SUBJECT: OBJECT ORIENTED PROGRAMMING

Submitted To: Engr. Asmatullah

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Lab: Lab-13 Task

**Question:**

Create & Upload word file containing your repository link. On github your code must be uploaded, only share GUI and output screenshots in the word file.

Source Code:

**package** Lab\_13\_Task;

**import** org.json.simple.JSONObject;

**import** javax.swing.\*;

**import** java.awt.\*;

**import** java.awt.event.ActionEvent;

**import** java.awt.event.ActionListener;

**import** java.io.FileWriter;

**import** java.io.Writer;

**import** java.sql.\*;

// To open new frame on click (New Frame code)

**class** C **extends** JFrame {

JLabel jl1, jl2, jl3, jl4, jl5, jl6, jl7, jl8;

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

**public** C() {

setSize(620, 620);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setLayout(**null**);

getContentPane().setBackground(Color.ORANGE);

jl1 = **new** JLabel("Name: ");

jl2 = **new** JLabel("Roll No: ");

jl3 = **new** JLabel("Batch: ");

jl4 = **new** JLabel("Section: ");

jl5 = **new** JLabel("Gender: ");

jl6 = **new** JLabel("Qualification: ");

jl7 = **new** JLabel("Address: ");

jl8 = **new** JLabel("Country: ");

name = **new** JLabel();

roll\_no = **new** JLabel();

batch = **new** JLabel();

section = **new** JLabel();

gender = **new** JLabel();

qualification = **new** JLabel();

address = **new** JLabel();

country = **new** JLabel();

jl1.setBounds(50, 50, 75, 25);

jl2.setBounds(50, 100, 75, 25);

jl3.setBounds(50, 150, 75, 25);

jl4.setBounds(50, 200, 75, 25);

jl5.setBounds(50, 250, 75, 25);

jl6.setBounds(50, 300, 80, 25);

jl7.setBounds(50, 350, 75, 25);

jl8.setBounds(50, 400, 75, 25);

name.setBounds(150, 50, 250, 25);

roll\_no.setBounds(150, 100, 250, 25);

batch.setBounds(150, 150, 250, 25);

section.setBounds(150, 200, 250, 25);

gender.setBounds(150, 250, 250, 25);

qualification.setBounds(150, 300, 250, 25);

address.setBounds(150, 350, 400, 25);

country.setBounds(150, 400, 250, 25);

// jl2.setText(roll\_no.getText());

// jl3.setText(batch.getText());

// jl3.setText(section.getText());

add(jl1); add(name);

add(jl2); add(roll\_no);

add(jl3); add(batch);

add(jl4); add(section);

add(jl5); add(gender);

add(jl6); add(qualification);

add(jl7); add(address);

add(jl8); add(country);

setVisible(**true**);

}

**public** **void** my\_update(String str1, String str2, String str3, String str4, String str5, String str6, String str7, String str8){

name.setText(str1);

roll\_no.setText(str2);

batch.setText(str3);

section.setText(str4);

gender.setText(str5);

qualification.setText(str6);

address.setText(str7);

country.setText(str8);

}

} // end of class C

// Actual frame code when program will be run

**class** Form **extends** JFrame **implements** ActionListener {

**static** String str1, str2, str3, str4, str5, str6, str7, str8;

JLabel jl1, jl2, jl3, jl4, jl5, jl6, jl7, jl8;

JTextField roll\_no, name, batch, section;

JRadioButton jb1, jb2;

JButton b1, b2, insert, fetch;

JCheckBox checkBox1, checkBox2, checkBox3, checkBox4;

JTextArea address;

JComboBox country;

**public** Form() {

setSize(620, 620);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setLayout(**null**);

getContentPane().setBackground(Color.YELLOW);

jl1 = **new** JLabel("Name ");

jl2 = **new** JLabel("Roll No ");

jl3 = **new** JLabel("Batch ");

jl4 = **new** JLabel("Section ");

jl5 = **new** JLabel("Gender ");

jl6 = **new** JLabel("Qualification ");

jl7 = **new** JLabel("Address ");

jl8 = **new** JLabel("Country");

jl1.setBounds(50, 50, 75, 25);

jl2.setBounds(50, 100, 75, 25);

jl3.setBounds(50, 150, 75, 25);

jl4.setBounds(50, 200, 75, 25);

jl5.setBounds(50, 250, 75, 25);

jl6.setBounds(50, 300, 75, 25);

jl7.setBounds(50, 400, 75, 25);

jl8.setBounds(50, 450, 75, 25);

roll\_no = **new** JTextField(20);

name = **new** JTextField(20);

batch = **new** JTextField(20);

section = **new** JTextField(20);

name.setBounds(125, 50, 200, 25);

roll\_no.setBounds(125, 100, 200, 25);

batch.setBounds(125, 150, 200, 25);

section.setBounds(125, 200, 200, 25);

jb1 = **new** JRadioButton("Male");

jb2 = **new** JRadioButton("Female");

jb1.setBackground(Color.yellow);

jb2.setBackground(Color.yellow);

ButtonGroup bg = **new** ButtonGroup();

bg.add(jb1);

bg.add(jb2);

jb1.setBounds(150, 250, 80, 25);

jb2.setBounds(250, 250, 80, 25);

checkBox1 = **new** JCheckBox("Matric");

checkBox2 = **new** JCheckBox("Intermediate");

checkBox3 = **new** JCheckBox("Graduate");

checkBox4 = **new** JCheckBox("Post Graduate");

checkBox1.setBackground(Color.yellow);

checkBox2.setBackground(Color.yellow);

checkBox3.setBackground(Color.yellow);

checkBox4.setBackground(Color.yellow);

checkBox1.setBounds(150, 300, 80, 25);

checkBox2.setBounds(250, 300, 120, 25);

checkBox3.setBounds(150, 350, 100, 25);

checkBox4.setBounds(250, 350, 130, 25);

address = **new** JTextArea();

address.setLineWrap(**true**);

address.setWrapStyleWord(**true**);

address.setBounds(150, 400, 220, 40);

String[] countries = {"Pakistan", "India", "China"};

country = **new** JComboBox(countries);

country.setBounds(150, 450, 160, 25);

b1 = **new** JButton("Save");

b2 = **new** JButton("Print");

insert = **new** JButton("Insert");

fetch = **new** JButton("Fetch");

b1.setFocusable(**false**);

b2.setFocusable(**false**);

insert.setFocusable(**false**);

fetch.setFocusable(**false**);

b1.setBounds(50, 500, 75, 25);

b2.setBounds(150, 500, 75, 25);

insert.setBounds(250, 500, 75, 25);

fetch.setBounds(350, 500, 75, 25);

add(jl1);

add(name);

add(jl2);

add(roll\_no);

add(jl3);

add(batch);

add(jl4);

add(section);

add(jl5);

add(jb1);

add(jb2);

add(jl6);

add(checkBox1);

add(checkBox2);

add(checkBox3);

add(checkBox4);

add(jl7);

add(address);

add(jl8);

add(country);

add(b1);

add(b2);

add(insert);

add(fetch);

b1.addActionListener(**this**);

b2.addActionListener(**this**);

insert.addActionListener(**this**);

fetch.addActionListener(**this**);

setVisible(**true**);

}

**public** **void** get() {

str1 = name.getText();

str2 = roll\_no.getText();

str3 = batch.getText();

str4 = section.getText();

str5 = "";

str6 = "";

**if** (jb1.isSelected())

str5 = "Male";

**else**

str5 = "Female";

**if** (checkBox1.isSelected() && checkBox2.isSelected() && checkBox3.isSelected() && checkBox4.isSelected()) {

str6 = checkBox1.getText() + ", " + checkBox2.getText() + ", " + checkBox3.getText() + " and " + checkBox4.getText();

} **else** **if** (checkBox1.isSelected() && checkBox2.isSelected() && checkBox3.isSelected()) {

str6 = checkBox1.getText() + ", " + checkBox2.getText() + ", " + checkBox3.getText();

} **else** **if** (checkBox1.isSelected() && checkBox2.isSelected()) {

str6 = checkBox1.getText() + ", " + checkBox2.getText();

} **else** **if** (checkBox1.isSelected()) {

str6 = checkBox1.getText();

} **else** **if** (checkBox2.isSelected()) {

str6 = checkBox2.getText();

} **else** **if** (checkBox3.isSelected()) {

str6 = checkBox3.getText();

} **else** **if** (checkBox4.isSelected()) {

str6 = checkBox4.getText();

} // end of if else conditional

str7 = address.getText();

str8 = (String) country.getSelectedItem();

} // end of get

@Override

**public** **void** actionPerformed(ActionEvent e) {

Writer writer;

JSONObject jsonObject = **new** JSONObject();

jsonObject.put("Name", name.getText());

jsonObject.put("Roll Number: ", roll\_no.getText());

jsonObject.put("Batch: ", batch.getText());

jsonObject.put("Section: ", section.getText());

**if** (jb1.isSelected()) {

jsonObject.put("Gender: ", jb1.getText());

} **else** {

jsonObject.put("Gender: ", jb2.getText());

}

**if** (checkBox1.isSelected() && checkBox2.isSelected() && checkBox3.isSelected() && checkBox4.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText() + ", " + checkBox2.getText() + ", " + checkBox3.getText() + " and " + checkBox4.getText());

} **else** **if** (checkBox1.isSelected() && checkBox2.isSelected() && checkBox3.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText() + ", " + checkBox2.getText() + ", " + checkBox3.getText());

} **else** **if** (checkBox1.isSelected() && checkBox2.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText() + ", " + checkBox2.getText());

} **else** **if** (checkBox1.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText());

} **else** **if** (checkBox2.isSelected()) {

jsonObject.put("Qualification: ", checkBox2.getText());

} **else** **if** (checkBox3.isSelected()) {

jsonObject.put("Qualification: ", checkBox3.getText());

} **else** **if** (checkBox4.isSelected()) {

jsonObject.put("Qualification: ", checkBox4.getText());

}

jsonObject.put("Country: ", country.getSelectedItem());

jsonObject.put("Address: ", address.getText());

**if** (e.getSource() == b1) {

**try** {

writer = **new** FileWriter("Task\_13.json");

writer.write(jsonObject.toJSONString());

**try** {

**if** (jb1.isSelected()) {

jsonObject.put("Gender: ", jb1.getText());

} **else** {

jsonObject.put("Gender: ", jb2.getText());

}

**if** (checkBox1.isSelected() && checkBox2.isSelected() && checkBox3.isSelected() && checkBox4.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText() + ", " + checkBox2.getText() + ", " + checkBox3.getText() + " and " + checkBox4.getText());

} **else** **if** (checkBox1.isSelected() && checkBox2.isSelected() && checkBox3.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText() + ", " + checkBox2.getText() + ", " + checkBox3.getText());

} **else** **if** (checkBox1.isSelected() && checkBox2.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText() + ", " + checkBox2.getText());

} **else** **if** (checkBox1.isSelected()) {

jsonObject.put("Qualification: ", checkBox1.getText());

} **else** **if** (checkBox2.isSelected()) {

jsonObject.put("Qualification: ", checkBox2.getText());

} **else** **if** (checkBox3.isSelected()) {

jsonObject.put("Qualification: ", checkBox3.getText());

} **else** **if** (checkBox4.isSelected()) {

jsonObject.put("Qualification: ", checkBox4.getText());

} // end of try block

} **catch** (Exception ie) {

ie.printStackTrace();

}

writer.close();

} **catch** (Exception ie) {

ie.printStackTrace();

}

}

**else** **if** (e.getSource() == b2) {

get();

C obj = **new** C();

obj.my\_update(str1, str2, str3, str4, str5, str6, str7, str8);

obj.setVisible(**true**);

dispose();

} // end of if-else ladder

**else** **if**(e.getSource()==insert){

**try** {

insertDatabase();

} **catch** (ClassNotFoundException | SQLException ex) {

**throw** **new** RuntimeException(ex);

}

}

**else** **if**(e.getSource()==fetch){

**try** {

fetchData();

} **catch** (ClassNotFoundException | SQLException ex) {

**throw** **new** RuntimeException(ex);

}

} // end of if-else ladder

} // end of actionPerformed() method

**public** **void** insertDatabase() **throws** ClassNotFoundException, SQLException {

String url = "jdbc:mysql://localhost:3306/jdbc"; // where last jdbc is Database name in MySQL

String uname = "root";

String pass = "asad56@mysql.com";

String query = "SELECT \* FROM employee";

Class.forName("com.mysql.cj.jdbc.Driver");

Connection com = DriverManager.getConnection(url, uname, pass); // In XAMPP we have not to store password in getConnection,but rather we use empy string at place of password parameter

Statement st = com.createStatement();

ResultSet rs = st.executeQuery(query);

get();

**int** count = st.executeUpdate("INSERT INTO jdbc.`registration` VALUES('"+str1+"', '"+str2+"', '"+str3+"', '"+str4+"', '"+str5+"', '"+str6+"', '"+str7+"', '"+str8+"')");

System.out.println(count+" Rows affected");

st.close();

rs.close();

} // end of method database()

**public** **void** fetchData() **throws** ClassNotFoundException, SQLException {

String url = "jdbc:mysql://localhost:3306/jdbc";

String uname = "root";

String pass = "asad56@mysql.com";

String query = "SELECT \* FROM registration";

Class.forName("com.mysql.cj.jdbc.Driver");

Connection com = DriverManager.getConnection(url, uname, pass);

Statement st = com.createStatement();

ResultSet rs = st.executeQuery(query);

get();

**while**(rs.next()) {

String name = rs.getString(1);

String roll\_no = rs.getString(2);

String batch = rs.getString(3);

String section = rs.getString(4);

String gender = rs.getString(5);

String qualification = rs.getString(6);

String address = rs.getString(7);

String country = rs.getString(8);

System.out.print(name+"\t || "+roll\_no+"\t || "+batch+"\t || "+section+"\t || "+gender+"\t || "+qualification+"\t || "+address+"\t || ");

System.out.println(country);

}

st.close();

rs.close();

} // end of method fetchData()

} // end of class Form

**public** **class** Student\_Registration\_Form {

**public** **static** **void** main(String[] args) **throws** SQLException, ClassNotFoundException {

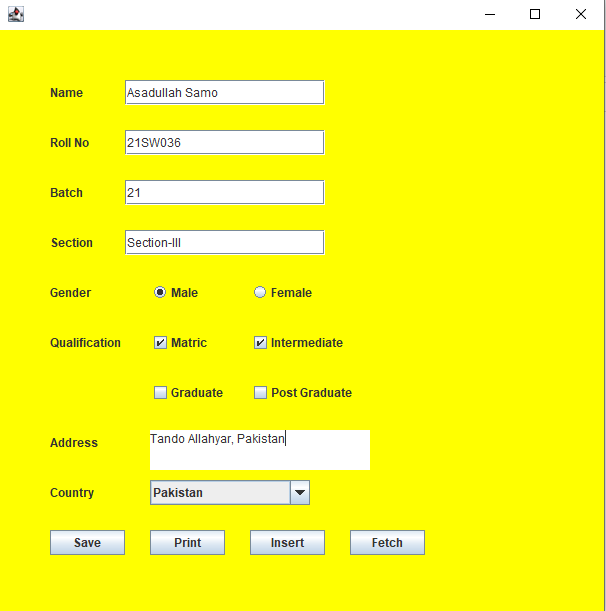
System.out.println();

Form form = **new** Form();

}

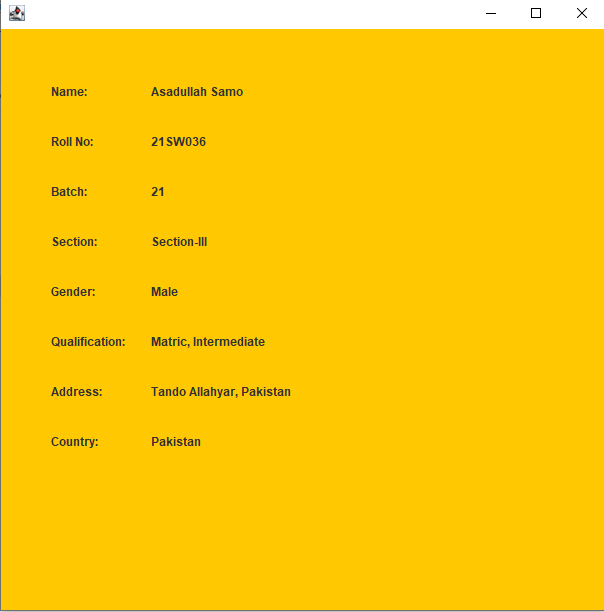
}

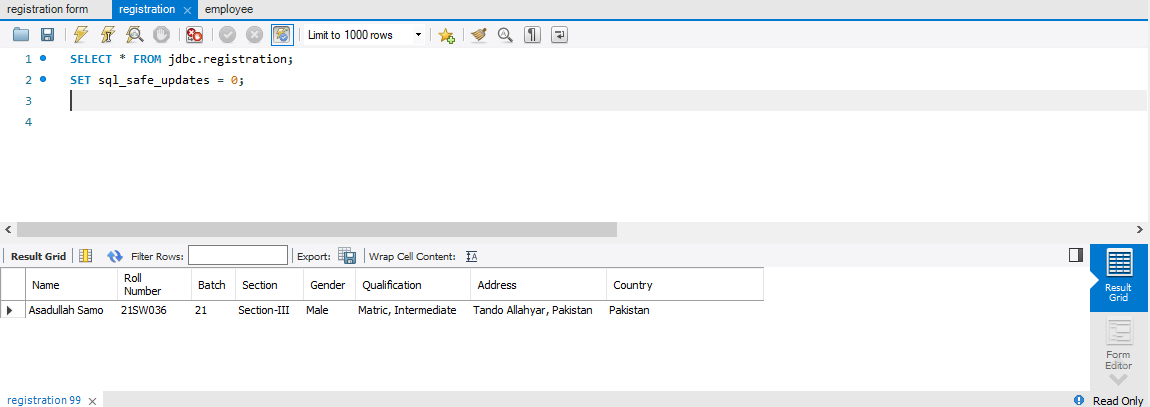
OUTPUT:

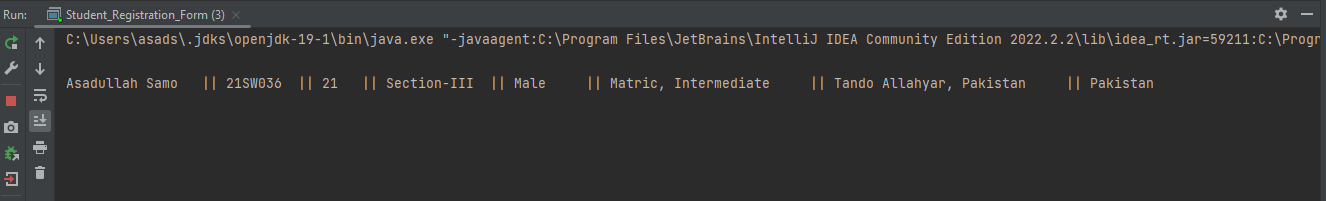


**A screenshot of a computer

Description automatically generated**

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**Link to github:**

<https://github.com/AsadullahSamo/Repository/blob/e4791d677e0d9f50c91879102e1bf3ef4c47be46/Student_Registration_Form.java>