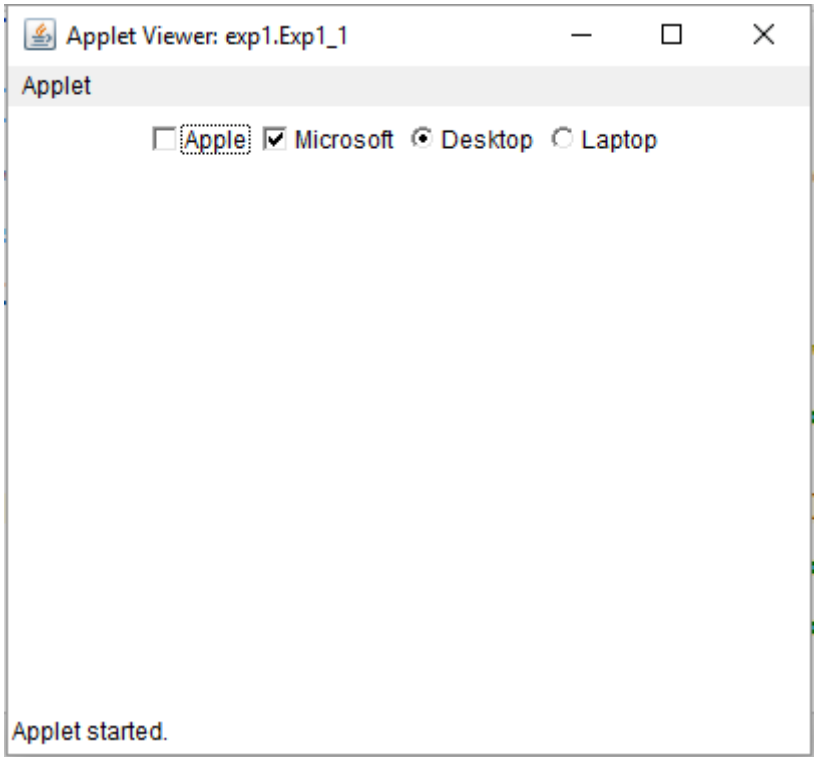
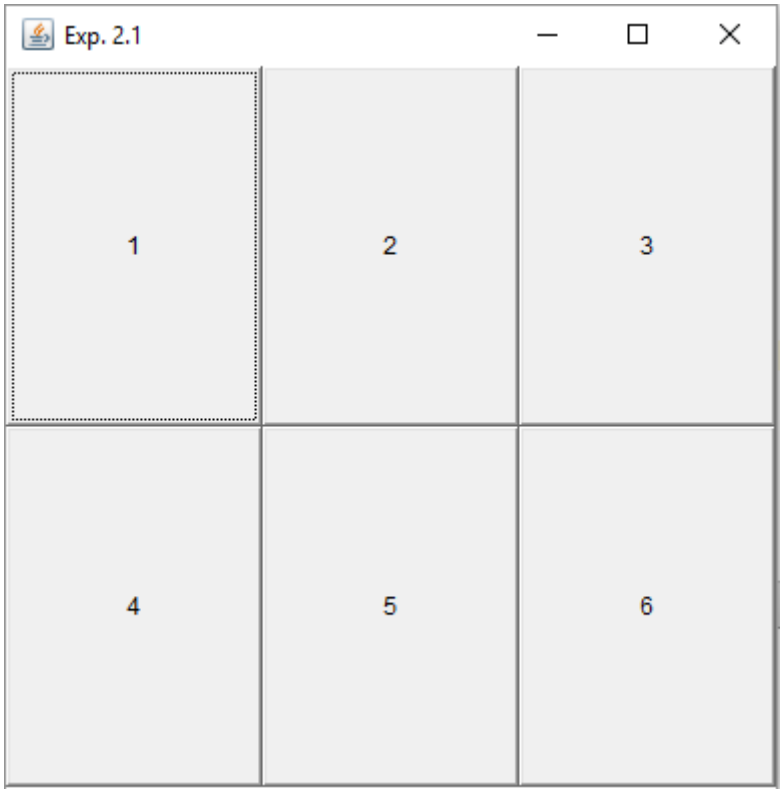
```java
package exp1;

import java.applet.Applet;
import java.awt.*;

//<applet code = Exp1_1 height = 400 width = 400>
//</applet>

public class Exp1_1 extends Applet {

    public void init() {

        Checkbox cb = new Checkbox("Apple");
        add(cb);
        Checkbox cb2 = new Checkbox("Microsoft",true);
        add(cb2);

        CheckboxGroup cbg = new CheckboxGroup();

        Checkbox rb = new Checkbox("Desktop",cbg,true);
        add(rb);
        Checkbox rb2 = new Checkbox("Laptop",cbg,false);
        add(rb2);

    }
}
```

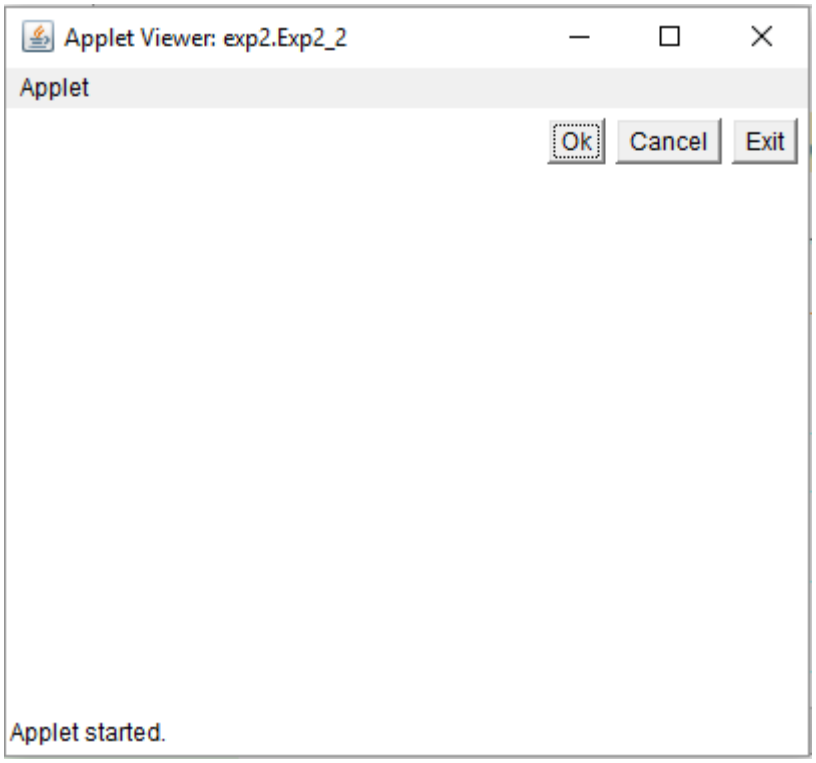


```java
package exp1;

import java.awt.*;

public class Exp1_2 extends Frame {

    public static void main(String[] args) {

        Exp1_2 frame = new Exp1_2();
        frame.setTitle("Exp. 1.2");
        frame.setSize(400,400);
        frame.setVisible(true);
        frame.setLayout(new GridLayout(2,1));

        Scrollbar sb = new
Scrollbar(Scrollbar.HORIZONTAL);
        sb.setBackground(Color.WHITE);
        frame.add(sb);

        Label l = new Label("Scroll Bar");
        frame.add(l);
    }
}
```

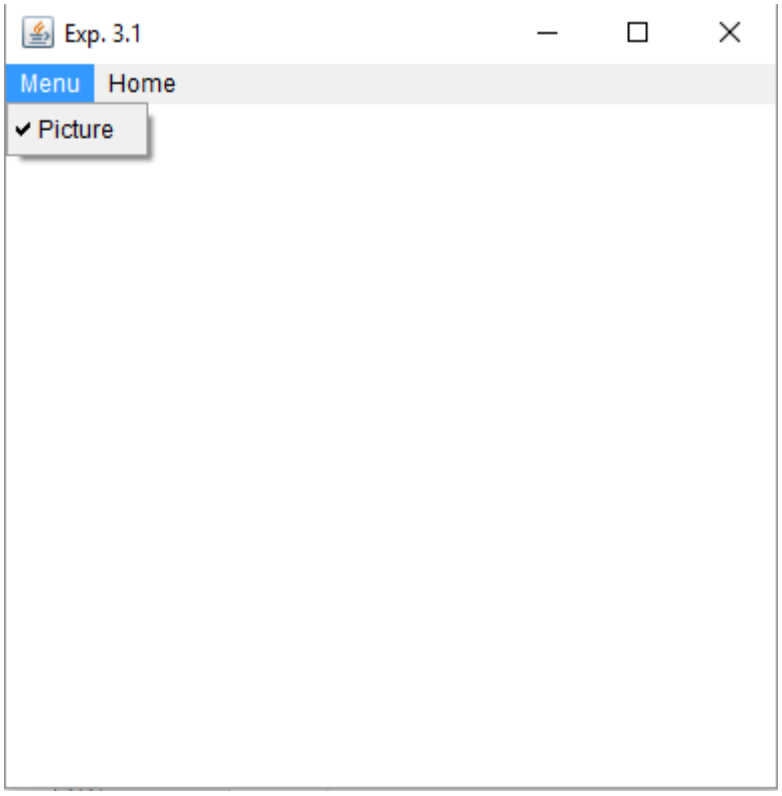
```java
package exp2;

import java.awt.*;

public class Exp2_1 extends Frame {

    public static void main(String[] args) {

        Frame frame = new Frame();
        frame.setTitle("Exp. 2.1");
        frame.setSize(400,400);
        frame.setVisible(true);
        frame.setLayout(new GridLayout(2,3));

        Button b1 = new Button("1");
        frame.add(b1);

        Button b2 = new Button("2");
        frame.add(b2);

        Button b3 = new Button("3");
        frame.add(b3);

        Button b4 = new Button("4");
        frame.add(b4);

        Button b5 = new Button("5");
        frame.add(b5);

        Button b6 = new Button("6");
        frame.add(b6);

    }
}
```


Exp. 2.1
1
2
3
4
5
6

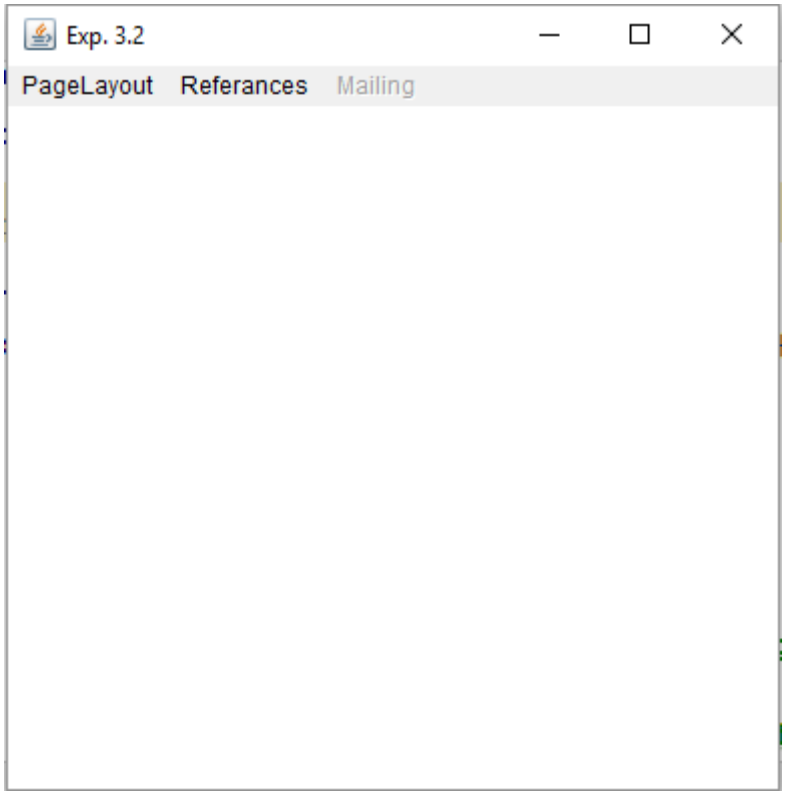
```java
package exp2;

import java.applet.Applet;
import java.awt.*;
import java.nio.Buffer;

//<applet code = Exp2_2 height = 400 width = 400>
//</applet>

public class Exp2_2 extends Applet {

    public void init() {

        setLayout(new FlowLayout(FlowLayout.RIGHT));

        Button ok = new Button("Ok");
        add(ok);

        Button can = new Button("Cancel");
        add(can);

        Button exi = new Button("Exit");
        add(exi);
    }
}
```



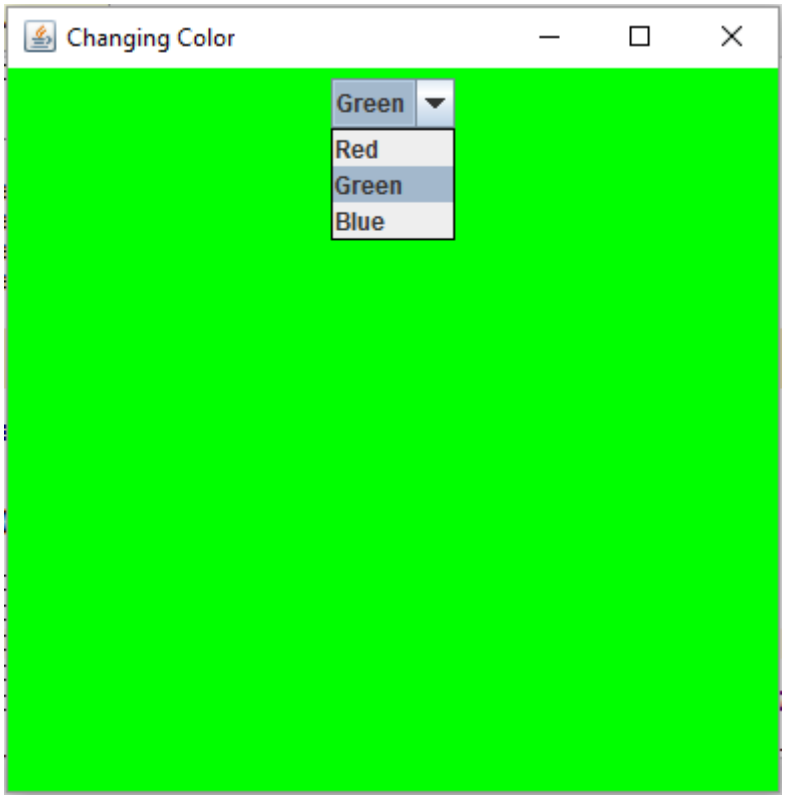
```java
package exp3;

import java.awt.*;

public class Exp3_1 extends Frame {

    public static void main(String[] args) {

        Frame frame = new Frame();
        frame.setTitle("Exp. 3.1");
        frame.setSize(400,400);
        frame.setVisible(true);

        MenuBar mb = new MenuBar();
        frame.setMenuBar(mb);

        Menu menu = new Menu("Menu");
        mb.add(menu);

        CheckboxMenuItem pic = new
CheckboxMenuItem("Picture",true);
        menu.add(pic);

        Menu home = new Menu("Home");
        mb.add(home);

        MenuItem paste = new MenuItem("Paste");
        home.add(paste);

    }
}
```


Exp. 3.1
Menu
Home
Picture

```java
package exp3;

import java.awt.*;

public class Exp3_2 extends Frame {

    public static void main(String[] args) {

        Frame frame = new Frame();
        frame.setTitle("Exp. 3.2");
        frame.setSize(400,400);
        frame.setVisible(true);

        MenuBar mb = new MenuBar();
        frame.setMenuBar(mb);

        Menu pageLayout = new Menu("PageLayout");
        mb.add(pageLayout);

        Menu referances = new Menu("Referances");
        mb.add(referances);

        Menu mailing = new Menu("Mailing");
        mailing.setEnabled(false);
        mb.add(mailing);

    }
}
```


Exp. 3.2
PageLayout
Referances
Mailing

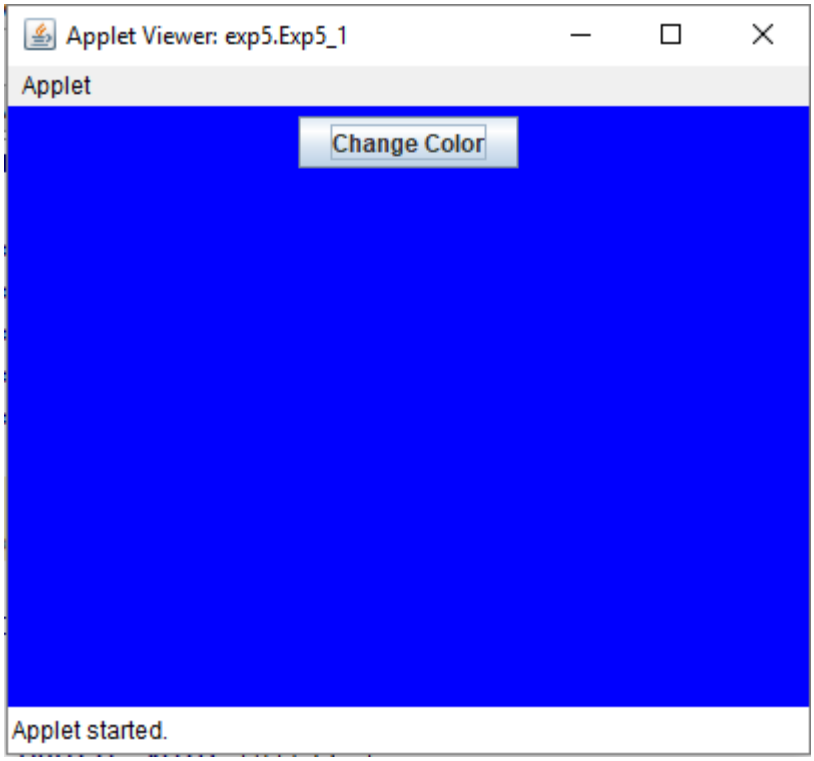
```java
package exp4;

import exp1.Exp1_1;

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

public class Exp4_1 extends JFrame {


    Exp4_1() {

        setTitle("Changing Color");
        setSize(400,400);
        setLayout(new FlowLayout());
        setVisible(true);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        String[] colors = {"Red", "Green", "Blue"};

        JComboBox cb = new JComboBox(colors);
        cb.addItemListener(new ItemListener() {
            @Override
            public void itemStateChanged(ItemEvent e) {
                switch (cb.getSelectedIndex()) {
                    case 0:
getContentPane().setBackground(Color.RED);
                        break;
                    case 1:
getContentPane().setBackground(Color.GREEN);
                        break;
                    case 2:
getContentPane().setBackground(Color.BLUE);
                        break;
                }
            }
        });
        add(cb);
    }

    public static void main(String[] args) {

        Exp4_1 frame = new Exp4_1();

    }
}
```


Changing Color
Green
Red
Green
Blue

```java
package exp4;

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

public class Exp4_2 extends JFrame {

    Exp4_2() {

        setTitle("Login Page");
        setSize(400,150);
        setLayout(new FlowLayout());
        setVisible(true);
        setResizable(true);
        setLayout(new GridLayout(3,2));
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        JLabel id = new JLabel("Login ID");
        add(id);

        JTextField idt = new JTextField();
        add(idt);

        JLabel pss = new JLabel("Password");
        add(pss);

        JPasswordField pst = new JPasswordField();
        add(pst);

        JButton login = new JButton("Login");
        add(login);

        JButton cancel = new JButton("Cancel");
        add(cancel);
    }

    public static void main(String[] args) {

        Exp4_2 frame = new Exp4_2();
    }
}
```

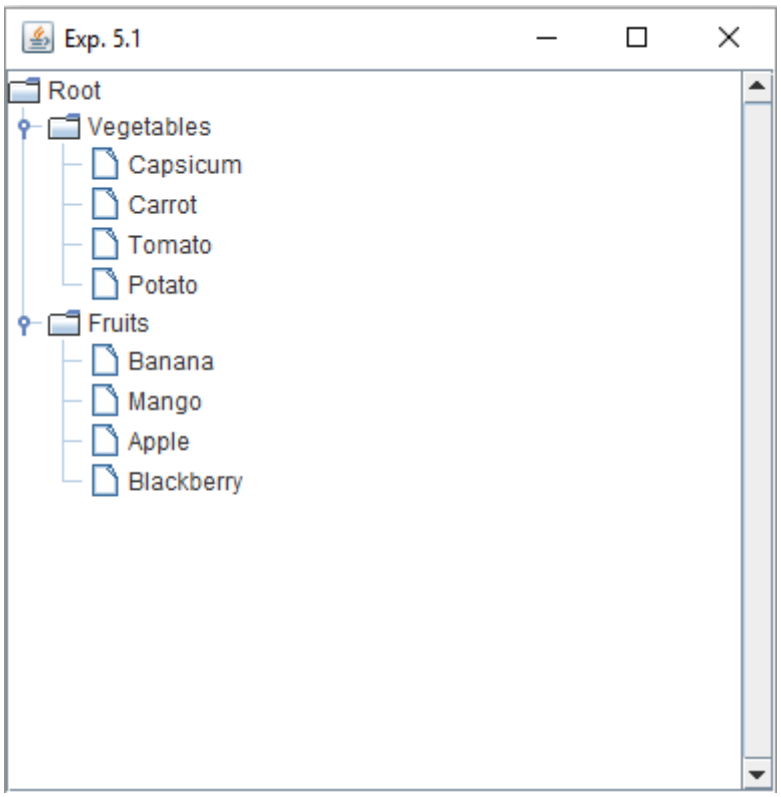

Login Page
Login ID
vishal
Password
Login
Cancel

```java
package exp5;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.util.Random;

public class Exp5_1 extends JApplet {


    public void init() {

        Container con = getContentPane();
        con.setLayout(new FlowLayout());

        JButton b = new JButton("Change Color");
        b.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                switch (new Random().nextInt(3)) {
                    case 0:
                        con.setBackground(Color.RED);
                        break;
                    case 1:
                        con.setBackground(Color.GREEN);
                        break;
                    case 2:
                        con.setBackground(Color.BLUE);
                        break;
                }
            }
        });
        con.add(b);
    }
}
```


Applet Viewer: exp5.Exp5_1
Applet
Change Color
Applet started.

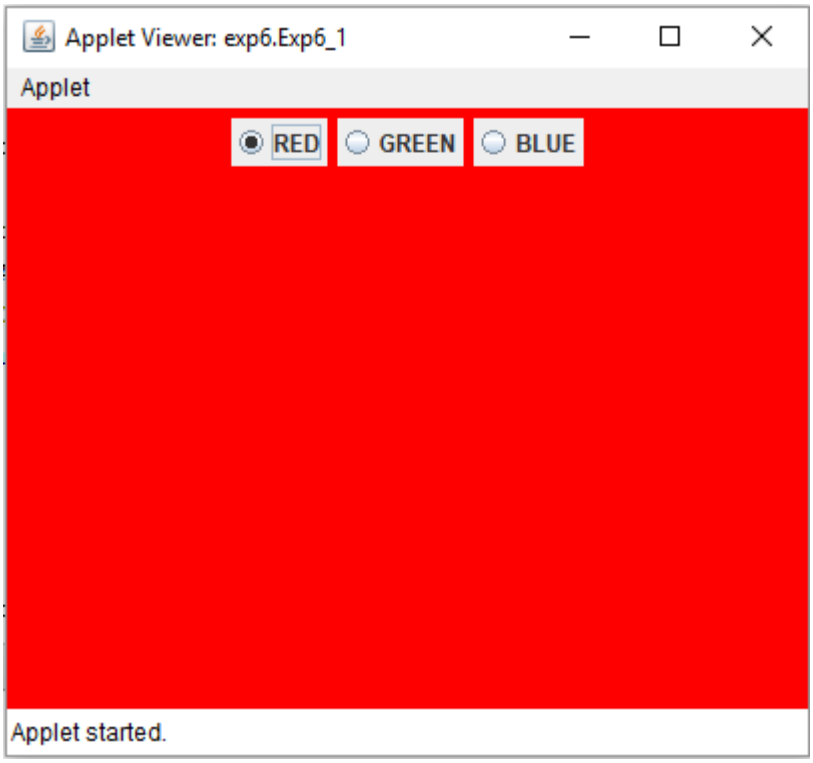
```
package exp5;

import javax.swing.*;
import javax.swing.tree.DefaultMutableTreeNode;

public class Exp5_2 extends JFrame {

   Exp5_2() {

      setTitle("Exp. 5.1");
      setSize(400,400);
      setVisible(true);
      setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

      DefaultMutableTreeNode root = new DefaultMutableTreeNode("Root");

      DefaultMutableTreeNode veg = new DefaultMutableTreeNode("Vegetables");
      root.add(veg);

      DefaultMutableTreeNode v1 = new DefaultMutableTreeNode("Capsicum");
      veg.add(v1);
      DefaultMutableTreeNode v2 = new DefaultMutableTreeNode("Carrot");
      veg.add(v2);
      DefaultMutableTreeNode v3 = new DefaultMutableTreeNode("Tomato");
      veg.add(v3);
      DefaultMutableTreeNode v4 = new DefaultMutableTreeNode("Potato");
      veg.add(v4);

      DefaultMutableTreeNode fru = new DefaultMutableTreeNode("Fruits");
      root.add(fru);

      DefaultMutableTreeNode f1 = new DefaultMutableTreeNode("Banana");
      fru.add(f1);
      DefaultMutableTreeNode f2 = new DefaultMutableTreeNode("Mango");
      fru.add(f2);
      DefaultMutableTreeNode f3 = new DefaultMutableTreeNode("Apple");
      fru.add(f3);
      DefaultMutableTreeNode f4 = new DefaultMutableTreeNode("Blackberry");
      fru.add(f4);

      JTree tree = new JTree(root);

      JScrollPane jsp = new
JScrollPane(tree,ScrollPaneConstants.VERTICAL_SCROLLBAR_ALWAYS,ScrollPaneConstants.HOR
IZONTAL_SCROLLBAR_AS_NEEDED);
      add(jsp);
```

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

        Exp5_2 frame = new Exp5_2();
    }
}
```

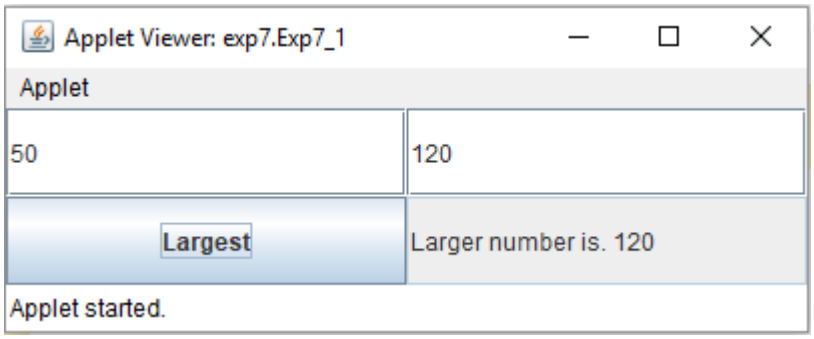


```java
package exp6;

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

public class Exp6_1 extends JApplet {

    public void init() {

        Container con = getContentPane();
        con.setLayout(new FlowLayout());

        JRadioButton r = new JRadioButton("RED");
        r.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                if(r.isSelected()) {
                    con.setBackground(Color.RED);
                }
            }
        });
        con.add(r);

        JRadioButton g = new JRadioButton("GREEN");
        g.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                if(g.isSelected()) {
                    con.setBackground(Color.GREEN);
                }
            }
        });
        con.add(g);

        JRadioButton b = new JRadioButton("BLUE");
        b.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                if(b.isSelected()) {
                    con.setBackground(Color.BLUE);
                }
            }
        });
        con.add(b);

        ButtonGroup bg = new ButtonGroup();
        bg.add(r);
        bg.add(g);
        bg.add(b);
```

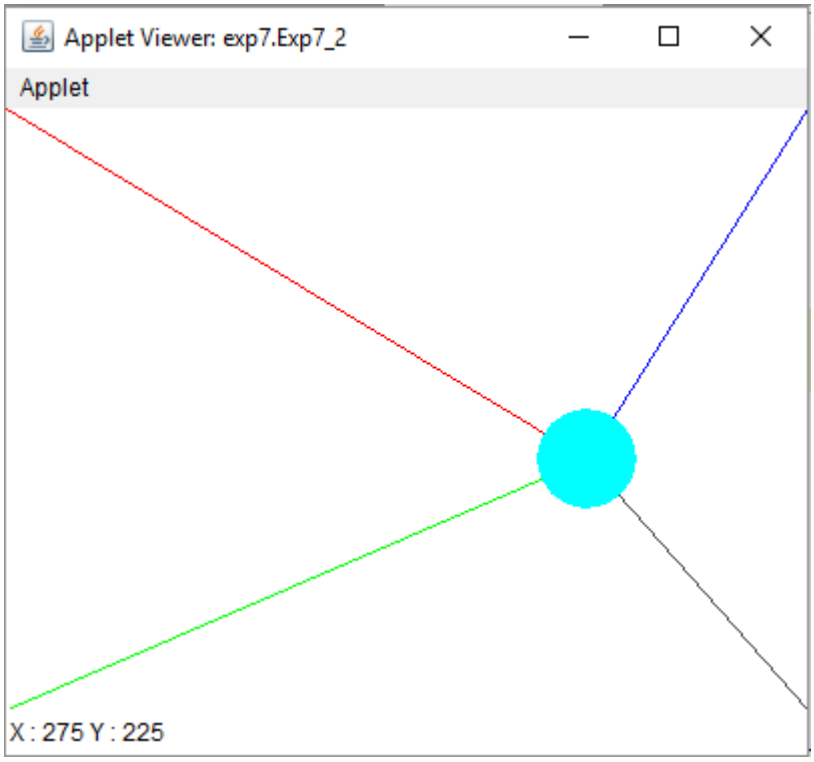
```
        }
}
```


Applet Viewer: exp6.Exp6_1
Applet
RED
GREEN
BLUE
Applet started.

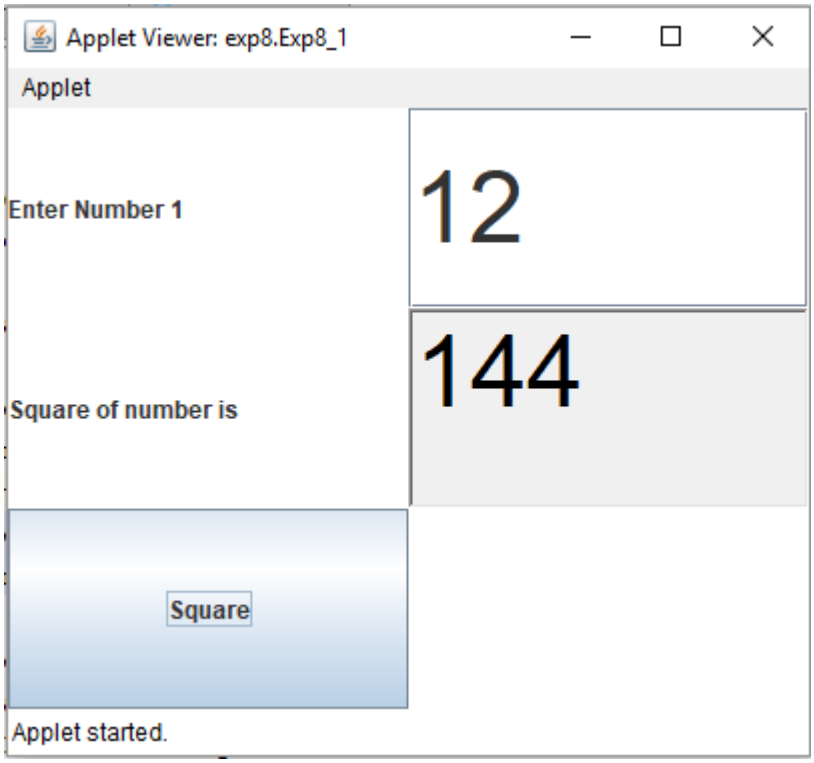
```java
package exp7;

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

public class Exp7_1 extends JApplet {

    JTextField ans;

    public void init() {

        Container con = getContentPane();
        con.setLayout(new GridLayout(2,2));

        JTextField num1 = new JTextField();
        con.add(num1);

        JTextField num2 = new JTextField();
        con.add(num2);

        JButton but = new JButton("Largest");
        but.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {

                int n1 = Integer.parseInt(num1.getText());
                int n2 = Integer.parseInt(num2.getText());
                if(n1 > n2) {
                    ans.setText("Larger number is. " +
num1.getText());
                } else {
                    ans.setText("Larger number is. " +
num2.getText());
                }
            }
        });
        con.add(but);

        ans = new JTextField();
        ans.setEditable(false);
        con.add(ans);
    }
}
```


Applet Viewer: exp7.Exp7_1
Applet
50
120
Largest
Larger number is. 120
Applet started.

```java
package exp7;

import java.applet.Applet;
import java.awt.*;
import java.awt.event.MouseEvent;
import java.awt.event.MouseMotionListener;

public class Exp7_2 extends Applet {

    int x = 0;
    int y = 0;

    public void init() {

        addMouseMotionListener(new MouseMotionListener() {
            @Override
            public void mouseDragged(MouseEvent e) {

                x = e.getX();
                y = e.getY();
                repaint();
            }

            @Override
            public void mouseMoved(MouseEvent e) {

                showStatus("X : " + e.getX() + " Y : " +
e.getY());
            }
        });
    }

    public void paint(Graphics g) {

        g.setColor(Color.RED);
        g.drawLine(0,0,x,y);
        g.setColor(Color.GREEN);
        g.drawLine(0,getHeight(),x,y);
        g.setColor(Color.BLUE);
        g.drawLine(getWidth(),0,x,y);
        g.setColor(Color.DARK_GRAY);
        g.drawLine(getWidth(),getHeight(),x,y);
        g.setColor(Color.CYAN);
        g.fillOval(x-25,y-25,50,50);
    }
}
```

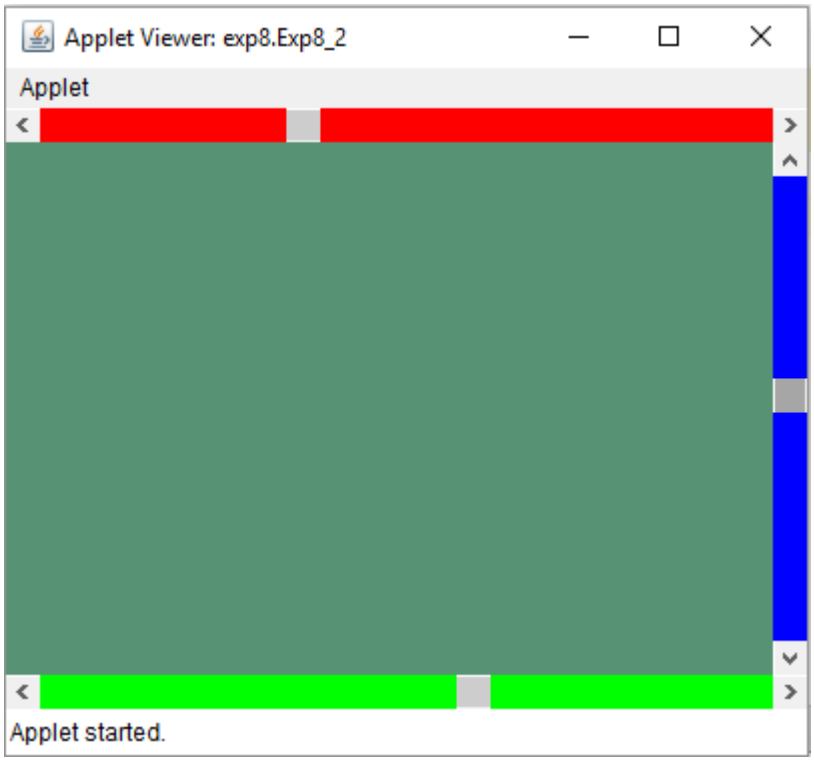

Applet Viewer: exp7.Exp7_2
Applet
X : 275 Y : 225

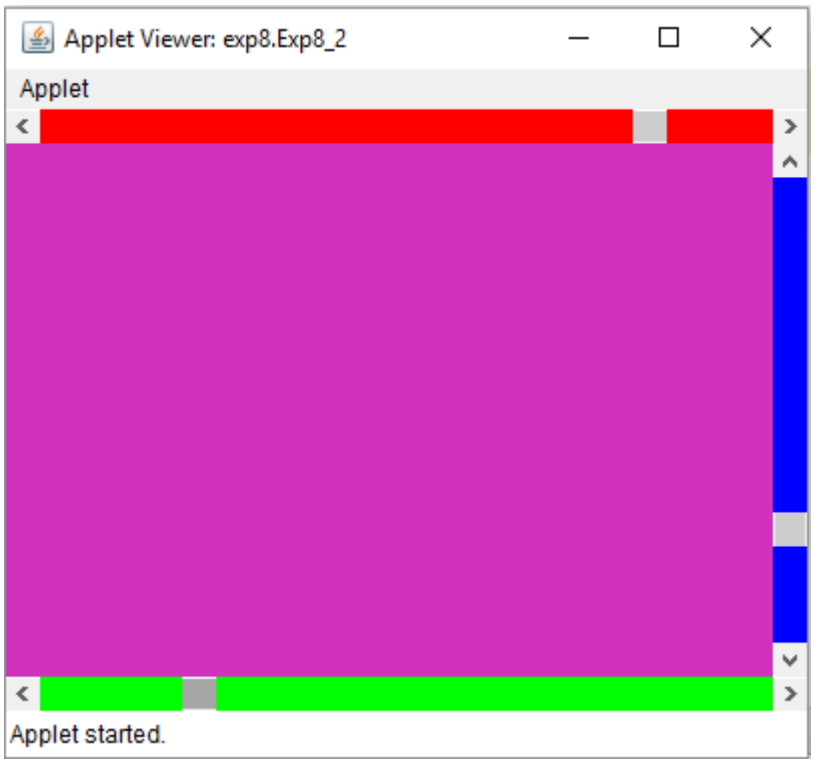
```java
package exp8;

import javax.swing.*;
import java.applet.Applet;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class Exp8_1 extends Applet {

    @Override
    public void init() {

        setLayout(new GridLayout(0,2));

        JLabel num1 = new JLabel("Enter Number 1 ");
        add(num1);
        JTextField numberInput1 = new JTextField();
        numberInput1.setFont(new Font("Arial",Font.PLAIN,50));
        add(numberInput1);

        JLabel ans = new JLabel("Square of number is ");
        add(ans);
        TextField ansOutput = new TextField();
        ansOutput.setFont(new Font("Arial",Font.PLAIN,50));
        ansOutput.setEditable(false);
        add(ansOutput);

        JButton addButton = new JButton("Square");
        addButton.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                int num1 =
Integer.parseInt(numberInput1.getText());
                int ans = num1 * num1;
                ansOutput.setText(Integer.toString(ans));
            }
        });
        add(addButton);
    }
}
```


Applet Viewer: exp8.Exp8_1
Applet
Enter Number 1
12
Square of number is
144
Square
Applet started.

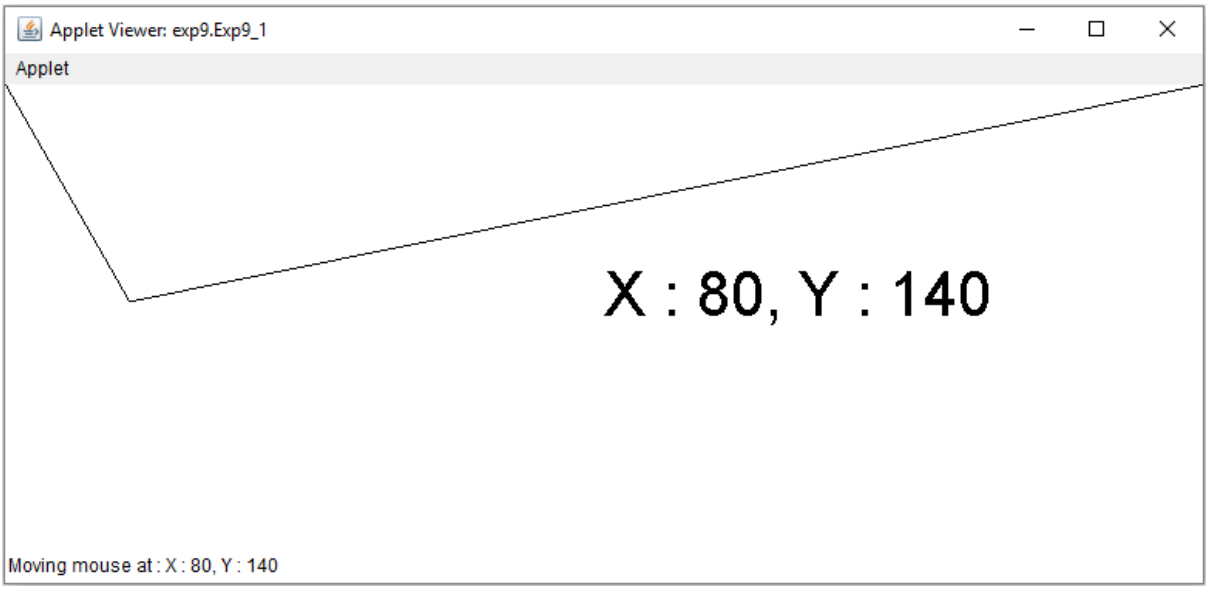
```java
package exp8;

import java.applet.Applet;
import java.awt.*;
import java.awt.event.AdjustmentEvent;
import java.awt.event.AdjustmentListener;

public class Exp8_2 extends Applet {

    Scrollbar s1,s2,s3;
    int r = 0,b = 0,g = 0;

    @Override
    public void init() {

        setLayout(new BorderLayout());

        setBackground(new Color(r,b,g));

        s1 = new Scrollbar(Scrollbar.HORIZONTAL,0,10,0,255);
        s1.addAdjustmentListener(new AdjustmentListener() {
            @Override
            public void adjustmentValueChanged(AdjustmentEvent e)
{
                r = s1.getValue();
                setBackground(new Color(r,b,g));
            }
        });
        s1.setBackground(Color.RED);
        add(s1,BorderLayout.NORTH);

        s2 = new Scrollbar(Scrollbar.HORIZONTAL,0,10,0,255);
        s2.setBackground(Color.GREEN);
        s2.addAdjustmentListener(new AdjustmentListener() {
            @Override
            public void adjustmentValueChanged(AdjustmentEvent e)
{
                b = s2.getValue();
                setBackground(new Color(r,b,g));
            }
        });
        add(s2,BorderLayout.SOUTH);

        s3 = new Scrollbar(Scrollbar.VERTICAL,0,10,0,255);
        s3.setBackground(Color.BLUE);
        s3.addAdjustmentListener(new AdjustmentListener() {
            @Override
            public void adjustmentValueChanged(AdjustmentEvent e)
{
                g = s3.getValue();
                setBackground(new Color(r,b,g));
            }
        });
```

```
            add(s3,BorderLayout.EAST);
        }
}
```

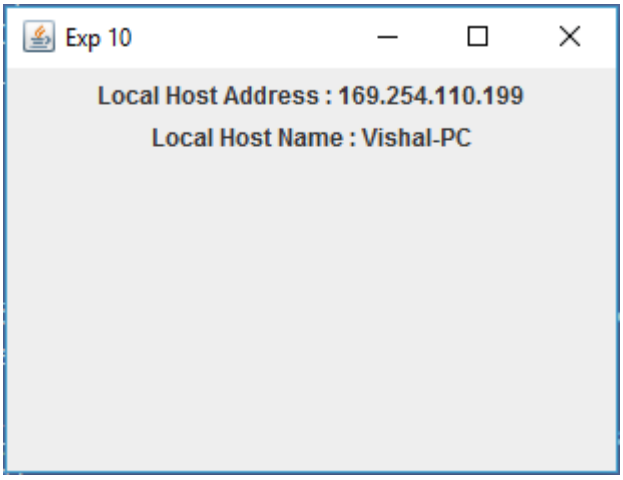




```java
package exp9;

import javax.swing.*;
import java.awt.*;
import java.awt.event.MouseEvent;
import java.awt.event.MouseMotionAdapter;

public class Exp9_1 extends JApplet {

    int x = 0;
    int y = 0;
    String point = "";

    @Override
    public void init() {

        addMouseMotionListener(new MouseMotionAdapter() {
            @Override
            public void mouseMoved(MouseEvent e) {

                x = e.getX();
                y = e.getY();
                point = "X : " + e.getX() + ", Y : " +
e.getY();
                showStatus("Moving mouse at : " + point);
                repaint();
            }
        });
    }

    @Override
    public void paint(Graphics g) {

        g.setColor(Color.WHITE);
        g.fillRect(0,0,getWidth(),getHeight());
        g.setColor(Color.black);
        g.drawLine(0,0,x,y);
        g.setColor(Color.black);
        g.drawLine(getWidth(),0,x,y);
        g.setFont(new Font("Arial",Font.PLAIN,40));
        g.drawString(point,getWidth()/2,getHeight()/2);

    }
}
```


Applet Viewer: exp9.Exp9_1
Applet
X : 80, Y : 140
Moving mouse at : X : 80, Y : 140

```java
package exp10;

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

public class Exp10 extends JFrame {

    Exp10() {

        setTitle("Exp 10");
        setSize(320,240);
        setVisible(true);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
        setLayout(new FlowLayout());

        try {

            InetAddress add = InetAddress.getLocalHost();

            JLabel ipAddressLable = new JLabel("Local
Host Address : " + add.getHostAddress());
            add(ipAddressLable);

            JLabel nameLabe = new JLabel("Local Host Name
: " + add.getHostName());
            add(nameLabe);

        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public static void main(String[] args) {

        new Exp10();
    }
}
```

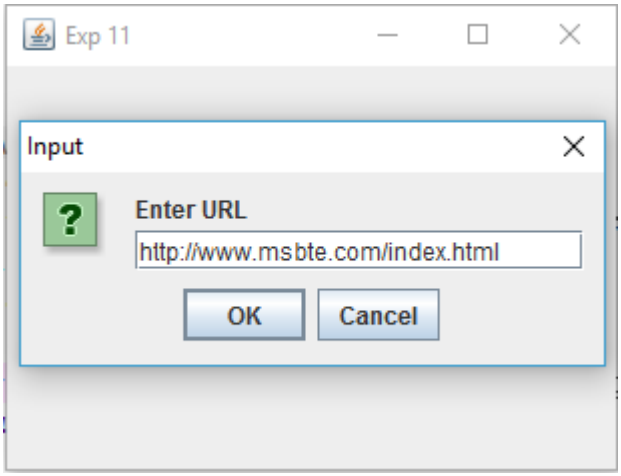


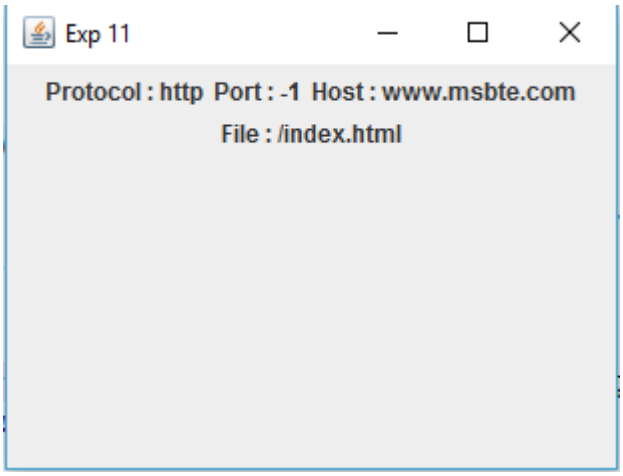
```
package exp11;

import javax.swing.*;
import java.awt.*;
import java.awt.event.KeyAdapter;
import java.awt.event.KeyEvent;
import java.awt.event.KeyListener;
import java.io.IOException;

public class Exp11 extends JFrame {

    private JEditorPane htmlViewer;

    Exp11() {

        setTitle("Exp 11");
        setSize(630,480);
        setVisible(true);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
        setLayout(new BorderLayout());

        htmlViewer = new JEditorPane();
        htmlViewer.setEditable(true);
        JScrollPane scrollPane = new
JScrollPane(htmlViewer);
        add(scrollPane,BorderLayout.CENTER);

        JTextField urlText = new JTextField();
        urlText.addKeyListener(new KeyAdapter() {
            @Override
            public void keyPressed(KeyEvent e) {
                if(e.getKeyCode() == e.VK_ENTER) {
                    try{

htmlViewer.setPage(urlText.getText());
                    } catch (Exception ex) {

JOptionPane.showMessageDialog(null,ex.getMessage(),"Error
",JOptionPane.ERROR_MESSAGE);
                    }
                }
            }
        });
        add(urlText,BorderLayout.SOUTH);

    }
```

```
    public static void main(String[] args) throws
Exception {

        new Exp11();
    }
}
```

```java
package exp12;

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

public class Exp12 extends JFrame {

    Exp12(){

        setTitle("Exp 11");
        setSize(320,240);
        setVisible(true);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
        setLayout(new FlowLayout());
        setLocationRelativeTo(null);

        String url =
JOptionPane.showInputDialog(null,"Enter URL");
        System.out.println(url);

        try {

            URL u = new URL(url);

            JLabel protocol = new JLabel("Protocol : " +
u.getProtocol());
            add(protocol);

            JLabel port = new JLabel("Port : " +
u.getPort());
            add(port);

            JLabel host = new JLabel("Host : " +
u.getHost());
            add(host);

            JLabel file = new JLabel("File : " +
u.getFile());
            add(file);

        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public static void main(String[] args) {
```

```
            new Exp12();
        }
}
```


Exp 11
Input
Enter URL
http://www.msbte.com/index.html
OK
Cancel


Exp 11
Protocol : http Port : -1 Host : www.msbte.com
File : /index.html

```
package exp13;

import javax.swing.*;
import java.awt.*;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.Statement;

public class Exp13 extends JFrame {

    public static void main(String[] args) throws
Exception {

        Class.forName("org.sqlite.JDBC");

        Connection c =
DriverManager.getConnection("jdbc:sqlite:Exp13.db");
        System.out.println("Connection established..");

        Statement s = c.createStatement();
        s.execute("create table employee(emp_id INTEGER,
emp_name STRING)");
        System.out.println("Table created..");
    }
}
```