=t3.getText();

String section=t4.getText();

// String gender=buttonGroup1.getSelection().getActionCommand();

// String qualification=buttonGroup2.getSelection().getActionCommand();

String country=(String)comboBox.getSelectedItem();

String address=textArea.getText();

jsonObject.put("Name",name);

jsonObject.put("RollNumber",rollNumber);

jsonObject.put("Batch",batch);

jsonObject.put("Section",section);

jsonObject.put("Gender",gender);

jsonObject.put("Qualification",qualification);

jsonObject.put("Country",country);

jsonObject.put("Address",address);

try {

FileWriter file=new FileWriter("MyFile.json");

file.write(jsonObject.toJSONString());

file.close();

JOptionPane.showMessageDialog(null,"Data stored successfully.");

}catch(Exception e)

{

JOptionPane.showMessageDialog(null,e.getMessage());

}

}

public void Data\_view()

{

try {

JSONParser parser = new JSONParser();

Object obj = parser.parse(new FileReader("MyFile.json"));

JSONObject object = (JSONObject) obj;

String name = (String) object.get("Name");

String rollNumber = (String) object.get("RollNumber");

String batch = (String) object.get("Batch");

String section = (String) object.get("Section");

String gender = (String) object.get("Gender");

String qualification = (String) object.get("Qualification");

String country = (String) object.get("Country");

String address = (String) object.get("Address");

frame.remove(panel);

Panel panel1 = new Panel();

panel1.setLayout(null);

panel1.setBackground(Color.yellow);

panel1.setSize(700, 700);

JLabel l1, l2, l3, l4, l5, l6, l7, l8;

l1 = new JLabel("Name : " + name);

l2 = new JLabel("Roll #: " + rollNumber);

l3 = new JLabel("Batch: " + batch);

l4 = new JLabel("Section: " + section);

l5 = new JLabel("Gender: " + gender);

l6 = new JLabel("Qualification: " + qualification);

l7 = new JLabel("Country: " + country);

l8 = new JLabel("Address: " + address);

l1.setBounds(10, 20, 200, 50);

l2.setBounds(10, 70, 200, 50);

l3.setBounds(10, 120, 200, 50);

l4.setBounds(10, 170, 200, 50);

l5.setBounds(10, 220, 200, 50);

l6.setBounds(10, 270, 200, 50);

l7.setBounds(10, 320, 200, 50);

l8.setBounds(10, 370, 200, 50);

panel1.add(l1);

panel1.add(l2);

panel1.add(l3);

panel1.add(l4);

panel1.add(l5);

panel1.add(l6);

panel1.add(l7);

panel1.add(l8);

frame.add(panel1);

frame.setVisible(true);

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

}catch(Exception e)

{

JOptionPane.showMessageDialog(null,e.getMessage());

}

}

public static void main(String[] args) {

Lab11Task obj=new Lab11Task();

}

}