Parameter Mystery

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

```java
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?

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

```java
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);
    }
}
```

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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.

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.
Consider the following program:

```java
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.