

Figure 5-13a Sample Query Form Used to Enter Phrase for Search

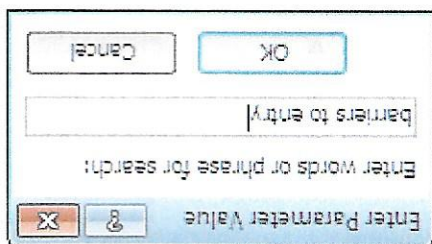
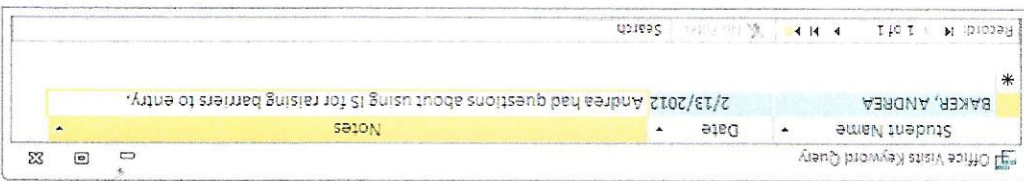


Figure 5-13b Sample Query Results of Query Operation



Another important use of application programs is to enable database processing over the Internet. For this use, the application program serves as an intermediary between the Web server and the database. The application program responds to events, such as when a user presses a submit button; it also reads, inserts, modifies, and deletes database data.

For example, Figure 5-14 shows four different database application programs running on a Web server computer. Users with browsers connect to the Web server via the Internet. The Web server directs user requests to the appropriate application program. Each program then processes the database as necessary. You will learn more about Web-enabled databases in the next chapter.

### Multi-User Processing

Figures 5-11 and 5-14 show multiple users processing the database. Such **multi-user processing** is common, but it does pose unique problems that you, as a future manager, should know about. To understand the nature of those problems, consider the following scenario.

Two GearUp customers, Andrea and Jeffrey, are both attempting to buy the last 500 soccer balls available for a particular event. Andrea uses her browser to access the GearUp Web site and finds that 500 are available. She places all of them in her shopping cart. She doesn't know it, but when she opened the event form she invoked an application on GearUp's server that read the database to find that 500 soccer balls are available. Before she checks out, she takes a moment to verify with her supervisor that she should buy all 500.

Meanwhile, Jeffrey uses his browser and also finds that 500 soccer balls are available because his browser activates that same application that reads the database and finds (because Andrea has not yet checked out) that 500 are available. He places 500 in his cart and checks out.

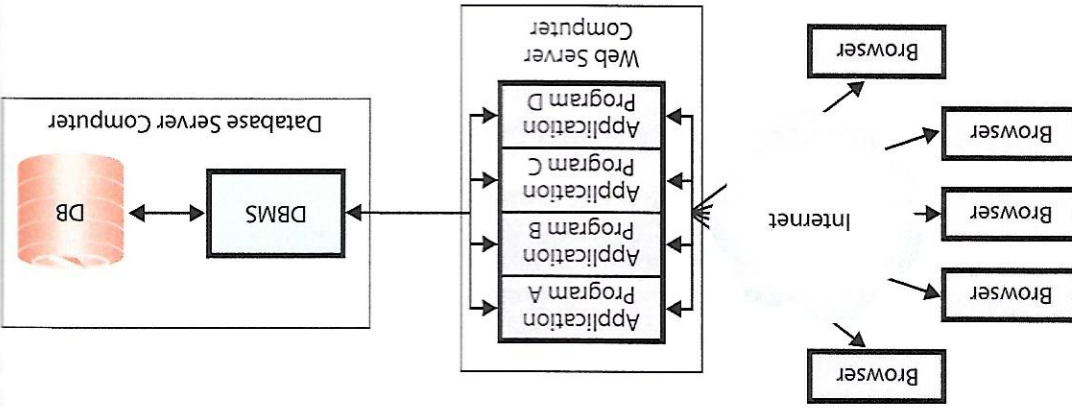


Figure 5-14 Four Application Programs on a Web Server Computer