COURSE OUTCOME 5 (C05)

1. Program to draw Circle, Rectangle, Line in Applet.

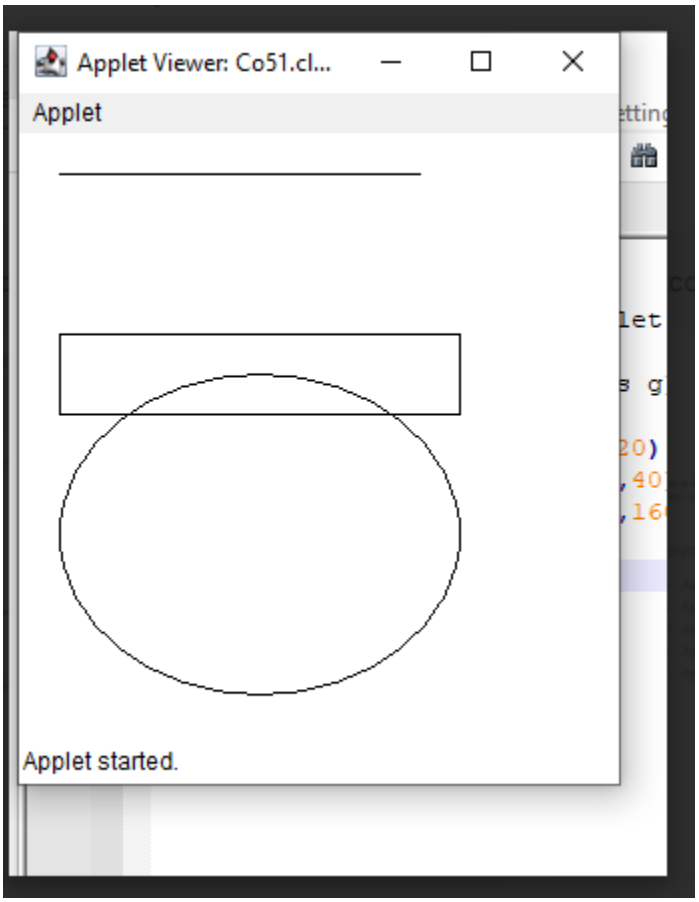
JAVA FILE

```
import java.applet.*;
import java.awt.*;
public class Co51 extends Applet
{
	public void paint(Graphics g)
	{
		g.drawLine(20,20,200,20);
		g.drawRect(20,100,200,40);
		g.drawOval(20,120,200,160);
	}
}
```

HTML FILE

```
<html>
<head>
</head>
<title> APPLET </title>
<body>
<applet code="Co51.class" height="300" width="300">  </applet>

</body>
</html>
```

OUTPUT



3. 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.

JAVA FILE

```
import java.applet.*;
import java.awt.*;
import java.awt.Graphics;
import java.awt.event.*;
public class facereact extends Applet implements ActionListener {
Label l1,l2,l3,l4,l5,l6;
TextField t1,t2,t3,t4,t5,t6;
```

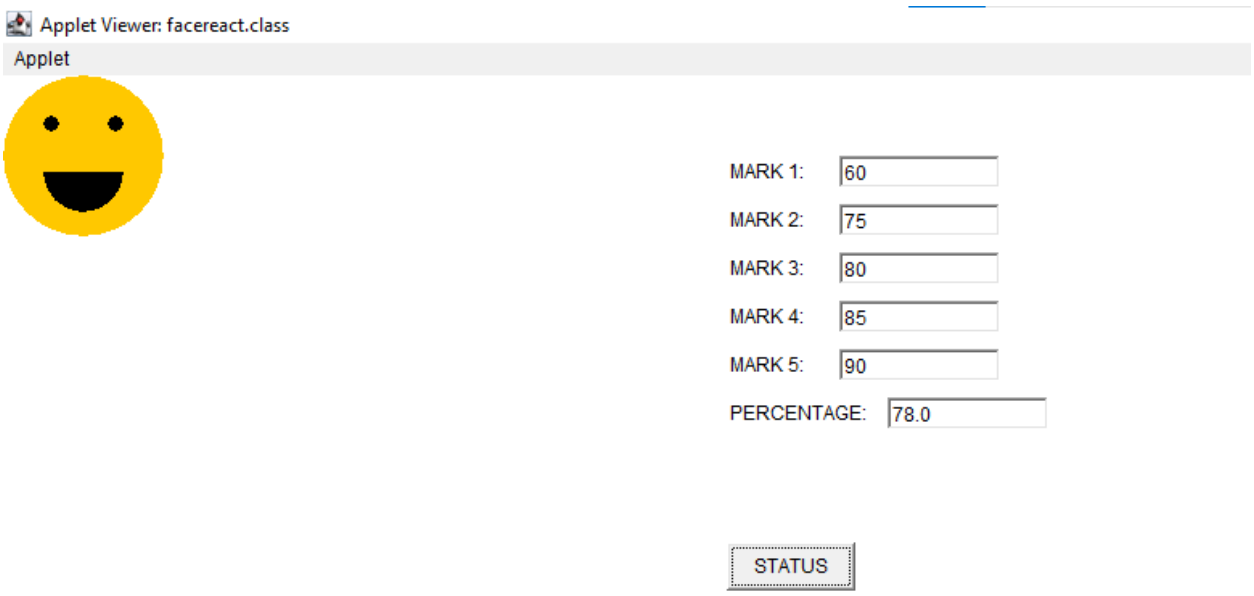
```
Button b;
public void init(){
l1 = new Label("MARK 1:");



t1 = new TextField();
l2 = new Label("MARK 2:");
t2 = new TextField();
l3 = new Label("MARK 3:");
t3 = new TextField();
l4 = new Label("MARK 4:");
t4 = new TextField();
l5 = new Label("MARK 5:");
t5 = new TextField();
l6 = new Label("PERCENTAGE:");
t6 = new TextField();

b = new Button("STATUS");
setLayout(null);
l1.setBounds(450,50,70,20);
t1.setBounds(520,50,100,20);
l2.setBounds(450,80,70,20);
t2.setBounds(520,80,100,20);
l3.setBounds(450,110,70,20);
t3.setBounds(520,110,100,20);
l4.setBounds(450,140,70,20);
t4.setBounds(520,140,100,20);
l5.setBounds(450,170,70,20);
t5.setBounds(520,170,100,20);
l6.setBounds(450,200,100,20);
t6.setBounds(550,200,100,20);
b.setBounds(450,290,80,30);
add(l1);
add(l2);
add(l3);
add(l4);
add(l5);
add(l6);
add(t1);
add(t2);
add(t3);
add(t4);
add(t5);
```

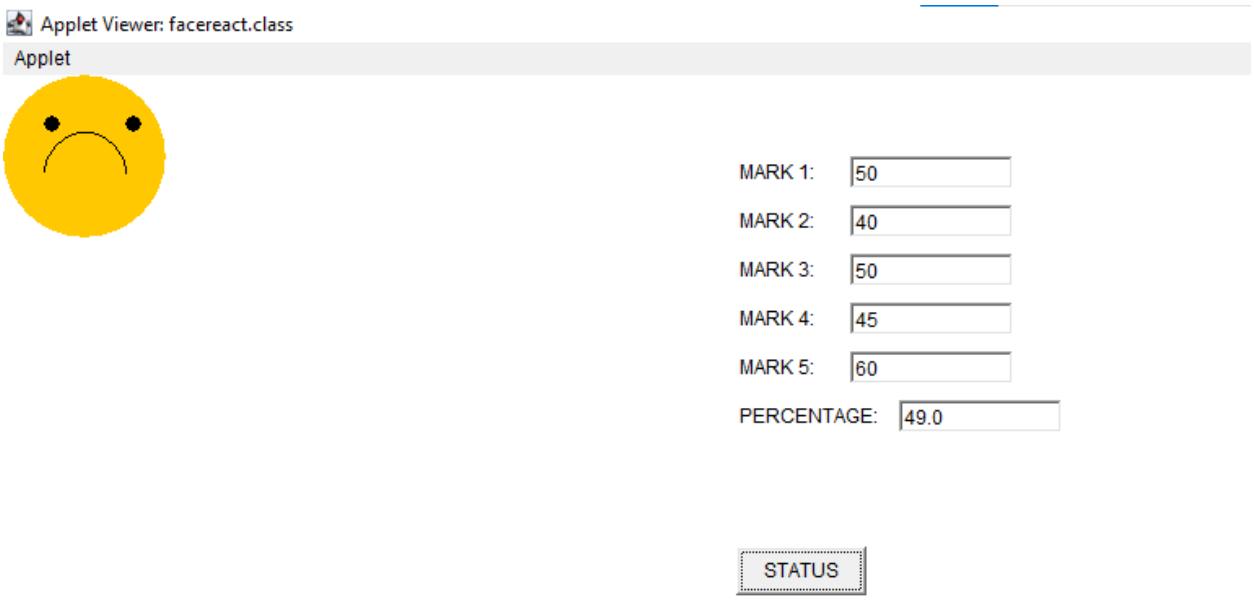
```
add(t6);
add(b);
b.addActionListener(this);




}
public void actionPerformed(ActionEvent e){
float m1, m2,m3, m4,m5,percent;
m1= Float.parseFloat(t1.getText());
m2= Float.parseFloat(t2.getText());
m3= Float.parseFloat(t3.getText());
m4= Float.parseFloat(t4.getText());
m5= Float.parseFloat(t5.getText());
percent=((m1+m2+m3+m4+m5)*100)/500;
t6.setText(String.valueOf(percent));
repaint();
}

public void paint(Graphics g){
float p;
p= Float.parseFloat(t6.getText());
if(p> 50.0) {
g.setColor(Color.ORANGE);
g.fillOval(0,0,100,100);
g.setColor(Color.black);
g.fillOval(25,25,10,10);
g.fillOval(65,25,10,10);
g.setColor(Color.black);
g.fillArc (25,35,50,50,0,-180);
}
else {
g.setColor(Color.ORANGE);
g.fillOval(0,0,100,100);
g.setColor(Color.black);
g.fillOval(25,25,10,10);
g.fillOval(75,25,10,10);
g.setColor(Color.black);
g.drawArc(25,35,50,50,0,180);
}
}
}
```

HTML FILE

```
<html>
<head>
</head>
<title> APPLET SMILE/SAD FACE  </title>
<body>
<applet code="facereact.class" height="300" width="300">  </applet>

</body>
</html>
```

OUTPUT





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

JAVA FILE

```
import java.awt.*;

import java.applet.*;

import java.awt.event.*;

public class Home 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);
```

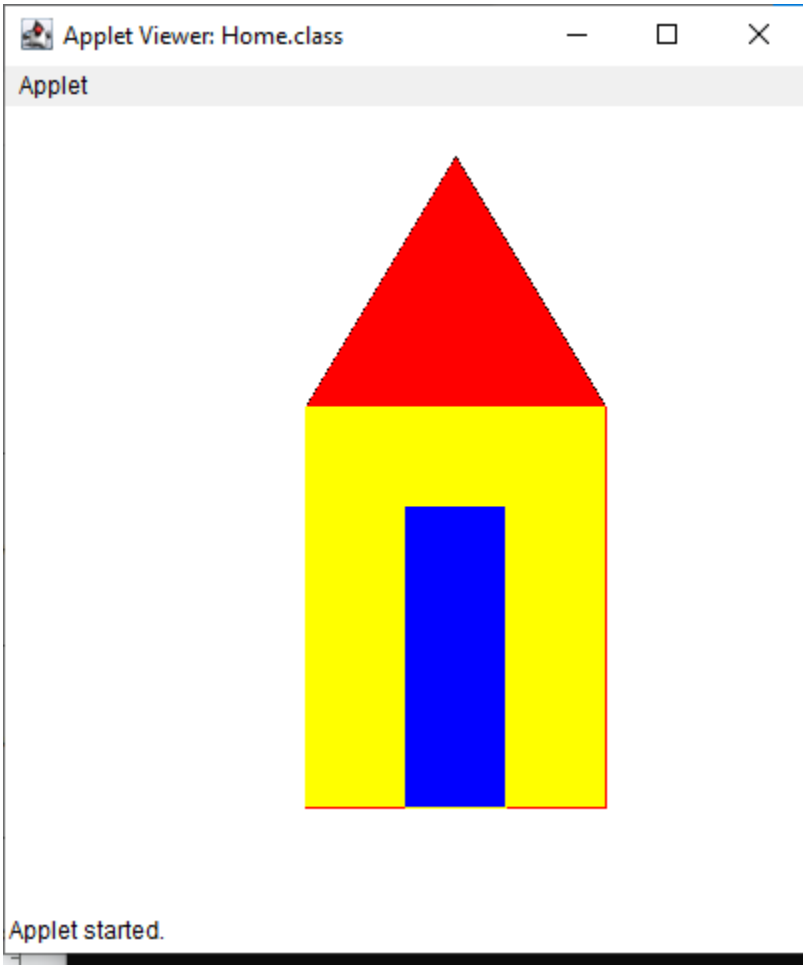
```
 g.setColor(Color.RED);
 g.fillPolygon(x,y,3);
 g.drawRect(150,150,150,200);//Home

 g.setColor(Color.YELLOW);
 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)
 {
 }
}
```

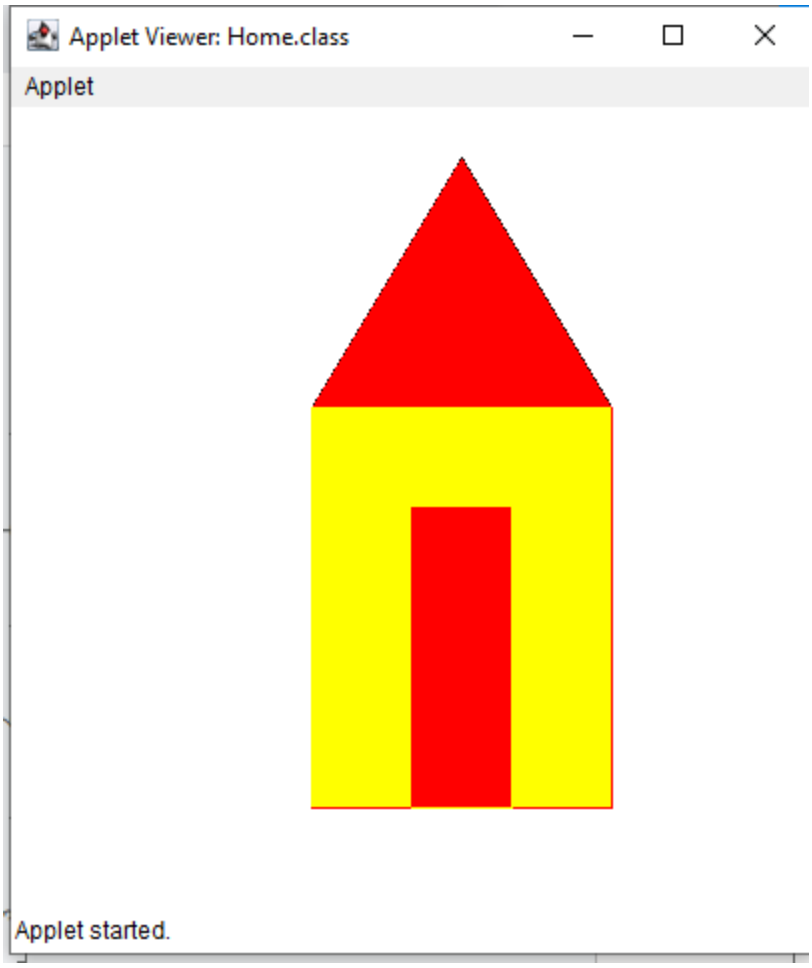
HTML FILE

```
<html>
<body>
<applet code="Home.class" width="400" height="400">
</applet>
```

</body>
</html>

OUTPUT





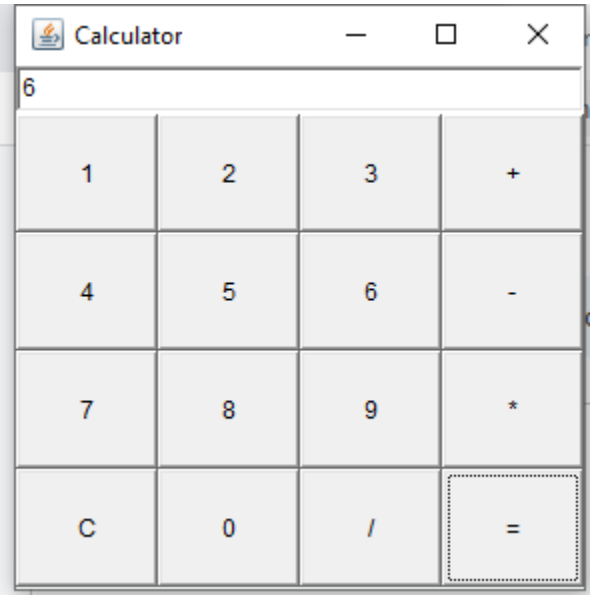
5. Implement a simple calculator using AWT components.

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

class Cal extends Frame implements ActionListener{
    TextField inp;
    Panel p;
    String bs[] ={    "1","2","3","+",
                      "4","5","6","-",
                      "7","8","9","*",
                      "C","0","/","=",
    };
    Button b[] = new Button[16];
    int n1, n2, result;
    String opr;
```

```
public Cal(){
    inp = new TextField(20);
    p = new Panel();
    add(inp, "North");
    add(p, "Center");
    p.setLayout(new GridLayout(4,4));
    for(int i=0; i<16;i++){
        b[i] = new Button(bs[i]);
        b[i].addActionListener(this);
        p.add(b[i]);
    }
    addWindowListener(new WindowAdapter(){
        public void windowClosing(WindowEvent we){
            System.exit(0);
        }
    });
}
public void actionPerformed(ActionEvent ae){
    String str = ae.getActionCommand();
    if(str.equals("+")){
        opr = "+";
        n1 = Integer.parseInt(inp.getText());
        inp.setText("");
    }
    else if(str.equals("-")){
        opr = "-";
        n1 = Integer.parseInt(inp.getText());
        inp.setText("");
    }
    else if(str.equals("*")){
        opr = "*";
        n1 = Integer.parseInt(inp.getText());
        inp.setText("");
    }
    else if(str.equals("/")){
        opr = "/";
        n1 = Integer.parseInt(inp.getText());
        inp.setText("");
    }
    else if(str.equals("=")){
        n2 = Integer.parseInt(inp.getText());
        switch(opr){
            case "+":
```

```
                result = n1 + n2;
                break;
            case "-":
                result = n1 - n2;
                break;
            case "*":
                result = n1 * n2;
                break;
            case "/":
                result = n1 / n2;
                break;
        }
        inp.setText(String.valueOf(result));
      }
      else if(str.equals("C")){
        inp.setText("");
        n1=n2=result=0;
      }
      else{
        inp.setText(inp.getText() + str);
      }
    }
    public static void main(String[] args) {
      Cal c = new Cal();
      c.setTitle("Calculator");
      c.setSize(300, 300);
      c.setVisible(true);
    }
}
```

OUTPUT

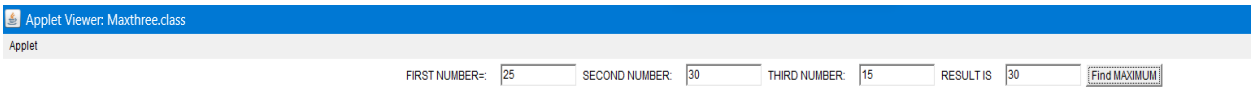


2. Program to find maximum of three numbers using AWT.

```
import java.awt.*;
import java.awt.event.*;
import java.applet.*;
public class Maxthree extends Applet  implements ActionListener
{
    TextField t1 = new TextField(10);
    TextField t2 = new TextField(10);
    TextField t3 = new TextField(10);
    TextField t4 = new TextField(10);
    Label l1 = new Label("FIRST NUMBER=:");
    Label l2 = new Label("SECOND NUMBER:");
    Label l3 = new Label("THIRD NUMBER:");
    Label l4 = new Label("RESULT IS");
    Button b = new Button("Find MAXIMUM");


    public void init()
    {
```

```
        add(l1);
        add(t1);
        add(l2);
        add(t2);
        add(l3);
        add(t3);
        add(l4);
        add(t4);
        add(b);

        b.addActionListener(this);
    }
    public void actionPerformed(ActionEvent e)
    {
        if (e.getSource() == b)
        {
            int num1 = Integer.parseInt(t1.getText());
            int num2 = Integer.parseInt(t2.getText());
            int num3 = Integer.parseInt(t3.getText());
            if (num1 >= num2 && num1 >= num3)
                t4.setText("Result"+num1);
            else if (num2 >= num1 && num2 >= num3)
                t4.setText(""+num2);
            else
                t4.setText("Result"+num3);

        }

    }


}
<html>
<head>
<title> First Applet </title>
</head>
<body>
<APPLET CODE="Maxthree.class" width="400" height="400">
</applet>
</body>
</html>
```

OUTPUT



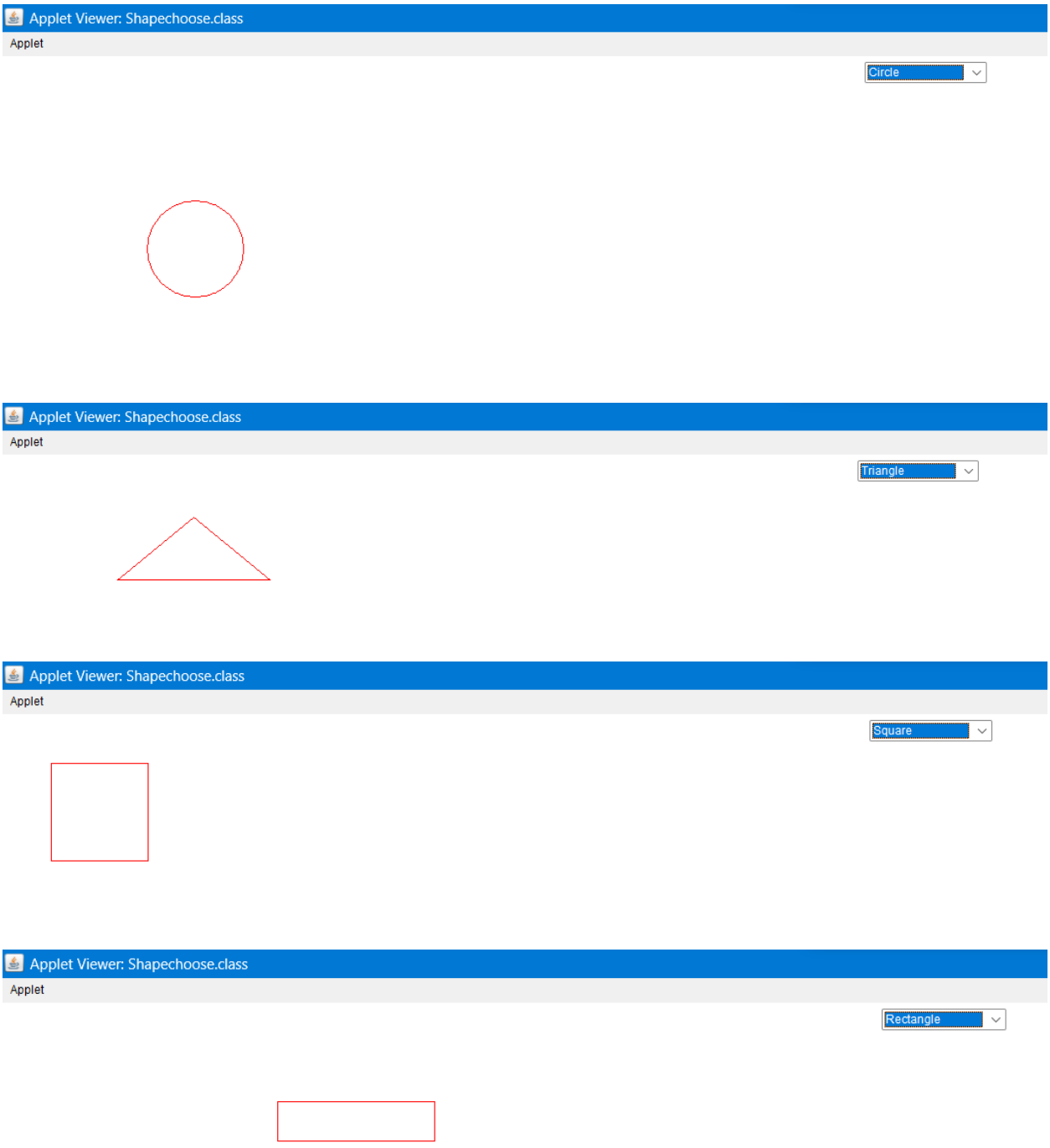
6. Develop a program that has a Choice component which contains the names of shapes such as rectangle, triangle, square and circle. Draw the corresponding shapes for given parameters as per user's choice.

```
import java.applet.*;
import java.awt.*;
import java.awt.Graphics;
import java.awt.event.*;
public class Shapechoose 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);
}
}
}
```

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

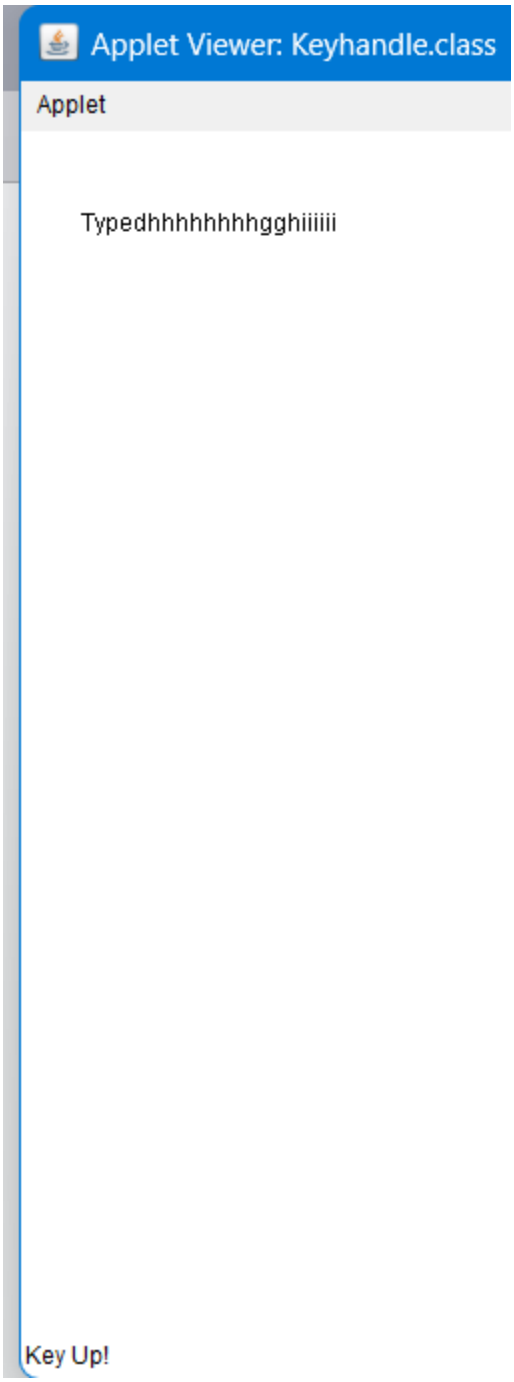
OUTPUT



8. Develop a program to handle Key events.

```
import java.awt.*;
import java.awt.event.*;
import java.applet.*;
public class Keyhandle  extends Applet implements KeyListener
{
String msg="Typed";
int x=30,y=50;
public void init()
{
addKeyListener(this);
requestFocus();
}
public void keyTyped(KeyEvent ke)
{
msg+=ke.getKeyChar();
repaint();
}
public void keyReleased(KeyEvent ke)




{
showStatus("Key Up!");
}
public void keyPressed(KeyEvent ke)
{
showStatus("Key Down!");
}
public void paint(Graphics G)
{
G.drawString(msg,x,y);
}
}

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

OUTPUT

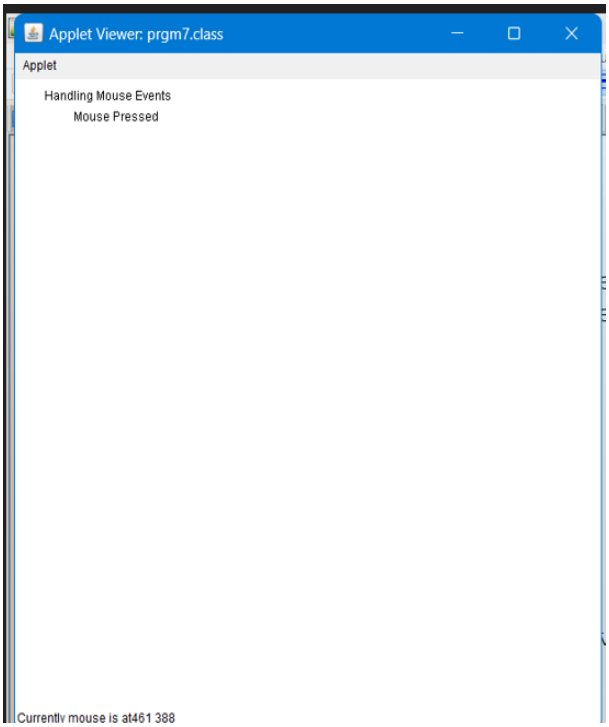


7. Develop a program to handle all mouse events and window events

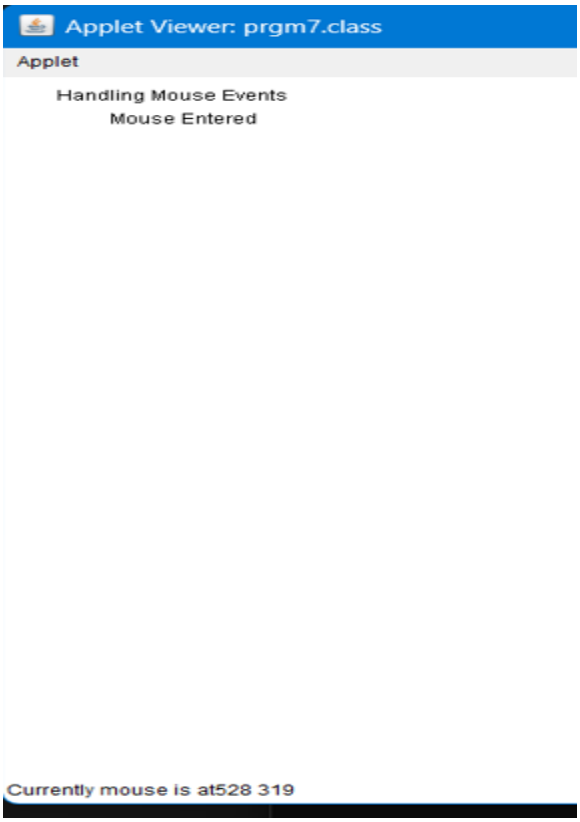
```
import java.awt.*;
import java.applet.*;
import java.awt.event.*;

public class prgm7 extends Applet implements
MouseListener,MouseMotionListener
{
int mx=0;
int my=0;
String msg="";
public void init()
{
addMouseListener(this);
addMouseMotionListener(this);
}
public void mouseClicked(MouseEvent me)
{
mx=20;
my=40;
msg="Mouse Clicked";
repaint();
}
public void mousePressed(MouseEvent me)
{
mx=30;
my=60;
msg="Mouse Pressed";
repaint();
}
public void mouseReleased(MouseEvent me)
{
mx=30;
my=60;
msg="Mouse Released";
repaint();
}
public void mouseEntered(MouseEvent me)



{
mx=40;
my=80;
msg="Mouse Entered";
```

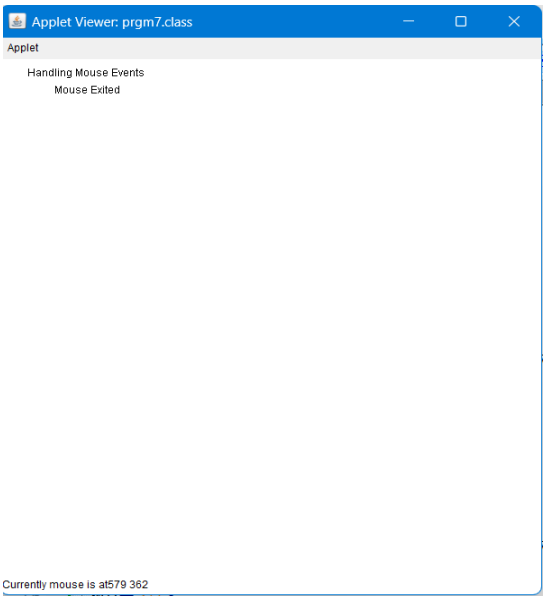
```
repaint();
}
public void mouseExited(MouseEvent me)
{
mx=40;
my=80;
msg="Mouse Exited";
repaint();
}
public void mouseDragged(MouseEvent me)
{
mx=me.getX();
my=me.getY();
showStatus("Currently mouse dragged"+mx+" "+my);
repaint(); }
public void mouseMoved(MouseEvent me)
{
mx=me.getX();
my=me.getY();
showStatus("Currently mouse is at"+mx+" "+my);
repaint();
}
public void paint(Graphics g)
{
g.drawString("Handling Mouse Events",30,20);
g.drawString(msg,60,40);
}
}

<html>
<body>
<applet code="prgm7.class" width="600" height="600">
</applet>
</body>
</html>
```

OUTPUT


Applet Viewer: prgm7.class
Applet
Handling Mouse Events
Mouse Pressed
Currently mouse is at461 388


Applet Viewer: prgm7.class
Applet
Handling Mouse Events
Mouse Clicked
Currently mouse is at471 350


Applet Viewer: prgm7.class
Applet
Handling Mouse Events
Mouse Entered
Currently mouse is at528 319


Applet Viewer: prgm7.class
Applet
Handling Mouse Events
Mouse Exited
Currently mouse is at579 362