Chapter 1: Introduction

Java | Writing Programs With Loops

"Insanity: doing the same thing over and over again and expecting different results."

—often attributed to Albert Einstein

"Endless Loop: *n.*, **see Loop, Endless.**

Loop, Endless: *n.*, **see Endless Loop."**

—Random Shack Data Processing Dictionary

Introduction

We're ready to finish the temperature conversion program as we laid it out in Lesson 5. The missing pieces are:

- Ending the program if our user enters Q for a temperature type

- Asking for a type again if the user enters an invalid type

- Asking for a temperature again if the temperature isn't a number or is outside valid limits

- Starting the whole process again after each conversion

Another way of saying each of these is: Repeat the whole process until we get a temperature type of Q, repeat the request for a type until we get a valid one, and repeat the request for a temperature until we get a good one.

The common element here is repetition. Many programs repeat actions either while some condition is true or until some condition occurs. Programming languages use these actions so frequently that they all include some sort of *loop* control structure to make repetition easy for a programmer to do.

Java is no exception. It has several types of loops, and in this lesson, we'll look at two of them.