

STUDENT

Student Name: BAKER, ANDREA
 Student Number: 1325
 HW1: 88
 HW2: 100
 MidTerm: 78

EMAIL

Date	Message
2/1/2010	For homework 1 do you want us to provide notes on our references?
3/15/2010	My group consists of Swee Lau and Stuart Nelson
3/6/2010	

Record: 1 of 3

OFFICE VISITS

Date	Notes
2/13/2010	Andrea had questions about using IS for raising barriers to entry

Record: 1 of 2

Figure 5-2
Student Data Shown in a Form, from a Database

to record that additional data. Of course, the professor could set up a separate spreadsheet for email messages and another one for office visits, but that awkward solution would be difficult to use because it does not provide all of the data in one place.

Instead, the professor wants a form like that in Figure 5-2. With it, the professor can record student grades, emails, and office visits all in one place. A form like the one in Figure 5-2 is difficult, if not impossible, to produce from a spreadsheet. Such a form is easily produced, however, from a database.

The key distinction between Figures 5-1 and 5-2 is that the data in Figure 5-1 is about a single theme or concept. It is about student grades only. The data in Figure 5-2 has multiple themes; it shows student grades, student emails, and student office visits. We can make a general rule from these examples: Lists of data involving a single theme can be stored in a spreadsheet; lists that involve data with multiple themes require a database. We will say more about this general rule as this chapter proceeds.

As you will see, databases can be more difficult to develop than spreadsheets; this difficulty causes some people to prefer to work with spreadsheets—or at least pretend to—as described in the Guide on pages 166–167.

Q2 What Is a Database?

A **database** is a self-describing collection of integrated records. To understand the terms in this definition, you first need to understand the terms illustrated in Figure 5-3. As you learned in Chapter 4, a **byte** is a character of data. In databases, bytes are grouped into **columns**, such as *Student Number* and *Student Name*. Columns are also

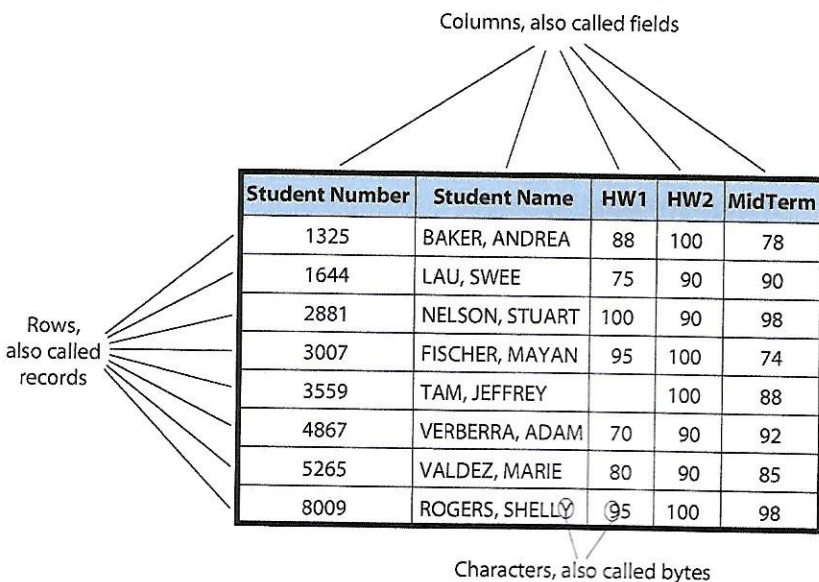


Figure 5-3
Student Table (also called a file)