

# Java

## 1. Design your biodata by using various AWT components.

### Code –

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

class Biodata extends JFrame
{
    JLabel l1,l2,l3;
    JTextField n;
    JRadioButton r1,r2;
    ButtonGroup g;
    JCheckBox c1,c2,c3;
    JTextArea a;
    JButton b;
    Biodata()
    {
        super("Enter Biodata");
        Container c = getContentPane();
        c.setLayout(new FlowLayout());
        l1 = new JLabel("Name");
        c.add(l1);
        n = new JTextField("Enter your name",20);
        n.setToolTipText("Please enter your name");
        c.add(n);
        r1 = new JRadioButton("Male",true);
        c.add(r1);
        r2 = new JRadioButton("Female",false);
        c.add(r2);
        g = new ButtonGroup();
        g.add(r1);
        g.add(r2);
        l2 = new JLabel("Qualification");
        c.add(l2);
        c1 = new JCheckBox("BTech");
        c.add(c1);
        c2 = new JCheckBox("MTech");
        c.add(c2);
        c3 = new JCheckBox("MCA");
        c.add(c3);
        l3 = new JLabel("Address");
        c.add(l3);
        a = new JTextArea(10,15);
        c.add(a);
        b = new JButton("Show");
        c.add(b);
        Handler h = new Handler();
        b.addActionListener(h);
        this.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        pack();
        setVisible(true);
    }
}

class Handler implements ActionListener
{
    public void actionPerformed(ActionEvent e)
    {
        String s = ""+n.getText()+"\n";
        s += (r1.isSelected())?r1.getText()+"\n:r2.getText() +"\n";
        if(c1.isSelected()) s += (c1.getText()) + " ";
        if(c2.isSelected()) s += (c2.getText()) + " ";
        if(c3.isSelected()) s += (c3.getText());
        s += "\n"+a.getText()+"\n";
        JOptionPane.showMessageDialog(null,s);
    }
}

public static void main(String args[])
{
    new Biodata();
}
```

```
}  
}
```

## 2. Design an applet/Application using List components to add names of 10 different cities.

### Code –

```
import java.applet.*;  
import java.awt.*;  
import java.awt.event.*;  
public class Cities extends Applet  
{  
    public void init()  
    {  
        List l1=new List(10);  
        l1.setBounds(50,60,100,120);  
        l1.add("Delhi");  
        l1.add("Gujarat");  
        l1.add("Goa");  
        l1.add("Maharashtra");  
        l1.add("West Bengal");  
        l1.add("Mizoram");  
        l1.add("Assam");  
        l1.add("Karnataka");  
        l1.add("Tamil Nadu");  
        l1.add("Punjab");  
        add(l1);  
        setLayout(null);  
    }  
    public void paint(Graphics g)  
    {  
        repaint();  
    }  
}
```

## 3. WAP to use Border Layout .

### Code –

```
import java.awt.*;  
import java.awt.event.*;  
import javax.swing.*;  
  
class BoderLayoutDemo extends JFrame  
{  
    BoderLayoutDemo()  
    {  
        JPanel pa = new JPanel();  
        pa.setLayout(new BorderLayout());  
        pa.add(new JButton("North"), BorderLayout.NORTH);  
        pa.add(new JButton("South"), BorderLayout.SOUTH);  
        pa.add(new JButton("East"), BorderLayout.EAST);  
        pa.add(new JButton("West"), BorderLayout.WEST);  
        pa.add(new JButton("Center"), BorderLayout.CENTER);  
        add(pa);  
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
        setSize(300, 300);  
        setVisible(true);  
    }  
  
    public static void main(String[] args)  
    {  
        new BoderLayoutDemo();  
    }  
}
```

#### 4. WAP which creates Menu of different colors and disable menu item for Black color.

##### Code –

```
import java.awt.*;
class MenuEx extends Frame
{
    MenuEx()
    {
        MenuBar mr=new MenuBar();
        setMenuBar(mr);
        Menu m1=new Menu("Colours");
        MenuItem mn1=new MenuItem("RED");
        MenuItem mn2=new MenuItem("YELLOW");
        MenuItem mn3=new MenuItem("BLACK");
        mn3.setEnabled(false);
        MenuItem mn4=new MenuItem("BLUE");
        MenuItem mn5=new MenuItem("GREEN");
        m1.add(mn1);
        m1.add(mn2);
        m1.add(mn3);
        m1.add(mn4);
        m1.add(mn5);
        mr.add(m1);
    }
    public static void main(String args[])
    {
        MenuEx m=new MenuEx();
        m.setTitle("Menu Bar");
        m.setSize(500,500);
        m.setVisible(true);
    }
}
```

#### 5. WAP to develop a frame to select the different states of India using JComboBox

##### Code –

```
import javax.swing.*;
public class CB2 {

    CB2()
    {
        JFrame f=new JFrame();
        String s[]={"Maharashtra","Punjab","Gujrat","TamilNadu"};
        JComboBox cb=new JComboBox(s);
        cb.setBounds(50, 50,90,20);
        f.add(cb);
        f.setLayout(null);
        f.setSize(400,400);
        f.setVisible(true);
    }

    public static void main(String[] args) {
        new CB2();
    }
}
```

#### 6. Develop a program to demonstrate the use of tree component in swing.

##### Code –

```
import javax.swing.*;
import javax.swing.tree.DefaultMutableTreeNode;
public class Tree {

    Tree()
    {
        JFrame f=new JFrame();
        DefaultMutableTreeNode s=new DefaultMutableTreeNode("India");
        DefaultMutableTreeNode s2=new DefaultMutableTreeNode("Maharashtra");
        DefaultMutableTreeNode s3=new DefaultMutableTreeNode("Gujrath");
        s.add(s2);
        s.add(s3);
        DefaultMutableTreeNode s4=new DefaultMutableTreeNode("Mumbai");
        DefaultMutableTreeNode s5=new DefaultMutableTreeNode("Pune");
    }
}
```

```

DefaultMutableTreeNode s6=new DefaultMutableTreeNode("Nashik");
DefaultMutableTreeNode s7=new DefaultMutableTreeNode("Nagpur");
s2.add(s4);
s2.add(s5);
s2.add(s6);
s2.add(s7);
JTree j=new JTree(s);
f.add(j);
f.setSize(200,200);
f.setVisible(true);
}
public static void main(String[] args) {
    new Tree();
}
}

```

## 7. Develop a program to demonstrate the use of JTable.

### Code –

```

import javax.swing.*.*;
public class TableExample {
    JFrame f;
    TableExample(){
        f=new JFrame();
        String data[][]={ {"101","Amit","670000"},
                           {"102","Jai","780000"},
                           {"101","Sachin","700000"} };
        String column[]={"ID","NAME","SALARY"};
        JTable jt=new JTable(data,column);
        jt.setBounds(30,40,200,300);
        JScrollPane sp=new JScrollPane(jt);
        f.add(sp);
        f.setSize(300,400);
        f.setVisible(true);
    }
    public static void main(String[] args) {
        new TableExample();
    }
}

```

## 8. WAP to demonstrate various mouse events using Mouse Listener and Mouse Motion Listener interface

### Code –

```

import java.awt.*;
import java.applet.*;
import java.awt.event.*;

public class MouseColor extends Applet implements MouseMotionListener
{
    public void init()
    {
        addMouseMotionListener(this);
    }

    public void mouseDragged(MouseEvent me)
    {
        setBackground(Color.red);
        repaint();
    }

    public void mouseMoved(MouseEvent me)
    {
        setBackground(Color.green);
        repaint();
    }
}

import java.awt.*;
import java.awt.event.*;
import java.applet.*;
public class GFG extends Applet implements MouseListener
{
    private int x,y;
    private String str = " ";
    public void init()
    {
        this.addMouseListener (this);
    }
}

```

```

public void paint(Graphics g)
{
    g.drawString(str,x,y);
}
public void mouseClicked(MouseEvent m)
{
    x = m.getX();
    y = m.getY();
    str = "x =" + x + ",y =" + y;
    repaint();
}
public void mouseEntered(MouseEvent m)
{
}
public void mouseExited(MouseEvent m)
{
}
public void mousePressed(MouseEvent m)
{
}
public void mouseReleased(MouseEvent m)
{
}
}

```

## 9. WAP to demonstrate the use of JTextfield and JPasswordField using Listener Interface

### Code –

```

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

public class JPasswordChange
{
    public static void main(String[] args)
    {
        JFrame f = new JFrame();
        f.setVisible(true);
        f.setSize(400,400);
        f.setLayout(new FlowLayout());
        JLabel jl1 = new JLabel("Password TextField:");
        JPasswordField pf = new JPasswordField(20);
        pf.setEchoChar('#');
        f.add(jl1);
        f.add(pf);
        JLabel jl2 = new JLabel("Normal TextField:");
        JTextField textfield = new JTextField(5);
        f.add(jl2);
        f.add(textfield);
    }
}

```

## 10. WAP to demonstrate the use of Window Adapter class

### Code –

```

import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;
import javax.swing.JFrame;
import javax.swing.JLabel;
import java.awt.event.WindowListener;
import java.awt.FlowLayout;
public class WindowAdapterDemo extends WindowAdapter
{
    JFrame f ;
    JLabel l ;
    WindowAdapterDemo()
    {
        f = new JFrame();
        f.setVisible(true);
        f.setSize(400,400);
        f.setLayout(new FlowLayout());
        f.addWindowListener(this);
        f.addWindowFocusListener(this);
    }
    public void windowLostFocus(WindowEvent we)

```

```

{
    l = new JLabel("Window Lost Focus");
    f.remove(l);
    f.add(l);
}
public void windowOpened(java.awt.event.WindowEvent we)
{
    l = new JLabel("Window Opened");
    f.remove(l);
    f.add(l);
}
public void windowActivated(java.awt.event.WindowEvent we)
{
    l = new JLabel("Window Activated");
    f.remove(l);
    f.add(l);
}
public void windowDeactivated(java.awt.event.WindowEvent we)
{
    l = new JLabel("Window Deactivated");
    f.remove(l);
    f.add(l);
}
public void windowGainedFocus(java.awt.event.WindowEvent we)
{
    l = new JLabel("Window Gained Focus");
    f.remove(l);
    f.add(l);
}
}
public static void main(String[] args)
{
    WindowAdapterDemo wa = new WindowAdapterDemo();
}
}

```

## 11. WAP to demonstrate the use of InetAddress class and its factory methods.

### Code –

#### Using Commandline

```

import java.net.*;
public class InetAddressTest {
    public static void main (String args[]) throws UnknownHostException
    {
        InetAddress Address = InetAddress.getLocalHost();
        System.out.println(Address);
        Address = InetAddress.getByName("google.com");
        System.out.println(Address);
        InetAddress SW[] = InetAddress.getAllByName("facebook.com");
        for (int i=0;i<SW.length;i++)
            System.out.println(SW[i]);
    }
}

```

#### Using GUI

```

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.net.*;

public class InetAddress1 extends JFrame
{
    private JTextField a;
    private JTextField b;
    private JTextField c;

    InetAddress1()
    {
        Container contentPane = getContentPane();
        contentPane.setLayout(new FlowLayout());

        JLabel lblNewLabel = new JLabel("My IP Address");
        lblNewLabel.setHorizontalAlignment(SwingConstants.LEFT);
        lblNewLabel.setFont(new Font("Lucida Grande", Font.BOLD, 13));
        lblNewLabel.setBounds(13, 127, 102, 16);
    }
}

```

```

getContentPane().add(lblNewLabel);

a = new JTextField();
a.setBounds(127, 122, 229, 26);
getContentPane().add(a);
a.setColumns(10);

JButton btnNewButton = new JButton("GET");
btnNewButton.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e)
    {
        String Address1;
        try {
            Address1 = InetAddress.getLocalHost().getHostAddress();
            a.setText(Address1);
        } catch (UnknownHostException e1) {
            // TODO Auto-generated catch block
            e1.printStackTrace();
        }
    }
});
btnNewButton.setBounds(357, 122, 76, 29);
getContentPane().add(btnNewButton);

JLabel lblUrl = new JLabel("WEB URL");
lblUrl.setHorizontalAlignment(SwingConstants.LEFT);
lblUrl.setFont(new Font("Lucida Grande", Font.BOLD, 13));
lblUrl.setBounds(13, 165, 85, 16);
getContentPane().add(lblUrl);

b = new JTextField();
b.setColumns(10);
b.setBounds(127, 160, 229, 26);
getContentPane().add(b);

JButton btnNewButton_1 = new JButton("GET");
btnNewButton_1.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e)
    {
        try {
            String getip = b.getText();
            String Address = InetAddress.getByName(getip).getHostAddress();
            c.setText(Address);
        } catch (UnknownHostException e1)
        {
            // TODO Auto-generated catch block
            e1.printStackTrace();
        }
    }
});
btnNewButton_1.setBounds(357, 179, 76, 29);
getContentPane().add(btnNewButton_1);

c = new JTextField();
c.setColumns(10);
c.setBounds(127, 198, 229, 26);
getContentPane().add(c);

JLabel lblWebUrlIp = new JLabel(" WEB URL IP");
lblWebUrlIp.setHorizontalAlignment(SwingConstants.LEFT);
lblWebUrlIp.setFont(new Font("Lucida Grande", Font.BOLD, 13));
lblWebUrlIp.setBounds(13, 203, 102, 16);
getContentPane().add(lblWebUrlIp);
}

public static void main(String[] args )
{
    InetAddress1 a=new InetAddress1();
    a.setSize(560,560);//400 width and 500 height

```

```

        a.getContentPane().setLayout(null); //using no layout managers
        a.setVisible(true); //making the frame visible
        a.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        a.setResizable(false);
    }
}

```

## 12. WAP to demonstrate the use of URL and URLConnection class and its methods Code –

```

import java.net.*;
import java.io.*;
import java.util.Date;
class UCDemo
{
    public static void main(String args[]) throws Exception {
        int c;
        URL hp = new URL("http://www.msbte.org.in");
        URLConnection hpCon = hp.openConnection();
        // get date
        long d = hpCon.getDate();
        if(d==0)
            System.out.println("No date information.");
        else
            System.out.println("Date: " + new Date(d));
        // get content type
        System.out.println("Content-Type: " + hpCon.getContentType());
        // get expiration date
        d = hpCon.getExpiration();
        if(d==0)
            System.out.println("No expiration information.");
        else
            System.out.println("Expires: " + new Date(d));
        // get last-modified date
        d = hpCon.getLastModified();
        if(d==0)
            System.out.println("No last-modified information.");
        else
            System.out.println("Last-Modified: " + new Date(d));
        // get content length
        int len = hpCon.getContentLength();
        if(len == -1)
            System.out.println("Content length unavailable.");
        else
            System.out.println("Content-Length: " + len);
        if(len != 0) {
            System.out.println("==== Content ====");
            InputStream input = hpCon.getInputStream();
            int i = len;
            while (((c = input.read()) != -1)) { // && (--i > 0) {
                System.out.print((char) c);
            }
            input.close();
        } else {
            System.out.println("No content available.");
        }
    }
}

```

## 13. WAP to insert and retrieve the data from database using JD Code –

```

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.*;

public class DBSample extends JFrame
{
    DBSample()
    {

```



```

Container contentPane = getContentPane();
getContentPane().setLayout(null);

JTextField a=new JTextField("");
a.setBounds(72,204,248,26);
contentPane.add(a);

JTextField b=new JTextField("");
b.setBounds(72,254,248,26);
contentPane.add(b);

JLabel lblNewLabel = new JLabel("Student Roll No :-");
lblNewLabel.setBounds(72, 185, 191, 16);
getContentPane().add(lblNewLabel);

JLabel lblEmployeeName = new JLabel("Student Name :-");
lblEmployeeName.setBounds(72, 237, 216, 16);
getContentPane().add(lblEmployeeName);

JLabel lblNewLabel_1 = new JLabel("Student Entry");
lblNewLabel_1.setFont(new Font("Lao Sangam MN", Font.PLAIN, 30));
lblNewLabel_1.setBounds(92, 70, 228, 90);
getContentPane().add(lblNewLabel_1);

JButton insert = new JButton("Insert");
insert.setBounds(129, 292, 117, 29);
insert.addActionListener(new ActionListener()
{
    public void actionPerformed(ActionEvent e)
    {
        try {
            String roll_no = a.getText();
            String stud_Name = b.getText();

            Class.forName("com.mysql.jdbc.Driver");
            Connection
c=DriverManager.getConnection("jdbc:mysql://localhost:3306/Experiments","root","");
            PreparedStatement ps=c.prepareStatement("insert into em
(Roll_no,stud_name) values (?,?)");

            ps.setString(1,roll_no);
            ps.setString(2,stud_Name);
            ps.executeUpdate();
            JOptionPane.showMessageDialog(null,"Data Inserted Successfully.");
            c.close();

        }
        catch(Exception e1) {System.out.print(e1);}
    }
});
getContentPane().add(insert);
}

public static void main(String[] args )
{
    DBSample a=new DBSample();
    a.setSize(376,560);//400 width and 500 height
    a.getContentPane().setLayout(null);//using no layout managers
    a.setVisible(true);//making the frame visible
    a.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    a.setResizable(false);
}
}

```

## 14. WAP servlet to send username and password using HTML forms and authenticate the user.

### Java File –

Username .Java file  
import java.io.IOException;

```

import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
public class Username extends HttpServlet
{
    public void doPost(HttpServletRequest request,HttpServletResponse response)throws
ServletException, IOException
{
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    out.println("<HTML>");
    out.println(" <HEAD><TITLE>Username & Password Authentication</TITLE></HEAD>");
    out.println(" <BODY>");
    String username=request.getParameter("uname");
    String password=request.getParameter("pwd");
    if((username.equals("Nesar")) && (password.equals("Nesar04")))
    {
        out.println(" <h1> Welcome to "+username);
    }
    else
    {
        out.println(" <h1> Login fails ");
    }
    out.println(" <a href='./Registration.html'> Click for Home page </a>");
    out.println(" </BODY>");
    out.println("</HTML>");
    out.close();
}

```

## HTML File –

```

<html>
<head>
</head>
<body><form name=form1 method=get action="/Username">
    <center> <h1> <u> Login Page </u></html1>
    Username : <input type="text" name="uname"/>
    Password : <input type="password" name="pwd"/>
    <input type="submit" value="click me"/>
</center>
</form>
</body>
</html>

```

## Java File –

```

<web-app>
<servlet>
    <servlet-name>Username</servlet-name>
    <servlet-class>Username</servlet-class>
</servlet>
<servlet-mapping>
    <servlet-name>Username</servlet-name>
    <url-pattern>/Username</url-pattern>
</servlet-mapping>
</web-app>

```