4.3: Multiple Constructors in One Class

Default circles are good, but often you'll want to create circles of a particular size. Of course, you could create a default one, then change the size; but Java provides a better way. A constructor can accept arguments, just like any other function:

```
public class Circle {
   // ... insert all code above here ...

   // Create a Circle of a given size
   public Circle(double radius)
   {
      x = y = 0.0;
      r = radius;
   }
}
```

Then you can create different-sized circles this way:

```
Circle large = new Circle(20.0);
Circle small = new Circle(12.0);
```

It's all right to have two constructors named Circle() in one class, because they have different argument lists. This is a general principle in Java, by the way; such functions are said to be overloaded. Overloaded functions always must have different argument lists.

If you do not define a constructor for a class, Java silently supplies a default constructor,

```
public <classname>() {}
```

which takes no arguments and does nothing.