

ASSIGNMENT 5

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Batch: S3

Branch: IT

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;
    }
}

```



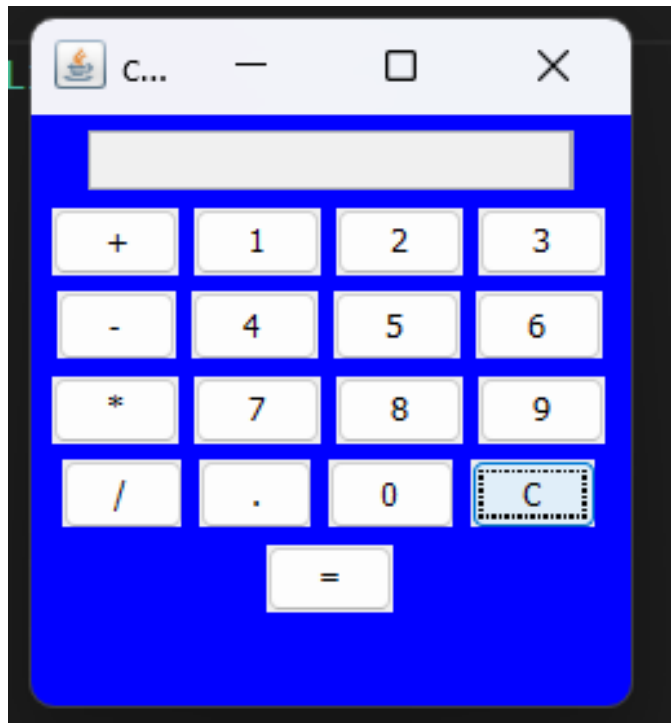
```

        s2 = "";
    }

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

```

OUTPUT:



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

```

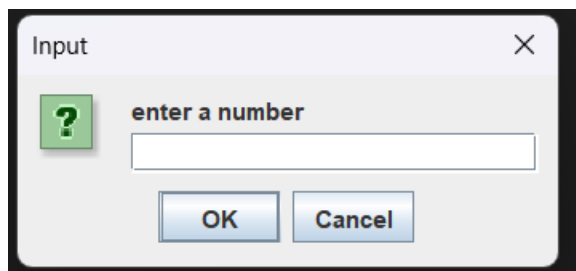
import javax.swing.JOptionPane;

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",  
        "Sep", "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:

Registration Form

Name

Mobile

Gender ☒ Male ☐ Female

DOB

Address

☐ Accept Terms And Conditions.

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