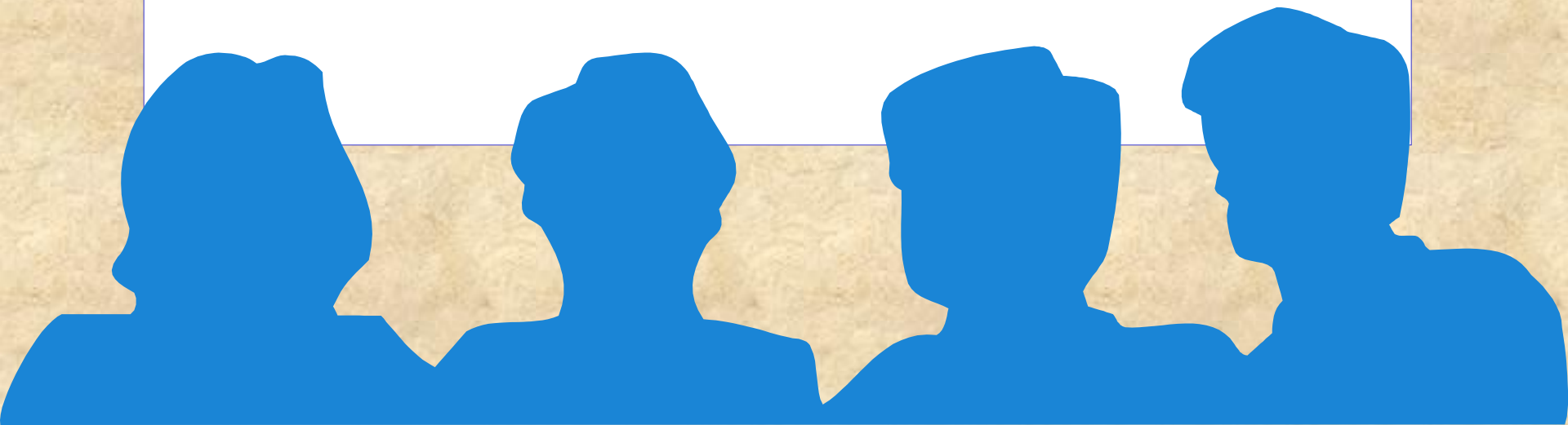


LESSON 16

Database Management Systems and Enterprise Software

This lesson includes the following sections:

- **Databases and Management Systems**
- **Working with a Database**
- **Enterprise Software**



Databases and Database Management Systems

- **The Difference between Databases and DBMSes**
- **Database Basics**
- **DBMSes Basics**

Databases and Database Management Systems

The Difference between Databases and DBMSes

- **A database is a repository for collections of related data or facts.**
- **A database management system (DBMS) is a software tool that lets users add, view, and work with the data in a database.**
- **Large databases and DBMS' are commonly used by companies, but many productivity applications are built around database concepts.**

Databases and DBMSes - Database Basics

Databases use three main structures for organizing data:

- **Fields**, which store various pieces of data related to a single entity.
- **Records**, or collections of fields relating to an entity.
- **Tables**, which are collections of related records.

The two primary types of databases are flat-file databases (with only one table) and relational databases (with multiple, related tables).

Each unique item is stored in a field.

Each complete set of fields is a record.

To exist, a record can have data in any number of fields but not necessarily in all fields.

Field

Record

PE

Name	Daniel Lavender	
Address	202 Shady Lane	
City	Louisville	
State	TN	Zip 47011
Phone	(555) 123-4567	

City	Zip
State	(502) 678-1011
Phone	

NAL ADDRESS BOOK

Customer	Tom Jones
Company	Acme Co.
Address	South 7th Street
City	Las Vegas
State	NV
Zip	89102
Phone	(613) 784-1011
Fax	(613) 784-1213

Customer	Jeff Smith
Company	Donald Inc.
Address	10701 North State St.
City	Lexington
State	OH
Zip	21200
Phone	(234) 567-8910
Fax	(234) 567-8765

Each complete set of records is a table.

Name	Daniel Lavender	
Address	202 Shady Lane	
City	Louisville	
State	TN	Zip 47011
Phone	(555) 123-4567	

PROFESSIONAL ADDRESS BOOK

Customer	Tom Jones		
Company	Acme Co.		
Address	11 South 7th Street		
City	Las Vegas		
State	NV	Zip	7702
Phone	(613) 784-1011		
Fax	(613) 784-1213		

Customer	Jeff Smith		
Company	Arnold Inc.		
Address	10701 North State St.		
City	Lexington		
State	OH	Zip	21200
Phone	(234) 567-8910		
Fax	(234) 567-8765		

Customer			
Company			
Address			
City			
State		Zip	
Phone			
Fax			

Customer			
Company			
Address			
City			
State		Zip	
Phone			
Fax			

Table

Databases and DBMSes - DBMS Basics

A DBMS allows users to access and manage the data collected in a database.

Data management tasks (all done through the DBMS) can be divided into three categories:

- Entering data into the database.
- Sorting (rearranging) the data in the database.
- Obtaining subsets of the data for use.

Working With a Database

- **Creating Database Tables**
- **Viewing Records**
- **Sorting Records**
- **Querying a Database**
- **Generating Reports**

Working With a Database – Creating Database Tables

- The first step in building a database is to create its tables. This means identifying, naming, and organizing its fields to receive data.
- Databases can store the following types of fields:

Text Logical Numeric Date/Time

Memo Binary Counter

Working With a Database – Creating Database Tables

- **You can create forms that let you view and enter data for one record at a time.**
- **Database tools such as masks can validate data as it is entered and thus ensure the data is in the correct format.**



Main Menu \

List of Titles \

Video Library \

Actors and Their Titles \

Find Menu \

Data Entry \

Video Information

Enter the data for the following fields and press Next.

Video Title

Movie One

Director

Daniel Lavender



Year Released

1999

Cancel

Next >>

Working With a Database - Viewing Records

- **A filter is a tool that lets you view records that match a given criterion.**
- **Filters are helpful when searching for certain types of information in a large database with many records.**
- **A form can work with a filter, but enables you to view information about a single record.**



Form 1

Gold

Fred

Jones

Stree

1000 Streetbuster Parkway

Miami

FL

33101

East

Corporate

850000

Cash	
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Working With a Database - Sorting Records

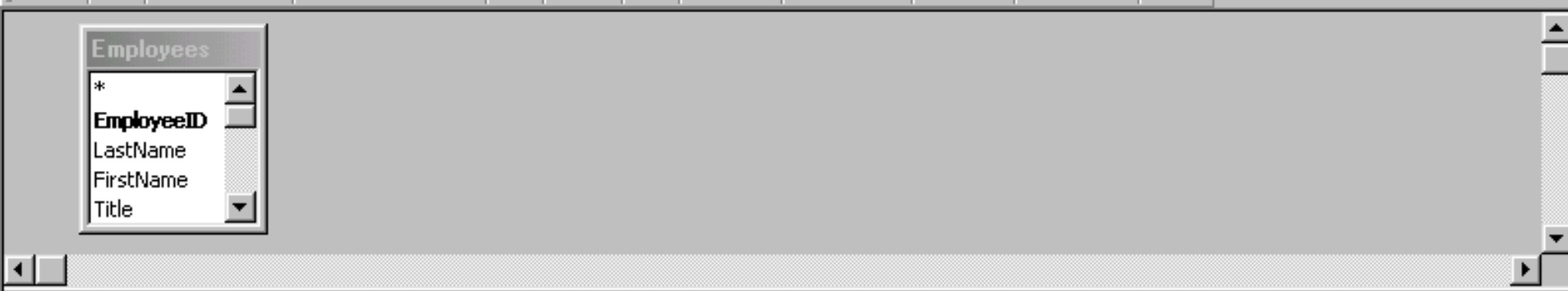
- **Sorting means arranging the records in a database.**
- **A DBMS enables you to sort records alphabetically, numerically, and chronologically.**
- **You can sort records in ascending (A-Z) order or descending (Z-A) order.**

Working With a Database - Querying a Database

A query is a statement you define, which tells the DBMS to find records that match criteria you specify.

Modern DMBS software provides built-in querying tools, based on one or more of the following languages:

- **SQL (Structured Query Language)**
- **Query by Example (QBE)**
- **Xbase**



Ready							
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Working With a Database - Generating Reports

- **A report is a subset of information from a database, produced in printed form.**
- **You can generate the data for a report by using a query, filter, or other tools.**
- **Reports can be formatted in a wide variety of ways.**

Enterprise Software

- Enterprise software is a large-scale application based on a DBMS, used by a large organization.
- Enterprise software can meet the needs of many different users in different locations.
- In an enterprise, different users have different interfaces to the database, so they can work only with the data they need.