## Database Management Systems

A database is a collection of related data. It is the electronic equivalent of a file cabinet. A *database management system (DBMS) or database manager* is a program that sets up, or structures, a database. It also provides tools to enter, edit, and retrieve data from the database. All kinds of individuals use databases, from teachers recording grades to police officers checking criminal histories. Colleges and universities use databases to keep records on their students, instructors, and courses. Organizations of all types maintain employee databases.

The most widely used database management system designed for microcomputers is Microsoft Access.

The ***relational database*** is the most widely used database structure. Data is organized into related tables. Each table is made up of rows called records and columns called fields. Each record contains fields of data about some specific person, place, or thing.

A DBMS provides a variety of tools to create and use databases. A sort tool will quickly rearrange a table's records according to a selected field.

A ***filter tool*** will quickly display only those records meeting the conditions you specify.

The greatest power of a DBMS, however, comes from its ability to quickly find and bring together information stored in separate tables using queries, forms, and reports. A ***query*** is a question or a request for specific data contained in a database. Database forms look similar to traditional printed forms. These electronic forms are displayed on the computer monitor and typically reflect the contents for one record in a table. They are primarily used to enter new records and to make changes to existing records. Data from tables and queries can be printed in a variety of different types of reports from a simple listing of an entire field in a table to a list of selected fields based on a query involving several tables.

**Concept check**

1. What is a database? What is a DBMS? A relational database?
2. What are tables, records, and fields?
3. Describe the following DBMS features: sort, filter, query, form, and report.