



## No, you don't have to experiment with METHUS2.C, but I encourage you to try this

Thank goodness this book isn't *Surgery For Dummies*. Unlike that sober tome, this book allows you to freely fiddle, poke, pull, experiment, and have fun. Trying that with a cadaver is okay, but in Chapter 14 of *Surgery For Dummies*, "Finding That Pesky Appendix on Your Nephew," it's frowned on.

Run the METHUS2.C program again, and when the program asks you for Methuselah's age, type the following value:

```
10000000000
```

That's ten billion — a one with 10 zeroes and no commas. Press Enter and the output tells you that the old guy was 1,410,065,408 years old — or some other value, not what you typed. The reason is that you entered a value greater than an integer can hold. The value returned is the remainder of what you entered divided by the maximum size of an integer in your compiler.

How about typing the following value:

```
-64
```

Yes, Mr. M. could never be negative 64 years old, but the program accepts it. The reason is that integer values include negative numbers.

Here's one you need to try:

```
4.5
```

Is the oldest human really four-and-a-half? Probably at one time. Still, the program insists that he was only four. That's because the point-5 part is a fraction. Integers don't include fractions, so all the `atoi()` function reads is the 4.

Finally, the big experiment. Type the following as Methus's age:

```
old
```

Yes, he was old. But when you enter **old** into the program, it claims that he was only zero. The reason is that the `atoi()` function didn't see a number in your response. Therefore, it generates a value of zero.

In this example, the user typed **26** for the age. That was entered as a string, transformed by `atoi()` into an integer value and, finally, displayed by `printf()`. That's how you can read in numbers from the keyboard and then fling them about in your program as numeric values. Other sections in this chapter, as well as in the rest of this book, continue to drive home this message.

- ✔ Okay, legend has it that the old man was 969 when he finally (and probably happily) entered into the hereafter. But by using this program, you can really twist history (though Methuselah probably had lots of contemporaries who lived as long as you and I do).
- ✔ If you forget the `#include <stdlib.h>` thing or you misspell it, a few errors may spew forth from your compiler. Normally, these errors are tame "warnings," and the program works just the same. Regardless, get