Packages

In the previous lecture, we used the class name `javax.swing.JFrame`. In this little lecture, we show how it can be abbreviated as `JFrame`.

In Java, a *package* is a collection of classes that reside in the same directory on your hard drive. In our file-cabinet analogy, think of a package as a room that contains file cabinets with one drawer for each class.

The package is Java's way of organizing a large collection of classes —Java version 6 comes with over 3775 classes, organized into about 200 packages. Here are four of the packages.

package `java.io`	classes dealing with input/output
package `java.net`	classes dealing with the internet
package `java.awt`	classes dealing with GUIs
package `javax.swing`	newer classes dealing with GUIs

These package names act as paths on your hard drive. From the above package names, we can see that there are two main directories, `java` and `javax`, and within directory `java`, there are directories `io`, `net`, and `awt`. Below, we show this directory structure, giving a few classes that are in directory `awt` and `swing`.

```
java
   io
   net
   awt
      Frame
      Button
      Textfield
javax
   swing
      JFrame
      JButton
```

You can form your own packages of classes that you write, but we don't show you how to do that here.

The import statement

In the interactions pane of DrJava, let's type the assignment statement

j= new JFrame();

and hit the enter key. You see that there is an error: class JFrame is undefined.

Now let's type the import statement

import javax.swing.*;

This statement gives your program access to all classes in package javax.swing, without needing to give the complete path. The asterisk indicates "all classes" in the package.

So, if we type the assignment statement again, there is no error, and we can also show the new JFrame — there it is.

If you want to "import", or make accessible, only one class in a package, then use its name instead of the asterisk. For example, after importing java.awt.Frame, we can access it but no other class in package java.awt.

You have seen the use of the import statement in the interactions pane. When we begin writing classes, we'll show you where to put it.

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