ASSIGNMENT 5 JAVA

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Batch: S-5

Course: Java Programming Lab

Q. 1. Write a program to create a simple calculator with basic +, -, /, *
using java swing elements.

```
import java.awt.event.*;
```

```
import javax.swing.*;
import java.awt.*;
class calculator extends JFrame implements ActionListener {

	static JFrame f;


	static JTextField l;

	String s0, s1, s2;

	calculator()
	{
		s0 = s1 = s2 = "";
	}


	public static void main(String args[])
	{

		f = new JFrame("calculator");

		try {


	UIManager.setLookAndFeel(UIManager.getSystemLookAndFeelClassName());
		}
		catch (Exception e) {
			System.err.println(e.getMessage());
		}
```

```
calculator c = new calculator();



l = new JTextField(16);
l.setEditable(false);
JButton b0, b1, b2, b3, b4, b5, b6, b7, b8, b9, ba, bs, bd, bm, be, beq, beq1;



b0 = new JButton("0");
b1 = new JButton("1");
b2 = new JButton("2");
b3 = new JButton("3");
b4 = new JButton("4");
b5 = new JButton("5");
b6 = new JButton("6");
b7 = new JButton("7");
b8 = new JButton("8");
b9 = new JButton("9");



beq1 = new JButton("=");
ba = new JButton("+");
bs = new JButton("-");
bd = new JButton("/");
bm = new JButton("*");
beq = new JButton("C");
be = new JButton(".");
```

```
JPanel p = new JPanel();



bm.addActionListener(c);
bd.addActionListener(c);
bs.addActionListener(c);
ba.addActionListener(c);
b9.addActionListener(c);
b8.addActionListener(c);
b7.addActionListener(c);
b6.addActionListener(c);
b5.addActionListener(c);
b4.addActionListener(c);
b3.addActionListener(c);
b2.addActionListener(c);
b1.addActionListener(c);
b0.addActionListener(c);
be.addActionListener(c);
beq.addActionListener(c);
beq1.addActionListener(c);



p.add(l);
p.add(ba);
p.add(b1);
p.add(b2);
p.add(b3);
p.add(bs);
p.add(b4);
p.add(b5);
```

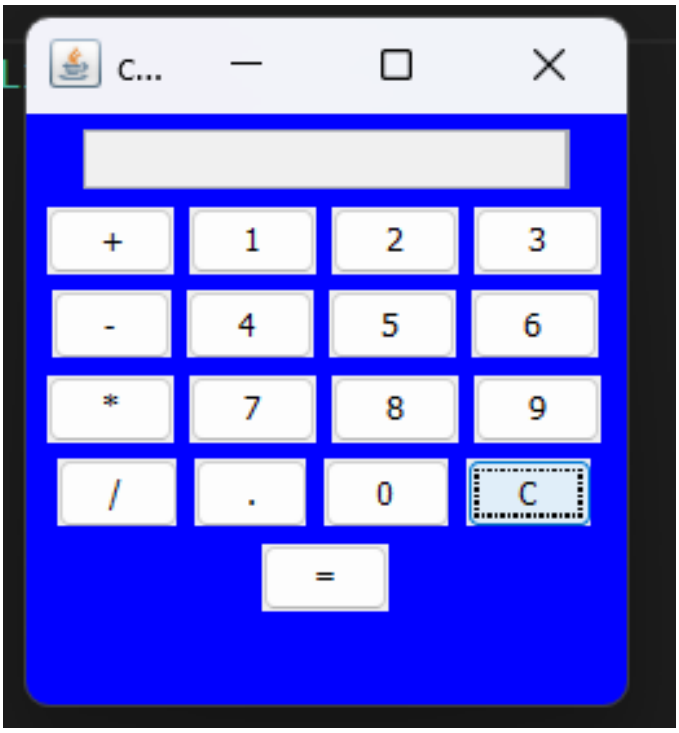
```
        p.add(b6);
        p.add(bm);
        p.add(b7);
        p.add(b8);
        p.add(b9);
        p.add(bd);
        p.add(be);
        p.add(b0);
        p.add(beq);
        p.add(beq1);


        p.setBackground(Color.blue);

        f.add(p);

        f.setSize(200, 220);
        f.show();
}
public void actionPerformed(ActionEvent e)
{
        String s = e.getActionCommand();

        // if the value is a number
        if ((s.charAt(0) >= '0' && s.charAt(0) <= '9') || s.charAt(0) == '.') {
                // if operand is present then add to second no
                if (!s1.equals(""))
                        s2 = s2 + s;
                else
                        s0 = s0 + s;
```

```
            l.setText(s0 + s1 + s2);
}
else if (s.charAt(0) == 'C') {

            s0 = s1 = s2 = "";

            // set the value of text
            l.setText(s0 + s1 + s2);
}
else if (s.charAt(0) == '=') {

            double te;


            if (s1.equals("+"))
                        te = (Double.parseDouble(s0) + Double.parseDouble(s2));
            else if (s1.equals("-"))
                        te = (Double.parseDouble(s0) - Double.parseDouble(s2));
            else if (s1.equals("/"))
                        te = (Double.parseDouble(s0) / Double.parseDouble(s2));
            else
                        te = (Double.parseDouble(s0) * Double.parseDouble(s2));


            l.setText(s0 + s1 + s2 + "=" + te);
            s0 = Double.toString(te);

            s1 = s2 = "";
```

```
        }
        else {

            if (s1.equals("") || s2.equals(""))
                s1 = s;

            else {
                double te;

                // store the value in 1st
                if (s1.equals("+"))
                    te = (Double.parseDouble(s0) + Double.parseDouble(s2));
                else if (s1.equals("-"))
                    te = (Double.parseDouble(s0) - Double.parseDouble(s2));
                else if (s1.equals("/"))
                    te = (Double.parseDouble(s0) / Double.parseDouble(s2));
                else
                    te = (Double.parseDouble(s0) * Double.parseDouble(s2));

                s0 = Double.toString(te);

                // place the operator
                s1 = s;

                s2 = "";
            }

            l.setText(s0 + s1 + s2);
        }
    }
```

}

OUTPUT:

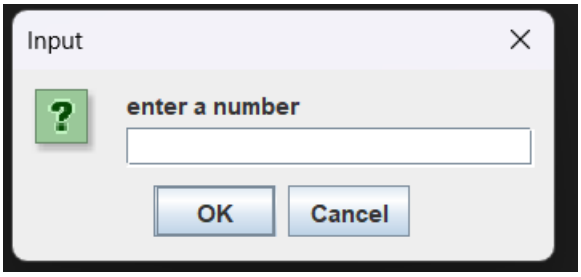


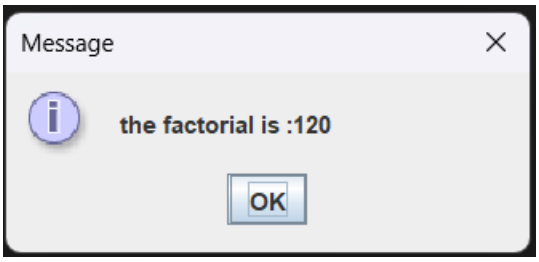
Q2. Write a java program using swing to display number and factorial of that number.

```
import javax.swing.JOptionPane;
public class mainclass {
 public static void main(String[] args) {
  String number;
  int result,inputNumber;
  number = JOptionPane.showInputDialog("enter a number");
  inputNumber = Integer.parseInt(number);
  result = computeFactorial(inputNumber);
  JOptionPane.showMessageDialog(null, "the factorial is :" + result);
 }
 public static int computeFactorial(int n) {
```

```
  int i;
  int result = 1;
  for (i = 1; i <= n; i++){
   result = result * i;
  }
  return result;
 }
}
```

OUTPUT:





Q3. Write a program to create a registration form for student admission.

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

class MyFrame
```

```
extends JFrame
implements ActionListener {
private Container c;
private JLabel title;
private JLabel name;
private JTextField tname;
private JLabel mno;
private JTextField tmno;
private JLabel gender;
private JRadioButton male;
private JRadioButton female;
private ButtonGroup gengp;
private JLabel dob;
private JComboBox date;
private JComboBox month;
private JComboBox year;
private JLabel add;
private JTextArea tadd;
private JCheckBox term;
private JButton sub;
private JButton reset;
private JTextArea tout;
private JLabel res;
private JTextArea resadd;

private String dates[]
        = { "1", "2", "3", "4", "5",
                "6", "7", "8", "9", "10",
                "11", "12", "13", "14", "15",
                "16", "17", "18", "19", "20",
```

```
                "21", "22", "23", "24", "25",
                "26", "27", "28", "29", "30",
                "31" };
    private String months[]
        = { "Jan", "feb", "Mar", "Apr",
                "May", "Jun", "July", "Aug",
                "Sup", "Oct", "Nov", "Dec" };
    private String years[]
        = { "1995", "1996", "1997", "1998",
                "1999", "2000", "2001", "2002",
                "2003", "2004", "2005", "2006",
                "2007", "2008", "2009", "2010",
                "2011", "2012", "2013", "2014",
                "2015", "2016", "2017", "2018",
                "2019" };
    public MyFrame()
    {
        setTitle("Registration Form");
        setBounds(300, 90, 900, 600);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
        setResizable(false);

        c = getContentPane();
        c.setLayout(null);

        title = new JLabel("Registration Form");
        title.setFont(new Font("Arial", Font.PLAIN, 30));
        title.setSize(300, 30);
        title.setLocation(300, 30);
        c.add(title);
```

```
name = new JLabel("Name");
name.setFont(new Font("Arial", Font.PLAIN, 20));
name.setSize(100, 20);
name.setLocation(100, 100);
c.add(name);

tname = new JTextField();
tname.setFont(new Font("Arial", Font.PLAIN, 15));
tname.setSize(190, 20);
tname.setLocation(200, 100);
c.add(tname);

mno = new JLabel("Mobile");
mno.setFont(new Font("Arial", Font.PLAIN, 20));
mno.setSize(100, 20);
mno.setLocation(100, 150);
c.add(mno);

tmno = new JTextField();
tmno.setFont(new Font("Arial", Font.PLAIN, 15));
tmno.setSize(150, 20);
tmno.setLocation(200, 150);
c.add(tmno);

gender = new JLabel("Gender");
gender.setFont(new Font("Arial", Font.PLAIN, 20));
gender.setSize(100, 20);
gender.setLocation(100, 200);
c.add(gender);
```

```
male = new JRadioButton("Male");
male.setFont(new Font("Arial", Font.PLAIN, 15));
male.setSelected(true);
male.setSize(75, 20);
male.setLocation(200, 200);
c.add(male);

female = new JRadioButton("Female");
female.setFont(new Font("Arial", Font.PLAIN, 15));
female.setSelected(false);
female.setSize(80, 20);
female.setLocation(275, 200);
c.add(female);

gengp = new ButtonGroup();
gengp.add(male);
gengp.add(female);

dob = new JLabel("DOB");
dob.setFont(new Font("Arial", Font.PLAIN, 20));
dob.setSize(100, 20);
dob.setLocation(100, 250);
c.add(dob);

date = new JComboBox(dates);
date.setFont(new Font("Arial", Font.PLAIN, 15));
date.setSize(50, 20);
date.setLocation(200, 250);
c.add(date);
```

```
month = new JComboBox(months);
month.setFont(new Font("Arial", Font.PLAIN, 15));
month.setSize(60, 20);
month.setLocation(250, 250);
c.add(month);

year = new JComboBox(years);
year.setFont(new Font("Arial", Font.PLAIN, 15));
year.setSize(60, 20);
year.setLocation(320, 250);
c.add(year);

add = new JLabel("Address");
add.setFont(new Font("Arial", Font.PLAIN, 20));
add.setSize(100, 20);
add.setLocation(100, 300);
c.add(add);

tadd = new JTextArea();
tadd.setFont(new Font("Arial", Font.PLAIN, 15));
tadd.setSize(200, 75);
tadd.setLocation(200, 300);
tadd.setLineWrap(true);
c.add(tadd);

term = new JCheckBox("Accept Terms And Conditions.");
term.setFont(new Font("Arial", Font.PLAIN, 15));
term.setSize(250, 20);
term.setLocation(150, 400);
```

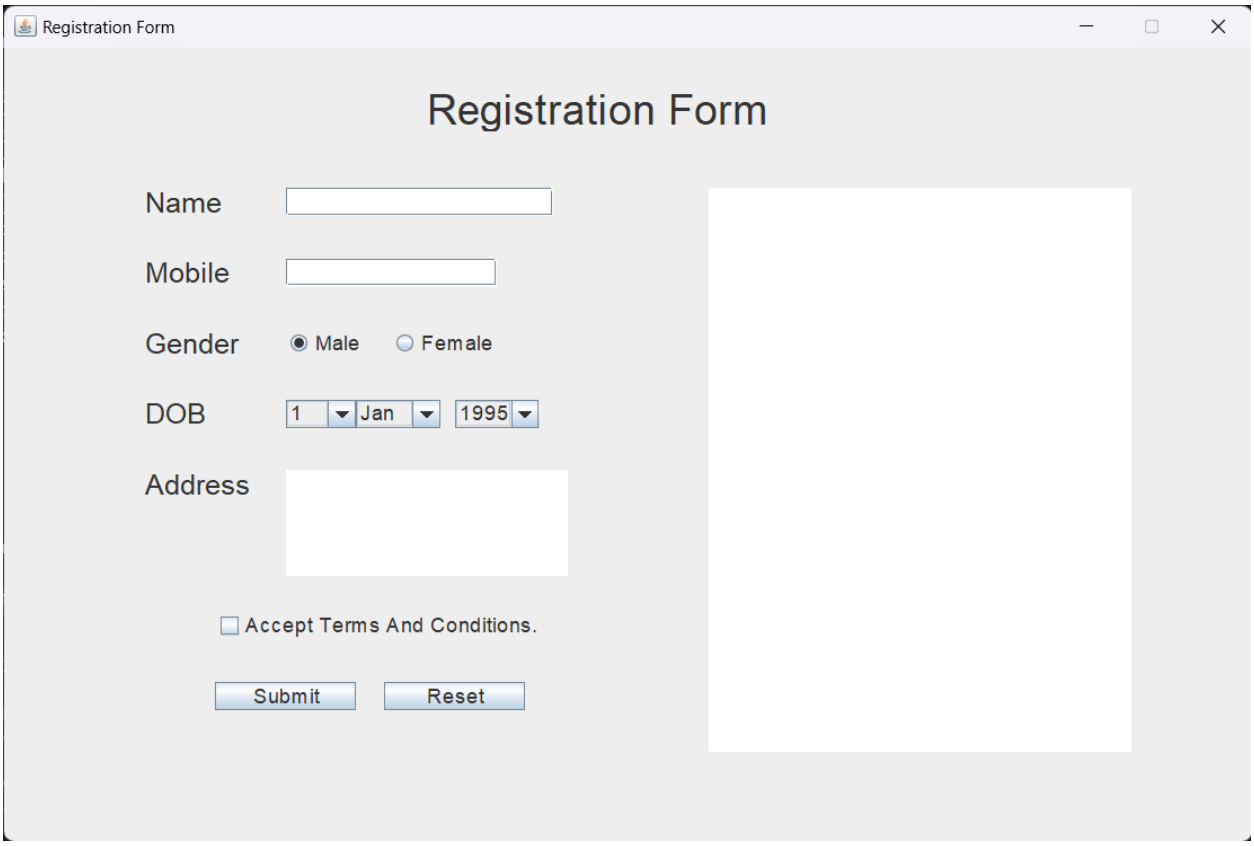
```
c.add(term);

sub = new JButton("Submit");
sub.setFont(new Font("Arial", Font.PLAIN, 15));
sub.setSize(100, 20);
sub.setLocation(150, 450);
sub.addActionListener(this);
c.add(sub);

reset = new JButton("Reset");
reset.setFont(new Font("Arial", Font.PLAIN, 15));
reset.setSize(100, 20);
reset.setLocation(270, 450);
reset.addActionListener(this);
c.add(reset);

tout = new JTextArea();
tout.setFont(new Font("Arial", Font.PLAIN, 15));
tout.setSize(300, 400);
tout.setLocation(500, 100);
tout.setLineWrap(true);
tout.setEditable(false);
c.add(tout);

res = new JLabel("");
res.setFont(new Font("Arial", Font.PLAIN, 20));
res.setSize(500, 25);
res.setLocation(100, 500);
c.add(res);
```

```
        resadd = new JTextArea();
        resadd.setFont(new Font("Arial", Font.PLAIN, 15));
        resadd.setSize(200, 75);
        resadd.setLocation(580, 175);
        resadd.setLineWrap(true);
        c.add(resadd);

        setVisible(true);
}
public void actionPerformed(ActionEvent e)
{
        if (e.getSource() == sub) {
                if (term.isSelected()) {
                        String data1;
                        String data
                                = "Name : "
                                + tname.getText() + "\n"
                                + "Mobile : "
                                + tmno.getText() + "\n";
                        if (male.isSelected())
                                data1 = "Gender : Male"
                                                + "\n";
                        else
                                data1 = "Gender : Female"
                                                + "\n";
                        String data2
                                = "DOB : "
                                + (String)date.getSelectedItem()
                                + "/" + (String)month.getSelectedItem()
                                + "/" + (String)year.getSelectedItem()
```

```
                                        + "\n";

                                String data3 = "Address : " + tadd.getText();
                                tout.setText(data + data1 + data2 + data3);
                                tout.setEditable(false);
                                res.setText("Registration Successfully..");
                        }
                        else {
                                tout.setText("");
                                resadd.setText("");
                                res.setText("Please accept the"
                                                + " terms & conditions..");
                        }
                }

                else if (e.getSource() == reset) {
                        String def = "";
                        tname.setText(def);
                        tadd.setText(def);
                        tmno.setText(def);
                        res.setText(def);
                        tout.setText(def);
                        term.setSelected(false);
                        date.setSelectedIndex(0);
                        month.setSelectedIndex(0);
                        year.setSelectedIndex(0);
                        resadd.setText(def);
                }
        }
}
```

```
class Registration {

	public static void main(String[] args) throws Exception
	{
		MyFrame f = new MyFrame();
	}
}
```

OUTPUT:

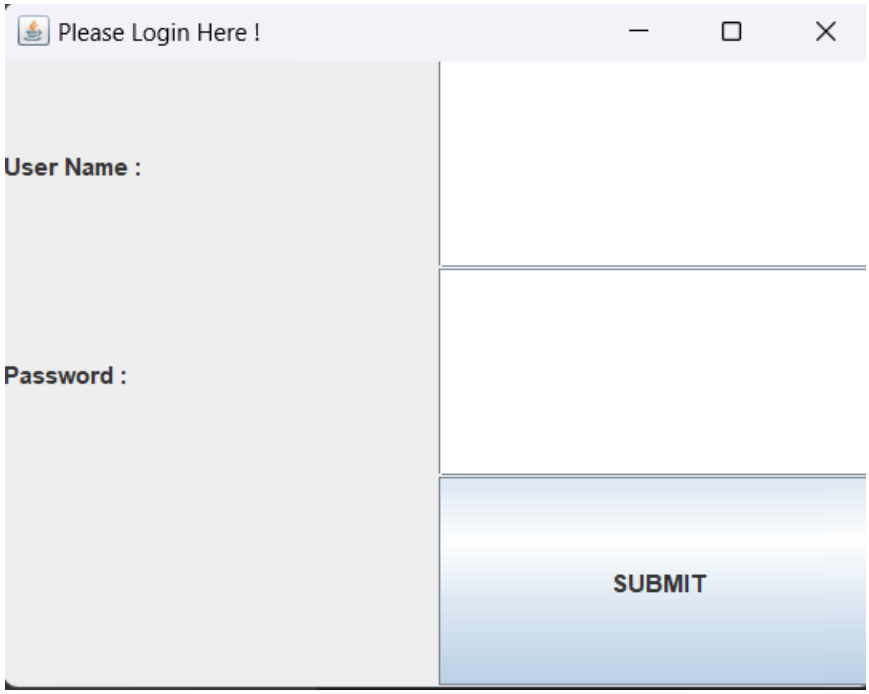


Q4. Write a program to create a login form for a website using Swing components.

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
public class LoginDemo extends JFrame implements ActionListener {
  JPanel panel;
  JLabel user_label, password_label, message;
  JTextField userName_text;
  JPasswordField password_text;
  JButton submit, cancel;
  LoginDemo() {
    // Username Label
    user_label = new JLabel();
    user_label.setText("User Name :");
    userName_text = new JTextField();
    // Password Label
    password_label = new JLabel();
    password_label.setText("Password :");
    password_text = new JPasswordField();
    // Submit
    submit = new JButton("SUBMIT");
    panel = new JPanel(new GridLayout(3, 1));
    panel.add(user_label);
    panel.add(userName_text);
    panel.add(password_label);
    panel.add(password_text);
    message = new JLabel();
    panel.add(message);
    panel.add(submit);
```

```
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    // Adding the listeners to components..
    submit.addActionListener(this);
    add(panel, BorderLayout.CENTER);
    setTitle("Please Login Here !");
    setSize(450,350);
    setVisible(true);
  }
  public static void main(String[] args) {
    new LoginDemo();
  }
  @Override
  public void actionPerformed(ActionEvent ae) {
    String userName = userName_text.getText();
    String password = password_text.getText();
    if (userName.trim().equals("admin") && password.trim().equals("admin")) {
      message.setText(" Hello " + userName + "");
    } else {
      message.setText(" Invalid user.. ");
    }
  }
}
```

OUTPUT:


Please Login Here !
User Name :
Password :
SUBMIT