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.