PROGRAM 35 :

Program to draw Circle, Rectangle, Line in Applet.

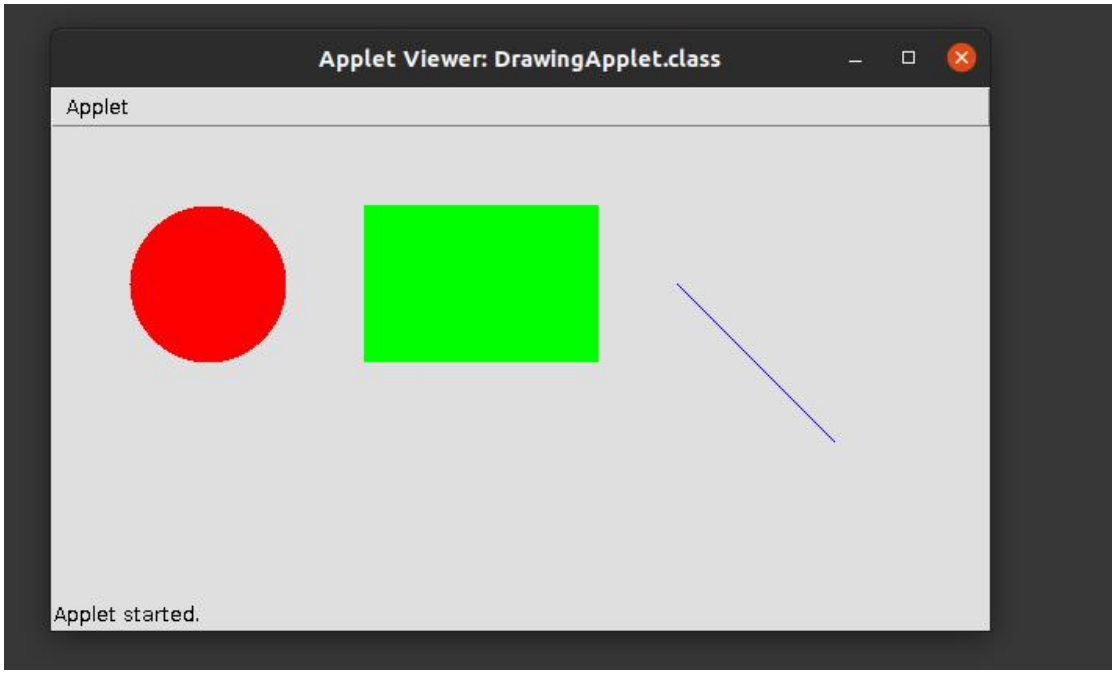
CODE :

```
import java.applet.Applet;
import java.awt.*;
public class DrawingApplet extends Applet {
   public void paint(Graphics g)
      g.setColor(Color.red);
      g.fillOval(50, 50, 100, 100);
      g.setColor(Color.green);
      g.fillRect(200, 50, 150, 100);
      g.setColor(Color.blue);
      g.drawLine(400, 100, 500, 200);
   }
}
```

applet.html

```
<html>
<head>
   <title>Applet Example</title>
</head>
<body>
   <applet code="DrawingApplet.class" width="600" height="300"></applet>
</body>
</html>
```

OUTPUT :



PROGRAM 36 :

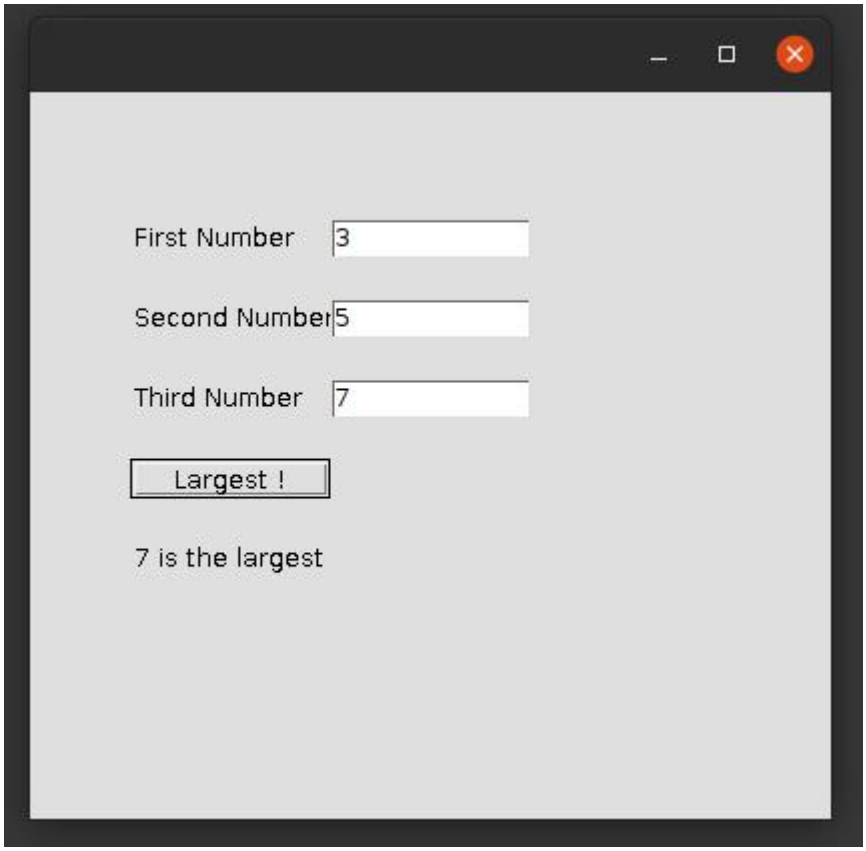
Program to find maximum of three numbers using AWT.

CODE :

```
import java.awt.*;
import java.awt.event.*;
public class Largenum implements ActionListener{
   Frame f=new Frame();
   Label l1=new Label("First Number");
   Label l2=new Label("Second Number");
   Label l3=new Label("Third Number");
   Label res=new Label("Result");
   TextField t1=new TextField();
   TextField t2=new TextField();
   TextField t3=new TextField();
   Button b1=new Button("Largest !");
   Largenum(){
   l1.setBounds(50,100,100,20);
   l2.setBounds(50,140,100,20);
   l3.setBounds(50,180,100,20);
   t1.setBounds(150,100,100,20);
   t2.setBounds(150,140,100,20);
   t3.setBounds(150,180,100,20);
   b1.setBounds(50,220,100,20);
   res.setBounds(50,260,100,20);
   f.add(l1);
   f.add(l2);
   f.add(l3);
   f.add(t1);
   f.add(t2);
   f.add(t3);
   f.add(res);
```

```
    f.add(b1);
    b1.addActionListener(this);
    f.setLayout(null);
    f.setVisible(true);
    f.setSize(400,400);
}
public static void main(String[] args){
     new Largenum();
}
public void actionPerformed(ActionEvent e){
if(e.getSource()==b1){
int n1=Integer.parseInt(t1.getText());
int n2=Integer.parseInt(t2.getText());
int n3=Integer.parseInt(t3.getText());
int largeres= (n1 > n2) ? (n1 > n3 ? n1 : n3) : (n2 > n3 ? n2 : n3);
res.setText(String.valueOf(largeres)+" is the largest");
}
}
}
```

OUTPUT :


First Number
3
Second Number
5
Third Number
7
Largest !
7 is the largest

PROGRAM 37 :

Find the percentage of marks obtained by a student in 5 subjects. Display a happy face if he secures above 50% or a sad face if otherwise.

CODE :

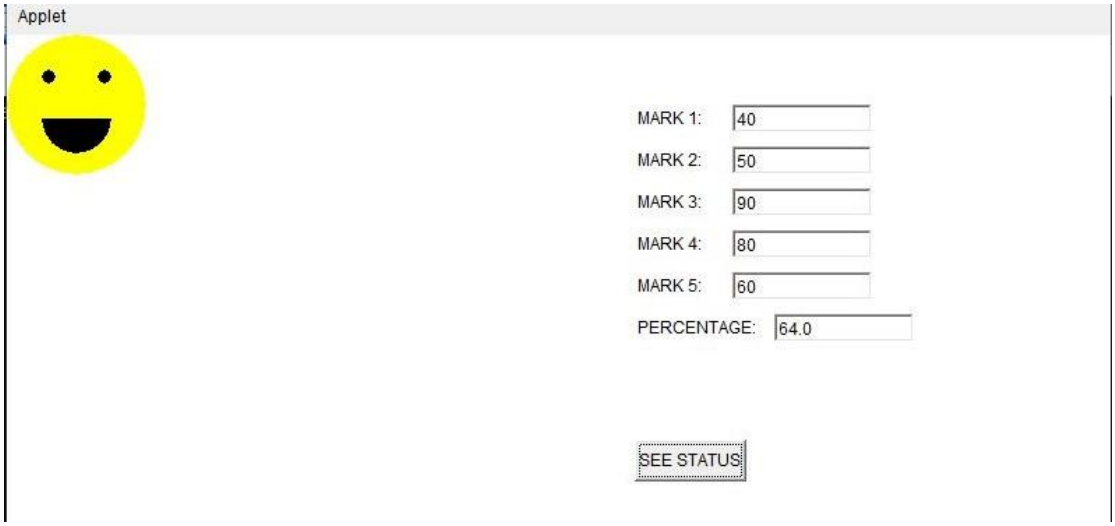
```
import java.applet.Applet;
import java.awt.*;

public class MarksApplet extends Applet {
   public void paint(Graphics g) {
      int[] marks = {80, 75, 90, 65, 70}; // Sample marks
      int totalMarks = 500; // Total marks for 5 subjects



      int obtainedMarks = 0;
      for (int i = 0; i < marks.length; i++) {
         obtainedMarks += marks[i];
      }

      double percentage = (obtainedMarks / (double) totalMarks) * 100;



      g.setFont(new Font("Arial", Font.BOLD, 20));
      g.drawString("Percentage: " + percentage + "%", 50, 50);



      if (percentage > 50) {

         g.setColor(Color.YELLOW);
         g.fillOval(150, 100, 200, 200);
         g.setColor(Color.BLACK);
```

```
            g.fillOval(200, 160, 30, 30);
            g.fillOval(270, 160, 30, 30);
            g.drawArc(200, 230, 100, 50, 180, 180);
        } else {

            g.setColor(Color.YELLOW);
            g.fillOval(150, 100, 200, 200);
            g.setColor(Color.BLACK);
            g.fillOval(200, 160, 30, 30);
            g.fillOval(270, 160, 30, 30);
            g.drawArc(200, 220, 100, 100, 0, -180);
        }
    }
}
```

index.html

```
<html>
<head>
    <title>Applet Example</title>
</head>
<body>
    <applet code="MarksApplet.class" width="600" height="300"></applet>
</body>
</html>
```

OUTPUT :


Applet
MARK 1: 40
MARK 2: 50
MARK 3: 90
MARK 4: 80
MARK 5: 60
PERCENTAGE: 64.0
SEE STATUS


Applet
MARK 1: 40
MARK 2: 50
MARK 3: 0
MARK 4: 0
MARK 5: 0
PERCENTAGE: 18.0
SEE STATUS

PROGRAM 38 :

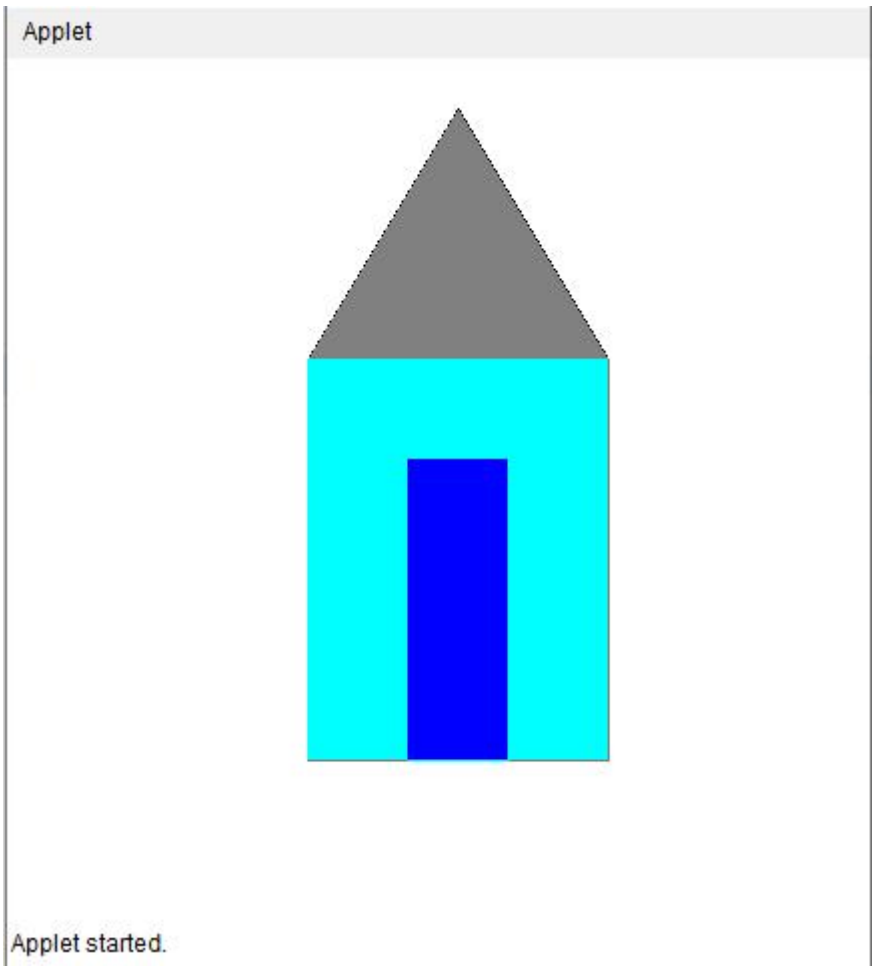
Using 2D graphics commands in an Applet, construct a house. On mouse click event, change the color of the door from blue to red.

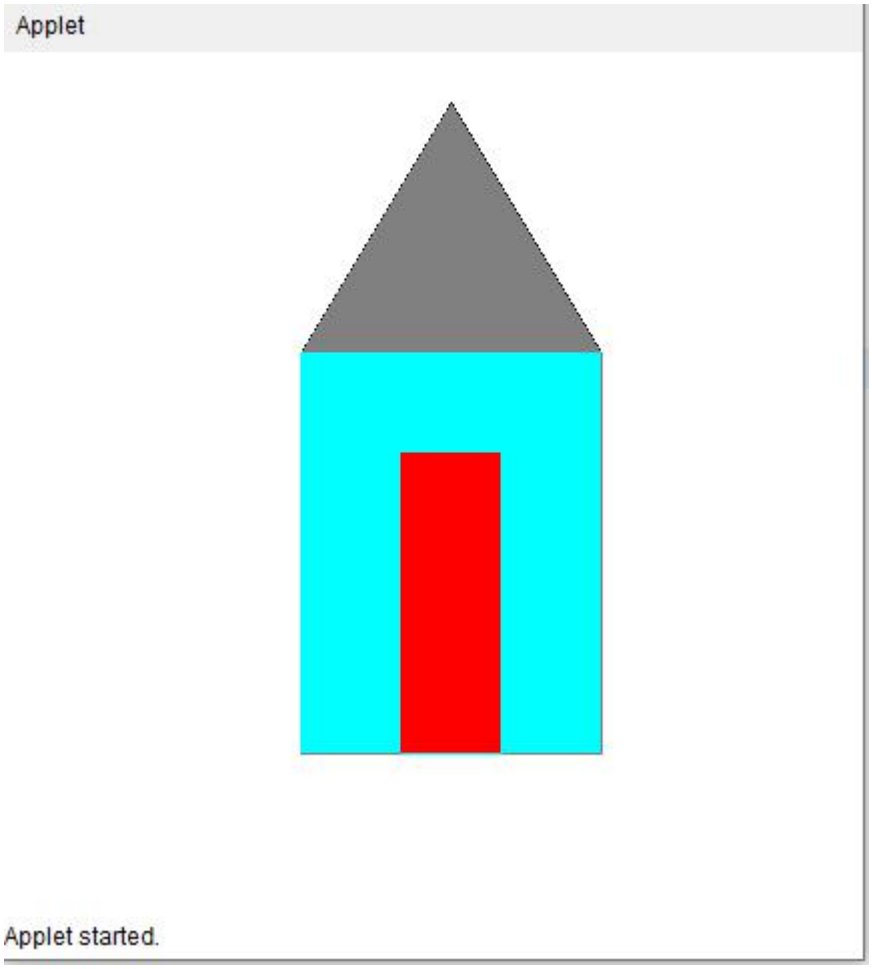
CODE :

```
import java.awt.*;
import java.applet.*;
import java.awt.event.*;
public class House extends Applet implements MouseListener
{
  int a,b;
   public void init()
   {
      addMouseListener( this);
   }
   public void paint(Graphics g)
   {
      int x[]={150,300,225};
      int y[]={150,150,25};
      g.drawPolygon(x,y,3);
      g.setColor(Color.GRAY);
      g.fillPolygon(x,y,3);

      g.drawRect(150,150,150,200);//House
      g.setColor(Color.CYAN);
      g.fillRect(150,150,150,200);

      g.drawRect(200,200,50,150);//Door
      g.setColor(Color.blue);
      g.fillRect(200,200,50,150);

      if(a>200 && a<300 && b>200 && b<300)
      {
```

```
            g.setColor(Color.red);
            g.fillRect(200, 200, 50, 150);
        }
    }
    public void mouseClicked(MouseEvent e)
    {

    }
    public void mouseEntered(MouseEvent e)
    {

    }

    @Override
    public void mouseExited(MouseEvent e) {

    }

   public void mousePressed(MouseEvent e)
    {
        a=e.getX();
        b=e.getY();
        repaint();

    }
   public void mouseReleased(MouseEvent e)
    {

 }

}
```

OUTPUT :




Applet
Applet started.

PROGRAM 39 :

Implement a simple calculator using AWT components.

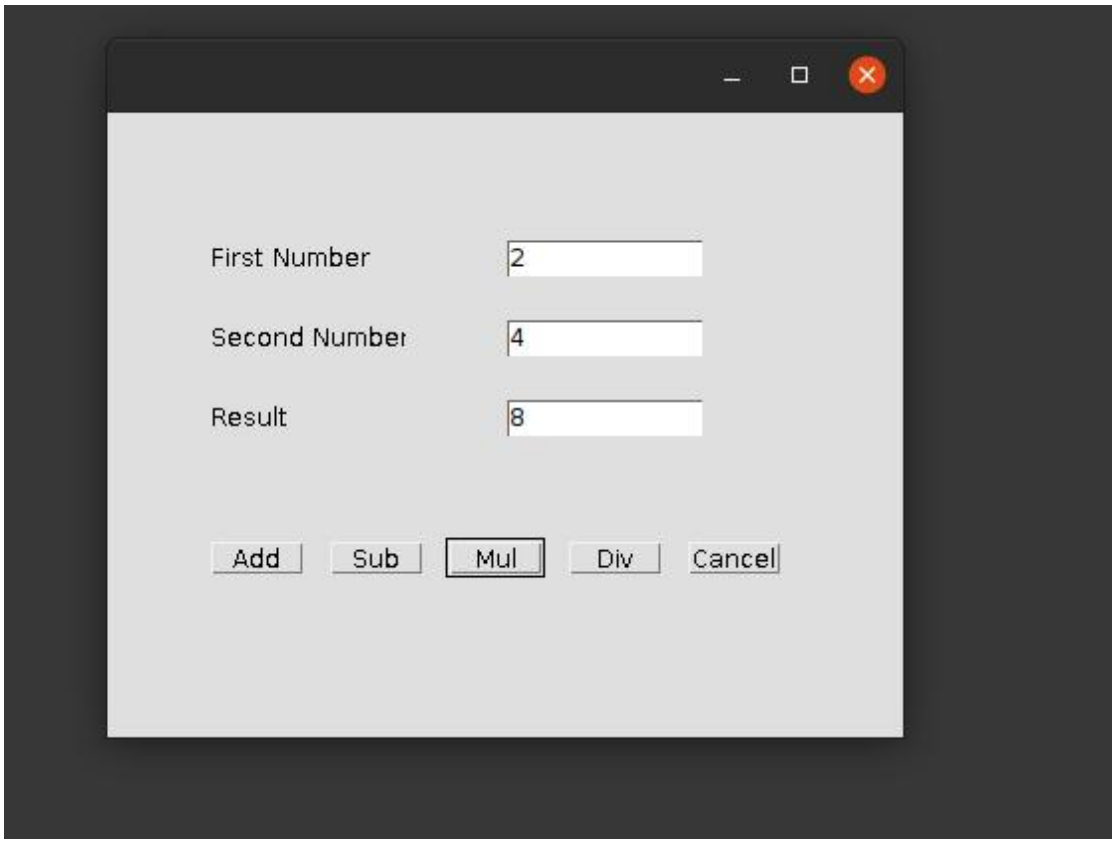
CODE :

```
import java.awt.*;
import java.awt.event.*;
public class Calculator implements ActionListener
{
    Frame f=new Frame();
    Label l1=new Label("First Number");
    Label l2=new Label("Second Number");
    Label l3=new Label("Result");
    TextField t1=new TextField();
    TextField t2=new TextField();
    TextField t3=new TextField();
    Button b1=new Button("Add");
    Button b2=new Button("Sub");
Button b3=new Button("Mul");
Button b4=new Button("Div");
Button b5=new Button("Cancel");
Calculator()
{
l1.setBounds(50,100,100,20);
l2.setBounds(50,140,100,20);
l3.setBounds(50,180,100,20);
t1.setBounds(200,100,100,20);
t2.setBounds(200,140,100,20);
t3.setBounds(200,180,100,20);
b1.setBounds(50,250,50,20);
b2.setBounds(110,250,50,20);
b3.setBounds(170,250,50,20);
b4.setBounds(230,250,50,20);
b5.setBounds(290,250,50,20);
f.add(l1);
```

```
f.add(l2);
f.add(l3);
f.add(t1);
f.add(t2);
f.add(t3);
f.add(b1);
f.add(b2);
f.add(b3);
f.add(b4);
f.add(b5);
b1.addActionListener(this);
b2.addActionListener(this);
b3.addActionListener(this);
b4.addActionListener(this);
b5.addActionListener(this);
f.setLayout(null);
f.setVisible(true);
f.setSize(400,350);
}
public void actionPerformed(ActionEvent e)
{
int n1=Integer.parseInt(t1.getText());
int n2=Integer.parseInt(t2.getText());
if(e.getSource()==b1)
{
t3.setText(String.valueOf(n1+n2));
}
if(e.getSource()==b2)
{
t3.setText(String.valueOf(n1-n2));
}
if(e.getSource()==b3)
{
t3.setText(String.valueOf(n1*n2));
```

```
}
if(e.getSource()==b4)
{
t3.setText(String.valueOf(n1/n2));
}
if(e.getSource()==b5)
{
System.exit(0);
}
}
public static void main(String...s)
{
new Calculator();
}
}
```

OUTPUT :



PROGRAM 40 :

Develop a program that has a Choice component which contains the names of shapes such as rectangle, triangle, square and circle. Draw the corresponding shapes for given parameters as per user's choice.

CODE :

```
import java.applet.*;
import java.awt.*;
import java.awt.Graphics;
import java.awt.event.*;
public class Main extends Applet implements ItemListener
   {
     Choice figure = new Choice();
     int Select;
     public void init()
     {

      figure.addItem("Select your choice");
      figure.addItem("Rectangle");
       figure.addItem("Square");
       figure.addItem("Circle");
       figure.addItem("Triangle");
       add(figure);
       figure.addItemListener(this);




     }
    public void itemStateChanged (ItemEvent e)
   {

      Select = figure.getSelectedIndex();
```

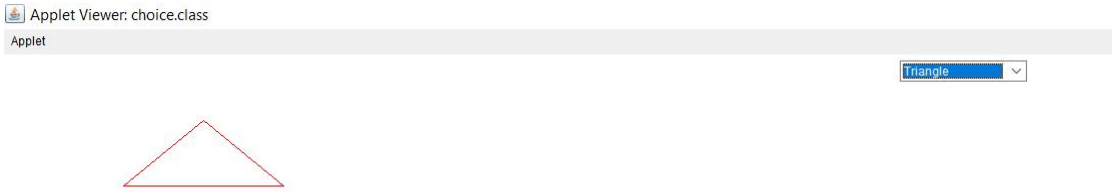
```
        repaint();

    }

 public void paint(Graphics g)
           {

g.setColor(Color.red);
         super.paint(g);

         if (Select == 1)
         {

           g.drawRect(280, 100, 160,40);
         }
         if (Select == 2)
         {
            g.drawRect(50,50,100,100);
         }
        if (Select == 3)
         {

            g.drawOval(150,150,100,100);
        }
         if (Select ==4)
         {
            g.drawLine(120, 130, 280, 130);
            g.drawLine(120, 130, 200, 65);
            g.drawLine(200, 65, 280, 130);
         }
           }
}
```

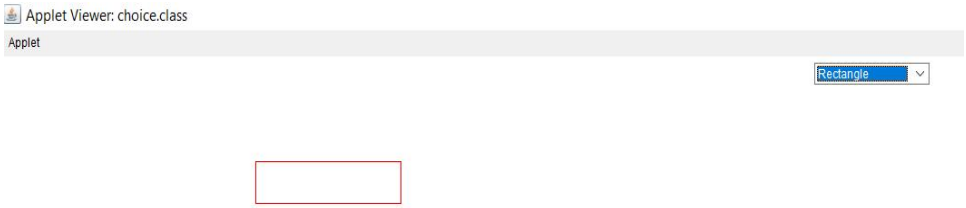
index.html

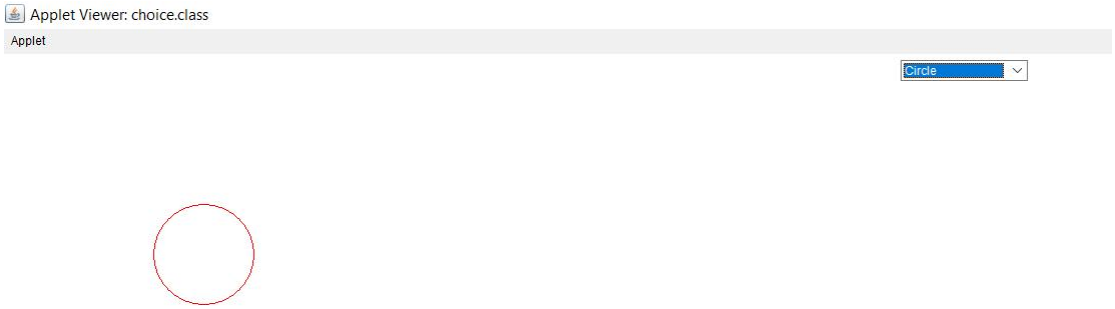
```
 <html>
```

```
<body>
<applet code="Main.class" width="600" height="600">
</applet>
</body>
</html>
```

OUTPUT :







PROGRAM 41 :

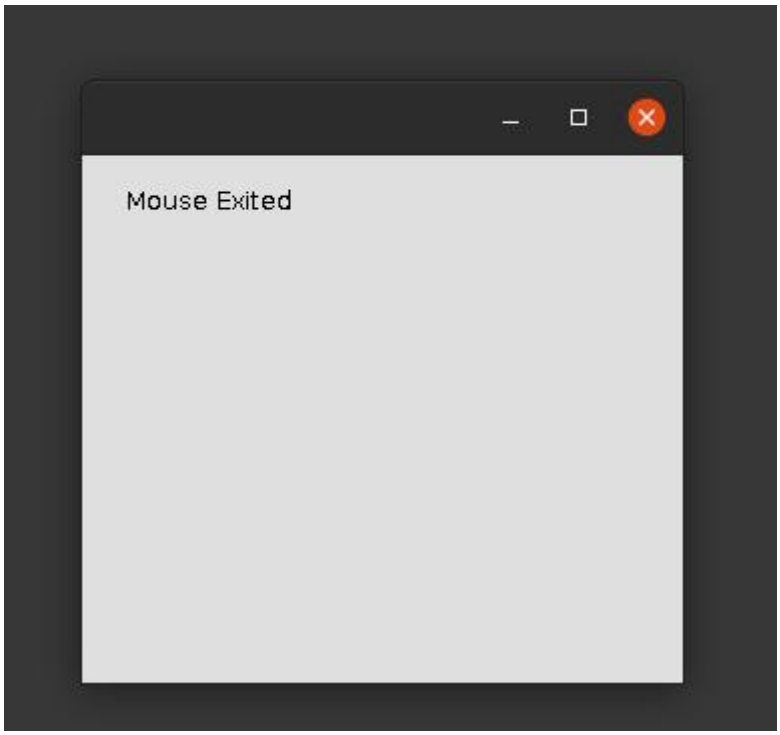
Develop a program to handle all mouse events and window events

CODE :

```
import java.awt.*;
import java.awt.event.*;
public class Mouseevents extends Frame implements MouseListener{
Label l;
Mouseevents(){
addMouseListener(this);
l=new Label();
l.setBounds(20,50,100,20);
add(l);
setSize(300,300);
setLayout(null);
setVisible(true);
}
public void mouseClicked(MouseEvent e) {
l.setText("Mouse Clicked");
}
public void mouseEntered(MouseEvent e) {
l.setText("Mouse Entered");
}
public void mouseExited(MouseEvent e) {
l.setText("Mouse Exited");
}
public void mousePressed(MouseEvent e) {
l.setText("Mouse Pressed");
}
public void mouseReleased(MouseEvent e) {
l.setText("Mouse Released");
```

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

OUTPUT :



PROGRAM 42 :

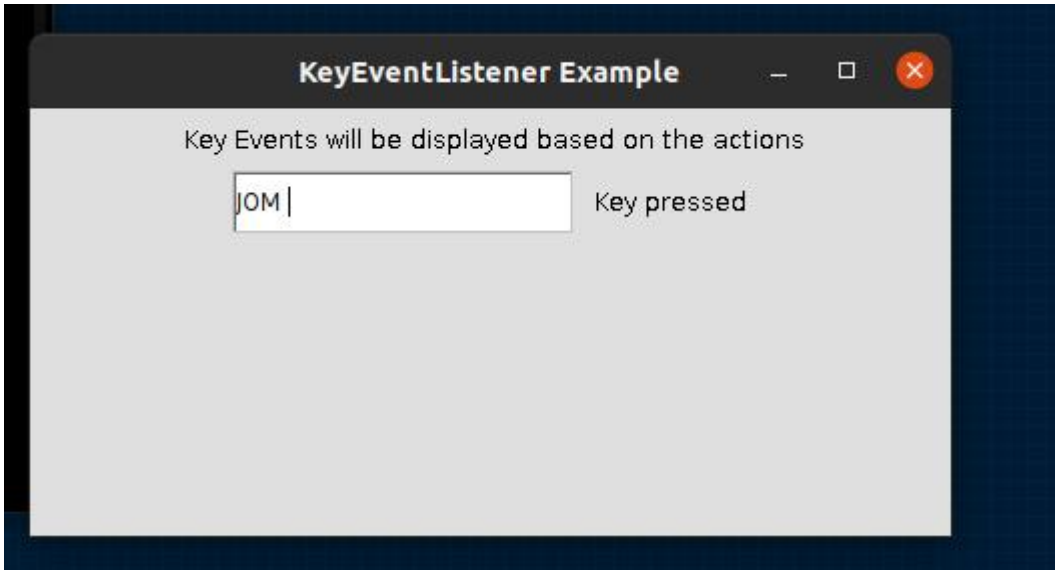
Develop a program to handle Key events.

CODE :

```
import java.awt.FlowLayout;
import java.awt.Frame;
import java.awt.Label;
import java.awt.TextField;
import java.awt.event.KeyEvent;
import java.awt.event.KeyListener;
public class KE implements KeyListener
{
Label lb1, lbl2, lb;
TextField tf1;
Frame fr;
String s;
KE()
{
fr = new Frame("KeyEventListener Example");
lb1= new Label(" Key Events will be displayed based on the actions",
Label.CENTER);
lbl2= new Label();
lb= new Label();
tf1 = new TextField(20);
fr.setLayout(new FlowLayout());
fr.add(lb1);
fr.add(tf1);
fr.add(lbl2);
tf1.addKeyListener(this);
fr.setSize(460,250);
fr.setVisible(true);
```

```
}
public void keyPressed(KeyEvent ev)
{

lbl2.setText(" Key pressed");
}
public void keyReleased(KeyEvent ev)
{
lbl2.setText("Released");
}
public void keyTyped(KeyEvent ev)
{
lbl2.setText("Key is typed");
fr.setVisible(true);
}
public static void main(String[] args)
{
new KE();
}
}
```

OUTPUT :


KeyEventListener Example
Key Events will be displayed based on the actions
JOM
Key pressed