Chapter 1

Meeting the NXT-G Software

Let me introduce you to the LEGO MINDSTORMS programming software, NXT-G. Over the course of this book we are going to work closely with NXT-G to develop programs for your LEGO MINDSTORMS robot, so take some time to familiarize yourself with the NXT-G programming environment.

But before you do that, you need to understand what a “program” is. A program is a set of electronic instructions that are given to a computer to tell it what to do. In your case, the LEGO MINDSTORMS NXT brick is your computer, and it needs to hear from you what you want it to do and how you want it to perform a task. Your program will give the NXT a list of instructions to follow that will tell it exactly how you want it to act and respond.

The NXT-G graphical approach to programming allows you to create these instructions quickly and in a format that you, as a human, can understand. Once your program is completed, it will be translated into a language format that the NXT can understand. We will cover this process later in this chapter.

Flavors of NXT-G

NXT-G has been around since 1998, but, just like you, it has grown significantly, becoming bigger and smarter. There are a few different versions of NXT-G available, but they all do the same thing—translate programs for the LEGO MINDSTORMS NXT.

Currently there are two versions of the NXT-G software available, NXT-G 2.0 Retail, which comes with the retail LEGO MINDSTORMS kits, and NXT-G 2.1 Educational version, which is available from LEGO Education. Both versions include similar functionality, and the lessons in this book apply to each.

Note Screen shots shown in this book of NXT-G will be from NXT-G 2.1 LEGO MINDSTORMS Education version. Your screens could look different if you are using a different version of NXT-G. To find the latest version of the NXT-G software available, check the LEGO MINDSTORMS website.
The User Interface

When you start the NXT-G software, you will be presented with a graphical environment for creating your programs; this is called the User Interface, or UI. Here you will see a variety of panels designed to help you create your program (Figure 1-1). Let’s review the panels individually to get a better understanding of what they do for you.

![NXT-G Software User Interface when first started](image)

**Figure 1-1.** NXT-G Software User Interface when first started

**Startup Panel**

The Startup Panel (Figure 1-2) has quick-start buttons for creating new programs or accessing programs you’ve worked on recently. The panel also includes access to some basic NXT-G tutorials.