CREATING TABLES

USING ACCESS 2000

USING ACCESS 2000

LESSON 1 -
GETTING STARTED

In this lesson, you will learn how to:

- Start Access
- Open an existing database
- Use menu commands
- Display and hide toolbars
- Change menu and toolbar options
- Use database objects
- Use the Database window
- Select object types
- Open a database object
- Exit Access

STARTING ACCESS

✎ Discussion

A database is any collection of information organized into a group. The information should be organized in a way that allows for easy retrieval. For example, a telephone book is a non-computerized database of information. It is organized in alphabetical order and includes information such as names, addresses, and telephone numbers. Other examples of non-computerized databases include address books and inventory lists.

Electronic databases can be maintained on a computer. Computerized databases allow you to manipulate large amounts of data quickly and easily. They simplify tasks such as searching for specific data, organizing and sorting data, and making corrections or changes to data.

In Access, the database information is stored in data tables. Every data table has a structure that provides for the collection, organization, storage, and retrieval of data. These tables of information are contained in a database file. Each database file can have numerous data tables.

A data table consists of fields and records. Fields are categories of information. For example, in an address table, you may maintain names, addresses, cities, states, and zip codes. Each of these categories is a field in the address database.

A set of fields that contains data for a single entry is called a record. For example, Charles Hardy, 1234 Main St., Bridgeville, NY, 11012 is a record in the address table. Each piece of information in the record fits into a field and is referred to as a field value. NY is the field value for the **State** field in this particular record. An address table would most likely consist of a number of records, with each record containing values in the appropriate fields.

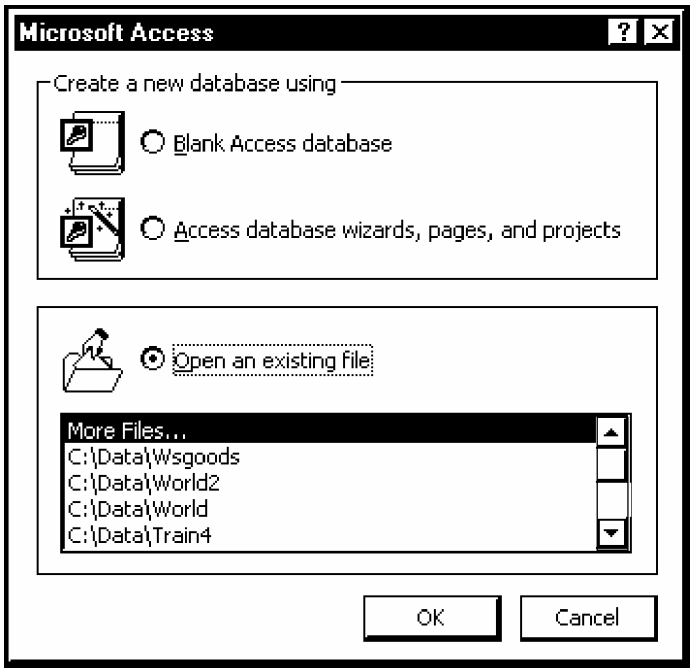
Access is a relational database application. A relational database contains a large amount of data that is split into numerous tables. Each table is then smaller, more manageable, and, in turn, more efficient. In a relational database, each table should represent one subject, such as **Customer**, **Order**, or **Items**. These tables can then be joined together to make them related. When tables are related, you can access information from any of the fields in the related tables. Therefore, your reports, forms, and queries can be based on information from any of the related data tables.

In addition to extensive built-in help, the Microsoft Office Assistant is available to offer tips and hints for using Access more efficiently. The Office Assistant, a context-sensitive Help feature, may appear when you start Access. You can adjust the capabilities of the Office Assistant as well as choose not to have the Office Assistant appear, if desired.

Additionally, Office on the Web provides an on-line link to resources you can use to help you create better databases. For example, you can use Office on the Web to link to Internet sites where you can access technical resources and free product enhancements.

Microsoft Access 2000 is designed to run under the Windows operating system. By default, Windows creates a startup command for Access on the **Programs** submenu which is accessed from the **Start** menu. Your system may be different, depending on how Access was installed or customized.

When you start Access, the Microsoft Access dialog box opens. Options available in this dialog box include creating a blank database, using the Database Wizard to create a database, or opening an existing database. At the bottom of the dialog box is a list of recently used database files from which you can open a database file quickly and easily. If you choose the **More Files** option in the Microsoft Access dialog box, the Open dialog box opens, allowing you to select a database file from a desired location.



The Microsoft Access dialog box

- You can create a shortcut to start Access on the Windows desktop.

- The first time you open the Microsoft Access dialog box after installation, the list of recently used files and the **More Files** option will not be available at the bottom of the dialog box because no previous files have been used.

➡ Steps

1. Select the **Start** button on the taskbar.
2. Point to **Programs**.
3. Select **Microsoft Access**.

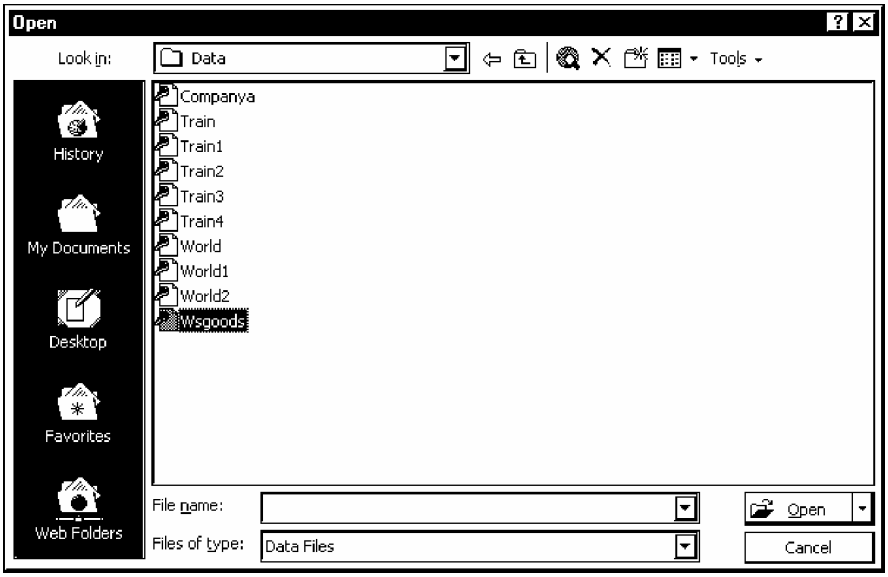
OPENING AN EXISTING DATABASE

✎ Discussion

An Access database is a collection of information organized into a number of objects including tables, queries, forms, reports, pages, macros, and modules.

When you want to work with an Access database, you must first load the database into memory. This process enables you to open all the tables or other objects within that database. You may only open one database at a time.

You can open a database using the Microsoft Access dialog box. You can choose a file from the list of recently used files, or you can select the **More Files** option to access the Open dialog box. If the Microsoft Access dialog box is not available, you can open a database directly from the Open dialog box.



The Open dialog box

- You can also open a database directly from the Open dialog box by clicking the **Open** button or by selecting the **File** menu and then selecting the **Open** command.

- Access lists the names of recently used database files at the bottom of the **File** menu. You can quickly open any one of these files by selecting it from the menu.

➥ Steps

1. Start Access.
2. Select the **Open an existing file** option.
3. Select **OK**.
4. Select the **Look in** list.
5. Select the drive where the database is stored.
6. Select the folder where the database is stored.
7. Select the name of the database you want to open.
8. Select **Open**.

USING MENU COMMANDS

✎ Discussion

The menu bar, located under the application title bar, provides access to all the features of Access. Each menu contains commands grouped by function. When you select an item on the menu bar, a list of corresponding commands appears, from which you can select the desired command. Some menu commands are dimmed, which indicates that the command is not available for the current task.

Each menu appears in two stages, a short menu and a full menu. When you first select a menu, the short menu appears with the most frequently used commands.

If a command does not appear on the short menu, you can click the double arrows that appear at the bottom of the menu. This action expands the short menu to display the full menu with all available commands. Once you have expanded a menu, all menus are expanded until you choose a command or perform an action. Other ways to expand a menu include double-clicking the menu name in the menu bar, or hovering over the double arrows or menu name with the mouse pointer.

As soon as you select a command from the full menu, it is added to the short menu. In this way, your short menus are updated with the most frequently used commands. Commands stay on the short menu until you stop using them for a while or reset your data usage.

When a menu command is followed by an ellipsis (**...**), selecting it opens a dialog box in which additional information is entered. A menu command that displays a right-pointing triangle indicates a submenu. When you point to this command, a submenu cascades to the right.

In addition to the standard menus on the menu bar, Access contains shortcut menus that may be accessed by right-clicking an area or an object, such as a toolbar. Shortcut menus contain commonly used commands and are context-sensitive. Therefore, the options available on the shortcut menu vary, depending on the area of the window or the object selected.

- You can also execute menu commands using key combinations. To display a menu, press the **[Alt]** key and the underlined letter of the menu name. You can then press the underlined letter of the desired command to perform the action.

- You can choose to show full menus by selecting the **Tools** menu and then selecting the **Customize** command. On the **Options** page in the Customize dialog box, deselect the **Menus show recently used commands first** option. Selecting the **Reset my usage data** button and then selecting the **Yes** button to confirm, removes automatically added full menu commands from short menus.

- Some Office 2000 components may be available on an **Install on First Use** basis. This term means that although the component appears on the menu, it is not actually installed until the first time you use it. Office 2000 then prompts you to install the component and installs it from the original installation source to your local hard drive.

➥ Steps

1. Click the desired menu.
2. To display the full menu, click the double arrow at the bottom of the short menu.
3. Click the desired command.

DISPLAYING AND HIDING TOOLBARS

✎ Discussion

Toolbars provide shortcuts to menu commands. Each Access toolbar is composed of buttons and pull-down lists. Each button executes a specific menu command.

When Access starts, the **Database** toolbar appears by default on the same row under the menu bar. The **Database** toolbar contains buttons used for many general Access functions. You can also display the **Web** toolbar, which provides buttons you can use for creating web pages.

In addition to the default toolbars you can select in Access, task specific toolbars appear when you are working in the various views. For example, when you open a **Table** object type, the **Clipboard**, **Formatting (Datasheet)**, **Table Datasheet**, and **Web** toolbars are available.

You can choose to display one or more toolbars at any given time, or you can hide all the toolbars to create a larger working area.

Toolbars may be displayed as either "docked" or floating toolbars. A docked toolbar appears at the edges of the window, whereas floating toolbars may be moved to any location on the screen. You can also change the size and shape of a floating toolbar. These options provide flexibility when you need to display several toolbars at once or need to see all the available buttons on a docked toolbar.

When you point to a button on a toolbar, the name for its function appears. This description is referred to as a toolbar ScreenTip. Even if a toolbar button is dimmed (because it is not available for the current task), the ScreenTip still appears when you point to the button.

In addition to moving a toolbar, you can also use the **More Buttons** button at the end of certain toolbars to see any hidden buttons that do not fit on the docked toolbar.

- You can customize toolbars by adding or removing buttons.

- You can also display and hide toolbars by selecting the desired toolbar on the **Toolbars** page in the Customize dialog box or by right-clicking the menu bar or any toolbar and selecting or deselecting any of the toolbars. A checkmark next to the name of a toolbar indicates that it is displayed.

●	If you hide all the toolbars, you can display them by selecting the **View** menu, pointing to the **Toolbars** command, and selecting the desired toolbar command, or by right-clicking the menu bar and selecting the desired toolbar command.

➥ Steps

1. Select the **View** menu.
2. Point to the **Toolbars** command.
3. Select the command for the toolbar you want to display or hide.

CHANGING MENU AND TOOLBAR OPTIONS

✎ Discussion

You can change menu and toolbar options in order to adjust the behavior of these objects. The **Options** page in the Customize dialog box allows you to select menu and toolbar preferences. For example, if you prefer to see full menus, you can disable the option to show recently used commands first. You can also reset any data usage changes that have occurred as a result of using the menus and toolbars.

●	The **Reset my usage data** option only affects Access. All other options affect all Office applications.

➥ Steps

1. Select the **Tools** menu.
2. Select the **Customize** command.
3. Select the **Options** tab.
4. To restore toolbars and menus to the default, select **Reset my usage data**.
5. Select **Yes** to reset the toolbar and menu.
6. Change any additional options as desired.

7. Select **Close**.

USING DATABASE OBJECTS

✎ Discussion

An Access database file can contain objects such as tables, queries, forms, reports, pages, macros, and modules. You can select these database objects and manipulate them as a unit. Database objects are created to input, edit, retrieve, display, and print data. You can include up to seven different object types in an Access database. A description of each of these object types is listed in the following table:

Object Type	Object Purpose
Table	This object type defines the structure of an Access database. Tables display multiple records in rows and columns. Information in these records can be entered, edited, stored, and retrieved.
Query	A way of requesting selected information from a table. When you run a query, a selected set of records, called the Recordset, appears. You can then edit or print the Recordset.
Form	A screen display you can create to show selected fields from records. Forms allow you to enter, view, and edit data. You can use a form as an alternative to displaying data in rows and columns.
Report	A design for printed data. Reports can include lists and mailing labels as well as database reports. Reports can also perform math and calculate summaries.
Page	A data access Web page used for viewing and working with Microsoft Access databases over the Internet or an intranet.
Macro	A stored set of Access commands that can be repeated as a unit to automate database functions.
Module	This object type stores Visual Basic for Applications Edition programming code that can further customize and enhance database functions.

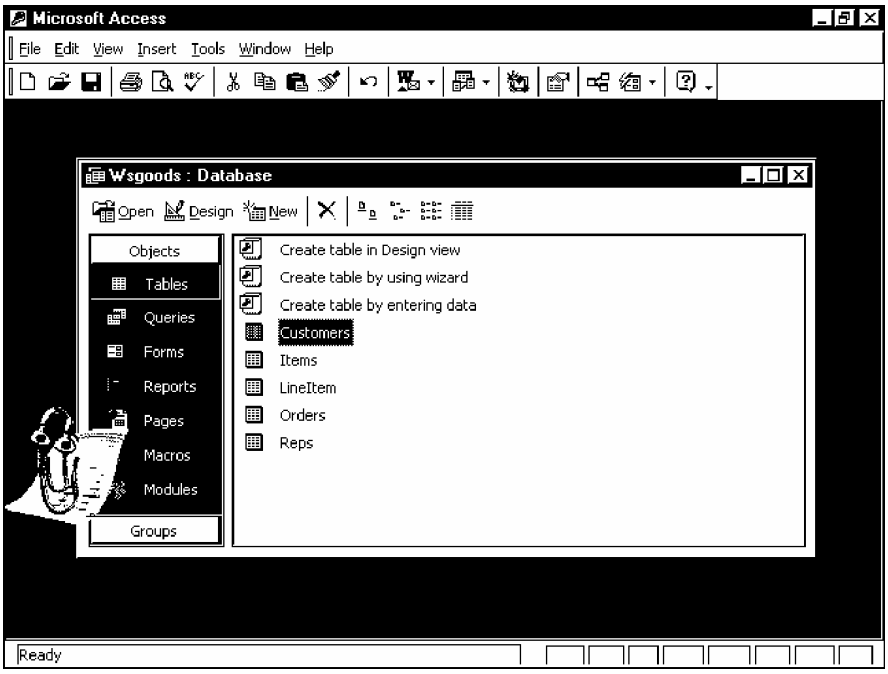
When you open a database, all objects that exist in the database are grouped under one of the object types listed in the preceding table. These object types, along with their corresponding objects, appear in the Database window.

USING THE DATABASE WINDOW

✎ Discussion

When you open a database, the Database window opens within the Access application window. The Database window contains a title bar, a Database window toolbar across the top, an **Objects** and **Groups** bar on the left side of the window, and a list area in the right side of the window. The **Objects** bar contains the various object types that may appear in an Access database: **Tables**, **Queries**, **Forms**, **Reports**, **Pages**, **Macros**, and **Modules**. The **Groups** bar contains a **Favorites** group folder to which you can add new group folders. You can also use the **Groups** bar to view your groups, which can contain shortcuts to database objects.

When one of the object types is selected, all objects (if any) associated with that selection type appear in an object list. In addition, new object shortcuts for the type of object selected appear in the right side of the window. These shortcuts enable you to create new objects, such as tables, queries, forms, and reports in **Design** view or by using a wizard.



The Database window

SELECTING OBJECT TYPES

✎ Discussion

When you open a database, the Database window automatically opens. This window contains an **Objects** bar down the left side of the window and a list area on the right side of the window. The **Objects** bar displays the object types that can be associated with the open database. When an object type is selected, all objects associated with the selection appear in a list on the right side of the window. For example, selecting the **Queries** object type displays all the queries objects for that particular database. Selecting the **Forms** object type displays all the forms objects for that particular database.

●	You can also use the **[Ctrl+Tab]** key combination to select different object types.

➡ Steps

1. Open the desired database.
2. Click the desired object type in the **Objects** bar.

OPENING A DATABASE OBJECT

✎ Discussion

You can open a database object to view the data contained within the object. The view in which the data appears depends on the type of object you open. Tables and queries appear in **Datasheet** view. Forms appear in **Form** view. Reports display the data in Print Preview. Macros and modules run the programs attached to the object.

●	You can also open an object by double-clicking its name in the list area on the right side of the Database window.

➡ Steps

1. Open the desired database.
2. Display the appropriate object type list.
3. Click the name of the object you want to open.
4. Select the **Open** button 

on the Database window toolbar.

EXITING ACCESS

✎ Discussion

In order to be efficient, you should close any objects you are not using. You can have several objects open at once, but multiple objects use more system resources. Changes to databases are saved automatically when you close the Database window.

In addition, when you have finished using Access, you should exit the application properly, since Access performs necessary housekeeping before it closes.

●	You can also close an object or database by clicking the **Close** button on the desired window title bar.

●	When you make a change to database objects, you are prompted to save the changes before you exit.

➡ Steps

1. Select the **File** menu.
2. Select the **Exit** command.

LESSON 2 -
CREATING TABLES

In this lesson, you will learn how to:

- Create a new database
- Design tables
- Create a table in Design view
- Use Design view
- Add field names
- Assign data types
- Add a field description
- Set a primary key
- Save a new table
- Use the Table Wizard

CREATING A NEW DATABASE

✎ Discussion

When you create a database in Access, you are creating a container for the tables, forms, queries, reports, and other database objects. If you create a new database, you must then create your own tables, queries, and other objects. To save time, you can use the Database Wizard to create a database. The Database Wizard contains several business and personal database templates. If you choose one of these templates, Access creates not only the database, but also the tables, queries, and other objects.

When you create a database, you must specify the name and location you want to assign to the database file in the File New Database dialog box.

After you create the database, the Database window opens. This window contains an **Objects** bar that displays the following object type icons: **Tables**, **Views**, **Forms**, **Reports**, **Pages**, **Macros**, and **Modules**. Created objects can belong to any of these categories. The Database window also has buttons that allow you to open objects, modify the design of existing objects, and create new objects.

●	You can also create a new database by selecting the **File** menu and then selecting the **New** command.

●	You can also create a new database by selecting the **Access database wizards, pages, and projects** option in the Microsoft Access dialog box when you first open Access. You can then select the **Database** icon on the **General** page in the New dialog box.

➡ Steps

1. Click the **New** button  on the **Database** toolbar.
2. Select the **General** tab.

3. Select the **Database** icon Database on the **General** page.
4. Select **OK**.

5. Type a name for the database.
6. Select the **Save in** list.
7. Select the drive where you want to store the file.
8. Select the folder where you want to store the file.
9. Select **Create**.

DESIGNING TABLES

✎ Discussion

In Access, there are five steps to designing a table. The first step is to develop a thorough understanding of the system, including all the data that will be entered and all the reports, statistics, labels, and other output that will be generated. It is helpful to gather all the forms you use for input and all the reports generated from the data. This process serves two purposes. First, these forms and reports are invaluable when you begin detailing exactly what you want stored in each table. Second, once you have collected a set of these forms, you can make sure that every item of information on your reports is either included in your database or can be derived from data in your database.

The second step is to determine how many tables you need and what information you will store in each table. Once you have gained an overview of the system, you are ready to begin designing your database. The most important decision you must make before you begin creating tables is how many tables you want the database to include.

The third step is to design the tables by selecting the fields you want to include, the type of data you want to store in each field, and the size of the fields. Once you have developed an overview of your application and a list of tables, you can make a preliminary list of fields, based on basic categories of information that each table will include. You can refine the list by considering the following: if the data will be sorted or selected, it should be in a separate field; if the data can be calculated from other fields, you do not need to store it in its own field; and, if the table will be linked to another table, the tables should contain common fields.

The fourth step is to create the table structures by defining the name, data type, and size of the fields.

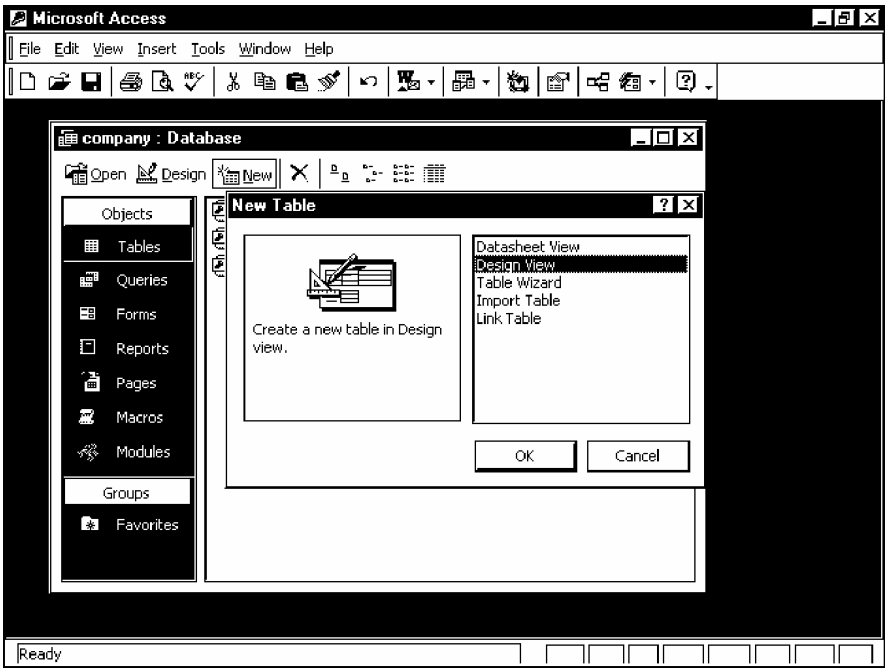
The fifth and final step is to enter sample data to test your table structures. This step is important because it helps you determine whether or not the fields are the correct size and if all the necessary fields have been included in the tables. Then, you can modify the tables as necessary.

CREATING A TABLE IN DESIGN VIEW

✎ Discussion

A table is the basic building block of a database. All the queries, reports, and forms use the fields and records from a table as the basis for their output. You must create at least one table in the database before you can create any other object.

When you create a new table, the New Table dialog box provides you with several options. You can choose to create a table in either **Datasheet** or **Design** view, use the Table Wizard, import data from another data source, or link to data from another data source. Usually, a table is created in **Design** view, which gives you the most control over the design of the database.



The New Table dialog box

- You can also create a new table in **Design** view by selecting the **Create table in Design view** option in the **Tables** object list in the Database window and then selecting the **Open** button on the Database window toolbar.

➡ Steps

1. Open the desired database.
2. Display the **Tables** objects.
3. Select the **New** button 

on the Database window toolbar.
4. Select **Design View**.
5. Select **OK**.

USING DESIGN VIEW

✎ Discussion

The Design view window is split into two panes. The top pane of the window contains the design grid. You use the rows and columns to enter field names, data types, and field descriptions. The small box to the left of each field name is the row selector. When you select a row, a black triangle appears in the row selector for that row to indicate the current field.

The bottom pane of the window displays the properties of the selected field. A property is a characteristic of a field, such as the number of characters a field can contain. Access automatically assigns default field properties you can modify, if desired.

- Once you have entered at least one field, you can press the **[F6]** key to move between the panes in the Design view window.

ADDING FIELD NAMES

✎ Discussion

In the design grid in the Design view window, you can add field names. Field names identify the data in a field, such as **OrderNumber**, representing a field containing the order number for an order. Field names can be up to 64 characters long and can include letters, numbers, and spaces (field names cannot begin with spaces). Field names cannot contain a period (.), an exclamation point (!), a back quote (`), brackets

([ ]), or ASCII control characters. In addition, field names within a table must be unique.

Making the field names descriptive and meaningful can help with data entry and data retrieval. However, you should avoid very long and complicated field names because they can be cumbersome to remember and reference when performing database functions.

- The order of the field names in **Design** view determines the order of column headings in the table.

- It can be beneficial not to include spaces in field names if you work with other database formats or plan to write VBA code.

➡ Steps

1. Open the desired database.
2. Open or create a table in **Design** view.
3. Type the first field name.
4. Press **[Down]**.

ASSIGNING DATA TYPES

✎ Discussion

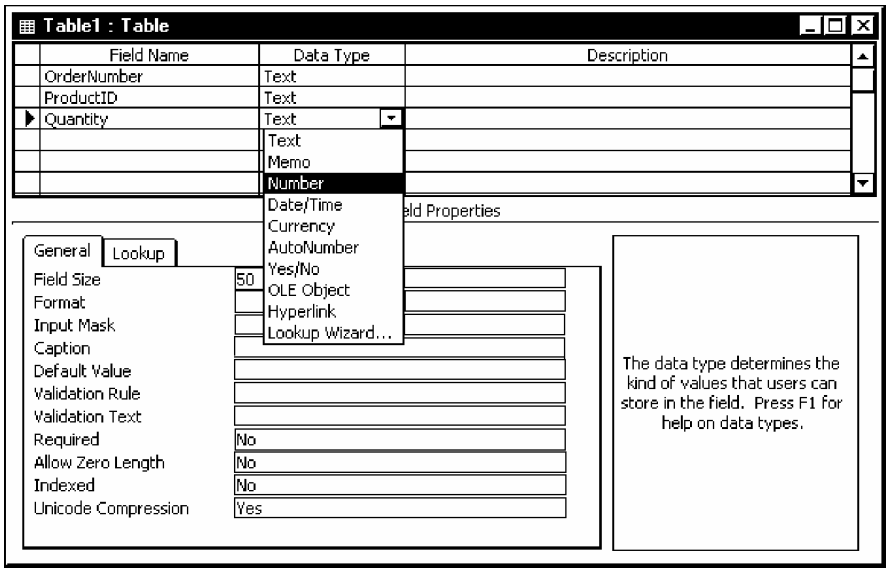
Every field has a data type. The data type tells Access what kind of values you plan to store in the field and how much storage space to set aside for the field. While you can change a data type after a field contains data, this procedure may erase some or all the information in that field.

The following table describes the available data types in Access:

Data Type	Description
Text	A **Text** field is the default data type and can contain any combination of letters, numbers, punctuation marks, and spaces. The default width is 50 characters and the maximum length is 255 characters.

Data Type	Description
Memo	A **Memo** field is similar to a **Text** field, except that a **Memo** field can contain up to 65,535 characters. You can use **Memo** fields for notes or long descriptions in a database.
Number	A **Number** field can contain only numeric characters, a comma (used as a thousands separator), a period (used as a decimal point), and a hyphen (used as a negative number sign). You use a **Number** field only when you want to perform calculations using the values in the field. For example, even though zip codes and telephone numbers consist of numeric characters, you would not want to use them in calculations. Therefore, they should not be **Number** fields.
Date/Time	A **Date/Time** field contains a date and/or a time. Access automatically validates the entry, ensuring that it is a valid date and/or time. For example, Access does not allow you to enter 2/31/99 since February does not have 31 days. **Date/Time** fields are useful in performing calculations on dates and times.
Currency	A **Currency** field is similar to a **Number** field and can be used in calculations. However, the values in a **Currency** field can only have four decimal places, and they automatically appear with dollar signs and thousands separators (commas). You should use **Currency** fields whenever possible because they use fixed point calculation, which is faster than the floating point calculation used in **Number** fields.
AutoNumber	An **AutoNumber** data type means that Access automatically assigns a unique number (consecutively from 1) to each record in the database. You cannot manually enter a value into the field or change the number once Access assigns it. You use this data type when you want a unique identification number for every record.
Yes/No	A **Yes/No** field signifies one of two conditions, Yes or No. You use a **Yes/No** field when only two possibilities (i.e., True or False) exist for a field value.
OLE object	An **OLE object** field connects a field to other Windows applications. You use an **OLE object** data type for graphics, spreadsheets, or sound files.
Hyperlink	A **Hyperlink** field stores a link to anywhere you choose. The link could go to an Internet page, a Word document on an intranet, or even a form in the current database. A **Hyperlink** field can contain a description, an address, and a sub-address. Each part is separated by a number sign (#) and can contain 2,048 characters. However, only the address is mandatory.

Data Type	Description
Lookup Wizard	Selecting the **Lookup Wizard** data type guides you through steps to create a **Lookup** field. A **Lookup** field contains a list of selected values from another table or a list of values that you provide. You can choose values from the list to reduce repetitive data entry.



Assigning data types

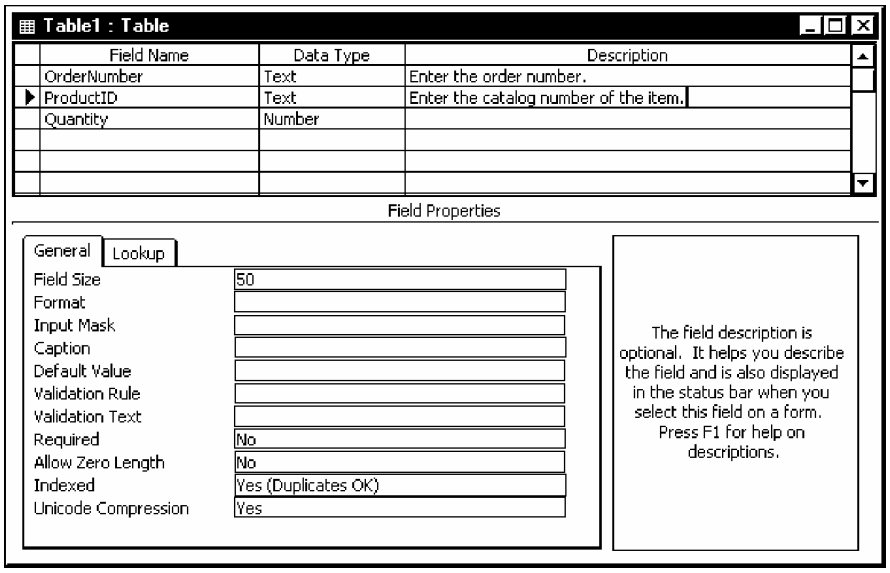
➡ Steps

1. Open the desired database.
2. Open or create a table in **Design** view.
3. Enter field names as desired.
4. Select the **Data Type** column of the field for which you want to change the data type.
5. Select the **Data Type** list.
6. Select the desired data type.

ADDING A FIELD DESCRIPTION

✎ Discussion

You can enter an optional description for each field in the **Description** column in the design grid. The description appears on the status bar when the field is accessed on a form. You can enter brief comments as to the purpose of the field or the data that should be stored in it.



A field description

➡ Steps

1. Open the desired database.
2. Open or create a table in **Design** view.
3. Enter field names as desired.
4. Select the **Description** column of the field to which you want to add a description.
5. Type the desired description.

SETTING A PRIMARY KEY

✎ Discussion

Access works most efficiently if you specify a primary key for a table. The primary key is a field or group of fields that uniquely identifies each record. Therefore, the value of the key field, or the combined values of a group of key fields, must not be found in more than one record.

There are several advantages to setting a primary key for a table. First, the primary key is automatically indexed, which makes information retrieval faster. Second, when you open a table, the records are automatically sorted in order by the primary key. Finally, a primary key prevents entry of duplicate data because Access does not allow duplicates in the primary key field.

- If you have trouble identifying a field to be the primary key, it is best to create an **AutoNumber** field and designate it as the primary key.

- You cannot choose a **Memo**, **OLE**, or **Hyperlink** field as the primary key.

- To create a multi-field primary key, hold **[Ctrl]**, click the desired fields, and then click the **Primary Key** button on the **Table Design** toolbar.

➡ Steps

1. Open the desired database.
2. Open or create a table in **Design** view.
3. Enter field names as desired.
4. Select the row for the field you want to designate as the primary key.
5. Click the **Primary Key** button  on the **Table Design** toolbar.

SAVING A NEW TABLE

✎ Discussion

After you design the fields for a table, you must save the table design before you can add any data. When you save a new table, you should give it a name that describes the records it stores. You can use up to 64 characters, including spaces. These characters can include letters, numbers, and spaces. They cannot contain a period (.), an exclamation point (!), a back quote (`), brackets ([]), or ASCII control characters.

After you save a table, an icon with the table name appears as a **Tables** object in the Database window.

- When you save a table to a database file for the first time, Access opens the Save As dialog box in which you enter the desired table name.

- When you save a table, you are not creating a file. You are adding an object to the database file.

➡ Steps

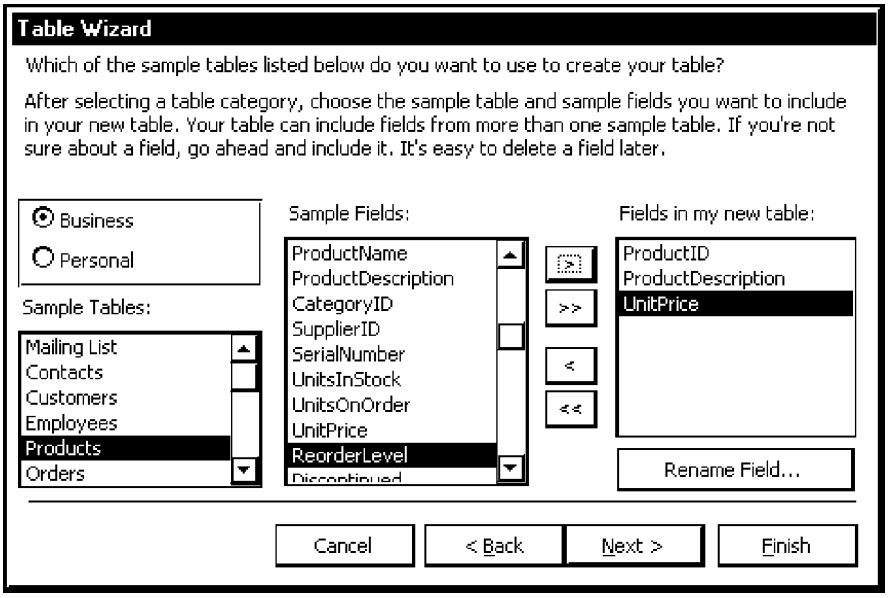
1. Open the desired database.
2. Create a table in **Design** view.
3. Enter the desired table data.
4. Click the **Save** button  on the **Table Design** toolbar.
5. Type a name for the table.
6. Select **OK**.

USING THE TABLE WIZARD

✎ Discussion

You can use the Table Wizard to lead you through the steps to create a new table. The Table Wizard contains a set of models or templates for typical business and personal

tables. You select the type of table you want to create, then select the predefined fields you want to add to the table.



Using the Table Wizard

- If the database does not contain any tables when you begin the Table Wizard, you will not be able to relate the new table to other tables in the database.

- You can use the right-pointing double arrow button on the first page of the Table Wizard to select all the sample fields for use in your new table and you can use the left-pointing arrow buttons to remove selected fields from your new table.

- You can rename fields for use in your new table by selecting the desired field in the **Fields in my new table** list box on the first page of the Table Wizard and then selecting the **Rename Field** button.

- You can also activate the Table Wizard by selecting the **Create table by using wizard** option in the **Tables** object list in the Database window and then selecting the **Open** button on the Database window toolbar.

➡ Steps

1. Open the desired database.
2. Display the **Tables** object list.
3. Select the **New** button  on the Database window toolbar.
4. Select **Table Wizard**.
5. Select **OK**.
6. Select the **Business** or **Personal** option.
7. Select a sample table from the **Sample Tables** list box.
8. Select the first field you want to add to the table in the **Sample Fields** list box.
9. Select  to the right of the **Sample Fields** list box.
10. Add other fields as desired.
11. Select **Next**.
12. Type a name for the table in the **What do you want to name your table?** text box.
13. Select the desired option for the primary key.
14. Select **Next**.
15. Select the **What field will hold data that is unique for each record?** list.
16. Select the desired field.
17. Select the desired option for creating the data in the primary key field.
18. Select **Next**.
19. Select **Relationships** to relate the new table to any other tables in the database, if desired.
20. Select the appropriate relationship option.
21. Select **OK**.
22. Select **Next**.
23. Select the option corresponding to the view you want to appear after you exit the wizard.
24. Select **Finish**.

LESSON 3 -
WORKING WITH TABLES

In this lesson, you will learn how to:

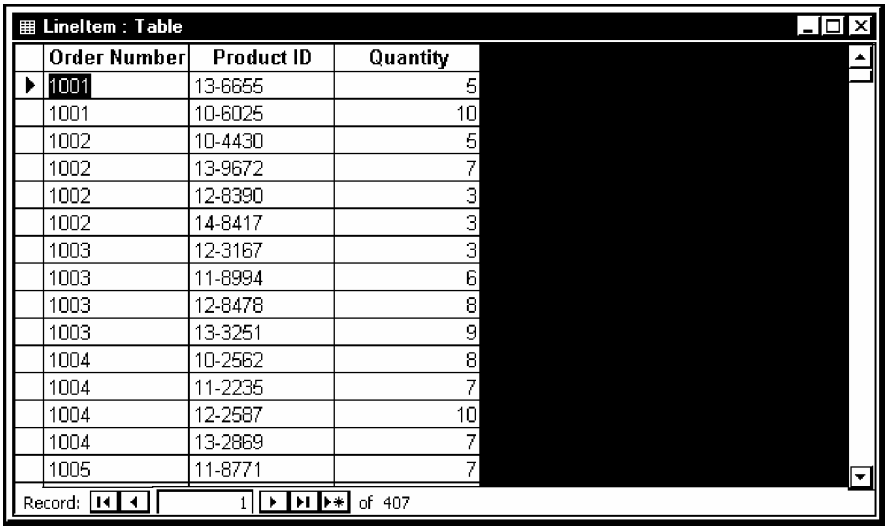
- Use Datasheet view
- Navigate fields in tables
- Add records
- Move through records
- Select records
- Edit records
- Save records
- Delete records

USING DATASHEET VIEW

✎ Discussion

When you open a table, it appears in **Datasheet** view by default. **Datasheet** view is useful when you want to enter, edit, or delete records.

The table data is arranged in rows and columns. The columns are fields and the rows are records. Multiple records can appear at the same time. The small box to the far left of the table is the record selector. A black triangle appears in the record selector to indicate the current record.


LineItem : Table

Order Number	Product ID	Quantity
1001	13-6655	5
1001	10-6025	10
1002	10-4430	5
1002	13-9672	7
1002	12-8390	3
1002	14-8417	3
1003	12-3167	3
1003	11-8994	6
1003	12-8478	8
1003	13-3251	9
1004	10-2562	8
1004	11-2235	7
1004	12-2587	10
1004	13-2869	7
1005	11-8771	7

Record: 1 of 407

Datasheet view

NAVIGATING FIELDS IN TABLES

✎ Discussion

As you enter or edit data, you can use the mouse or the keyboard to move to the next field. If there are too many fields to display in **Datasheet** view, the window scrolls automatically as you move to the right or left. You can also use the navigation buttons at the bottom of the datasheet to move between fields.

As you enter or edit data, you can use the **[Tab]** or **[Enter]** keys to move from field to field. You can also use the arrow keys to navigate fields in a table. These keys are helpful because they allow you to keep your hands on the keyboard at all times, rather than having to switch back and forth from the keyboard to the mouse. However, the

mouse is useful if you want to skip certain fields. You simply click in the field where you want to enter or edit data.

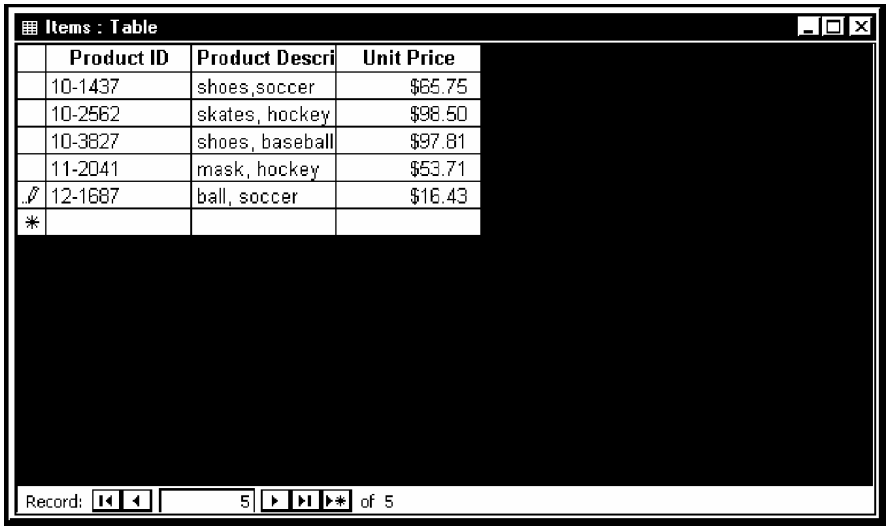
- You can also use the keyboard to move through records. The arrow keys move the insertion point up and down one record and the **[Page Up]** and **[Page Down]** keys display the previous and next pages of records, respectively.

ADDING RECORDS

✎ Discussion

Following the last existing record in a table is a blank row, which displays an asterisk (*) in the record selector. This blank row is a new record row, which you can use to add data to a table. In a table, you add a new record by moving to the new record row and typing the data in the appropriate fields. If there is no data in the table, only a new record row appears. You can enter data into it immediately. As soon as you begin entering data into the new record row, Access creates a new record row below it. A pencil appears in the record selector to indicate the record being entered or edited.

When you enter data into a row, the amount of characters you can enter is limited by the size of the field. The field size may actually be larger than the column width in **Datasheet** view. If the field size is larger than the column width, the text scrolls as you type.



Adding records

- You can use the **Clipboard** toolbar to enter repeated values into fields. You can copy as many as twelve separate entries to the Office Clipboard. To display the Office Clipboard, right-click any toolbar and select the **Clipboard** command. Each copied item appears as an icon on the toolbar. When you point to an entry, a description of the contents of the copied item appears. Clicking the icon inserts the copied values into the selected field.

- You can also use the **New Record** button on the **Table Datasheet** toolbar or at the bottom of the datasheet to add a new record.

- You can also use the **[Tab]** key to move to the next field in a table.

➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Click in the first field of the new record row, if necessary.
4. Type the desired data into the first field of the new record.
5. Press **[Enter]**.
6. Continue typing the desired data into the appropriate fields, pressing **[Enter]** after each entry.

MOVING THROUGH RECORDS

✎ Discussion

If there are too many records in a table to display in **Datasheet** view, a scroll bar appears on the right side of the **Datasheet** view. You can use this scroll bar to view additional records. Access also includes navigation buttons at the bottom of the datasheet that can be used as shortcuts to moving through the data. These buttons and their functions are listed in the following table:

Button	Description
	Moves to the first record in the table.
	Moves to the previous record in the table.
	Moves to the next record in the table.
	Moves to the last record in the table.

- You can also use the keyboard to move through records. The arrow keys move the insertion point up and down one record and the **[Page Up]** and **[Page Down]** keys display the previous and next pages of records, respectively.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Click the **Last Record** button  at the bottom of the Datasheet view window.
4. Click the **First Record** button  at the bottom of the Datasheet view window.
5. Click the **Next Record** button  at the bottom of the Datasheet view window.
6. Click the **Previous Record** button  at the bottom of the Datasheet view window.

SELECTING RECORDS

✎ Discussion

Selecting a record is different than just scrolling the view so that you can see the data in the record. When you select a record, that record becomes the active record. A

black triangle appears in the record selector to the left of the record to indicate the active record.

Selecting a record is useful when you want to delete or copy the data contained in the record. For example, if you need to add a record containing almost identical information to the current record, you can select the current record and copy the data in order to paste and edit it as a new record.

- You do not need to select the entire row in order to select a record. As long as the insertion point is in the record and the black triangle appears in the record selector, the record is selected. However, in order to copy the data in the record, you must select the entire record.

- You can also use the keyboard to select a record. The arrow keys move the insertion point up and down one record and the **[Page Up]** and **[Page Down]** keys select the first record on each page of the datasheet.

➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Point to the record selector to the left of the desired record.
4. Select the record selector to the left of the desired record.

EDITING RECORDS

✎ Discussion

You can edit records at any time in Access. However, you cannot edit **AutoNumber** fields because Access automatically assigns a number to each record in **AutoNumber** fields.

When you edit records, a pencil appears in the record selector to the left of the record you are editing. The following table describes various keystrokes you can use to quickly edit records in Access:

Keystroke	Description
[Up]	Moves the insertion point to the same field in the previous record and selects the entire contents of the field.
[Down]	Moves the insertion point to the same field in the next record and selects the entire contents of the field.
[Right]	When the entire field is selected, this key moves the insertion point to the next field in the record and selects the entire contents of the field. When the field is not selected and the insertion point is positioned in the contents of the field, this key moves the insertion point one character to the right.
[Left]	When the entire field is selected, this key moves the insertion point to the previous field in the record and selects the entire contents of the field. When the field is not selected and the insertion point is positioned in the contents of the field, this key moves the insertion point one character to the left.
[F2]	Toggles between selecting and deselecting the current field.
[Ctrl+Enter]	Inserts a new line character in the field.
[Ctrl+']	Replaces the contents of a field with the contents from the same field in the previous record.
[Ctrl+Alt+Spacebar]	Replaces the contents of the field with the default contents, if one was specified.
[Ctrl+Shift+:]	When the field is selected, this key combination replaces the contents of the field with the current time.
[Ctrl+;]	When the field is selected, this key combination replaces the contents of the field with the current date.

➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the field you want to edit.
4. Position the insertion point as necessary.
5. Edit the record as desired.

SAVING RECORDS

✎ Discussion

Access automatically saves new records or changes made to existing records when you move to another record in a table. You can also save a record manually. This option is useful if the record has numerous fields and you want to save the changes to each individual field rather than waiting until you move to the next record.

●	Access also saves records automatically when you close a table.

●	You can also press the **[Shift+Enter]** key combination to save a record.

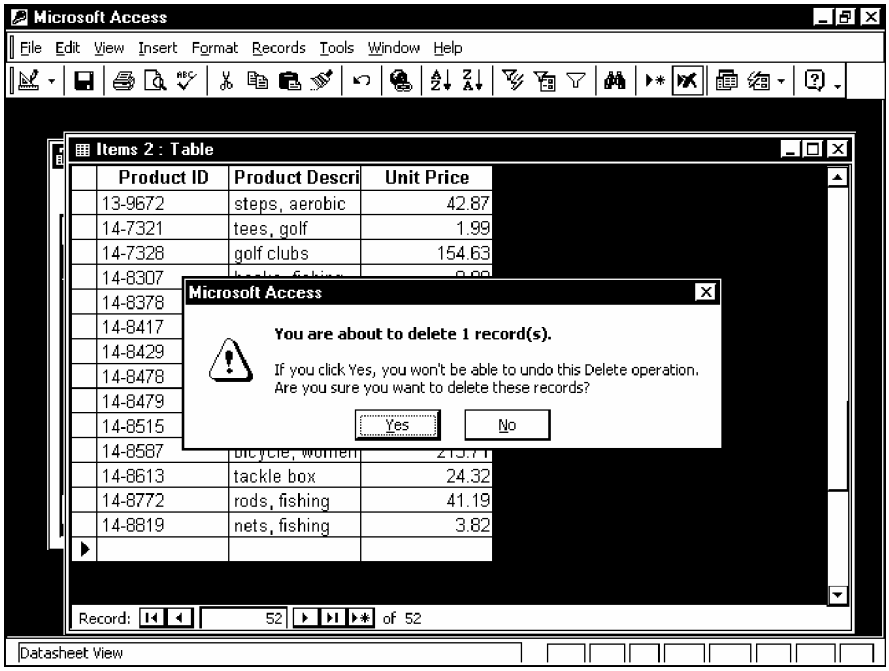
➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the **Records** menu.
4. Select the **Save Record** command.

DELETING RECORDS

✎ Discussion

When you no longer need the information in a record, you can delete the record. Deleting records saves disk space and keeps your tables small.



Deleting records

●	After you confirm that you want to delete record(s), you cannot undo the deletion.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the record you want to delete.
4. Click the **Delete Record** button  on the **Table Datasheet** toolbar.

5. Select **Yes** to delete the record.

LESSON 4 -
SETTING FIELD PROPERTIES

In this lesson, you will learn how to:

- Use field properties
- Limit field size
- Set number formats
- Set date/time formats
- Set yes/no formats
- Set default values
- Set validation rules
- Create an input mask

USING FIELD PROPERTIES

✎ Discussion

Each field has a set of properties that control the way it stores, handles, and displays data. Setting field properties saves time in the later stages of building a database because they are used for forms and reports you create. Therefore, you will have less design work to do in later stages if you set field properties before you create forms and reports.

You normally set properties when you create a table in **Design** view. If you saved the table using the default properties, you can display it in **Design** view to change the property settings.

The field properties available in the **Field Properties** pane of the Design view window depend on the data type selected in the design grid. Some of the property types you can set are listed in the following table:

Property type	Description
Field Size	Limits a **Text** field to a specific number of characters or a **Number** field to the range of numbers it can store.
Format	Controls the way data appears in **Datasheet** view.
Decimal places	Displays a set number of decimal places. This property type has no effect on **Number** fields using the **General** format and is available for **Number** and **Currency** fields only.
Input Mask	Sets a pattern that determines the input format of data, such as the hyphens in a telephone number.
Caption	Specifies a label other than the field name that appears in the table and on forms and reports.
Default Value	Displays a specified value for a field in new records.
Validation Rule	Limits the data entered to meet a certain requirement. For example, you can specify that the **Credit Limit** field cannot be over $10,000.
Validation Text	Specifies the text you want to appear in an error message if the data entered violates the validation rule.

Property type	Description
Required	Specifies that the field cannot be left empty when entering data into a record.
Allow Zero Length	Determines whether or not you can enter adjacent quotation marks (“ ”) in a field to indicate that there is no data for that field in the record.
Indexed	Speeds up retrieval of data in a field. All primary key fields are automatically indexed.

- When you select a field property, a brief description of the property appears in the description box on the right side of the **Field Properties** pane in the Design view window. You can press the **[F1]** key for help about a specific property.

LIMITING FIELD SIZE

✎ Discussion

When you set a field size, you can only enter as much data into the field as allowed within the set parameters. After typing the maximum number of characters allowed, further keystrokes are not permitted.

You can only set the **Field Size** property for **Text**, **Number**, and **AutoNumber** fields. All the other field data types have default widths that are set automatically. For a **Text** field, you simply type the maximum number of characters you want to allow in the field up to a maximum number of 255 characters allowed by Access. For **Number** fields, you have a number of options, which are listed in the following table:

Field Size	Size Range	Decimal Places
Byte	0 to 255 (no fractions)	None. Data is rounded.
Integer	-32768 to 32767 (no fractions)	None. Data is rounded.
Long Integer	-2,147,483,648 to 2,147,483,647 (no fractions)	None. Data is rounded.
Single	-3.4×10^{38} to 3.4×10^{38}	Up to 7.

Field Size	Size Range	Decimal Places
Double	$-1.797x10^{308}$ to $1.797x10^{308}$	Up to 15.
ReplicationID	Globally unique identifier.	Not available.

- The **Byte** field size for **Number** fields can only store positive numbers.

- The default field size for **Number** fields is **Long Integer**. This size is also the largest field size. However, you should use the smallest possible field size so that the fields use less storage space and can be processed faster.

- You may lose existing data if you decrease the original field size. You cannot undo changes to the design after you have saved it.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Design** view.
3. Select the field for which you want to set a field size.
4. Select the **Field Size** property on the **General** page in the **Field Properties** pane.
5. Select the **Field Size** list or enter the desired value.
6. Select the desired field size option, if applicable.

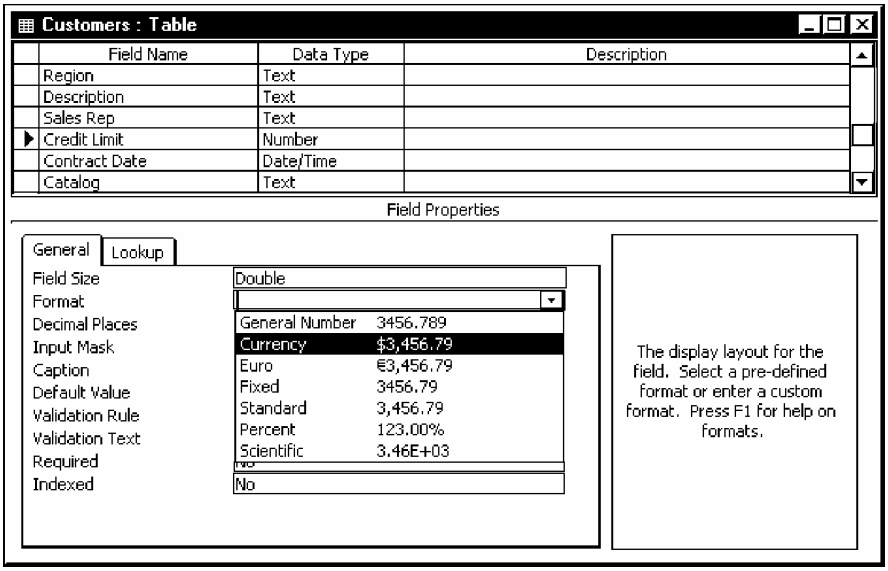
SETTING NUMBER FORMATS

✎ Discussion

The **Format** property affects how data appears on the screen in **Datasheet** view, not how it is stored in the table or used in calculations. For example, with 0 decimal places, 1.5 appears as 2, but when it is multiplied by 2, the answer is 3, and not 4.

The available formats for fields with **Number** data types are listed in the following table:

Format	Description
General	Displays a number the way it was entered. This is the default format.
Currency	Uses a comma as a thousands separator and displays a currency symbol. Negative numbers display in parentheses. The default number of decimal places is 2.
Fixed	Displays at least one digit. The default number of decimal places is 2. The number in the field is rounded to the set number of decimal places.
Standard	Uses a comma as a thousands separator. The default number of decimal places is 2.
Percent	Multiplies the number entered by 100 and places a percent symbol at the end. The default number of decimal places is 2.
Scientific	Expresses numbers as multiples of exponents of 10 in standard scientific notation.



Setting number formats

➥ Steps

1. Open the desired database.
2. Open the desired table in **Design** view.
3. Select the field for which you want to set a number format.
4. Select the **Format** property on the **General** page in the **Field Property** pane.
5. Select the **Format** list.
6. Select the desired number format.

SETTING DATE/TIME FORMATS

✎ Discussion

You can also change the format of a field with a **Date/Time** data type to change the way the date or time appears in a table. The available formats for fields with **Date/Time** data types are listed in the following table:

Format	Description
General Date	If the value is only a date, no time appears. If the value is only a time, no date appears. This format is the default.
Long Date	The day and month names are spelled out, such as, Tuesday, July 4, 1995.
Medium Date	The month name is abbreviated and the name of the day is omitted, such as, 04-Jul-95.
Short Date	The date appears as numbers separated by slashes, such as, 7/4/95.
Long Time	Times appear with hours, minutes, and seconds, separated by colons and followed by an AM or PM indicator, such as, 6:30:15 PM.
Medium Time	This format is the same as the **Long Time** format except that no seconds appear, such as, 06:15 PM.
Short Time	The time appears in the 24-hour clock format with no seconds, such as, 18:30.

- Default date and time formats are determined by the settings in the **Regional Settings** section of the Windows Control Panel.

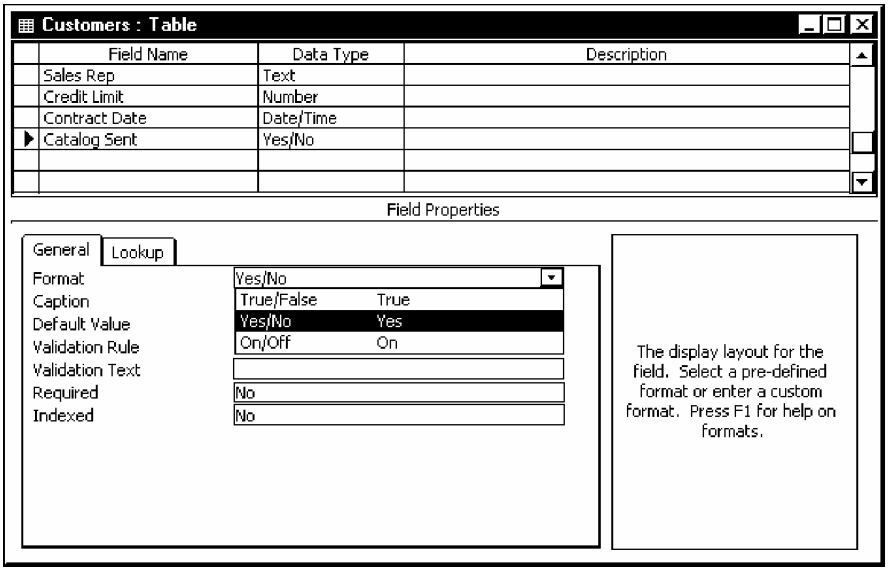
➡ Steps

1. Open the desired database.
2. Open the desired table in **Design** view.
3. Select the field for which you want to set a date/time format.
4. Select the **Format** property on the **General** page in the **Field Properties** pane.
5. Select the **Format** list.
6. Select the desired date/time format for the field.

SETTING YES/NO FORMATS

✎ Discussion

Fields with **Yes/No** data types can display yes or no, true or false, or on or off. You can specify which format to display in the field. If you specify **True/False** as the format and a user enters **Yes**, Access automatically converts it to **True**.



Setting yes/no formats

➡ Steps

1. Open the desired database.
2. Open the desired table in **Design** view.
3. Select the field for which you want to set a yes/no format.
4. Select the **Format** property on the **General** page in the **Field Properties** pane.
5. Select the **Format** list.
6. Select the desired yes/no format.

SETTING DEFAULT VALUES

✎ Discussion

You can set a default value for a field using the **Default Value** property. The default value is automatically entered in the field when you create a new record. Changes will not be added to previous entries. You can then change the value if it is not appropriate for the record you are entering. A default value saves time in data entry. For example, if your table contains the names and addresses of clients, and most of your clients are in New York state, you can set the default value in the state field to NY. If a client resides in Connecticut, you can change the entry for that individual record.

To set a default value, you enter an expression for the **Default Value** property. An expression consists of operators (i.e. =, +, -, *, /) and/or values. You can enter an expression directly into the **Default Value** text box, or you can use the Expression Builder. The **Expression Builder** button appears to the right of the **Default Value** text box when you select it.

The Expression Builder dialog box contains the available functions, operators, and constants you can use to create an expression. A function calculates a value based on the results of its built-in formula. A constant is a value that does not change, such as True or False. As you select items in the list boxes in the lower half of the dialog box or click any of the available buttons, Access creates the expression in the list box in the top half of the dialog box.

If you create an expression for a **Text** field, the value must be enclosed in quotation marks (“ ”); for example, “Net 30”. Values for **Date** fields must be enclosed in number signs (#); for example, #1/15/95#. If you do not enter the number signs, Access will automatically enter them.

●	You cannot set a default value for fields with **AutoNumber** or **OLE object** data types.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Design** view.
3. Select the field for which you want to set a default value.
4. Select the **Default Value** property on the **General** page in the **Field Properties** pane.

5. Create the desired expression.
6. Press **[Enter]**.

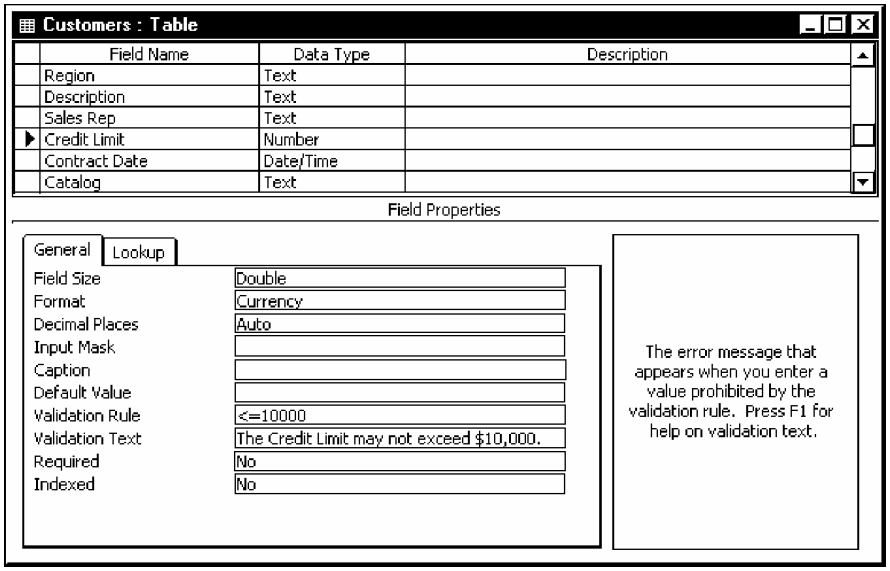
SETTING VALIDATION RULES

✎ Discussion

You can set a validation rule for a field using the **Validation Rule** property. Access checks the validation rule when you enter data into a field of a new record. If the value you enter does not meet the conditions of the validation rule, Access displays a warning box to indicate the error. You specify the text you want to appear in the warning message in the **Validation Text** property.

Setting a validation rule is different from setting data type or field length. Access uses data type and field length to determine that the correct type of data is being entered and that the data is not too long. For example, if you set a data type as **Number**, Access does not allow you to enter text characters. Access also restricts you from entering a number that is too large for the parameters of the field size. While these restrictions allow Access to verify that you are entering the right type and length of data, they are not validation rules. Validation rules are more specific in their restrictions. A validation rule allows you to set specific conditions so that only certain types of data can be entered. For example, you can create a validation rule so that numbers entered in a particular field must be between 500 and 1000.

To set a validation rule, you enter an expression for the **Validation Rule** property. You can enter an expression directly into the **Validation Rule** property, or you can use the Expression Builder. The **Expression Builder** button appears to the right of the **Validation Rule** property when you select it. The Expression Builder dialog box contains the available functions, operators, and constants you can use to create an expression. As you select items in the list boxes in the lower half of the dialog box or click any of the available buttons, Access creates the expression in the list box in the top half of the dialog box.



Setting a validation rule

➡ Steps

1. Open the desired database.
2. Open the desired table in **Design** view.
3. Select the field for which you want to set a validation rule.
4. Select the **Validation Rule** property on the **General** page in the **Field Properties** pane.
5. Type the desired validation rule.
6. Select the **Validation Text** property on the **General** page in the **Field Properties** pane.
7. Type the desired validation text.

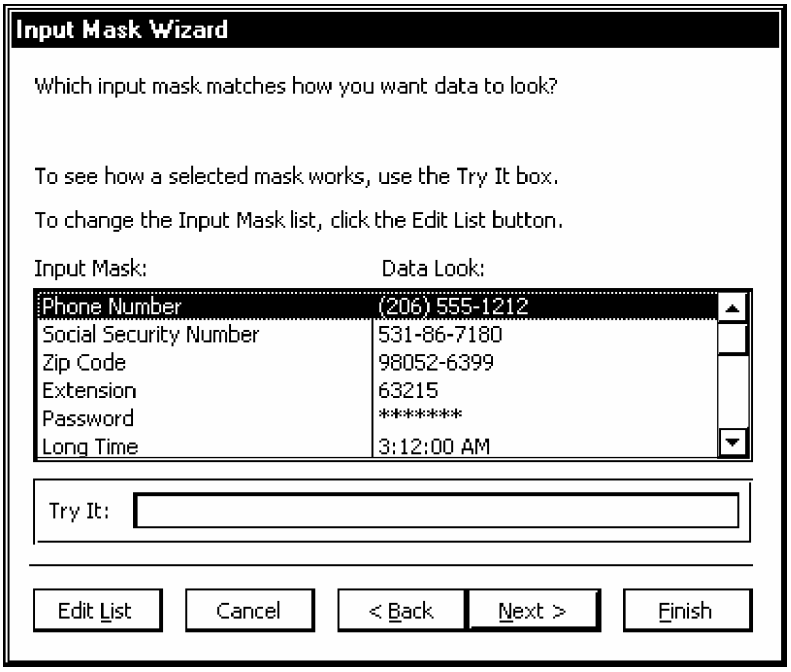
CREATING AN INPUT MASK

✎ Discussion

To ensure data is entered in a specific manner, you can create an input mask. An input mask allows you to define how the data is entered into the field. Since the input mask controls what values users can enter in a field, it often makes data entry easier in addition to controlling the entries. You can create an input mask by entering the

criteria directly into the field property. However, it is often easier to use the Input Mask Wizard to set the property for you.

The Input Mask Wizard offers several predefined input masks for items such as dates, ZIP codes, telephone numbers, times, etc. The wizard allows you to modify the predefined input mask to meet your needs and define how the data may be saved.



The Input Mask Wizard

- You can get specific information on how to create or modify an input mask by clicking in the **Input Mask** field property and pressing the **[F1]** key.

- Data that has already been entered into the field is not affected when an input mask is applied. The input mask only affects new entries.

- You can also open the Input Mask Wizard by right-clicking in the desired **Input Mask** field and then selecting the **Build** command or by clicking the **Build** button on the **Table Design** toolbar.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Design** view.
3. Select the field for which you want to set a number format.
4. Select the **Input Mask** property on the **General** page in the Field Properties pane.
5. Click the **Build** button.
6. Select the desired input mask option in the **Input Mask** list.
7. Select **Next**.
8. Select the **Placeholder Character** list.
9. Select the desired placeholder, if necessary.
10. Select **Next**.
11. Select whether or not you want to store the data with the symbols in the mask.
12. Select **Next**.
13. Select **Finish**.

LESSON 5 -
EDITING TABLES

In this lesson, you will learn how to:

- Change the row height
- Change the column width
- Change a font attribute
- Change a cell effect
- Select a column
- Move a column
- Hide a column
- Unhide a column
- Freeze a column

CHANGING THE ROW HEIGHT

✎ Discussion

The standard height for rows in a table is 12.75. You can change the row height to allow field entries that are too long to wrap. This option allows you to display more of the data. Changing the height of a single row changes the height of every row in the table.

- You can also select the **Format** menu and then select the **Row Height** command to open the Row Height dialog box. In this dialog box, you can set a desired row height or select the **Standard Height** option to return the rows to the default height of 12.75.

- You cannot undo changes to the row height by selecting the **Edit** menu and then selecting the **Undo** command. To undo the changes, you must close the table without saving the changes.

➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Point to a line between any two record selectors.
4. Drag the line to the desired height.

CHANGING THE COLUMN WIDTH

✎ Discussion

The standard width for columns in a table is 15.6667. You can change the column width to display any data in a field that is truncated. By widening the column, you allow more of the data to appear in the display.

- You can select the **Format** menu and then select the **Column Width** command to open the Column Width dialog box. In this dialog box, you can set a desired column width or select the **Standard Width** option to return the columns to the default width of 15.6667 points.

- You cannot undo changes to a column width by selecting the **Edit** menu and then selecting the **Undo** command. To undo the changes, you must close the table without saving the changes.

- If you double-click a column separator line to the right of a column header, the width for that column automatically adjusts to the most appropriate width to display the data in the fields.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Point to the separator line to the right of the column header for the column width you want to adjust.
4. Drag the line to the desired width.

CHANGING A FONT ATTRIBUTE

✎ Discussion

You can change font attributes in **Datasheet** view using the Font Command dialog box. Changing font attributes changes the display of the data and the column headings. In the Font Command dialog box, you can change the font type, style, and size, as well as any font effects.

➡ Steps

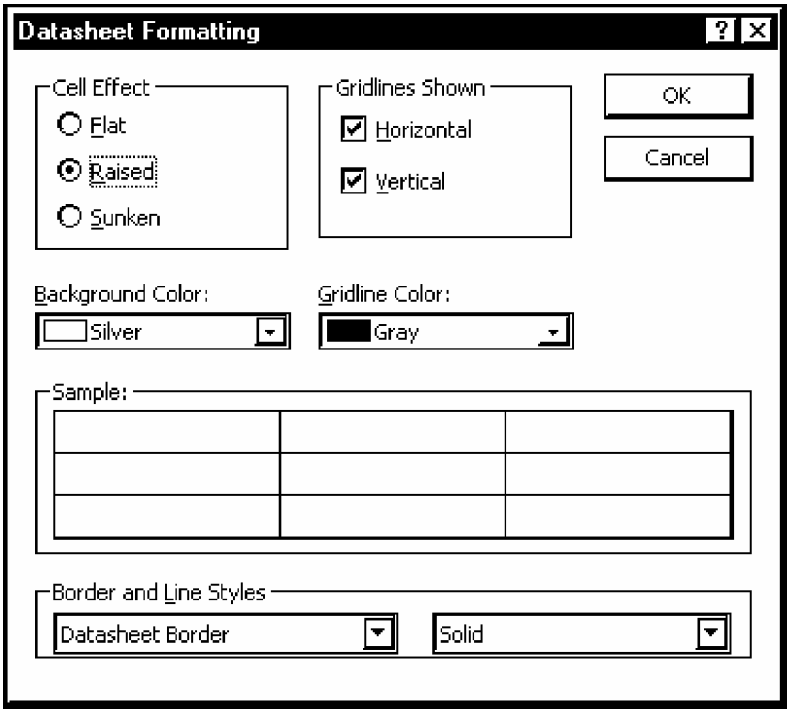
1. Open the desired database.
2. Open the desired table in **Datasheet** view.

3. Select the **Format** menu.
4. Select the **Font** command.
5. Change font attributes as desired.
6. Select **OK**.

CHANGING A CELL EFFECT

✎ Discussion

You can change the way cells appear in **Datasheet** view. For example, you can make cells raised or sunken. You can also change the look of the horizontal and vertical gridlines, as well as the background of cells. The **Sample** box in the Datasheet Formatting dialog box displays the results of your changes.



Changing a cell effect

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the **Format** menu.
4. Select the **Datasheet** command.
5. Change the cell effects as desired.
6. Select **OK**.

SELECTING A COLUMN

✎ Discussion

Before you can manipulate entire columns in a table, you must select them. You can perform a number of actions on columns once they are selected. You can select a single column or multiple adjacent columns.

●	To select multiple adjacent columns, drag across the column headers.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Point to the column header of the column you want to select.
4. Select the column header.

MOVING A COLUMN

✎ Discussion

You can move columns in **Datasheet** view. For example, you can reposition columns to view data more easily or organize it more logically. You can move a single column or multiple adjacent columns. You must select the column or columns before you can move them.

- Moving columns does not change the order of the fields in the table design.

- You cannot undo the changes to a column position by selecting the **Edit** menu and then selecting the **Undo** command. To undo the changes, you must close the table without saving the changes.

➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the column(s) you want to move.
4. Drag the column(s) to the new location.

HIDING A COLUMN

✎ Discussion

If you do not intend to use certain fields, you can choose not to display them on the desktop by hiding the appropriate column(s). You can hide a single column or multiple adjacent columns.

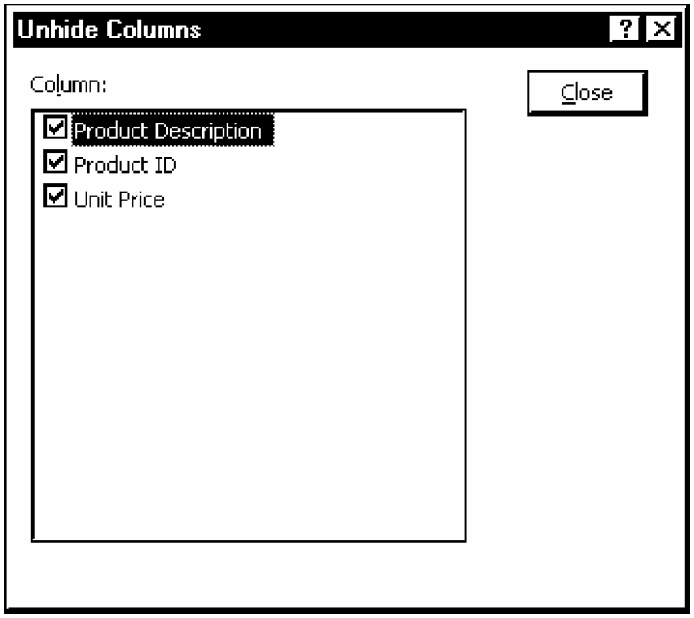
➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the column(s) you want to hide.
4. Select the **Format** menu.
5. Select the **Hide Columns** command.

UNHIDING A COLUMN

✎ Discussion

You can display hidden columns. Hidden columns are listed in the Unhide Columns dialog box. If a deselected check box appears beside a field name, it means that the column is hidden. You can select the check box to unhide the column.



Unhiding a column

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the **Format** menu.
4. Select the **Unhide Columns** command.
5. Select the column(s) you want to unhide.
6. Select **Close**.

FREEZING A COLUMN

✎ Discussion

As you scroll to the right in **Datasheet** view, the far left columns, which usually contain identifying information about the records, scroll off the screen. You can freeze these columns in **Datasheet** view. This option allows you to see the information in the frozen columns no matter how many columns you scroll to the right.

●	A solid, dark line appears to the right of the frozen columns.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the column(s) you want to freeze.
4. Select the **Format** menu.
5. Select the **Freeze Columns** command.

LESSON 6 -
FINDING AND FILTERING DATA

In this lesson, you will learn how to:

- Sort records
- Find specific records
- Find records using wildcards
- Use Replace
- Use Filter By Selection
- Apply/Remove a filter
- Use Filter Excluding Selection
- Use the Filter For feature
- Use Filter By Form

SORTING RECORDS

✎ Discussion

When you display a table in **Datasheet** view, Access displays the records in order by their primary key. You may want to edit or print records in another order; for example, by last name, zip code, or amount due.

You can sort records in either ascending or descending order. Ascending order sorts the column from 0 to 9 and then A to Z. Descending order sorts the column from 9 to 0 and then Z to A. The toolbar includes buttons for both types of sorts.

- You can remove a sort by selecting the **Records** menu and then selecting the **Remove Filter/Sort** command.

- You can also sort records in a table by selecting the **Records** menu, pointing to the **Sort** command, and selecting the **Sort Ascending** or **Sort Descending** command, or by right-clicking in **Datasheet** view and selecting the **Sort Ascending** or **Sort Descending** command.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the field by which you want to sort.
4. Click the **Sort Ascending** button  or **Sort Descending** button  on the **Table Datasheet** toolbar.

FINDING SPECIFIC RECORDS

✎ Discussion

The **Find** feature in Access allows you to locate records quickly. You can search for records that contain a unique value in a certain field or find all records that have a common value in a field. You use the **Find Next** button to begin the search. Access scans the selected field, beginning with the current record, and finds the first record it encounters with matching data. Use the **Find Next** button repeatedly to find additional records containing the same matching data.

In the Find and Replace dialog box, you select options from either the **Look In** or **Match** lists to control the way Access searches for matching records. The **Look In** list enables you to search a specific column. If you are not sure in which column the search criteria is located, you can use the **Table** option to search the whole table. The **Match** list provides options that enable you to define whether the contents of the whole field, only part of the field, or only the beginning of the field should match the search text.

The Find and Replace dialog box remains open while you perform a search. If desired, you can move the dialog box to another location to view the search as it progresses. When the search is finished, a Microsoft Access message box opens, displaying a message appropriate to the search.

- The Find and Replace dialog box maintains the settings of the most recent search when you close it. If you want to search again for the same text, you do not need to enter the settings again. You can press the **[Shift+F4]** key combination to perform the same search again.

- You can also open the Find and Replace dialog box by selecting the **Edit** menu and then selecting the **Find** command to find records or the **Replace** command to find records and replace data.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the field that contains the data you want to find.

4. Click the **Find** button  on the **Table Datasheet** toolbar.
5. Type the text you want to find in the **Find What** text box.
6. Select the **Match** list.
7. Select the desired **Match** option.
8. Select **Find Next** to display the first matching record.
9. Select **Find Next** repeatedly to find any additional matching records.
10. Select **OK** to close the Microsoft Access warning dialog box.
11. Select **Cancel** to close the Find and Replace dialog box.

FINDING RECORDS USING WILDCARDS

✎ Discussion

When you perform a find, you can use wildcards in the Find and Replace dialog box. Wildcards are characters that represent other characters. They allow you to find records even though you may be unsure how the complete entry appears in the field. Wildcards also allow you to find records that share a common entry within a field, but not necessarily the entire field entry. For example, you may want to search for the area code at the beginning of a telephone number field.

The wildcards available in Access are listed in the following table:

Wildcard	Description
*	Represents any number of characters. It can be used anywhere in the search text. For example, entering North* finds all entries beginning with North, entering *Sports finds all entries ending with Sports, and entering *Sports* finds all entries containing Sports.
?	Represents only one character. For example, entering Sm?th finds Smith, Smyth, etc.
[ ]	Finds any character enclosed in the set. For example, entering b[ai]t finds bat and bit, but not bet and but.
!	Finds any character except the ones enclosed in the set. For example, entering b[!ai]t finds bet and but, but not bat and bit.
-	Finds any character in a range in a set. For example, entering b[u-w]t finds but, bvt, and bwt.

Wildcard	Description
#	Represents only one digit. For example, entering 1980# finds 19801, 19802, 19803, etc.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the field containing the data you want to find.
4. Click the **Find** button  on the **Table Datasheet** toolbar.
5. Type the text you want to find in the **Find What** text box.
6. Select the **Match** list.
7. Select the desired **Match** option.
8. Select **Find Next** to display the first matching record.
9. Select **Find Next** repeatedly to find any additional matching records.
10. Select **OK** to close the Microsoft Access warning dialog box.
11. Select **Cancel** to close the Find and Replace dialog box.

USING REPLACE

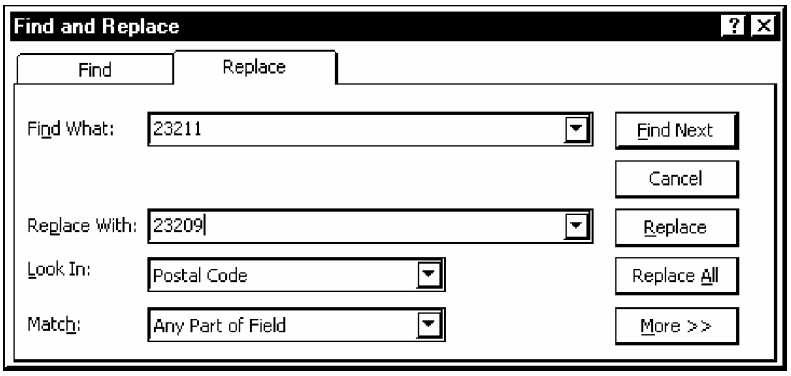
✎ Discussion

The **Replace** feature in Access allows you to locate records and quickly replace data in a field. This feature is especially useful if the same information must be changed in several records. Access scans the selected field, beginning with the current record, and finds the first record it encounters with matching data. You can then choose to replace the data or find the next occurrence of the entry. You can also choose to replace all the data at once.

In the Find and Replace dialog box, you select options from either the **Look In** or **Match** lists to control the way Access searches for matching records. The **Look In** list enables you to search a specific column. If you are not sure in which column the search criteria is located, you can use the **Table** option to search the whole table. The **Match** list provides options that enable you to define whether the contents of the

whole field, only part of the field, or only the beginning of the field should match the search text.

The Find and Replace dialog box remains open while you perform a search. If desired, you can move the dialog box to another location to view the records that are found in the search. When the search is finished, a Microsoft Access message box opens, informing you that the search is complete.



Using Replace

- Selecting the **Replace All** button in the Find and Replace dialog box replaces all the data that matches the search criteria. Make sure that you want to replace all data that matches the search criteria before you use the **Replace All** button because you may not be able to retrieve the data once you replace it.

➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the field that contains the data you want to find.
4. Click the **Find** button  on the **Table Datasheet** toolbar.
5. Select the **Replace** tab.
6. Type the text you want to find in the **Find What** text box.
7. Select the **Replace With** text box.
8. Type the replacement text.
9. Select **Find Next**.

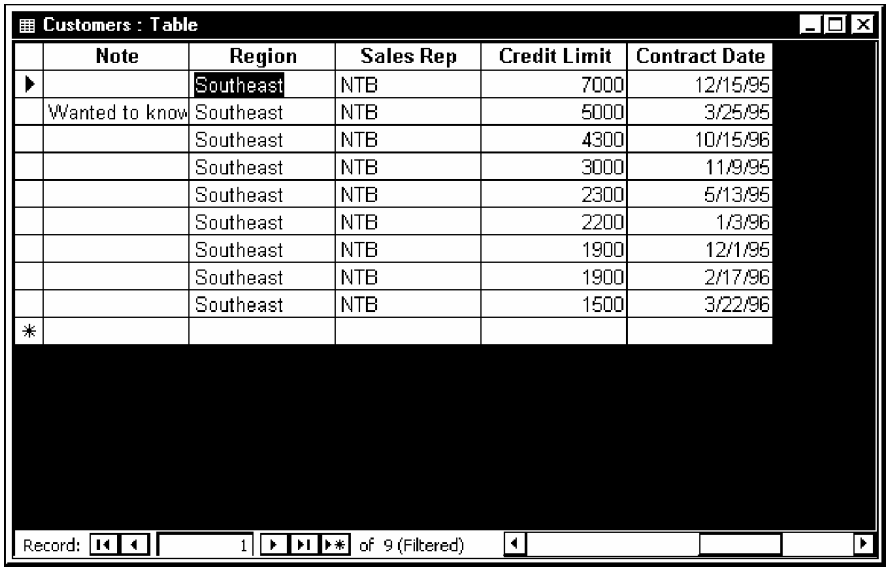
10. Select **Replace**.
11. Select **Replace All**.
12. Select **Yes** to replace the remaining matching records.
13. Select **Cancel** to close the Find and Replace dialog box.

USING FILTER BY SELECTION

✎ Discussion

You can filter data in Access. Filtering data refers to hiding all the data you do not want to see so that you can display the records with which you want to work. For example, in a customers table, you can filter data so that only records of customers located in a specific region appear in the view.

A quick and easy way to filter data in Access is to use the **Filter By Selection** feature where you can select a field in a record that has the data you want to filter. Using the **Filter By Selection** feature then hides all the data except records that match the filter criteria. The filter remains in effect until you remove it.



Filtering by selection

- When a filter is in effect, the **(Filtered)** indicator appears in the status bar at the bottom of **Datasheet** view.

- You can also filter by a selection by selecting the **Records** menu and then selecting the **Filter By Selection** command, or by right-clicking in **Datasheet** view and selecting **the Filter By Selection** command.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the field that contains the data you want to filter.
4. Click the **Filter By Selection** button  on the **Table Datasheet** toolbar.

APPLYING/REMOVING A FILTER

✎ Discussion

The **Apply Filter** button acts a toggle. If a filter is in effect, it becomes the **Remove Filter** button. If no filter is in effect, it applies the most recent filter when you click it.

- You can also apply a filter by selecting the **Records** menu and then selecting the **Apply Filter/Sort** command.

- You can also remove a filter by selecting the **Records** menu and then selecting the **Remove Filter/Sort** command, or by right-clicking in the **Datasheet** view and selecting the **Remove Filter/Sort** command.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.

3. Click the **Apply Filter** or the **Remove Filter** button  on the **Table Datasheet** toolbar.

USING FILTER EXCLUDING SELECTION

✎ Discussion

The **Filter Excluding Selection** feature is similar to the **Filter by Selection** feature except that when you apply a filter of this type, Access displays all the records that do not match the filter criteria. For example, if most of the customers in a customers table are located in the state of NY, you can use the **Filter Excluding Selection** feature to display all the records of customers that are not located in NY.

- You can also filter records excluding the selection by right-clicking in **Datasheet** view and selecting the **Filter Excluding Selection** command.

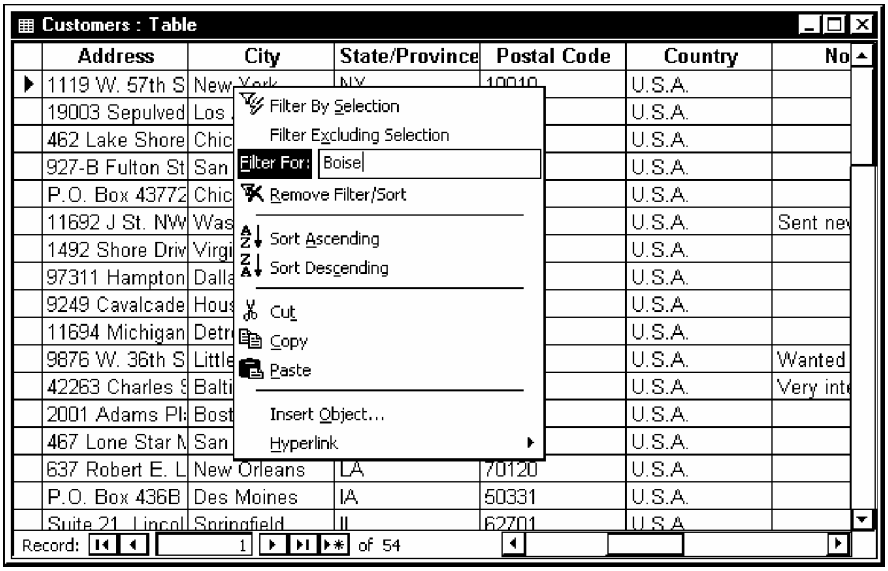
➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the field that contains the data you want to filter.
4. Select the **Records** menu.
5. Point to the **Filter** command.
6. Select the **Filter Excluding Selection** command.

USING THE FILTER FOR FEATURE

✎ Discussion

You can apply a filter to find specific records quickly using the **Filter For** feature. When you apply this type of filter, Access filters the table and displays only the records containing data that matches the filter criteria. This feature eliminates the process of having to scroll through a table in search of records on which to filter.



Using the Filter For feature

- You may use wildcards when using the **Filter For** feature.

➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Right-click a field in a column that contains the field to which you want to apply a filter.
4. Select the **Filter For** text box.
5. Type the desired filter criteria.
6. Press **[Enter]**.

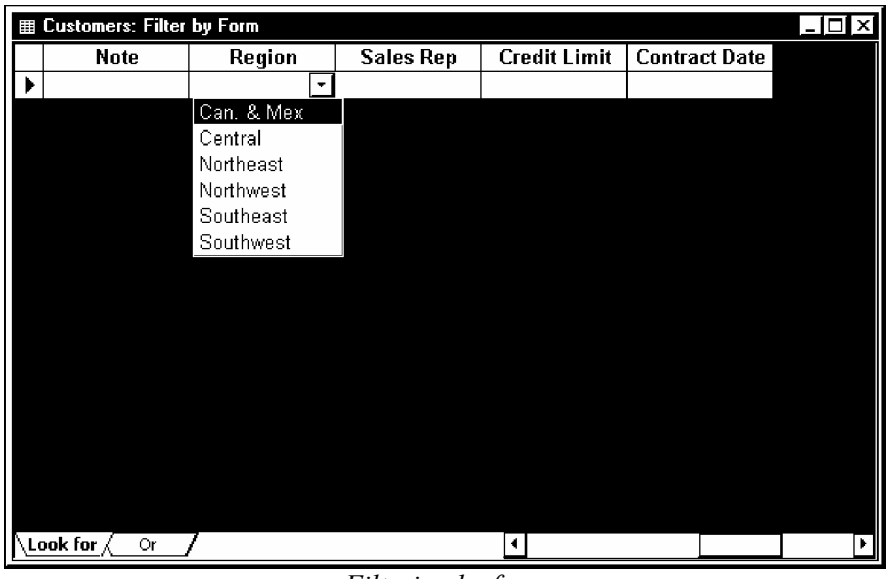
USING FILTER BY FORM

✎ Discussion

You can use the **Filter By Form** feature to filter data. The **Filter By Form** feature displays what looks like a blank record in **Form** view. You then enter the data for which you want to search in the appropriate field. When you apply the filter, only

those records with matching data in the appropriate field appear. All the other records are hidden.

When you select a field in the Filter By Form window in **Form** view, a list appears. This list displays the existing data in the field so that you can easily choose the data by which you want to filter. This option is useful because you do not have to remember exactly how the data was entered into the field.



Filtering by form

- If you have used other methods to filter prior to using the **Filter By Form** feature, the most recent filter appears in the form. You can click the **Clear Grid** button to clear any previous filters.

- You can also enable the **Filter By Form** feature by selecting the **Records** menu, pointing to the **Filter** command, and selecting the **Filter By Form** command.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Click the **Filter By Form** button  on the **Table Datasheet** toolbar.

4. Click the **Clear Grid** button  on the **Filter/Sort** toolbar to clear any previous filters, if necessary.
5. Select the field to which you want to apply a filter.
6. Select the field list.
7. Select the data by which you want to filter.
8. Click the **Apply Filter** button  on the **Filter/Sort** toolbar.

LESSON 7 -
MODIFYING TABLES

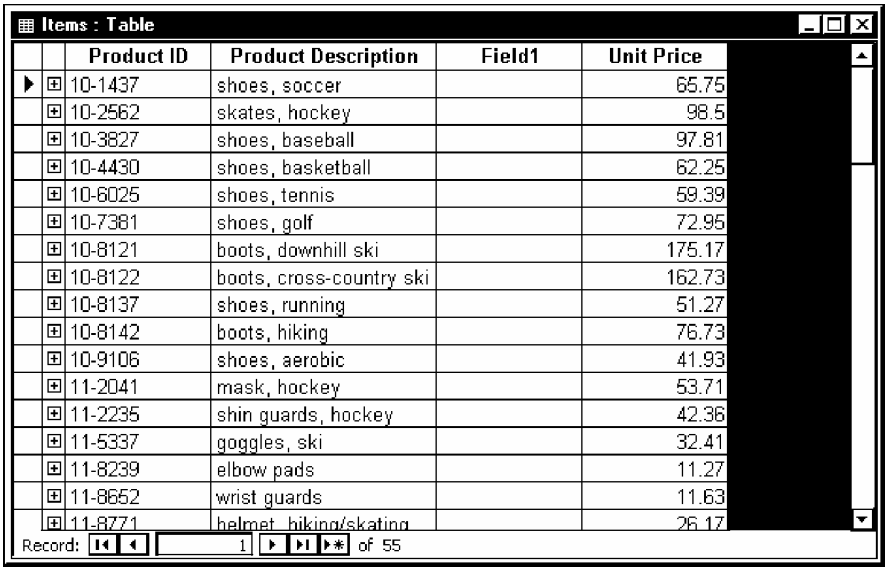
In this lesson, you will learn how to:

- Insert a column in a table
- Change a column name
- Delete a column
- Insert a lookup column
- Insert a hyperlink column

INSERTING A COLUMN IN A TABLE

✎ Discussion

You may find it necessary to insert one or more columns in a table. When you insert a column, you add a new field to the table. You must specify the location for the new field within the table. Access sets a default field width, provides a default field name, and assigns a default data type (**Text**). You can change any of these default settings in **Design** view.


Items : Table

	Product ID	Product Description	Field1	Unit Price
⊞	10-1437	shoes, soccer		65.75
⊞	10-2562	skates, hockey		98.5
⊞	10-3827	shoes, baseball		97.81
⊞	10-4430	shoes, basketball		62.25
⊞	10-6025	shoes, tennis		59.39
⊞	10-7381	shoes, golf		72.95
⊞	10-8121	boots, downhill ski		175.17
⊞	10-8122	boots, cross-country ski		162.73
⊞	10-8137	shoes, running		51.27
⊞	10-8142	boots, hiking		76.73
⊞	10-9106	shoes, aerobic		41.93
⊞	11-2041	mask, hockey		53.71
⊞	11-2235	shin guards, hockey		42.36
⊞	11-5337	goggles, ski		32.41
⊞	11-8239	elbow pads		11.27
⊞	11-8652	wrist guards		11.63
⊞	11-8771	helmet, hiking/skating		26.17

Record: 1 of 55

Inserting a column in a table

- In **Datasheet** view, related or joined data in a table is indicated by a plus symbol (+) to the left of a record. Clicking the plus symbol (+) displays the related or joined data in a table. This table is referred to as a subdatasheet. The subdatasheet may be edited using the same methods you would use to edit a standard datasheet.

- After you add a column to a table, you should change the default field name to a name that clearly identifies the contents of that column.

- You can also insert a column by right-clicking a column heading and then selecting the **Insert Column** command.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Position the insertion point in the column to the left of which you want to insert the new column.
4. Select the **Insert** menu.
5. Select the **Column** command.

CHANGING A COLUMN NAME

✎ Discussion

A column name should clearly indicate the information that a column contains in order to make working with data easier. When you change the name of a column, you change the field name. When you are selecting a name for a column, keep in mind that you cannot use duplicate field names. In addition, column names can be up to 64 characters long, but shorter names are recommended.

●	You can also rename a column by right-clicking a column heading and then selecting the **Rename Column** command.

●	Column names can contain spaces, numbers, and many special characters, except a period (**.**), an exclamation point (**!**), or square brackets (**[ ]**).

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Point to the column heading you want to change.
4. Double-click the column heading.
5. Type the new column name.
6. Press **[Enter]**.

DELETING A COLUMN

✎ Discussion

There may be times when you want to delete a column in a table. When a column is deleted, the columns to the right automatically adjust to the left. If other database objects (such as lookup tables) contain references to a deleted field, they generate error messages unless they are deleted as well.

- You can also delete a column by right-clicking a column heading and then selecting the **Delete Column** command.

- You cannot delete a field that has been used in a relationship with another table unless you first delete the relationship.

- Once a column is deleted, all data contained in it is permanently deleted. You cannot undo the deletion after you confirm it.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Click in a field in the column you want to delete.
4. Select the **Edit** menu.
5. Select the **Delete Column** command.
6. Select **Yes** to confirm the deletion.

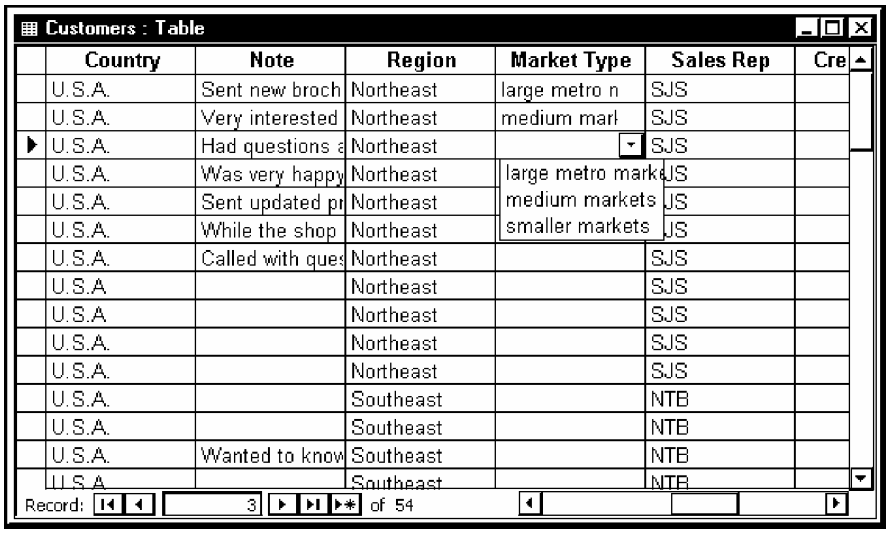
INSERTING A LOOKUP COLUMN

✎ Discussion

A lookup column saves time when you are entering data in a table by reducing the amount of information you must type in a field. A lookup column eliminates the need to search for information each time you want to add a record by looking up data in another data source. It also increases data entry accuracy by providing a list of standard values from which you can choose.

The Lookup Wizard can assist you in creating a lookup column to suit your needs. The values in a lookup column can come from another table, a query, or your own list. For example, in one table, you may have a list of customers. In another table, you may have a list of customer types and information related to each customer type. In the customer table, you can use the data from the customer type table for a lookup column. When you are working in the customer table, you can choose the customer type from a list to make the entries more consistent.

During data entry, a drop-down arrow automatically appears in a lookup column. You can use the arrow to access a list of values, or you can type a value that is not on the list directly into the column.



Using a lookup column to enter information into a table

- You can also insert a lookup column by right-clicking a column heading and then selecting the **Lookup Column** command.

- In a lookup column, if you click the right side of a field where the arrow is positioned, the arrow and the list appear together. You do not have to click in the field first and then click the arrow to access the list.

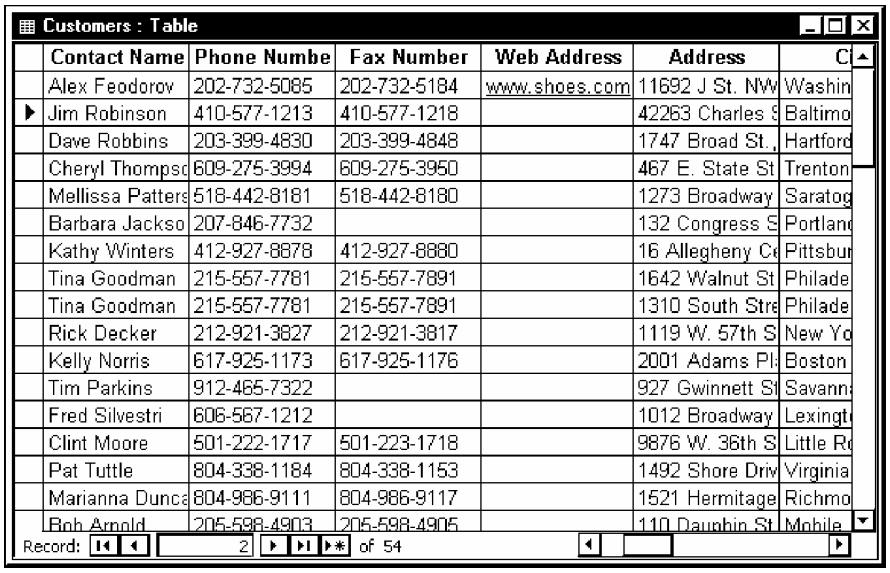
➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Position the insertion point in the column to the left of which you want to insert a lookup column.
4. Select the **Insert** menu.
5. Select the **Lookup Column** command.
6. Select the option indicating how you want the lookup column to get its values.
7. Select **Next**.
8. Select the table or query you want to use to provide the values for the lookup column.
9. Select **Next**.
10. Add the field(s) you want to include in the lookup column from the **Available Fields** list box.
11. Select **Next**.
12. Point to the separator line to the right of the column header for the column width you want to adjust.
13. Double-click the separator line to the right of the column header to automatically adjust the column width.
14. Select **Next**.
15. Type a label for the lookup column.
16. Select **Finish**.

INSERTING A HYPERLINK COLUMN

✎ Discussion

When you insert a column in a table, Access assigns the **Text** data type as the default. However, you can insert a hyperlink column in a table, rather than a text column. A hyperlink field contains an address or path to another location, such as a network server or a page on the Internet. After you insert a hyperlink column, you can type a hyperlink address directly into the hyperlink field. Each record can contain a different hyperlink address. When you type the hyperlink address, the text appears underlined and in a different color, indicating the hyperlink. When you insert a hyperlink column, the column name defaults to **Field1**. You can change a hyperlink column name the same as you change a text column name.



Inserting a hyperlink column in a table

- After you insert a hyperlink column in a table, you should change the default field name to a name that clearly identifies the contents of the column.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.

3. Position the insertion point in the column to the left of which you want to insert a hyperlink column.
4. Select the **Insert** menu.
5. Select the **Hyperlink Column** command.

LESSON 8 -
CREATING RELATIONSHIPS

In this lesson, you will learn how to:

- Use related tables
- Create a relationship
- Set referential integrity
- Create a many-to-many relationship
- Add a table - Relationships window

USING RELATED TABLES

✎ Discussion

Tables can be joined, or related, in order to access and coordinate information in all the fields of the related tables. Joining tables is a useful way to avoid the need to enter duplicate information in various, related tables. In addition, it allows you to create reports, forms, and queries from the related data tables and save them in the database file. Relating tables allows you to create smaller, more efficient tables that can be related when you need access to the data.

When you relate tables, the table from which you select the first join field is the primary table and the table to which you drag the join field is the related table. The tables must have some common fields that contain the same type of data. One of the fields in the primary table must be the primary key so that Access does not allow duplicate entries. The common fields in both tables must have the same or equivalent data types and; if they are **Number** fields, they must have the same field size.

For example, you can create a table consisting of customer names, addresses, and telephone numbers. You can also include a unique identification number for each customer, which would be the primary key in the table. You can create this number or allow Access to create it for you. You could then create a separate table consisting only of orders placed by customers. This table would also contain the field for the unique customer identification number, but not the customers' names, addresses, and telephone numbers. By relating the two tables through the common customer identification number field, the customers' names, addresses, and telephone numbers do not have to be entered for every order.

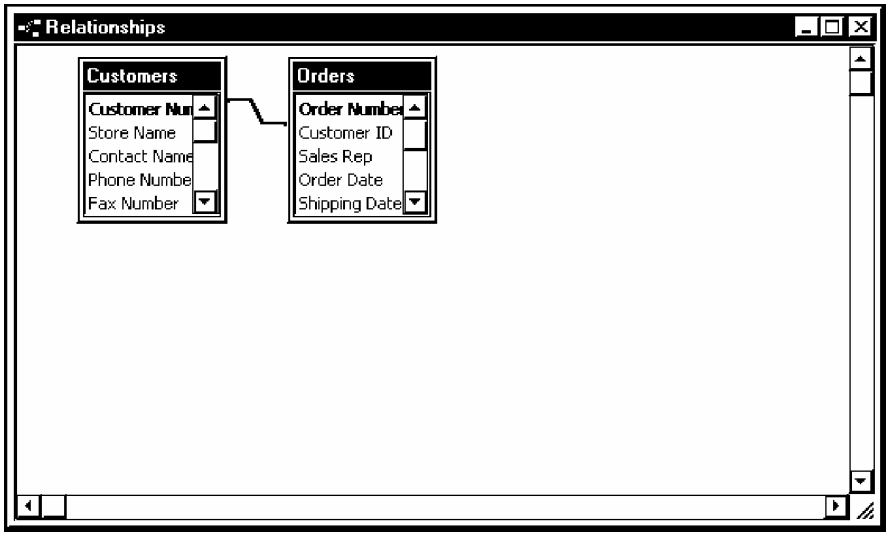
Access includes two basic types of relationships: one-to-many and one-to-one. A one-to-many relationship occurs when one record from the primary table matches many records from the related table; for example, one customer record matches many order records. A one-to-one relationship occurs when one record from the primary table matches one record from the related table. Access determines the relationship type automatically when you create the relationship.

CREATING A RELATIONSHIP

✎ Discussion

You create relationships between tables or queries in the Relationships window. The Relationships window displays a graphic representation of the relationships in the database.

When you are working in the Relationships window, you can reposition the field lists so that you can view the relationships more easily. In addition, the field name representing the primary key appears in bold in the tables. All tables must be closed before you can create relationships.



The Relationships window

●	The Show Table dialog box opens automatically if no tables have been added to the Relationships window.

●	You can also open the Relationships window by selecting the **Tools** menu and then selecting the **Relationships** command or by right-clicking in the Database window and then selecting the **Relationships** command.

●	You can also create relationships in the Show Table dialog box by selecting the tables you want to relate and pressing the **[Enter]** key.

➡ Steps

1. Open the desired database.
2. Click the **Relationships** button  on the **Database** toolbar.
3. Click the **Show Table** button  on the **Relationships** toolbar.

4. Select the first table.
5. Select **Add**.
6. Select the second table.
7. Select **Add**.
8. Select **Close** to close the Show Table dialog box.
9. Select the join field in the field list for the first table.
10. Drag the field on top of the matching field in the field list for the second table.
11. Select **Create**.
12. Click the **Close** button in the Relationships window.
13. Select **Yes** to save the changes.

SETTING REFERENTIAL INTEGRITY

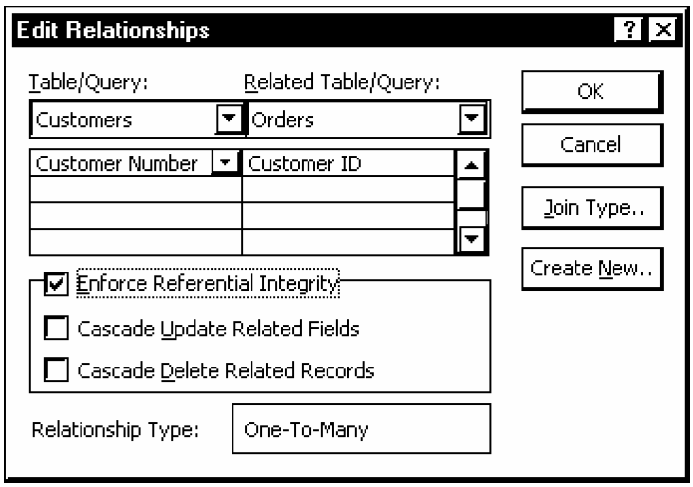
✎ Discussion

When you create a relationship between two tables, you can set referential integrity. Referential integrity is a built-in set of rules Access uses to make sure that the relationship is valid. Referential integrity can also prevent accidental deletion or editing of data. In order to use referential integrity, the following conditions must be true: the related field in the primary table is the primary key, the related fields in both tables have the same data type, and both tables belong to the same database.

When you set referential integrity, you must observe the following three rules. First, you cannot enter data in the join field in the related table that does not have a match in the join field in the primary table. Second, you cannot delete records from the primary table if there are matching records in the related table. Third, you cannot edit primary key values in the primary table if related records exist.

However, if you want to perform the changes listed above and still maintain referential integrity, you can select the **Cascade Update Related Fields** and **Cascade Delete Related Records** options in the Edit Relationships dialog box. When either or both of these options are selected, Access makes the necessary changes to the related tables automatically to maintain referential integrity. It is recommended that these two options be used after careful consideration since the changes cannot be undone.

When the referential integrity option is activated, Access displays symbols above the join line in the Relationships window to indicate the type of relationship: one-to-one or one-to-many. The number 1 above the join line next to a field list indicates “one”, while the mathematical symbol for infinity (which resembles a horizontal 8) indicates “many”.



The Edit Relationships dialog box

- You can also open the Edit Relationships dialog box by selecting the **Relationships** menu and then selecting the **Edit Relationship** command, or by right-clicking the join line and then selecting the **Edit Relationship** command.

➡ Steps

1. Open the desired database.
2. Open the Relationships window.
3. Double-click the desired join line.
4. Select the **Enforce Referential Integrity** option.
5. Select the **Cascade Update Related Fields** option, if desired.
6. Select the **Cascade Delete Related Records** option, if desired.
7. Select **OK**.

CREATING A MANY-TO-MANY RELATIONSHIP

✎ Discussion

While one-to-many relationships are the most common, there are times when you may need to create a many-to-many relationship. In a many-to-many relationship, a record

in one table can have many matching records in another table, and vice versa. Many-to-many relationships often apply to orders and product relationships, where an order can include many products, or where individual products may appear in many products.

This type of relationship is often made possible by using a third table (called a junction table) that consists of its own primary key field and two foreign key fields, one from each of the two tables being related. A many-to-many relationship is really two one-to-many relationships linking to a third table.

●	The Show Table dialog box opens automatically if no tables have been added to the Relationships window.

●	You can also open the Relationships window by selecting the **Tools** menu and then selecting the **Relationships** command or by right-clicking in the Database window and then selecting the **Relationships** command.

●	You can also create relationships in the Show Table dialog box by selecting the tables you want to relate and pressing the **[Enter]** key.

➡ Steps

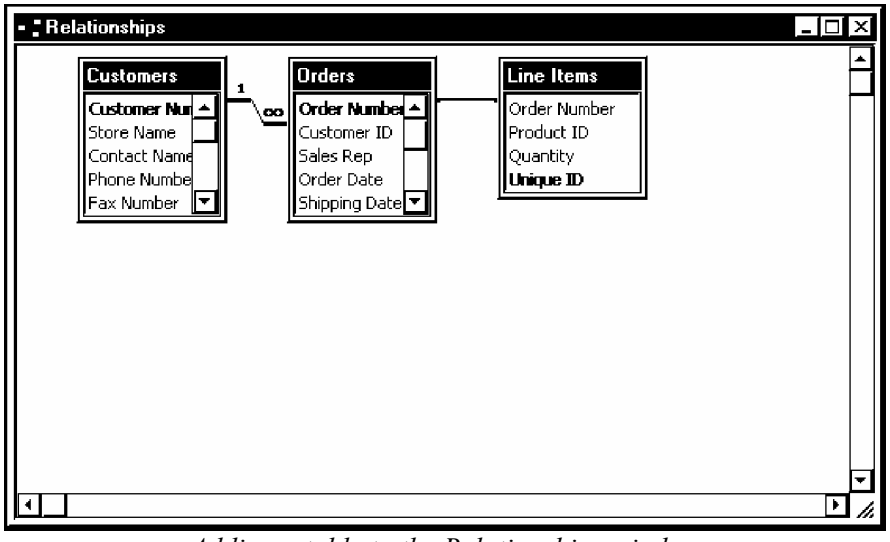
1. Open the desired database.
2. Click the **Relationships** button  on the **Database** toolbar.
3. Click the **Show Table** button  on the **Relationships** toolbar, if necessary.
4. Select the first table you want to relate.
5. Select **Add**.
6. Select the table you want to use as the junction table.
7. Select **Add**.
8. Select the third table you want to use in the relationship.
9. Select **Add**.
10. Select **Close** to close the Show Table dialog box.

11. Drag the foreign key field from the junction table field list to its corresponding key in the related table field list.
12. Select the **Enforce Referential Integrity** option.
13. Select **Create**.
14. Drag the foreign key field from the junction table field list to its corresponding key in the related table field list.
15. Select the **Enforce Referential Integrity** option.
16. Select **Create**.
17. Click the **Close** button in the Relationships window.
18. Select **Yes** to save the changes.

ADDING A TABLE - RELATIONSHIPS WINDOW

✎ Discussion

You can add additional tables to the Relationships window. For example, if you have two related tables and then decide you need to access information from a third table, you can easily add the required table to the Relationships window.



Adding a table to the Relationships window

- You can also open the Show Table dialog box by right-clicking in the Relationships window and then selecting the **Show Table** command, or by selecting the **Relationships** menu and then selecting the **Show Table** command.

➡ Steps

1. Open the desired database.
2. Open the Relationships window.
3. Click the **Show Table** button  on the **Relationship** toolbar.
4. Select the table you want to add.
5. Select **Add**.
6. Select **Close** to close the Show Table dialog box.

LESSON 9 -
USING EDITING TOOLS

In this lesson, you will learn how to:

- Run the spelling checker
- Set AutoCorrect options
- Add AutoCorrect entries
- Delete AutoCorrect entries

RUNNING THE SPELLING CHECKER

✎ Discussion

You can invoke the spelling checker to spell check text in tables and text boxes in forms. In a table, you can check all columns or selected columns.

When the spelling checker finds the first word that is not in a dictionary, it pauses and the Spelling dialog box opens. The Spelling dialog box does not open if there are no errors found.

As the spell check proceeds, the spelling checker examines the words in the selection and compares them to the words in the main dictionary and your custom dictionary. In addition to searching for misspelled words, the spelling checker also identifies repeated words (such as **the the**).

When a word is identified, the word appears in the Spelling dialog box, with the identified word appearing in the **Not in Dictionary** box. Possible correct spellings to this word are listed in the **Suggestions** list box. The identified word can be changed to one of these listed suggestions. You can use the **Change** button to modify only the current occurrence of the word or the **Change All** button to change all occurrences of the word in the object or table. You might select this button, for instance, if you misspelled a company name several times in a column.

If the list of possible alternative spellings in the **Suggestions** list box does not contain the correct spelling, you can type the correct spelling directly into the Spelling dialog box and then change the single occurrence or all occurrences of the word in the object or table.

Since the spelling checker identifies words not in the main dictionary, it questions many names, abbreviations, and technical terms. Examples of these terms might include a product or company name, an acronym, or a city. When a word is spelled correctly, you can either disregard this occurrence of the identified word by selecting the **Ignore** button or all occurrences of the word by selecting the **Ignore All** button. If a word is correct, you can also use the **Add** button to add it to your custom dictionary.

If you make a mistake during a spell check you can use the **Undo Last** button in the Spelling dialog box to reverse any changes you make. The **Undo Last** button can reverse multiple spelling actions one at a time, working backward from the previous action.

Access informs you when it has finished spell checking the selection. It will either open a message box where you have to select **OK** or, if the Office Assistant is open, it announces that the spell check is complete.

- When using the Spelling Checker in a table, you have the option of ignoring certain fields. This option is useful for fields containing names of people or obscure text.

- You can also activate the spelling checker by selecting the **Tools** menu and then selecting the **Spelling** command.

- You can also reverse any changes you make during a spell check by clicking in the table and using the **Undo** feature from either the **Form View** or **Report View** toolbar or the **Edit** menu.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the columns you want to spell check.
4. Select the **Spelling** button  on the **Form View** or **Report View** toolbar.
5. To change the spelling of an identified word, select the desired spelling for the identified word from the **Suggestions** list box.
6. Select **Change** or **Change All**.
7. To ignore an identified word, select **Ignore** or **Ignore All**, as desired.
8. To add an identified word to the custom dictionary, select **Add**.
9. To edit an identified word, type the correct spelling of the identified word in the **Change To** text box.
10. Select **Change** or **Change All** as desired.
11. To reverse an action, select **Undo Last**.
12. To end a spell check before it is completed, select **Close**.
13. If prompted, select **OK** to end a spell check when it is complete.

SETTING AUTOCORRECT OPTIONS

✎ Discussion

Access provides a tool called AutoCorrect that corrects misspelled words and expands abbreviations that are defined in the AutoCorrect dictionary. For example, you can add commonly typed mistakes such as “teh” and “adn” to the AutoCorrect dictionary and have them replaced with “the” and “and” automatically whenever they are typed. You can also add an abbreviation to be expanded to save time typing. For example, if you type the “United States of America” often, you can add “USA” to the dictionary and define its replacement as the lengthier version.

AutoCorrect also has options available to make such text changes as correcting words with two initial capitals (EXample), capitalizing days of the week, and replacing text as you type.

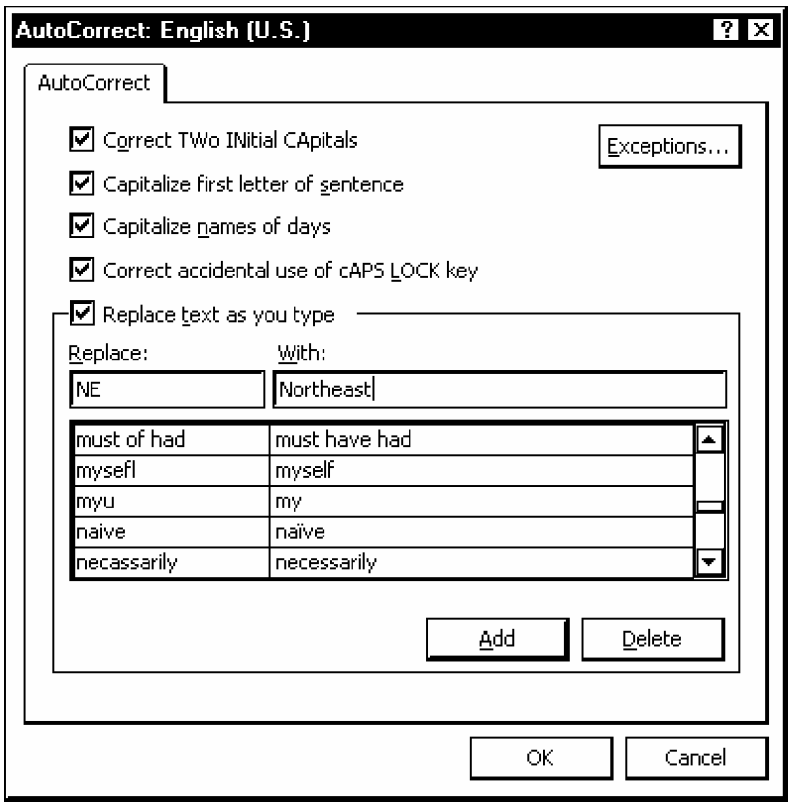
➥ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the **Tools** menu.
4. Select the **AutoCorrect** command.
5. Select or deselect the desired options.
6. Select **OK**.

ADDING AUTOCORRECT ENTRIES

✎ Discussion

To use AutoCorrect to its full potential, it is a good idea to add the typing mistakes you make most often and the correct replacements to the AutoCorrect dictionary. You can also add abbreviations for commonly typed text. For example, you can add initials and the corresponding full name to the dictionary so that when you type **JAD**, AutoCorrect replaces it with **John Alan Doe**.



Adding an AutoCorrect entry

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the **Tools** menu.
4. Select the **AutoCorrect** command.
5. Type the text you want to replace in the **Replace** text box.
6. Press **[Tab]**.
7. Type the replacement text in the **With** text box.
8. Select **Add**.
9. Select **OK**.

DELETING AUTOCORRECT ENTRIES

✎ Discussion

At times, you may find that certain entries in the AutoCorrect dictionary are not necessary. These entries can easily be removed from the dictionary. For example, if the AutoCorrect dictionary contains initials of an employee who has left the company, you would want to remove those initials from the dictionary.

- To quickly find an entry in the AutoCorrect dictionary, you can type the first few letters of the entry in the **Replace** text box. The list box scrolls automatically to the entry.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the **Tools** menu.
4. Select the **AutoCorrect** command.
5. Select the entry you want to delete from the list box.
6. Select **Delete**.
7. Select **OK**.

LESSON 10 -
PRINTING DATA

In this lesson, you will learn how to:

- Print table data
- Change the page setup
- Print selected records

PRINTING TABLE DATA

✎ Discussion

If you want to print all the data in a table, you can use either **Database** or **Datasheet** view. Access uses the default settings for the printer. If there are too many fields to fit on the width of one page, Access prints as many fields as possible that can fit on the first page and then prints the next set of fields for the same records on the next page, until all the fields have been printed. The following page then starts with the next set of records.

●	The **Print** button is a quick way to get a printout of your data. However, this method is best used for smaller tables since it leaves you with very little control over the print job. You could end up using a lot of paper and printer time if you have a large table.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Click the **Print** button  on the **Table Datasheet** toolbar.

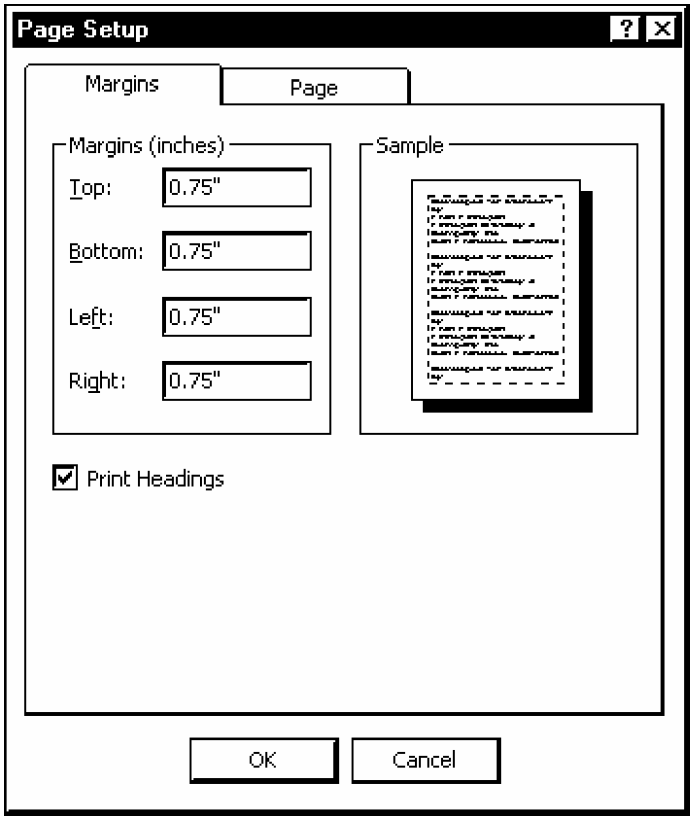
CHANGING THE PAGE SETUP

✎ Discussion

You can control the way a job prints by changing the page setup. This option allows you to adjust the margins and change the paper orientation so that more data can fit on fewer pages.

The Page Setup dialog box has two tabbed pages. On the **Margins** page, you can change the default one inch margins and choose to print without the column headings. A preview of your margin changes appears in the **Sample** box. On the **Page** page, you can change the paper orientation from the default of portrait (the shorter edge of the

page at the top) to landscape (the longer edge of the page at the top). You can also choose a different paper size, paper source, and printer.



The Page Setup dialog box

- You can also access the Page Setup dialog box by selecting the **Setup** button in the Print dialog box.

➡ Steps

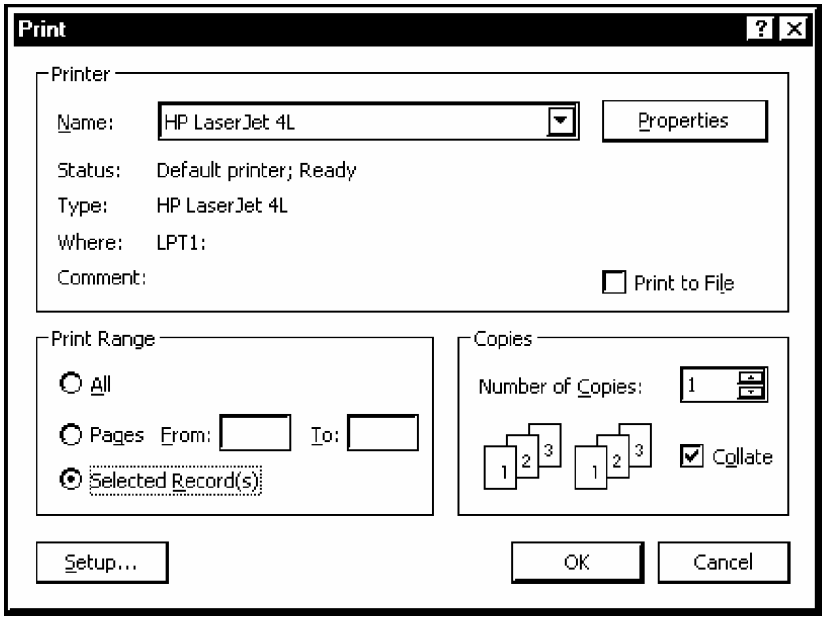
1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the **File** menu.
4. Select the **Page Setup** command.
5. Change the margin measurements as desired.
6. Select the **Page** tab.
7. Select options as desired.

8. Select **OK**.

PRINTING SELECTED RECORDS

✎ Discussion

If you do not need the entire table of information, you can choose to print only selected records. You must print selected records using the Print dialog box so that you can select the desired print range option.



The Print dialog box

- To print selected records, the records must be adjacent.

- You can also change other options in the Print dialog box, such as selecting the number of copies or the specific pages to print.

- You can also select multiple records by selecting the first record, pressing the **[Shift]** key, and clicking the last record in the group.

➡ Steps

1. Open the desired database.
2. Open the desired table in **Datasheet** view.
3. Select the record(s) you want to print.
4. Select the **File** menu.
5. Select the **Print** command.
6. Select the **Selected Record(s)** option under **Print Range**.
7. Select **OK**.

LESSON 11 -
USING ADVANCED DATABASE FEATURES

In this lesson, you will learn how to:

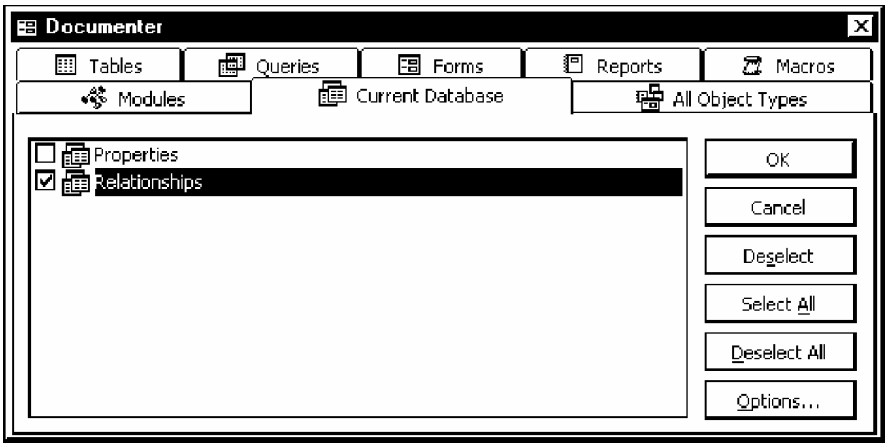
- Print a relationship document
- Link data to an Access table
- Import data
- Set a database password
- Compact a database
- Back up a database

PRINTING A RELATIONSHIP DOCUMENT

✎ Discussion

It is a good idea to document your database structure and relationships. The **Documenter** feature in Access allows you to view, print, and save the design characteristics of database objects. You can view and print such information as the properties associated with tables, queries, forms, and reports. This type of information is very useful for deciding what changes you want to make or when you have to maintain a database that was developed by someone else.

While the Relationship window provides a good way to view table relationships, as well as join lines and types, you cannot print the view. The **Documenter** feature allows you to print out all the relationships between tables in your database. The relationship report that the **Documenter** feature produces provides information on the tables involved, the attributes, and the type of relationship, which, in turn, provides you with all the information you need to analyze your database table relationships.



The Documenter dialog box

- The **Documenter** feature is not included in the default installation. You can choose to install it with the initial installation, or it can be installed by itself at a later time.

- You can also open the Documenter dialog box by selecting the arrow on the **Analyze** button on the **Database** toolbar and then selecting the **Documenter** command.

➡ Steps

1. Open the desired database.
2. Select the **Tools** menu.
3. Point to the **Analyze** command.
4. Select the **Documenter** command.
5. Select the **Current Database** tab.
6. Select the **Relationships** option.
7. Select **OK**.
8. Click the **Print** button  on the **Print Preview** toolbar.

LINKING DATA TO AN ACCESS TABLE

✎ Discussion

You can link to an external data source, such as another Access database or another program (e.g., dBASE or Excel). You can also link to HTML data tables on a network server or the Internet. When you link to an external data source, the format of the data in the data source does not change. You can use Access to add, edit, or delete the data.

A linked table is represented by a different icon in the Database window. A table linked to another Access table has an arrow to the left of the icon. A table linked to a source from another program has an arrow and the initials of the source program (e.g., Px for Paradox) to the left of the icon.

Linking tables is useful when you want to share data on a network. If you link to a table on a network, the link updates the data so that you are always working with the latest available data.

●	When you delete a linked table, you delete the icon and the link to the source table. You do not delete the source table itself.

●	You can also open the Link dialog box by right-clicking in the Database window and then selecting the **Link Tables** command.

➥ Steps

1. Open the desired database.
2. Select the **File** menu.
3. Point to the **Get External Data** command.
4. Select the **Link Tables** command.
5. Select the **Look in** list.
6. Select the drive where the source data is stored.
7. Select the folder where the source data is stored.
8. Select the file containing the source data.
9. Select **Link**.
10. Select the table containing the source data.
11. Select **OK**.

IMPORTING DATA

✎ Discussion

You can import data from several external data sources. The external data source can be another Access database, another program, such as dBASE or Excel, ASCII text, or an HTML data table. When you import data from a spreadsheet, another type of database or ASCII text, a wizard opens to step you through the process. The format of the data in the external data source does not change. You can use Access to add, edit, or delete the data.

If the external data source is an Access database, you can also import database objects such as queries, reports, and forms. This option allows you to copy a query from one database to another and modify it as necessary, rather than creating a new one. In addition, this option allows you to easily copy standard reports and forms between databases.

●	If the table you import has a lookup field, you should also import the source of the information for the lookup field.

●	You can select the **Options** button in the Import Objects dialog box to display the import options.

- You can also open the Import dialog box by right-clicking in the Database window and then selecting the **Import** command.

➡ Steps

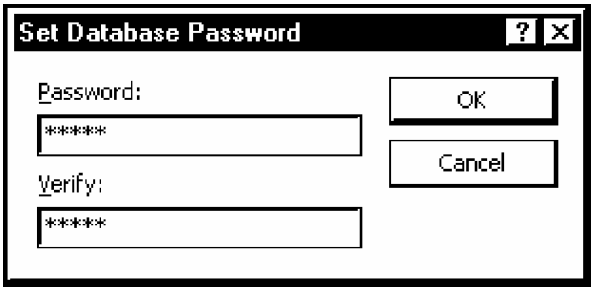
1. Open the desired database.
2. Select the **File** menu.
3. Point to the **Get External Data** command.
4. Select the **Import** command.
5. Select the **Files of type** list.
6. Select the file type corresponding to the file containing the source of data.
7. Select the **Look in** list.
8. Select the drive where the source data is stored.
9. Select the folder where the source data is stored.
10. Select the file containing the source data.
11. Select **Import**.
12. Select the appropriate format option.
13. Select **Next**.
14. Select the desired delimiter option.
15. Select the **First Row Contains Field Names** option, if applicable.
16. Select **Next**.
17. Indicate whether the data is to be stored in a new table or an existing table.
18. Select the desired options or **Next** to accept the default selections.
19. Select the desired primary key option.
20. Select the desired options or **Next** to accept the default selections.
21. Enter the desired name for the table.
22. Select **Finish**.
23. Select **OK**.

SETTING A DATABASE PASSWORD

✎ Discussion

You can secure a database by setting a password. Once a password is set, you must enter the password before you can open the file. Once the file is open, all the database objects are available.

Passwords are case-sensitive. You must type them exactly how they were originally entered or the file will not open.



The Set Database Password dialog box

- Another way to protect the contents of a database is to encrypt the database. Once a database has been encrypted, other programs such as utilities, text editors, and word processors cannot read it. Encrypting a database does not limit what you can do with the database in Access. Decrypting a database removes the encryption. To encrypt or decrypt a database, select the **Tools** menu, point to the **Security** command, and then select the **Encrypt/Decrypt Database** command.

- You cannot set a password unless you have exclusive use of the database. You must reopen the database with the **Exclusive** option set. If the database is on a network, other users must close it, or you will not be able to open it exclusively.

- If you forget the password, you will not be able to access the file. There is no way to retrieve a password.

➡ Steps

1. Open the desired database.
2. Select the **File** menu.
3. Select the **Open** command.
4. Select the **Look in** list.
5. Select the drive where the source data is stored.
6. Select the folder where the source data is stored.
7. Select the file for which you want to set a password.
8. Select the **Open** list.
9. Select **Open Exclusive**.
10. Select the **Tools** menu.
11. Point to the **Security** command.
12. Select the **Set Database Password** command.
13. Type the desired password.
14. Press **[Tab]**.
15. Retype the password.
16. Select **OK**.

COMPACTING A DATABASE

✎ Discussion

If you delete tables and other objects in a database, the database size on the disk does not necessarily decrease. Therefore, Access has a utility that compacts a database. This utility defragments the file and releases storage space.

If you specify a different name or location for a compacted database, you create a copy of the original database. The database must be closed in order to make a copy. You can compact the current database while it is open.

➡ Steps

1. Open the database you want to compact.
2. Select the **Tools** menu.
3. Point to the **Database Utilities** command.
4. Select the **Compact and Repair Database** command.

BACKING UP A DATABASE

✎ Discussion

It is important to backup your database on a regular basis. Since most databases are too large to fit on a floppy disk, you need to have a means to make a backup. Normally, databases are shared and are located on a network server. Most companies have a backup process to ensure that all data is saved to tape or some other media at least once a day. If your database is kept on the hard drive of a personal computer, the contents of that hard drive needs to be saved to another drive or removable media, such as a tape or a CD to which you can write, such as a CD-R. Saving the database this way ensures that all queries, forms, and reports you have created are saved, as well as the data that has been entered. As a result, you can recover your database in the event that something would happen to your database.

If none of the above options are available, you can export individual components, tables, queries, forms, etc. to a floppy disk. In addition, you can save the data as ASCII text, or as Excel tables. However, you cannot save queries, forms, and reports using this method.

LESSON 12 -
WORKING WITH THE OFFICE ASSISTANT

In this lesson, you will learn how to:

- Use the Office Assistant
- Find an answer
- Hide/Display the Office Assistant

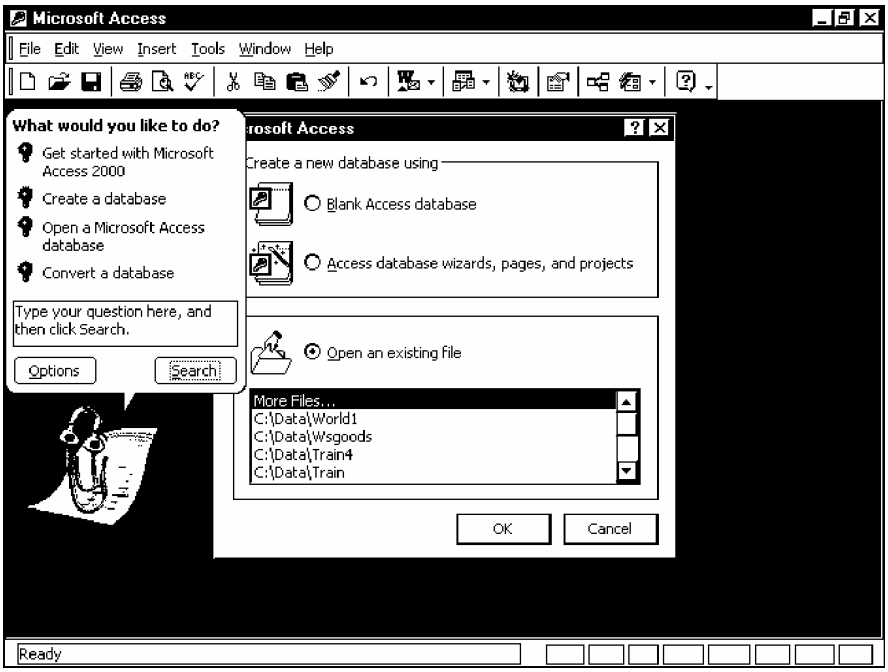
USING THE OFFICE ASSISTANT

✎ Discussion

To assist you in quickly and efficiently getting comprehensive help on any Access feature, you can use the Office Assistant. The Office Assistant appears in the application window as an animated graphic with a balloon attached. The balloon contains shortcuts for accessing additional topics and tips. When you display the Office Assistant, the balloon automatically appears. In addition, the Office Assistant automatically provides tips and help on tasks as you work. The Office Assistant moves when it is in the way.

The Office Assistant provides helpful hints called tips to help you get the most from Access. A typical tip might provide a keyboard combination that quickly displays a particular dialog box or a more efficient way to accomplish a task. You can click the **Microsoft Access Help** button to open the Office Assistant and view the tip.

After you have read the tip, you can close it; however, tips are not available for all Access objects. In addition, if the topic you are looking for does not appear, you can ask for more help from the Web.



The Office Assistant

- If the Office Assistant is not displayed, you can activate it by selecting the **Help** menu and then selecting the **Show the Office Assistant** command.

- Once you have closed a tip, it does not appear again. To view a previous tip, you can select the **Reset my tips** button on the **Options** page in the Office Assistant dialog box.

➥ Steps

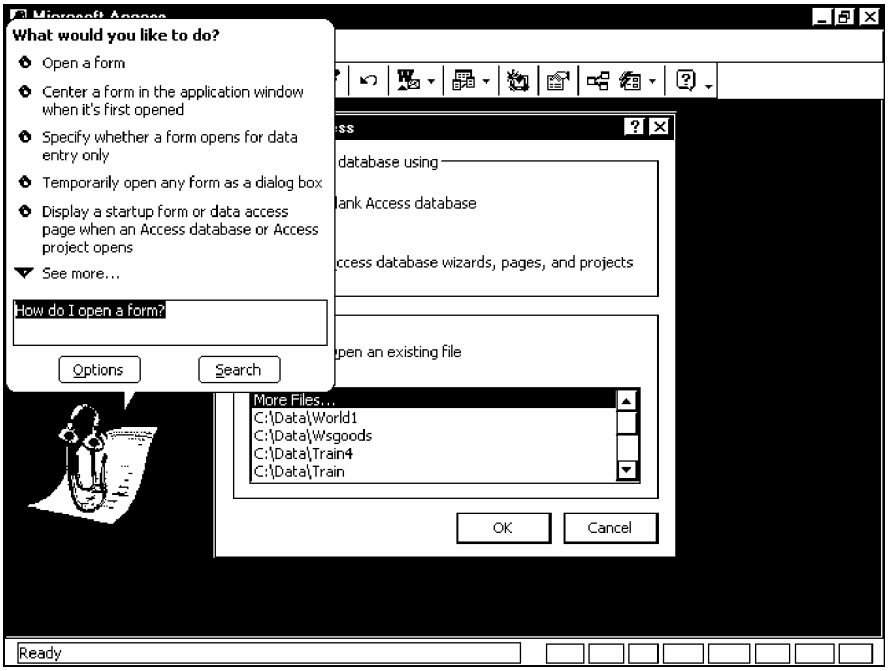
1. Click the light bulb that appears next to the Office Assistant.
2. When you have finished viewing the tip, select **OK**.

FINDING AN ANSWER

✎ Discussion

You can query the Office Assistant directly with any questions you may have regarding Access. When you query the Office Assistant, help topics related to your question appear. You can select any available help topic to view additional information. If there are more topics than can be displayed at one time, you can use the **See more** and the **See previous** commands to scroll through the available topics.

The Office Assistant provides the best answers when you enter a complete sentence or question in a query, rather than just a word or phrase. For example, it is better to enter **How do I open a form?** rather than just **forms**. The last query remains in the Office Assistant until you create a new query or exit Access.



Finding an answer to a question

➡ Steps

1. Open the Office Assistant.
2. Click the Office Assistant.
3. Type the desired question or sentence.
4. Select **Search**.
5. Select the desired help topic.
6. Click the **Close** button on the help window title bar.

HIDING/DISPLAYING THE OFFICE ASSISTANT

✎ Discussion

You can display or hide the Office Assistant as desired. Hiding the Office Assistant removes it from view, but does not disable it. The Office Assistant continues to monitor your activities and, if it detects that you are using procedures that can be performed more efficiently, the **Office Assistant** button on the toolbar displays a light bulb, or it may appear automatically to offer assistance.

You may want to hide the Office Assistant if you are not using it, find it distracting, or require a larger working area.

- You can also hide the Office Assistant by clicking it with the right mouse button and selecting the **Hide** command. You can also permanently disable the Office Assistant by deselecting the **Use the Office Assistant** option in the Office Assistant dialog box.

- If the Office Assistant is enabled, but hidden, you can click the **Microsoft Access Help** button on the default toolbar to display it.

➡ Steps

1. Open the Office Assistant.
2. Close the Microsoft Access dialog box.
3. Select the **Help** menu.
4. Select the **Hide the Office Assistant** or **Show the Office Assistant** command.

LESSON 13 -
USING ONLINE HELP

In this lesson, you will learn how to:

- Work with online Help
- View ScreenTips
- Use Help Contents
- Show and hide the help tabs
- Use the Help Answer Wizard
- Use the Help Index

WORKING WITH ONLINE HELP

✎ Discussion

If you need assistance on any Access topic or task, you can use Access' extensive Help facility. There are several ways in which you can get help, all of which are available from the **Help** menu. One way is using the **Microsoft Access Help** command, which launches the Office Assistant if it is enabled. If the Office Assistant is disabled, you can directly access the Help window, which includes the Contents, Index, or Answer Wizard components. These components allow you to scroll through a table of contents, search for a specific word or phrase based on a keyword, or search based on a question you type.

The **What's This?** command can be used to display a ScreenTip. Pressing the **[F1]** key invokes context-sensitive Help.

If you have World Wide Web access on the Internet, you can use the **Office on the Web** submenu to connect to web sites directly from Access. You can download free programs, access on-line support, and get the latest Microsoft product information from a web site—all without leaving Access.

The **Detect and Repair** command reviews the previous install process and finds and fixes problems that may have developed during or since the initial software installation. The **Detect and Repair** feature cannot repair corrupted data files.

You can use the **About Microsoft Access** command to view copyright and licensing information about the program. The About Microsoft Access window contains a **System Info** button that displays information about your computer and a **Tech Support** button that provides help on getting product support.

- You can disable the Office Assistant by deselecting the **Use the Office Assistant** option on the **Options** page in the Office Assistant dialog box.

VIEWING SCREENTIPS

✎ Discussion

If you are unsure of the name and function of a menu command or any other item in a window, you can use a ScreenTip to view either the item name or a description of the item. You can access ScreenTips by selecting the **What's This?** command from the **Help** menu.

ScreenTips for toolbars are activated by default, as long as you have enabled the option in the Customize dialog box. To view a ScreenTip for a toolbar button, you point to the desired toolbar button and the button name appears.

When ScreenTips are activated, the mouse pointer appears with a question mark.

- You can also access ScreenTips by pressing the **[Shift+F1]** key combination and then pointing to and/or clicking the item for which you want help.

➡ Steps

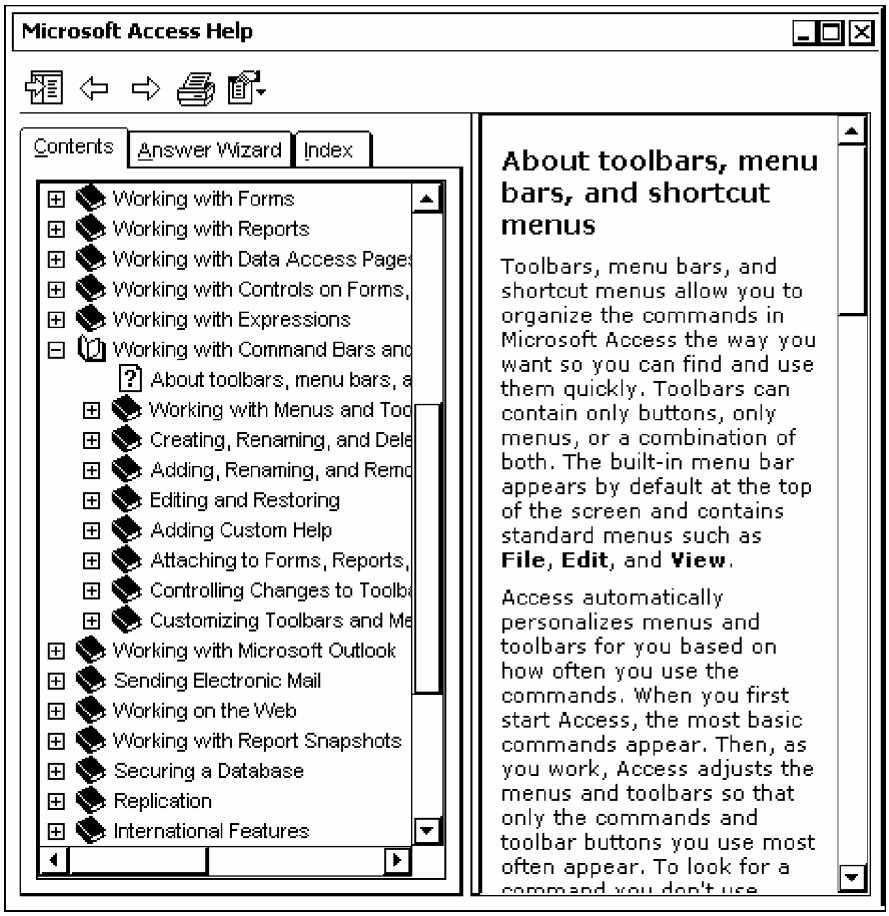
1. Select the **Help** menu.
2. Select the **What's This?** command.
3. Point to the button or item with which you want help.
4. Click the button or item with which you want help.

USING HELP CONTENTS

✎ Discussion

The Microsoft Access Help window, accessible from the **Microsoft Access Help** command on the **Help** menu when the Office Assistant is disabled, is comprised of two panes. The pane on the left contains the three help tabs: **Contents**, **Answer Wizard**, and **Index**. The pane on the right contains the information pertaining to the selected help topic.

The **Contents** page displays a list of general help topics. From this list, you can select a help topic for a particular group of features or functions. This page is structured like a standard table of contents. The table is expandable; when you double-click a topic, related subtopics appear. When you select the help topic you want to view, it appears in the right pane of the help window. The underlined, colored text that appears in the right pane may be selected to display additional help topics.



Using Help Contents

- You can also expand help topics on the **Contents** page by clicking the plus sign (+) next to the desired topic.

➡ Steps

1. Disable the Office Assistant on the **Options** page in the Office Assistant dialog box, if necessary.
2. Select the **Help** menu.
3. Select the **Microsoft Access Help** command.
4. Select the **Contents** tab.
5. Select the desired topic.
6. Select the desired subtopic.

SHOWING AND HIDING THE HELP TABS

✎ Discussion

When the Microsoft Access Help window is opened from the **Help** menu, it displays two panes: the tabs for the help components appear in the left pane and the information about the selected help topic appears in the right pane.

You can hide the left pane or show both panes of the Microsoft Access Help window using the **Show** and **Hide** buttons at the top of the window. Hiding the help tabs in the left pane decreases the size of the help window. This option allows you to continue working in the Database window while you reference the selected help topic text in the right pane of the Microsoft Access Help window.

- When you select a help topic using the Office Assistant, only the right pane of the Microsoft Access Help window appears. You must use the **Show** button to access the **Contents**, **Answer Wizard**, and **Index** tabs.

- You can also show or hide the help tabs by selecting the **Show Tabs** or **Hide Tabs** commands from the **Options** button in the Microsoft Access Help window.

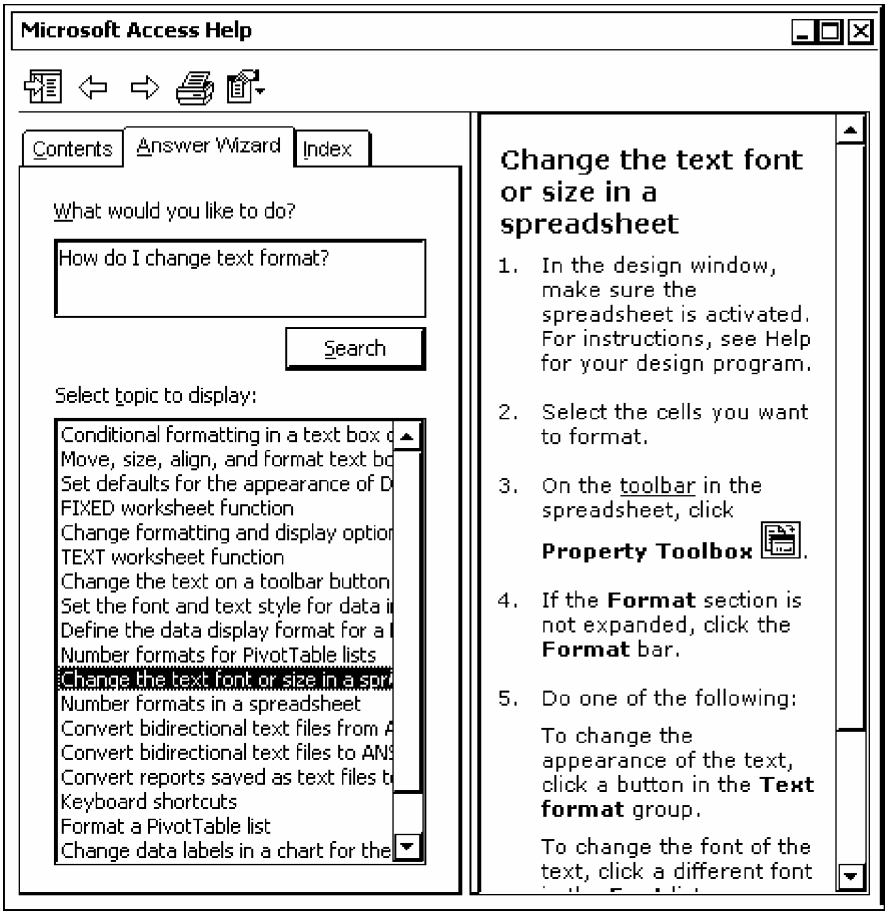
➡ Steps

1. Open the Microsoft Access Help window.
2. Click the **Hide** button  at the top of the Microsoft Access Help window to hide the help tabs in the left pane.
3. Click the **Show** button  at the top of the Microsoft Access Help window to display the help tabs in the left pane.

USING THE HELP ANSWER WIZARD

✎ Discussion

You can use the **Answer Wizard** page in the Microsoft Access Help window to quickly locate help topics based on questions you ask. The **Answer Wizard** page functions in much the same way as the Office Assistant. Any help topics that satisfy the typed question appear when you search using the Answer Wizard.



Using the Help Answer Wizard

➡ Steps

1. Disable the Office Assistant on the **Options** page in the Office Assistant dialog box, if necessary.
2. Select the **Help** menu.

3. Select the **Microsoft Access Help** command.
4. Select the **Answer Wizard** tab.
5. Type the question on which you want to base your search in the **What would you like to do?** text box.
6. Select **Search**.
7. Select the desired help topic in the **Select topic to display** list box.

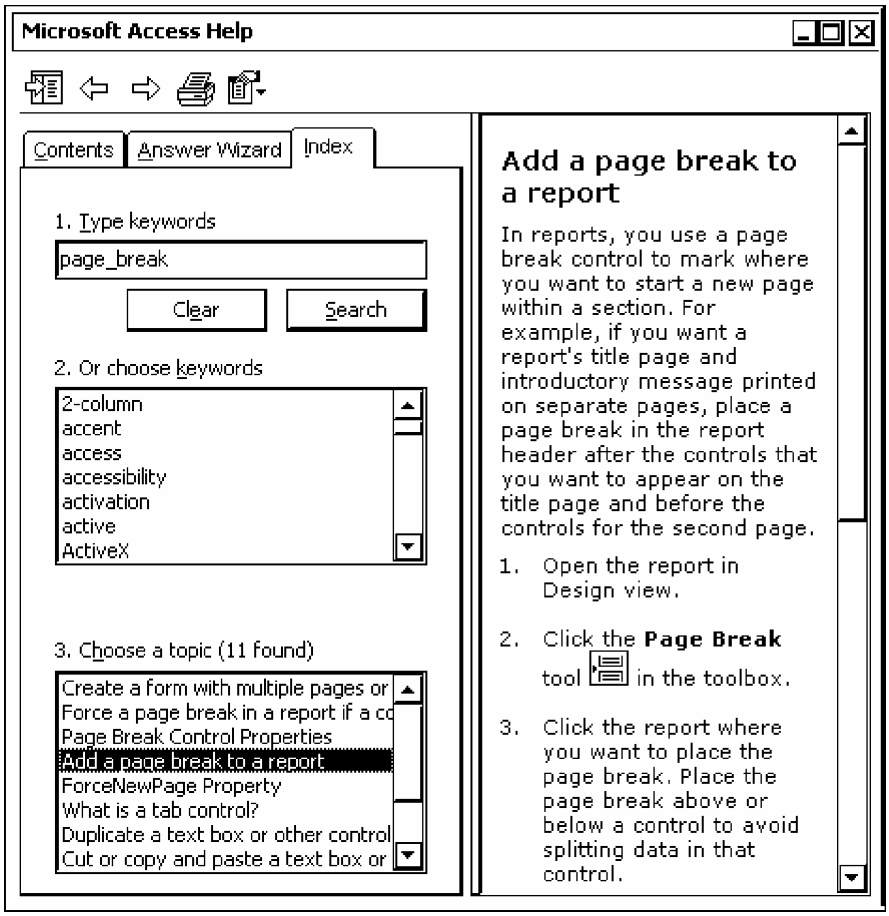
USING THE HELP INDEX

✎ Discussion

The Access Help system includes an alphabetical index of available help topics on the **Index** page in the Microsoft Access Help window.

The **Index** page enables you to search for a topic using a keyword. When the keyword is typed into the **Type keywords** text box, an alphabetical index of available help topics appears. You then select the desired topic which then displays an additional list of subtopics.

When entering search criteria containing more than one word, place an underline character between each word. For example, to search for a subject such as **page break**, you would type **page_break** in the **Type keywords** text box.



Using the Help Index

- If you want to perform another search on a different subject, select the **Clear** button to clear the previous search criteria and then enter the new search criteria.

➡ Steps

1. Disable the Office Assistant on the **Options** page in the Office Assistant dialog box, if necessary.
2. Select the **Help** menu.
3. Select the **Microsoft Access Help** command.
4. Select the **Index** tab.
5. Type the topic for which you want to search.

6. Select **Search** to search for the keyword(s) or double-click a topic from the **Or choose keywords** list box.
7. Double-click the desired subtopic in the **Choose a topic** list box.

INDEX

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please visit the Education and Training web site at:
webster/saa/services/training
or
Call the Education and Training registration number at:
(202) 224-7628