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Roll no:28

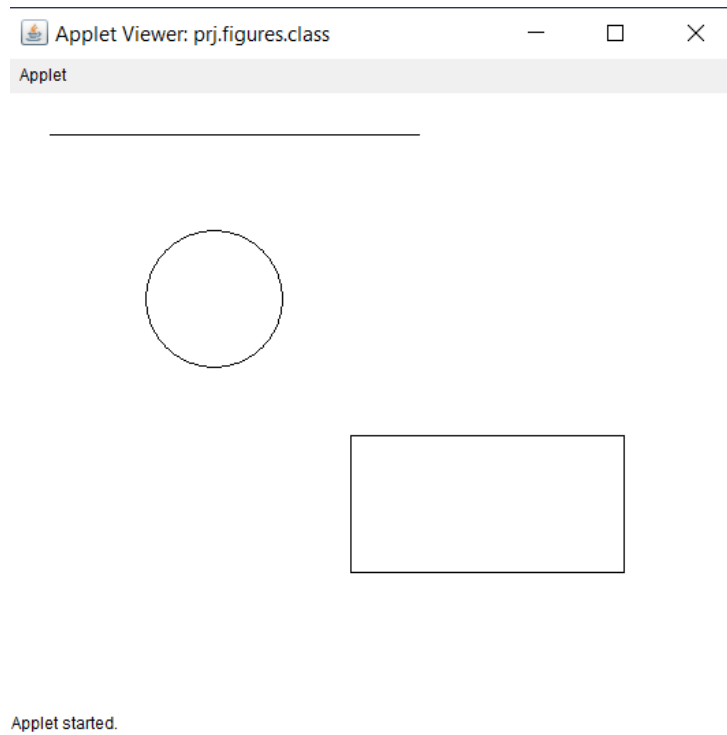
S2MCA\_A

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

### PROGRAM

```
package prj;
import java.applet.*;
import java.awt.Graphics;
public class figures extends Applet {
    public void paint(Graphics g)
    {
        g.drawLine(30,30,300,30);
        g.drawOval(100,100,100,100);
        g.drawRect(250, 250, 200, 100);
    }
}
```

### OUTPUT



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

### PROGRAM

```
package prj;
import java.awt.*;
import java.awt.Event;
import java.applet.*;

public class largest extends Applet
{
    TextField Txt1,Txt2,Txt3;

    public void init(){
        Txt1 = new TextField(10);
        Txt2 = new TextField(10);
        Txt3 = new TextField(10);
        add(Txt1);
        add(Txt2);
        add(Txt3);
    }

    public void paint(Graphics g){
        int a, b, c,result;
        String str;


        g.drawString("Enter the numbers  ",15,15);

        str=Txt1.getText();
        a=Integer.parseInt(str);
        str=Txt2.getText();
        b=Integer.parseInt(str);
        str=Txt3.getText();
        c=Integer.parseInt(str);
        if (a>=b && a>=c)
        {
            result=a;
        }
        else if(b>=a && b>=c)
        {
            result=b;
        }
        else
        {
            result=c;
        }
        g.drawString("Largest number is "+result,10,70);
    }
}
```

```
}  
  
public boolean action(Event e, Object o){  
    repaint();  
    return true;  
}  
}
```

## OUTPUT

---

 Applet Viewer: prj.largest.class

Applet

Enter the numbers

Largest number is 77

Applet started.

---

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.

### **PROGRAM**

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

import java.applet.*;
public class marks extends Applet implements ActionListener {
    public int per =0;

        Label l1 = new Label("enter Marks of Subject 1: ");
        Label l2 = new Label("enter Marks of Subject 2: ");
        Label l3 = new Label("enter Marks of Subject 3: ");
        Label l4 = new Label("enter Marks of Subject 4: ");
        Label l5 = new Label("enter Marks of Subject 5: ");
        Label l6 = new Label("Total Percentage: ");

        TextField t1 = new TextField(10);
        TextField t2 = new TextField(10);
        TextField t3 = new TextField(10);
        TextField t4 = new TextField(10);
        TextField t5 = new TextField(10);
        TextField t6 = new TextField(10);

        Button b1 = new Button("CALCULATE PERCENTAGE");

        public marks()
        {
            l1.setBounds(50, 100, 280, 20);
            l2.setBounds(50, 150, 280, 20);
            l3.setBounds(50, 200, 280, 20);
            l4.setBounds(50, 250, 280, 20);
            l5.setBounds(50, 300, 280, 20);
            l6.setBounds(50, 350, 280, 20);

            t1.setBounds(200, 100, 300, 20);
            t2.setBounds(200, 150, 300, 20);
            t3.setBounds(200, 200, 300, 20);
            t4.setBounds(200, 250, 300, 20);
            t5.setBounds(200, 300, 300, 20);
            t6.setBounds(200, 350, 300, 20);
```

```

        b1.setBounds(200,400, 200, 20);
        GridLayout g1 = new GridLayout(20, 2, 5, 5);
        setLayout(g1);
add(l1);
add(t1);
add(l2);
add(t2);
add(l3);
add(t3);
add(l4);
add(t4);
add(l5);
add(t5);
add(l6);
add(t6);
add(b1);
b1.addActionListener(this);
}

@Override
public void actionPerformed(ActionEvent e) {
    // TODO Auto-generated method stub
    int m1 = Integer.parseInt(t1.getText());
    int m2= Integer.parseInt(t2.getText());
    int m3= Integer.parseInt(t3.getText());
    int m4= Integer.parseInt(t4.getText());
    int m5= Integer.parseInt(t5.getText());

    if(e.getSource()==b1)
    {
        int add=m1+m2+m3+m4+m5;
        per=add/5;
        t6.setText(String.valueOf(per)+" %");

        repaint();
    }

    }

    public void paint(Graphics g)
    {
        if(per>=50)
        {
            g.setColor(Color.yellow);
            g.drawOval(80, 700, 150, 150);

```

```

        g.fillOval(80, 700, 150, 150);
        g.setColor(Color.BLACK);
        g.fillOval(120, 740, 15, 15);
        g.fillOval(170, 740, 15, 15);
        g.drawArc(130, 800, 50, 20, 180, 180);
    }
    else if(per>0 && per<50)
    {
        g.setColor(Color.yellow);
        g.drawOval(80, 700, 150, 150);
        g.fillOval(80, 700, 150, 150);
        g.setColor(Color.BLACK);
        g.fillOval(120, 740, 15, 15);
        g.fillOval(170, 740, 15, 15);
        g.drawArc(130,820,50,20,0,180);
    }
}

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

}

```

## OUTPUT

### Case1:

Applet Viewer: prj.marks.class

Applet

enter Marks of Subject 1:

98

enter Marks of Subject 2:

95

enter Marks of Subject 3:

75

enter Marks of Subject 4:

65

enter Marks of Subject 5:

45

Total Percentage:

73 %

CALCULATE PERCENTAGE



Applet started.

### Case 2:

Applet Viewer: prj.marks.class

Applet

enter Marks of Subject 1:

45

enter Marks of Subject 2:

40

enter Marks of Subject 3:

35

enter Marks of Subject 4:

44


enter Marks of Subject 5:

32

Total Percentage:

39 %

CALCULATE PERCENTAGE



Applet started.

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.

### **PROGRAM**

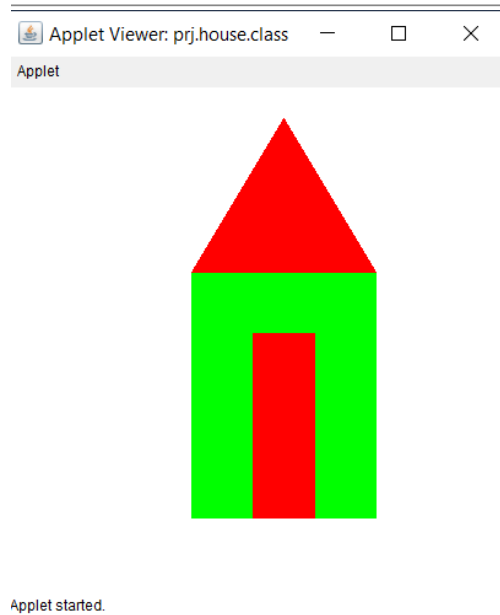
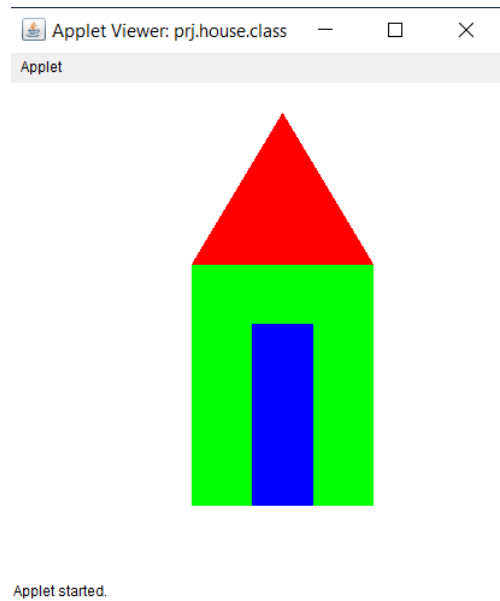
```
package prj;
import java.applet. *;
import java.awt. *;
import java.awt.event.MouseEvent;
import java.awt.event.MouseListener;

public class house extends Applet implements MouseListener, Runnable
{
    private Color door=Color.blue;
    public void paint (Graphics g)
    {
        int x[]= { 150,300,225};
        int y[]= { 150,150,25};
        g.setColor(Color.green);
        g.fillRect(150, 150, 150, 200);
        g.drawRect(150,150,150,200);
        g.setColor(door);
        g.fillRect(200, 200, 50, 150);
        g.drawRect(200,200,50, 150);
        g.setColor(Color.red);
        g.fillPolygon(x,y,3);
        g.drawPolygon(x,y,3);
    }
    public void init()
    {
        this.setSize(200,200);
        addMouseListener(this);
    }
    public void run()
    {
        while(true)
        {
            repaint();
            try
            {
                Thread.sleep(5);
            }
            catch (InterruptedException e)
            {
                e.printStackTrace();
            }
        }
    }
}
```



```
}  
public void mouseClicked(MouseEvent e)  
{  
    int x=e.getX(), y=e.getY();  
    if(x<=300)  
        door=Color.red;  
    else  
        door=Color.blue;  
    repaint();  
}  
public void mousePressed(MouseEvent e){}  
public void mouseReleased(MouseEvent e){}  
public void mouseEntered(MouseEvent e){}  
public void mouseExited(MouseEvent e){}  
  
}
```

## OUTPUT



5. Implement a simple calculator using AWT components.

### **PROGRAM**

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

public class calc extends Applet implements ActionListener {
    Frame f = new Frame();
    Label l1 = new Label("enter number");
    Label l2 = new Label("enter number");
    Label l3 = new Label("result");
    TextField t1 = new TextField(10);
    TextField t2 = new TextField(10);
    TextField t3 = new TextField(10);
    Button b1 = new Button("ADD");
    Button b2 = new Button("SUB");
    Button b3 = new Button("MUL");
    Button b4 = new Button("DIV");

    calc()
    {
        l1.setBounds(50, 100, 100, 20);
        l2.setBounds(50, 150, 100, 20);
        l3.setBounds(50, 200, 100, 20);
        t1.setBounds(200, 100, 100, 20);
        t2.setBounds(200, 150, 100, 20);
        t3.setBounds(200, 200, 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);
        f.add(l1);
        f.add(t1);
        f.add(l2);
        f.add(t2);
        f.add(l3);
        f.add(t3);
        f.add(b1);
        f.add(b2);
        f.add(b3);
        f.add(b4);
        b1.addActionListener(this);
        b2.addActionListener(this);
        b3.addActionListener(this);
```

```
        b4.addActionListener(this);
        f.setLayout(null);
        f.setVisible(true);
        f.setSize(500, 500);
    }

    public void actionPerformed(ActionEvent e) {
        int i = Integer.parseInt(t1.getText());
        int j = Integer.parseInt(t2.getText());
        if (e.getSource() == b1) {
            t3.setText(String.valueOf(i + j));

        }
        if (e.getSource() == b2) {
            t3.setText(String.valueOf(i - j));

        }
        if (e.getSource() == b3) {
            t3.setText(String.valueOf(i * j));

        }
        if (e.getSource() == b4) {
            t3.setText(String.valueOf(i / j));

        }

    }

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

## OUTPUT



—



enter number

58

enter number

45

result

103

ADD

SUB

MUL

DIV

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.

### **PROGRAM**

```
package prj;
import java.applet.Applet;
import java.awt.*;
import java.awt.Graphics;
import java.awt.event.*;
public class figchoice extends Applet implements ItemListener {
    Choice ch;
    int x1[] = {50,120,220,20};
        int y1[] = {50,120,20,20};
        int n=4;
    int Selection;

    public void init()
    {
        ch = new Choice();
        ch.addItem("Select a Shape");
        ch.addItem("Rectangle");
        ch.addItem("Triangle");
        ch.addItem("Square");
        ch.addItem("Circle");
        add(ch);
        ch.addItemListener(this);
    }

    public void itemStateChanged (ItemEvent e)
    {
        Selection = ch.getSelectedIndex();
        repaint();
    }

    public void paint(Graphics g)
    {
        super.paint(g);

        if (Selection == 1)
        {
            g.drawRect(50,50,100,150);
        }
        if (Selection == 2)
        {

```

```
        g.drawPolygon(x1,y1,n);
    }
    if (Selection == 3)
    {
        g.drawRect(50,50,100,100);
    }
    if (Selection == 4)
    {
        g.drawOval(70,30,100,100);
    }
    }
}
```

## OUTPUT

