



- ✓ The phone company is rumored to have a random-number program that it routinely uses to foul up your bill.
- ✓ Random-number routines are the root of the most evil program ever devised for a budding programmer: The Guess the Number program. I spare you that torture in this book. (Well, maybe not.)
- ✓ In the C language, random numbers are produced by using the `rand()` function. I formally introduce it next.
- ✓ Random numbers must be *seeded* in order for them to be more unpredictable. I cover this subject also, later in this chapter.
- ✓ Random numbers generated by a computer aren't truly random. See the nearby sidebar, "You too can waste a few seconds reading this information about random numbers," for more information.

Using the `rand()` function

Random numbers are generated in C by using the `rand()` function. It spits back a random number depending on the whims of your PC's microprocessor carefully combined with the birthdate of the guy who wrote your C compiler plus his girlfriend's weight in drams. Or something like that.

Here's the format for the `rand()` function:

```
int rand();
```



You too can waste a few seconds reading this information about random numbers

Are they random numbers? Only if they can't be predicted. Unfortunately, with computers, the numbers can be predicted. They're still more or less jumbled, like street numbers in Seattle. But, overall, the random numbers a computer generates aren't truly random. Instead, they're *pseudorandom*.

A pseudo- ("SOO-doh") random number is random enough for most purposes. But because

the number is based on a computer algorithm, or set routine, its outcome isn't truly random. Even if you base the random number on the time of day — or *seed* the random number by using another, potentially random value — the results still aren't random enough to appease the mathematical purists. So you live with it.