



- ✓ *Height*. It has *e* before *i*. It's another example of why English is the worst-spelled language on the planet. (It's your number-one typo possibility if you get a syntax error in the program.)
- ✓ The `atoi()` function reaches into the string you enter and pulls out an integer value. And, it's `atoi()`, not `atio()` (*another* reason, though invalid, to hate English spelling).
- ✓ The `atoi()` function translates the value held in the string variable, `height_in_inches`, into an integer. Then that value is multiplied by 2.54. (The asterisk is used for multiplication.) The result is then slid through the equal sign and stored in the float variable, `height_in_cm`.
- ✓ The value 2.54 is obviously a float because it contains a decimal part. `height_in_inches` is an integer because that's the type of value the `atoi()` function returns. When you multiply an integer by a float, however, the result is a float. That's why the `height_in_cm` variable is a float.
- ✓ An inch has 2.54 centimeters in. It's not that this knowledge gets you anywhere, at least not in the United States. However, if you're on *Jeopardy!* and the Final Jeopardy answer is 2.54, you'll know the question. (By the way, an easy mnemonic device for remembering how many centimeters are in an inch is to scream "two-point-five-four centimeters per inch" at the top of your lungs 30 times.)
- ✓ A centimeter equals 0.39 inches. A centimeter is really about as long as your thumbnail is wide—as long as you don't have colossal thumbs, of course.

Unethical alterations to the old "how tall are you" program

Though I'm not standing behind you, I can clearly see the HEIGHT.C program source code sitting in your editor. Good. Change Line 11 as follows:

```
height_in_cm = atoi(height_in_inches)*2.54*1.05;
```

After the 2.54 and before the semicolon, insert ***1.05** ("times one point-oh-five"). This increases your height by five-hundredths of a centimeter for each centimeter you have in height. The result? Wait! Save the file and recompile it. Then run it again:

```
Enter your height in inches:60
You are 160.02 centimeters tall.
```

That may not mean much to you. But suppose that you're corresponding with some French person who's romantically interested in you. If so, you can tell him or her that, according to a program run on your computer, you're