

strings and style runs). Objects know how to act upon their data, using *methods* that may be known only to objects of that type. If the same method name is known to multiple objects, it probably does the same thing, but maybe not in the same way.

12.3 FILES: PLACES TO PUT YOUR STRINGS AND OTHER STUFF

Files are large, named collections of bytes on your hard disk. Files typically have a *base name* and a *file suffix*. The file `barbara.jpg` has the base name of “barbara” and a file suffix of “jpg” that tells you that the file is a JPEG picture.

Files are clustered into *directories* (sometimes called *folders*). Directories can contain files as well as other directories. There is a base directory on your computer which is referred to as the *root directory*. On a computer using the Windows operating system, the base directory will be something like `C:\`. A complete description of what directories to visit to get to a particular file from the base directory is called a *path*.

```
> String filename=FileChooser.pickAFile();
> System.out.println(filename);
C:\Documents and Settings\Mark Guzdial\mediasources\640x480.jpg
```

The path that is printed tells us how to go from the root directory to the file `640x480.jpg` in Mark’s `mediasources` directory. We start at `C:\`, choose the directory `Documents and Settings`, then the directory `Mark Guzdial`, then the directory `mediasources`.

We call this structure a *tree* (Figure 12.1). We call `C:\` the *root* of the tree. The tree has *branches* where there are sub-directories. Any directory can contain more directories (branches) or files, which are referred to as *leaves*. Except for the root, each *node* of the tree (branch or leaf) has a single *parent* branch node, though a parent can have multiple *children* branches and leaves.

We need to know about directories and files if we’re going to manipulate files. If you’re dealing with a big Web site, you are going to be working with a lot of files.

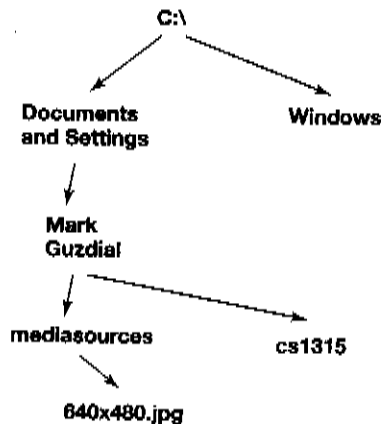


FIGURE 12.1
Diagram of a directory tree.

SOURCE: GUZDIAL & ERICSON,
Intro. to Computing & Programming with Java: A Multimedia Approach
PEARSON PRENTICE HALL,
2007