

Laboratory Exercise 5

BASIC GRAPHICS

1. Analyse the classes below and add a comment for each statement.

(a) `import java.awt.*;`

```
public class testFrame{  
  
    public static void main(String argv[]) {  
        Frame testFrame = new Frame("A Frame Test!");  
        testFrame.setSize(200,100);  
        testFrame.setVisible(true);  
    } // end main  
} // end class testFrame
```

(b) `import java.awt.*;`
`import javax.swing.*;`

```
public class sFrame{  
    static void myFrame () {  
        JFrame tFrame = new JFrame("A JFrame Test!");  
        tFrame.setSize(200,100);  
        tFrame.setVisible(true);  
    }  
  
    public static void main(String [] argv) {  
        myFrame ();  
    } // end main  
} // end class sFrame
```

2. Derive a class to display a frame of 300x400 pixels in size with a title "My Frame".
3. What is the main problem when running the program as above? Can you close the window displayed? Why?
4. Analyse the following class by tracing execution steps:

```

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

class draw1 extends Frame {
    public draw1 () {
        add ("Center", new myGraphics());
        setTitle ("A test");
        setSize(300,280);
        setVisible (true);
    } // end draw1()

    public static void main (String [] arg) {
        new draw1 ();
    } // end main

    class myGraphics extends JPanel {
        public void paintComponent(Graphics g) {
            g.setColor (Color.red);
            g.fillRect (40,20,200,40);
            g.setColor (Color.green);
            g.fillOval (10, 40, 80, 30);
            g.setColor (Color.red);
            g.drawOval (80, 80, 50, 40);
            g.setColor (Color.yellow);
            g.fillRect (40, 120, 200, 40);
            g.setColor (Color.black);
            g.drawString ("A test!", 100, 180);
        } // end paintComponent
    } // end myGraphics
} // end draw1

```

5. Run the above program to verify your result in analysis.
6. Experiment with the program above by changing the colour, shape and the text of displayed graphics.