

5 Classes and Methods II: Classes with Multiple Methods

5.1

The new version of display is:

```
// Display the size in an OutputBox
public void display () {
    String prefix = "Your size is ";
    OutputBox out = new OutputBox();
    out.setTitle("PANTY HOSE SIZE");
    switch (s) {
        case A:    out.print(prefix+"A"); break;
        case B:    out.print(prefix+"B"); break;
        case C:    out.print(prefix+"C"); break;
        case D:    out.print(prefix+"D"); break;
        case E:    out.print(prefix+"E"); break;
        case F:    out.print(prefix+"F"); break;
        case NONE: out.print("We're sorry, you need a custom size");
    }
    out.println(".");
}
```

5.2

The complete class

```
1  class D {
2      int a;
3      double x;
4
5      public void m (int b) {
6          String a;
7          if (true) {
8              int x;
9              x = 0;
10         }
11         else {
12             double b;
13             b = 3.5;
14         }
15         char a;
16         a = 'b';
17     }
18 }
```

produces the output

```
D.java:12: b is already defined in m(int)
```

```

        double b;
           ^
D.java:15: a is already defined in m(int)
    char a;
       ^
D.java:16: incompatible types
found   : char
required: java.lang.String
    a = 'b';
       ^
3 errors

```

5.3

```

1  import CSLib.*;
2  import java.awt.*;
3
4  public class RGB {
5      // Display an RGB-colored rectangle
6      // Author: B. Wright Hughes, October 27, 2001
7
8      int red, green, blue;
9
10     public void setup () {
11         InputBox in = new InputBox();
12         in.setPrompt("red/green/blue values (0..255):");
13         red = in.readInt();
14         green = in.readInt();
15         blue = in.readInt();
16     }
17
18     public void paint () {
19         DrawingBox g = new DrawingBox();
20         g.setDrawableSize(200, 200);
21         g.setColor(new Color(red, green, blue));
22         g.fillRect(10, 10, 180, 180);
23     }
24 }

```

5.4

If two clocks are set to identical times, the `priorTo` method returns `false`.

5.5

The prospective programmer is mistaken. If `c1` and `c2` are set to identical times, then `c2.priorTo(c1)` returns `false`, and what will be printed is “*c1* is prior to *c2*” which is incorrect.

5.6

The client might obtain height and weight from some other source (such as a data base), rather than reading them from an input box. The `Hose` class could be used to compute panty hose size if there were separate setter methods for height and weight. The client might want to obtain the size without displaying it (for example, to insert it into a data base); this would require an accessor method for the size. The six methods are:

```
// Accessor methods for instance variables
public int getHeight () { return height; }
public int getWeight () { return weight; }
public int getS () { return s; }

// Setter methods for instance variables
public void setHeight (int h) { height = h; }
public void setWeight (int w) { weight = w; }
public void setS (int size) { s = size; }
```

—