OBJECT ORIENTED PROGRAMMING LAB

05-08-2021

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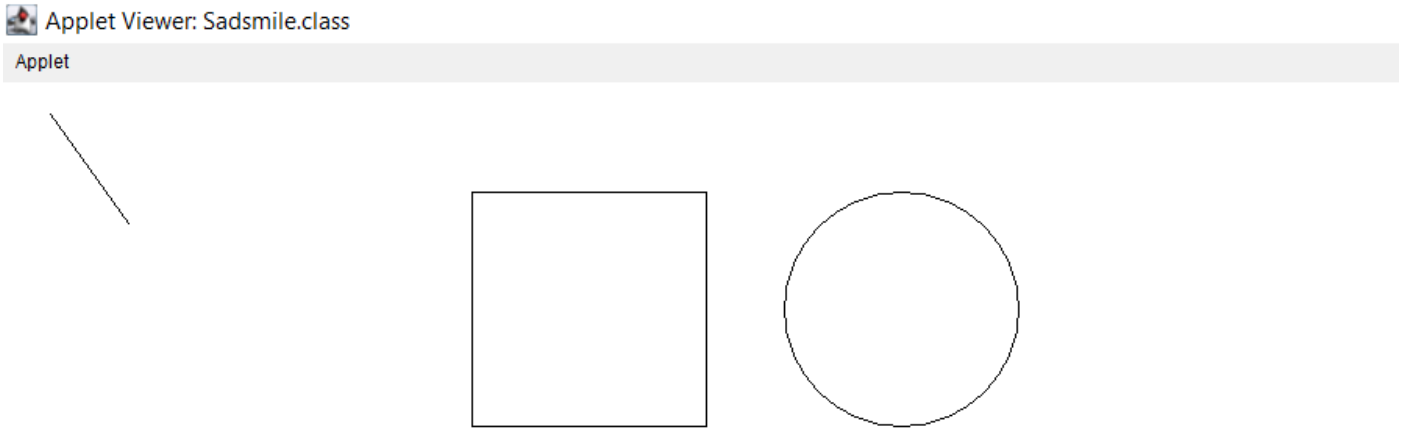
1. Program to draw Circle, Rectangle, Line in Applet.

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

public class linetrcr extends Applet {

   public void paint(Graphics g) {

      g.drawRect(300, 70, 150, 150);
      g.setColor(Color.BLACK);

      g.drawOval(500, 70, 150, 150);
      g.setColor(Color.BLACK);

      g.drawLine(30, 20, 80, 90);
   }
}
```

OUTPUT:



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

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

public class largest extends Applet implements ActionListener {

   int a, b, c, result;
   String str;
   TextField Txt1 = new TextField(10);
   TextField Txt2 = new TextField(10);
   TextField Txt3 = new TextField(10);
   TextField t4 = new TextField(10);
   Label l2 = new Label("enter number 1: ");
   Label l3 = new Label("enter number 2: ");
   Label l5 = new Label("enter number 3: ");
   Label l4 = new Label("largest : ");
   Button b1 = new Button("click");

   public void init() {
      add(l2);
      add(Txt1);
      add(l3);
      add(Txt2);
      add(l5);
      add(Txt3);
      add(b1);
      add(l4);
      add(t4);

      b1.addActionListener(this);
   }

   public void actionPerformed(ActionEvent e) {
      if (e.getSource() == b1)

      {
         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;
            t4.setText(String.valueOf(a));
            repaint();
         } else if (b >= a && b >= c) {
            result = b;
            t4.setText(String.valueOf(b));
            repaint();
         } else {
            result = c;
```

```
            t4.setText(String.valueOf(c));
            repaint();
          }
        }

    }
}
```

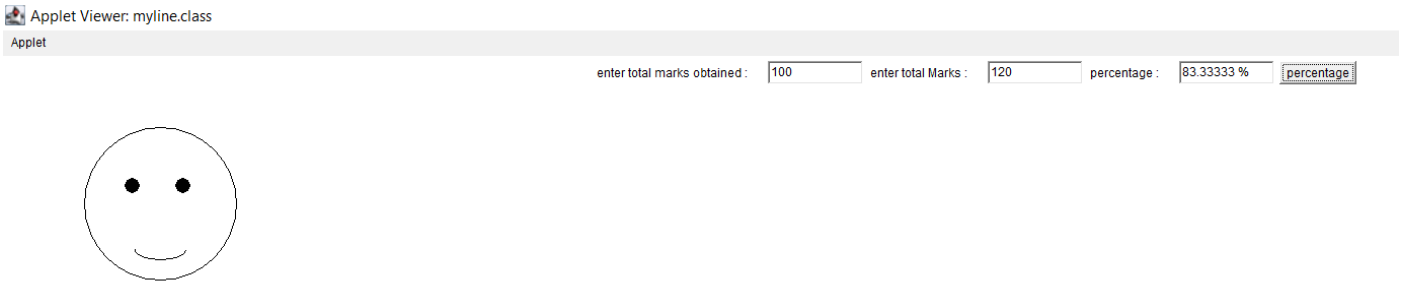
OUTPUT:

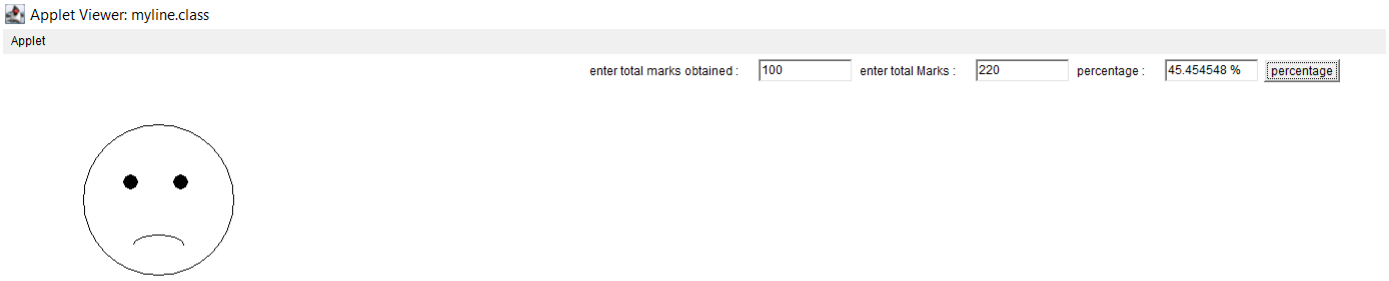
3.Find the percentage of marks obtained by a student in 5 subjects. Display a happy face if he secures above 50% or a sad face if otherwise.

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

public class myline extends Applet implements ActionListener {
    private int SMILE = 0;
    private float k;
    int i;
    float j;
    TextField T1 = new TextField(10);
    TextField T2 = new TextField(10);
    TextField t3 = new TextField(10);
    Label l2 = new Label("enter total marks obtained : ");
    Label l3 = new Label("enter total Marks : ");
    Label l4 = new Label("percentage : ");

    Button b = new Button("percentage");

    public void init() {
        add(l2);
        add(T1);
        add(l3);
        add(T2);
        add(l4);

        add(t3);
        add(b);

        b.addActionListener(this);
```

```
  }

  public void actionPerformed(ActionEvent e) {
    if (e.getSource() == b)
      i = Integer.parseInt(T1.getText());
    j = Integer.parseInt(T2.getText());

    k = i / j;
    k = k * 100;

    if (k >= 50) {
      SMILE = 1;
    } else {
      SMILE = 0;
    }
    t3.setText(String.valueOf(k) + " %");

    repaint();

  }

  public void paint(Graphics g) {

    g.drawOval(80, 70, 150, 150);
    g.setColor(Color.black);
    g.fillOval(120, 120, 15, 15);
    g.fillOval(170, 120, 15, 15);
    if (SMILE == 1) {
      g.drawArc(130, 180, 50, 20, 180, 180);
      SMILE = 0;

    } else {
      g.drawArc(130, 180, 50, 20, 180, -180);

    }

  }
}
```

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.

```
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.orange);
    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: