Windows® 95

Designed for Microsoft® Windows® 95

MICROSOFT

Access 7.0a

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Microsoft Access 7.0a for Windows® 95

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Contents

Database Overview

A word processor helps you enter and manipulate text. An electronic spreadsheet helps you enter and analyze numerical data. A database program helps you enter and manage information or data electronically.

A database is an organized collection of related data. Before computers, most data was kept on paper. Paper records organized in a filing cabinet by name or department are a database. The information in a telephone book, organized alphabetically, is a database. A school's records of teachers, classes, and students are a database.

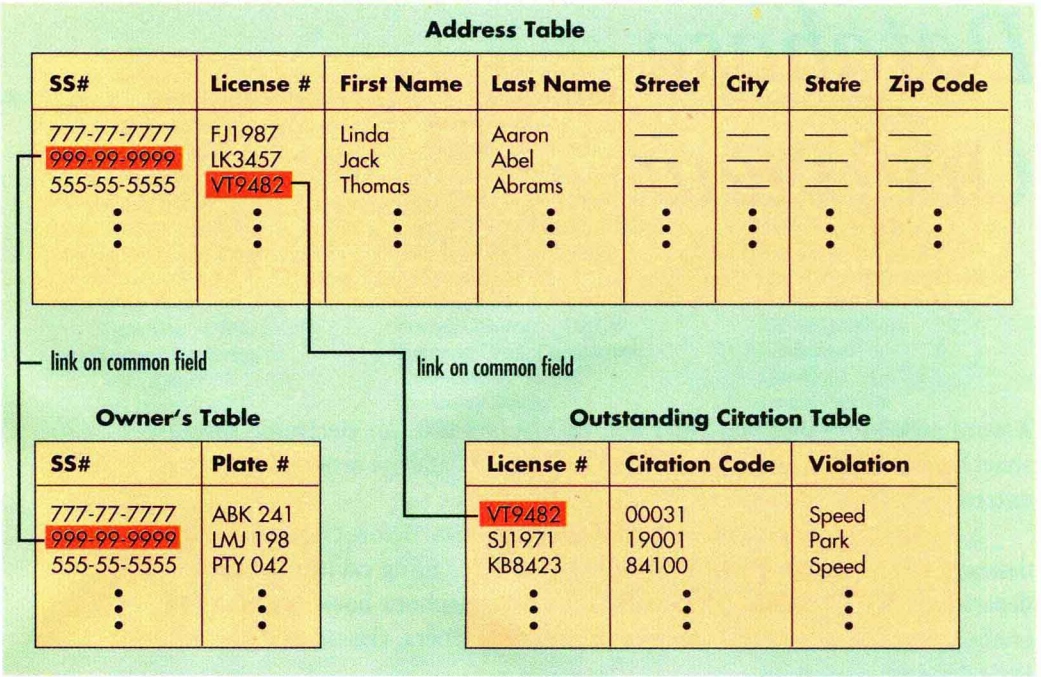
With computers, the same data can be entered and stored electronically, typically on a disk. The big difference is that an electronic database can manipulate—sort, analyze, and display—the data quickly and efficiently. What took hours of time to pull from the paper files can be extracted in a matter of seconds using a computerized database.

Relational Database Programs

Most microcomputer database programs are relational. These programs organize data into tables consisting of columns (called fields) and rows (called records). For example, a state's motor vehicle department database may have a table consisting of personal information on each vehicle owner, such as their name and address. Each vehicle owner's personal information forms a record. Each record may consist of the following fields of data: first name, last name, street, city, state, zip code, Social Security number, and license number.

The tables in a relational database are related or linked to one another by a common field. For example, the motor vehicle department may have a second database table containing data for each vehicle owned and a third on outstanding citations. The data in one table can then be linked to the data in another table by using a common field, such as the owner's Social Security number or

driver's license number. The ability to link database tables creates a relational database (see example below). Relational databases allow you to create smaller and more manageable database tables, since you can combine and extract data between tables.



Advantages of Using a Database Program

One of the main advantages of using a computerized database program is the ability to quickly locate specific records. Once you enter data into the database table, you can quickly search the table to locate a specific record based on the data in a field. In a manual system, you can usually locate a record by knowing one key piece of information. For example, if the records are stored in a file cabinet alphabetically by last name, to quickly find a record you must know the last name. In a computerized database, even if the records are sorted or organized by last name, you can still quickly locate a record using information in another field.

A computerized database also makes it easy to add and delete records from the table. Once you locate a record, you can edit the contents of the fields to update the record or delete the record entirely from the table. You can also add new records to a table. When you enter a new record, it is automatically placed in the correct organizational location within the table.

Another advantage of using a computerized database system is its ability to arrange or sort the records in the table according to different fields of data. You can organize records by name, department, pay, class, or any other category you

need at a particular time. This ability to produce multiple table arrangements helps provide more meaningful information. The same records can provide information to different departments for different purposes.

A fourth advantage is the ability to analyze the data in a table and perform calculations on different fields of data. Instead of pulling each record from a filing cabinet, recording the piece of data you want to use, and then performing the calculation on the recorded data, you can simply have the database program perform the calculation on all the values in the specified field. Additionally, you can ask questions or query the table to find only certain records that meet specific conditions to be used in the analysis. Information that was once costly and time-consuming to get is now quickly and readily available.

Another advantage of database programs is the ability to quickly produce reports ranging from simple listings to complex, professional-looking reports. You can create a simple report by asking for a listing of specified fields of data and restricting the listing to records meeting designated conditions. You can create a more complex professional report using the same restrictions or conditions as the simple report, but you can display the data in different layout styles, or with titles, headings, subtotals, or totals.

In manual systems, there are often several file cabinets in different departments containing some of the same data. With a computerized database system, more than one department can access the same data. Common updating of the data can be done by any department. The elimination of duplicate information saves both space and time.

Database Terminology

Database: An organized collection of related data that is stored as a table in a file.

Delete: To remove a record from the database file.

Edit: To change or update the data in a field.

Field: The smallest item of information about a record, such as last name.

Query: To ask questions of the database, which then displays only those records meeting specified conditions.

Record: A collection of related fields, such as Social Security number, first name, and last name.

Report: A printed and formatted presentation of specified fields of data for specified records in the file.

Search: To locate a specific record in a file.

Sort: To arrange the records in a file in a specified order.

Table: A collection of data that is organized into columns (fields) and rows (records).

Case Study for Labs 1–5

As a recent college graduate, you have accepted your first job with The Sports Company, a chain of sporting goods stores located throughout the United States. The company has recently purchased Microsoft Access 7.0a for Windows 95, and you have been assigned the job of updating their current recordkeeping system for employee records.

In Lab 1 you will learn how to design and create the structure for a computerized database and how to enter and edit records in the database. You will also print a simple report of the records you enter in the database file.

In Lab 2 you will continue to build, modify, and use the employee database of records. You will learn how to sort the records in a database file to make it easier to locate records. Additionally, you will create a customized form to make it easier to enter and edit data in the database file.

In Lab 3 you will learn how to query the database to locate specific information. You will also learn how to use and link multiple tables and calculated fields.

In Lab 4 you will learn how to use Microsoft Access 7.0 to create weekly and monthly employee status reports. You will use multiple files to create several different reports. The reports will display selected fields of data for the records in the database. It will also include a report title, subgroupings of data, and descriptive text to clarify the meaning of the data in the report.

Lab 5 demonstrates the sharing of data between Access and Word. You will learn to import an Access table into a Word document and to perform a mail merge using an Access table as the data source.

Before You Begin

To the Student

The following assumption has been made:

- Microsoft Access 7.0 or 7.0a for Windows 95 has been properly installed on the hard disk of your computer system.
- The data disk contains the data files needed to complete the series of labs and practice exercises. These files are supplied by your instructor.
- You have completed the Windows 95 lab module or you are already familiar with basic Windows 95 terminology and procedures. You can also refer to the Windows 95 Review at the end of the manual if you need to review these procedures.

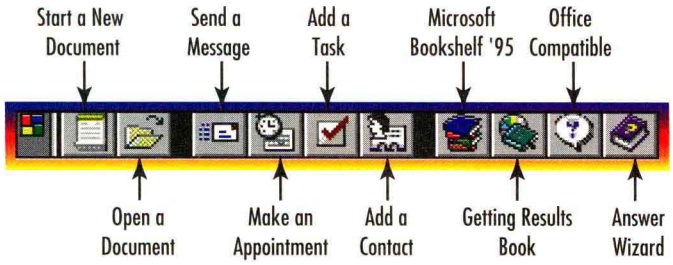
To the Instructor

The following assumption has been made:

- Microsoft Access 7.0 or 7.0a has been installed using the default program settings. These settings are in effect each time the program is loaded.

Microsoft Office Shortcut Bar

The Microsoft Office Shortcut Bar (shown below) may be displayed automatically on the Windows 95 desktop. Commonly, it appears in the upper right section of the desktop; however, it may appear in other locations, depending upon your setup. The Shortcut Bar on your screen may display different buttons. This is because the Shortcut Bar can be customized to display other toolbar buttons.



The Office Shortcut Bar makes it easy to open existing documents or to create new documents using one of the Microsoft Office applications. It can also be used to send e-mail, add a task to a to-do list, schedule appointments using Schedule+, or access Office Help.

Instructional Conventions

This text uses the same instructional conventions as described in the Introduction to the Labs at the beginning of the Windows 95 lab module.

In brief, they are:

- Command sequences you are to issue appear following the word "Choose:." Each menu command selection is separated by a /. If the menu command can be selected by typing a letter of the command, the letter will appear underlined.
- Commands that can be initiated using a button and the mouse appear following the word "Click:." The menu equivalent and keyboard shortcut appear in a margin note when the action is first introduced.
- Anything you are to type appears in bold text. Instructions you are to follow appear in blue.

Creating a Database

1

Somewhere at home, or maybe in your office, you probably have a file cabinet or desk drawer filled with information. Perhaps you have organized the information into drawers of related information, and further categorized that information into file folders. This is a database.

COMPETENCIES

After completing this lab, you will know how to:

1. **Load Access for Windows 95.**
2. **Use a Database Wizard.**
3. **Plan and create a database.**
4. **Create a table.**
5. **Define and save the table structure.**
6. **Switch views.**
7. **Enter and edit data.**
8. **Adjust column widths.**
9. **Use the Data Entry command.**
10. **Preview and print a table.**
11. **Exit Access for Windows 95.**

As organized as the information in your file may be, it still takes time to manually leaf through the folders to locate the information you need—and imagine how much more time it takes in a large company. Now, however, you can use an electronic database management system to store, organize, access, manipulate, and present information in a variety of ways.

In this lab you will learn how to design and create a computerized database using Access 7.0a for Windows 95, and you will quickly appreciate the many advantages of a computerized database.

Concept Overview

The following concepts will be introduced in this lab:

1. Database	A database is an organized collection of information.
2. Templates	Every Access database is based on a template file that includes predefined settings that are used to define the default characteristics of a database.
3. Database Development	The development of a database follows several steps: planning, creating, editing, form design, data analysis, report design, and printing.
4. Objects	A database file is made up of many different types of objects, such as tables, forms, and reports.
5. Views	Access allows you to view objects in your database in several different window formats called views. There are several basic views: Design view, Datasheet view, Form view, Print Preview, and Layout Preview.
6. Field Names	A field name is used to identify the data stored in a field.
7. Data Types	The data type defines the type of data the field will contain. There are nine data types with Text as the default data type.
8. Field Properties	Field properties are a set of characteristics that are associated with each field, such as field size.
9. Primary Key	A primary key is a field that uniquely identifies each record. It is usually the first field in the table.
10. Table Names	Each table in a database must have a unique name and it should be descriptive of the data to be stored in the table.
11. Data Entry Guidelines	The data you enter in a field should be typed exactly as you want it to appear and in a consistent form.
12. Modes	Two modes of operation, Navigation mode and Edit mode, control how you can move through and make changes to the data in a table.
13. Column Width	Column width refers to the size of each column in Datasheet view. It controls the amount of data you can see in the column.

CASE STUDY

As a recent college graduate, you have accepted your first job as a management trainee with The Sports Company. This company consists of a chain of sporting goods stores located in large metropolitan areas across the United States. The stores are warehouse oriented, discounting the retail price of most items 15 percent. They stock sporting goods products for all the major sports; basketball, football, tennis, aerobics, and so on.

Your training program emphasis is on computer applications related to retail management. You have been assigned to the Southwest regional office as an assistant to the Regional Manager. Your primary responsibility is to convert the current database of employee information to an electronic database.

Part 1

Loading Access

The Sports Company plans to use Microsoft Access version 7.0a for Windows 95 to create several different databases of information.

Concept 1: Database

A **database** is an organized collection of information. For example, the information in your address book is a database. Databases are used in a wide variety of professions. Salespeople may use a database to keep track of sales leads, customers, and payments. Real estate agents use property listings that are maintained on a database to find properties that match the needs of their clients. Schools use databases to maintain information about their students, teachers, and employees.

Most microcomputer database programs store information in tables. A **table** contains data about a specific topic that is organized into vertical columns and horizontal rows. A table is made up of records. A **record** is all the information about one person, thing, or place. For example, all the address data on one person is a record. A single record is contained in one row of the table. Each item of related information in a record is called a field. A **field** is the smallest item of information about a record, such as a person's name. For example, the customer table might contain fields such as First Name, Last Name, Street, City, State, and Zip Code. Each field is displayed in a column of the table.

A simple example of a database is shown below. This database consists of two tables of data, a Customer table and an Orders table. The Customer table contains information about the customers, such as their names and addresses. The Orders table contains data about the orders placed by each customer.

Access, like most database programs, is **relational**. This means that you can define a relationship between tables by having common data in the tables. The two tables below both have the customer number as the common data. The common data lets you extract and combine data from multiple tables.

Customer Table

Customer No.	Name	Address	City	State	Zip Code
1250-42	Mid-Atlantic	411 E. Industrial Way	Rockville	MD	20737
1544-55	East Coast	62 51st Ave.	New York	NY	10010
1642-22	North Lakes	42 Lake View Dr.	Chicago	IL	60616
1699-21	South Pacific	123 Monterey Dr.	Redlands	CA	92373
1725-99	South West Ind.	1762 Prickly Pear Dr.	Santa Fe	NM	87501

one record →

one field

common information defines relationship between tables

Orders Table

Order No.	Customer No.	Sales Date
C125	1544-55	10/28/99
C126	1725-99	9/14/99
C127	1544-55	11/04/99
C128	1699-21	5/15/99

If necessary, turn on your computer and put your data disk in drive A (or the appropriate drive for your system).

The Windows 95 desktop screen should be displayed. To start Access 7.0 for Windows 95,

Choose: **Start/Programs**

The Programs menu should display the Microsoft Access option.

Choose: Microsoft Access

When you start the program, the Microsoft Access startup dialog box shown in Figure 1-1 is displayed.

If a shortcut to Access button Microsoft Access is displayed on your desktop, you can double-click on the button to start the program.

If the Microsoft Office Suite is on your system and the Office Shortcut Bar is displayed, you can click the Start a New Document button, select Blank Database, and choose OK, to load Access.

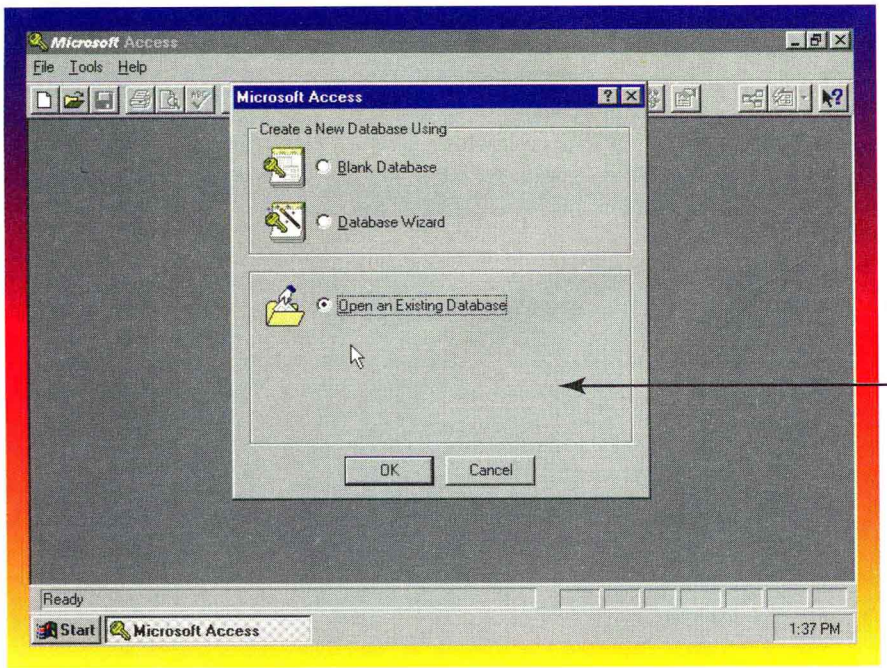


Figure 1-1

The startup dialog box allows you to create a new database or open an existing database. You will use this feature in later labs. To close the startup dialog box,

Choose: Cancel

Refer to the Sizing Windows section in the Windows 95 Review for information on this feature.

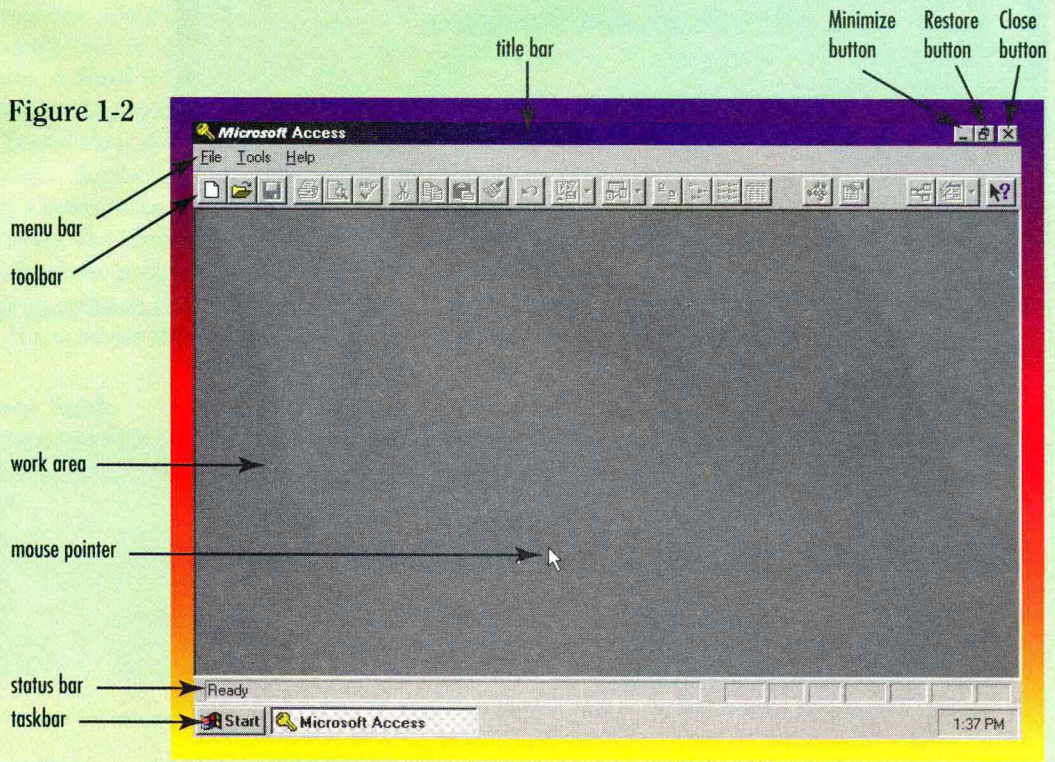
The Microsoft Access application window is displayed (see Figure 1-2 in the box below).

If necessary, maximize the Access window.

Examining the Access 7.0 Window

As you can see in Figure 1-2, many of the Access window features are common to the Windows 95 environment. Among those features are a title bar, menu bar, toolbar, Minimize, Restore, and Close buttons, icons, and mouse compatibility. You can move and size Access windows, select commands, use Help, and switch between files and programs just like in Windows 95. Your knowledge of how to use Windows 95 makes learning about and using Access 7.0 for Windows 95 much easier. The taskbar at the bottom of the screen displays the button for the open application.

Figure 1-2



The initial Access window that is displayed is called the **startup window**. Its menu bar contains only three menus that are available for this window. If a menu is not appropriate for a given window, it does not appear on the menu bar.

The toolbar contains many of the same buttons as you have seen in toolbars in other Windows 95 applications. Many, however, are specific to Access. Only the first two buttons, New Database and Open Database, and the last one, Help, are currently available for use. All the other buttons are dimmed, indi-

cating they are unavailable. There are 19 toolbars in Access. Most toolbars appear automatically as you perform different tasks and open different windows. The toolbar operates just like Windows 95 toolbars.

The center area of the window is the **work area** where different Access windows display as you are using the program.

Just below the work area the status bar provides information about the task you are working on and the current Access operation. In addition, the status bar displays messages such as button and command descriptions to help you use the program more efficiently. Like the menu bar and toolbar, the information in the status bar changes as you work.

The mouse pointer appears as an arrow and operates as in Windows. It also changes shape depending on the task you are performing or its location in the window.

Refer to the Toolbar section of the Windows 95 Review for information on this feature.

Refer to the Mouse section in the Windows 95 Review, for information on this feature.

Learning About Access

Before you create the employee database, you decide to create a simple database using a Database Wizard to learn about many of the Access features. A **Database Wizard** is an automated feature that guides you step by step to create a new database.

Click: New Database

The menu equivalent is File/New Database or Ctrl + N.

The New tab dialog box displays two tabs, General and Databases. The General tab displays one icon, Blank Database. Selecting this icon allows you to create your own custom database from scratch without using a Database Wizard.

Refer to the Dialog Box section of the Windows 95 Review for information on this feature.

To use a Database Wizard to create a database, open the Databases tab.

The New dialog box on your screen should be similar to Figure 1-3.

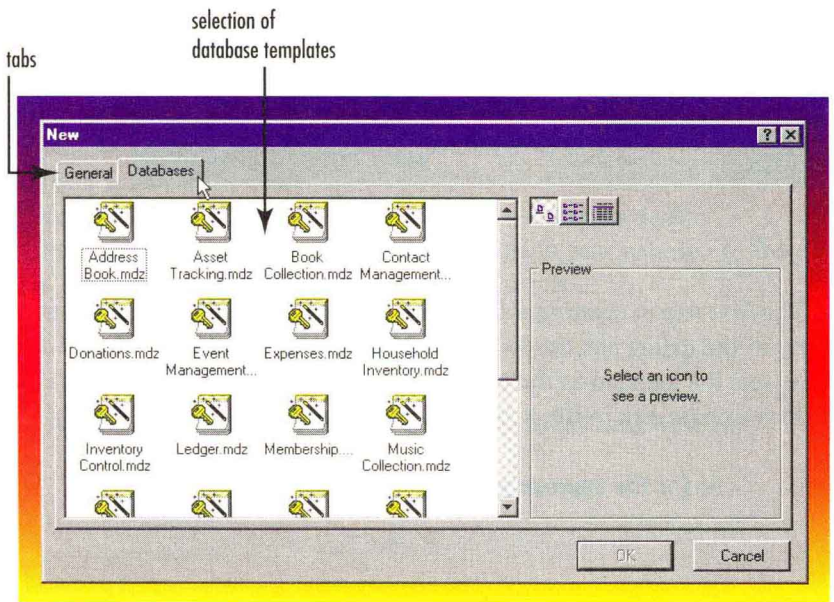


Figure 1-3

This tab displays 22 icons representing many types of databases that can be created using the Database Wizard. These predesigned databases, called templates, give you a head start in creating many different types of databases.

Concept 2: Templates

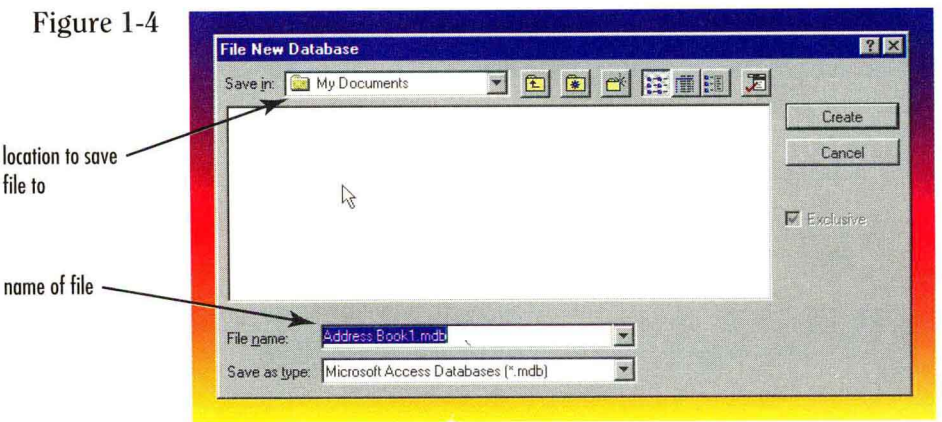
Every Access database is based on a database template file. A **template** file includes predefined settings that are used to define the default characteristics of a database. The basic settings used to create a database are stored in the Blank Database template. There are 22 other database template files that contain settings and specifications that are designed to help you create the many different types of databases. These templates include settings that guide you step by step to help you create tables, custom entry forms, and professional reports. Once you have created a database using a template, it can be modified to meet your specific needs.

You will use the Database Wizard to create a database to hold name and address information.

Double-click: **Address Book.mdz**

The File New Database dialog box on your screen should be similar to Figure 1-4.

Figure 1-4



Refer to the Saving Files and Naming Files sections of the Windows 95 Review for information on these features.

If the location is already correctly specified, skip this step.

The first step in creating a database is to name the database file. You need to specify in the dialog box the location and name of the database file. By default Access sets the location as the My Documents folder on the C drive. To change this to your data disk in the A drive, from the Save-in drop-down list,

Select: **A: (or the appropriate drive for your system)**

The suggested filename Address Book1 is acceptable. To create the file,

Choose: Create

The Database Wizard has started, and it displays a brief preview window with information about what the Address Book database will store. To continue,

Choose: Next >

The Database Wizard dialog box on your screen should be similar to Figure 1-5.

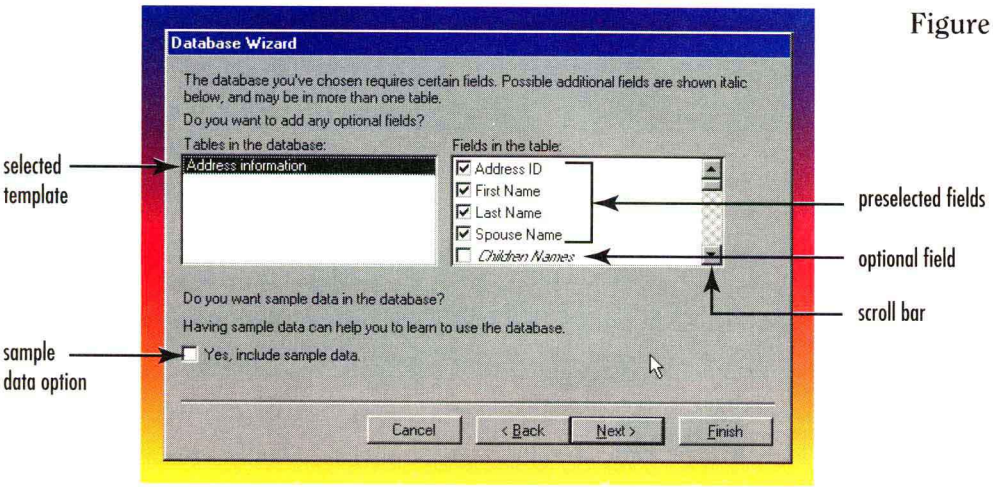


Figure 1-5

This and the next several Database Wizard dialog boxes will ask you a series of questions that you need to complete to create the database. The window currently displayed is used to create the structure of the table. To do this you need to specify the fields to be used in the table.

The address table template already includes all the fields that are checked in the Fields in the Table list box. Some fields are not checked and can be added to the table if desired.

Scroll the list box using the scroll bar to see additional fields.

This window also asks if you want sample data in your database to show you how to use the database. In response to this question,

Refer to the Scroll Bar section of the Windows 95 Review for information on this feature.

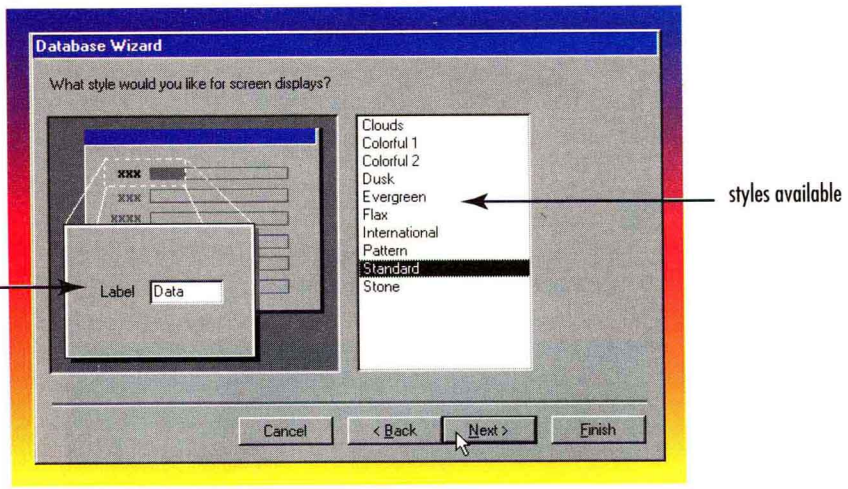
Select: **Yes, include sample data.**

To accept the default selected fields and move on to the next window,

Choose: Next >

The dialog box on your screen should be similar to Figure 1-6.

Figure 1-6



This lab will use the Colorful 2 style.

In this window you are asked to select a screen display style to display the information.

Select each style and preview how it will appear. Then select a style of your choice.

Choose: Next >

You will learn about creating reports in Lab 4.

The next window asks you to pick a design for printed reports.

Preview and select a design of your choice.

This lab will use the Casual design.

Choose: Next >

The title "Address Book" is proposed for the title of the database, and you are asked if you want to include a picture. To accept the defaults,

Choose: Next >

The final Database Wizard window is displayed.

Choose: Finish