

## CSE 142 Section Handout #3 Problems

### Parameter Mystery

(Ch. 3 self-checks 2-9)

1. ("ParameterMysteryInt"). What output is produced by the following program?

```
public class ParameterMysteryInt {
    public static void main(String[] args) {
        int a = 4;
        int b = 7;
        int c = -2;

        mystery(a, b, c);
        mystery(c, 3, a);
        mystery(a + b, b + c, c + a);
    }

    public static void mystery(int c, int a, int b) {
        System.out.println(b + " + " + c + " = " + a);
    }
}
```

2. ("ParameterMysteryMajor"). What output is produced by the following program?

```
public class ParameterMysteryMajor {
    public static void main(String[] args) {
        String major = "fred";
        String fred = "computer";
        String computer = "department";
        String department = "student";
        String student = "major";

        sentence(major, fred, department);
        sentence(student, computer, fred);
        sentence("fred", "honor", computer);
        sentence("foo", "bar", "baz");
    }

    public static void sentence(String major, String fred, String foo) {
        System.out.println("Many a " + foo + " in the " + fred + " of " + major);
    }
}
```

3. ("ParameterMysteryFarm"). What output is produced by the following program?

```
public class ParameterMysteryFarm {
    public static void main(String[] args) {
        String farm = "here";
        String old = "macdonald";
        String macdonald = "there";
        String everywhere = "farm";
        String here = "everywhere";
        String there = "old";
        String quack = "duck";

        mystery(macdonald, there, "everywhere");
        mystery(old, macdonald, farm);
        mystery("quack", here, "there");
        mystery(quack, "here", "farm");
        mystery(old, everywhere, there);
    }

    public static void mystery(String macdonald, String farm, String old) {
        System.out.println(old + " " + macdonald + " had a " + farm);
    }
}
```

(continued on back page)

## CSE 142 Section Handout #3 Problems (continued)

### Graphics and DrawingPanel

(Supp. 3G self-checks 1-4, exercises 1-13)

4. a) **Exercise 3G.7, p235 ("SquaresA")**. Generate the output shown using the `DrawingPanel` class.

- window size: **300x200**
- background color: **cyan**;      rectangle color: **red**;      diagonal line color: **black**
- position: **(50, 50)**;      size: **100 px**;      spacing between red lines: **20 px**

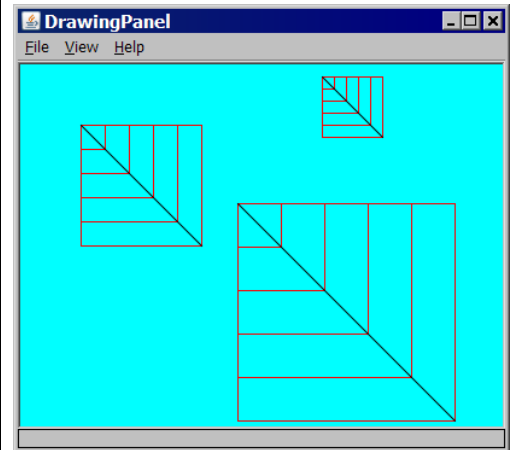
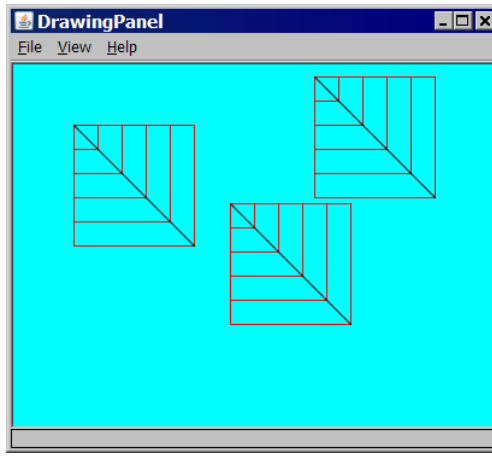
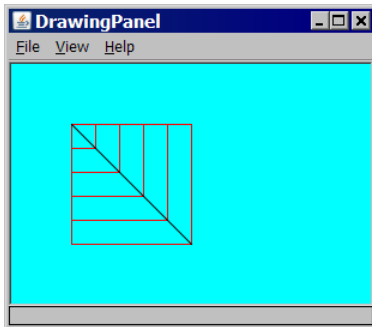
b) **Exercise 3G.8, p236 ("SquaresB")**. Parameterize your program so that the figure can be drawn at different positions. Change the window size to **400x300**. The first figure is still at its original position of (50, 50). The two additional figures should appear at **(250, 10)** and **(180, 115)**.

c) **Exercise 3G.9, p237 ("SquaresC")**. Further parameterize your program to have the sizes shown below. The top-right figure has size **50**, and the bottom-right figure has size **180**.

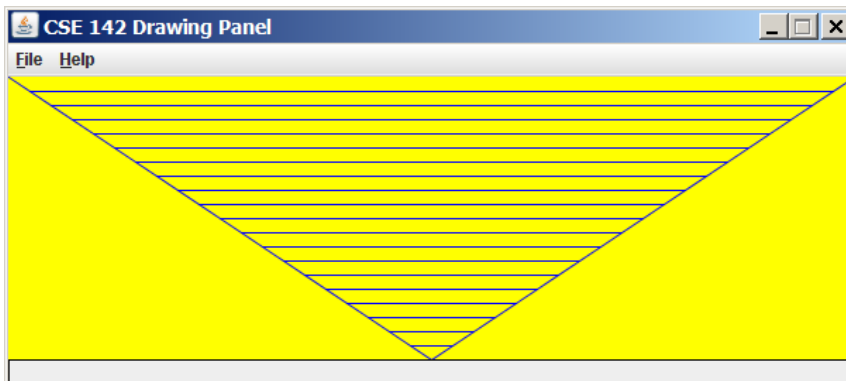
a

b

c



5. **Exercise 3G.12, p238 ("Triangle")**. Using `DrawingPanel`, write a Java program that produces this figure:



- size: **600x200**
- background color: **yellow**
- line color: **blue**
- vertical spacing between lines: **10 px**

The diagonal lines connect at the bottom in the middle.

## CSE 142 Section Handout #3 Style Sheet

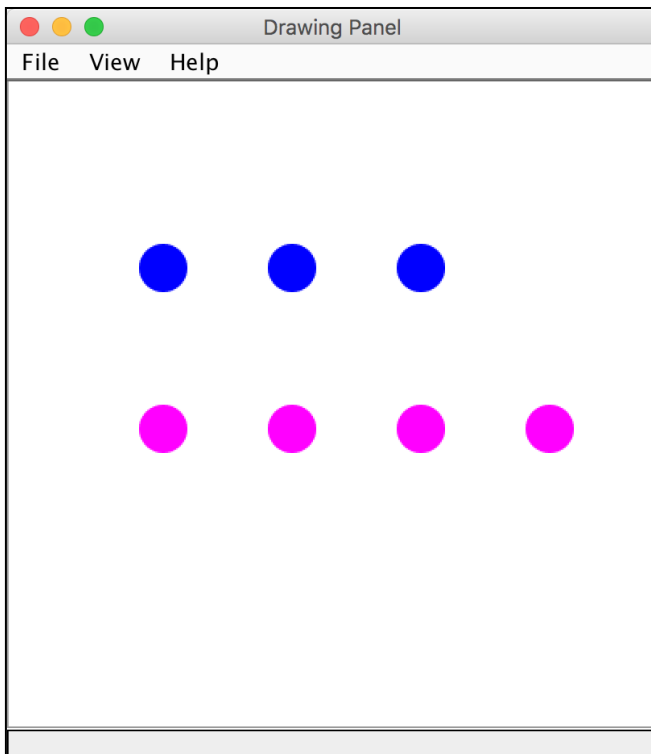
Consider the following program:

```
import java.awt.*;
public class StyleProb {

public static int circleDiameter = 30;
    public static void main(String[] args) {
        DrawingPanel panel = new DrawingPanel(400, 400);
        Graphics g = panel.getGraphics();

        g.setColor(Color.BLUE);
        threeCircles(g, circleDiameter, circleDiameter / 2, 100);
        g.setColor(Color.MAGENTA);
        fiveCircles(g, circleDiameter, circleDiameter / 2, 200);
    }
// draws three circles
public static void threeCircles(Graphics g, int diam, int radius, int yCoord) {
    for (int i = 1; i <= 3; i++) {
        g.fillOval(80 * i, yCoord, diam, radius * 2);
    }
}
// draws five circles
public static void fiveCircles(Graphics g, int diam, int radius, int yCoord) {
    for (int i = 1; i <= 5; i++) {
        g.fillOval(80 * i, yCoord, diam, radius * 2);
    }
}
}
```

When ran, this program produces the following image:



While this program would receive full external correctness by producing the desired output, it would not receive full internal correctness. List all style issues you can find.