



**Technology
Training
Services**

***Introduction
to
Microsoft Access 2000***



**MARICOPA
COMMUNITY
COLLEGES**

Introduction to Access 2000

Written by

Lori Threlkeld

Technology Training Services

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Maricopa Community Colleges

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Technology Training Services
Maricopa Community Colleges
2411 West 14th Street Tempe, Arizona 85281-6942 (480) 731-8287
<http://www.dist.maricopa.edu/training>

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ACCESS 2000 OBJECTIVES

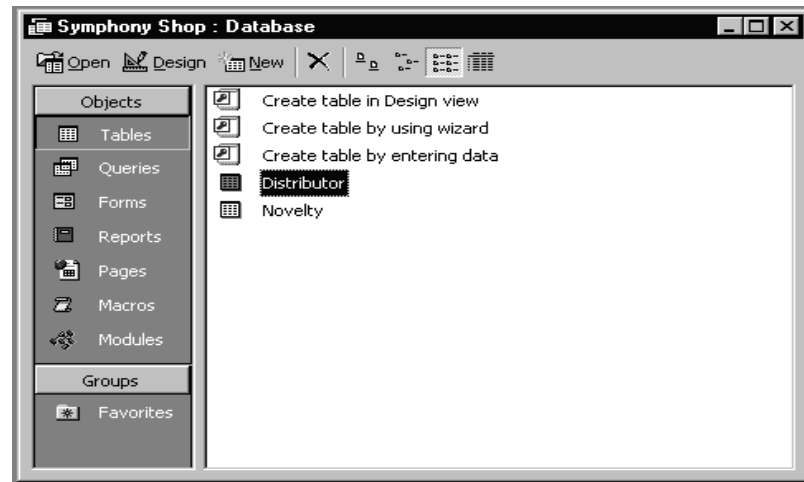
This workshop has been designed to present the following competencies:

1. Review general Access database concepts and terms.
2. Plan an Access database.
3. Create a database.
4. Create, edit and delete a table in Access.
5. Create a Lookup field and enter data.
6. Enter and edit data in a table in Datasheet View.
7. Create relationships between tables in Access.
8. Review the online Help system.
9. Exit Access.
10. Create a form using Form Wizard.
11. Enter data using a form.
12. Identify and edit a form in Design View.
13. Find records and replace data.
14. Sort a table.
15. Create and delete a query.
16. Create, edit, and delete a report.
17. Create a switchboard.
18. Create a data access page.
19. Create a macro.
20. Import to and Export Data from Access.
21. Clone an Access database.
22. Link to an external table.

DATABASE CONCEPTS

Access 2000	Microsoft Access 2000 is a Database Management System that allows you to create a relational database and then access, retrieve, and use the data in it.
Definition and Examples	A database is a collection of information that can be stored, organized, updated, sorted, searched through, and printed as needed. Any information needing to be organized can be a database. Several databases are encountered every day. Examples of databases include an address book, checkbook, rolodex, class schedule, payroll information, inventory list, and a library catalog.
Relational Databases	Relational databases are the most common form of database. In a relational database, data is stored in tables and the tables are linked to other tables. Tables can also share data which eliminates re-keying duplicate information. You can then collect data from several tables to put in one report or query.
Searching and Reporting Flexibility	Access displays and prints information in the way <u>you</u> need. Access's searching and reporting capabilities give you complete control over the appearance of your data. Information can be sorted and displayed in any way you choose including columns, data entry forms, lists, form letters, mailing labels, etc. Reports will be discussed in detail later in this training manual.
Access Terms	Access provides the flexibility to create a database in the way that will work best for you. An Access database is called a <i>file</i>. It consists of a collection of <i>tables</i>. The separate entries (or rows) in the table are called <i>records</i>. The tables are arranged in columns that are called <i>fields</i>. Fields contain specific pieces of information within the records.

Database (File) Window Showing 2 Tables



Database Table 1

Fields

Records

Novelty ID	Description	Units on Hand	Cost	Selling Price	Dist Code
E01	Erasers	35	\$0.15	\$0.25	MM
G05	Gloves	10	\$2.95	\$4.00	CC
K03	Key Chains	25	\$0.95	\$1.20	AD
N01	Note Pads	20	\$1.00	\$1.50	AD
P02	Pencils	70	\$0.10	\$0.25	MM
P03	Pens	50	\$0.75	\$1.00	MM
S10	Scarves	5	\$4.95	\$6.50	CC
S12	Socks	15	\$1.95	\$3.00	CC
S25	Stationery	8	\$3.95	\$5.00	AD
U10	Umbrellas	12	\$6.95	\$8.00	CC
*			\$0.00	\$0.00	

Database Table 2

Dist Code	Name	Address	City	State	Zip Code	Telephone
AD	AAA Distributor	9661 King	Nova	MI	49401	517-555-3953
CC	Cook's Catalog	1625 Brook	Adelaide	MI	49441	616-555-8292
MM	Music Makers	145 Oak	Grand Fork	IL	49302	317-555-4477
*						

PLAN THE DATABASE

Plan, Plan, and Plan Some More!

Before creating a database, do the planning! Upfront planning will save you from having to delete and start over or from hours of “fix-it” time.

First, determine the purpose of the database. What information do you want to store and why?

Second, what information is needed from the database? What kinds of reports will you want? Examples: mailing labels, phone lists, profiles, payment history.

Third, what information is needed in order to get these reports? Examples: names, addresses, phone numbers, account numbers. This information will become the fields in your database. Are other types of information needed? Examples: pictures, logos, comments, graphics, numeric calculations.

One More Time!

One last time, always ask yourself:

“What else can I possibly need from this database?!”

Then, check with anybody else who will be working with the database. They will probably think of something you haven’t!

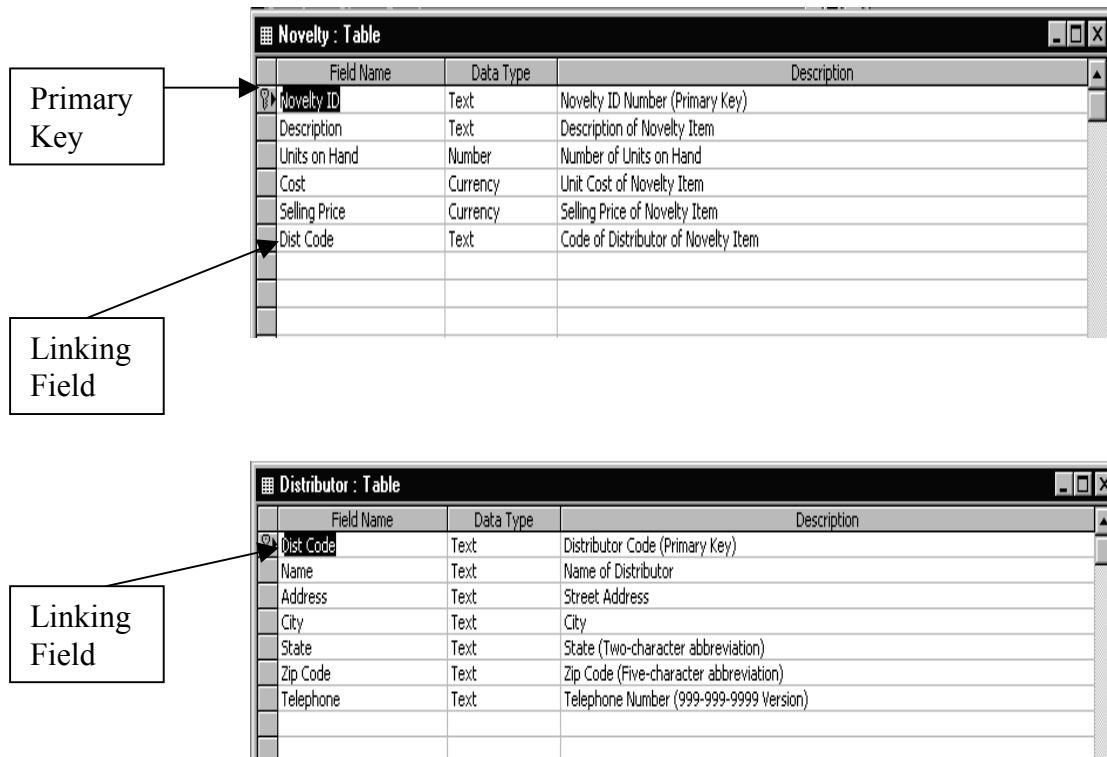
Fields

Defining fields is an important part of planning. Fields need to be as simple as possible. Any time a sort or a find function will be performed on a piece of information, that piece of information needs to be a separate field. For example, if the database is to be sorted alphabetically by last name, the last name field has to be defined as a field all by itself. If you’d like to find records from the state of Arizona, the state field has to be a field by itself. Don’t lump information together.

Each table should also have one field identified as the **Primary Key** field. The Primary key becomes a required field and the data entered must be unique – this ensures that each record in your database is unique.

Tables and Relationships

You will need to organize the fields in your database into subject areas, or categories of data, and put them into separate tables. Each table should be based on only one subject. Your tables must have something in common- a **Linking field**. In a relational database, tables will be related to each other through the fields that they have in common.



Functions Another important piece of the planning is figuring out the functions to be performed on the database. Functions include sorting, finding, updating, and printing records, along with calculating figures and generating reports.

Whether or not some functions can be performed on the database will depend on the way tables and fields are set up and defined in the database.

Constraints **Constraints** are limits that you will place on your tables and the values that they have in them. Constraints help to limit data entry errors. For example, you may want to set up a field for entering the state so that it will only hold 2 characters. This way, the state can only be entered using the 2-character state code.

Good Tips

Even after the most detailed planning, sometimes things just won't work right. A good rule to remember when creating your Access database is: *If it doesn't work, delete it and start over.* It's usually far easier than trying to fix it.

After creating your tables and relationships, it's a good idea to enter a few sample records into each table. Then create at least one form, query, and report to make sure that everything is working correctly *before* entering a large number of records.

Once you have decided what you're going to need in your database, take out several sheets of paper and plan on paper:

Steps to Follow

1. List all of the fields that you are going to need.
2. Group those fields together by subjects. These will be your tables.
3. On separate sheets of paper, list each of the tables that you are planning to create along with the field names for each table.
4. Determine each table's Primary Key.
5. Determine the relationships between each of the tables. Here's where using separate pieces of paper will help you to lay them out next to their related tables.
6. Determine the linking fields; what fields do each of the tables have in common?
7. List any constraints (limits) to be put on each field.

"No single design characteristic makes a greater difference in the quality of a database program than having a rational and well-designed set of record structures . . . It is the single step that should never be done on the fly. Sitting down and typing . . . without planning, is an invitation to problems, even in a simple program.

*Lan Barnes,
Microtrend, Inc.*

EXERCISE - PLANNING A DATABASE

When planning a database, at the very least, ask these questions and do the following:

1. What is the purpose of the database?
2. What functions will be performed on the database?

Examples: Sorting, Finding, Updating, Printing

3. What reports will be generated from the database?

Examples: Mailing labels, lists, balances due

4. What information (fields) will be needed for the database?

Examples: First name, last name, full name, phone number

5. Plan the database on paper. List all the fields and tables that you are going to create. Determine their primary keys and how the tables are related.

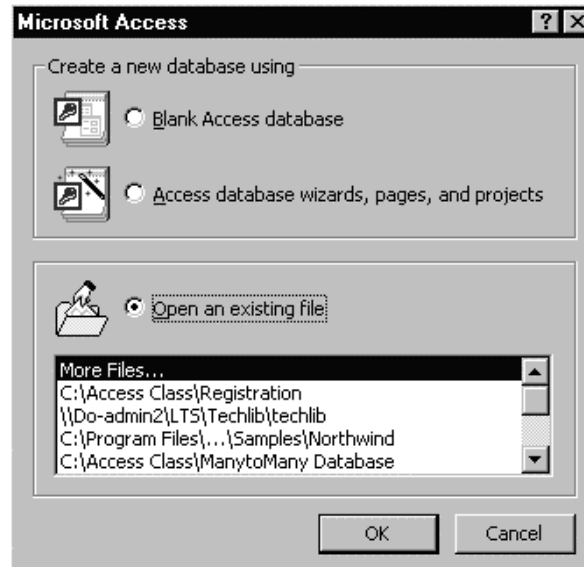
Reminder: Keep the fields simple! Don't lump information together.

START ACCESS

Plan First, Start Second

After planning the database, start Access.

Once the Access application is started, a window displays choices to create a new Blank Access database, create a new database using the Database wizard, or to Open an existing file.

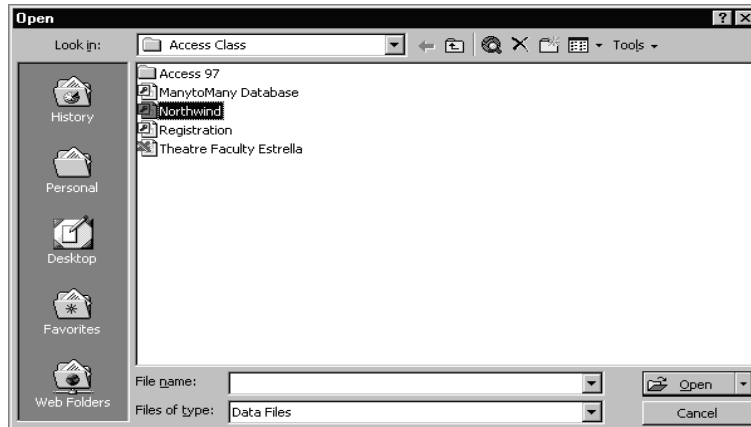


Steps to Start Access

1. Start Access by clicking the **Start** button, clicking on **Pro-grams**, and selecting **Microsoft Access**.
2. Select from the three options: Blank Access database, Access database wizards, pages, and projects or Open an existing file.
3. Click on **OK**.
4. If you are creating a blank (new) database, you are prompted to save and name your database. Name the database file.
5. Click the **Create** button.

EXERCISE - STARTING ACCESS

1. Start Access by clicking the **Start** button, clicking on **Programs**, and selecting **Microsoft Access**.
2. Click the **Open an existing file** button and click the **OK** button.
3. Find the Access Class folder on the hard drive (C:) and select the **Northwind** database.



4. Click the **Open** button.

THE ACCESS DESKTOP

Access Desktop

At the Access desktop, the first bar across the top is the **title bar**. It contains the title, Microsoft Access, and the Windows minimize, maximize, and close buttons.

The second bar is the **menu bar**. This bar contains drop-down menus that allow you to perform different functions in Access.

The third bar is the **toolbar**. You can use the toolbar buttons for commonly performed tasks more quickly than by using the menu bar.

The two bars at the bottom of the desktop window are the **status bar** which displays information specific to the task you are currently performing and the Windows **taskbar** which displays the Start button and any active windows.

In the middle of the screen is the **database window**.

The Database Window

The database window contains the name of the database across the top and a column containing Objects and Groups. The object choices are used to create, edit, or view the seven main object types in the Access database. Under Groups, you can create shortcuts to the Objects in the database.

Tables are the foundation of the database. Tables store data. Data is stored in rows and columns.

Queries are savable searches. When you create and save a query, you are storing a definition of the records you want to find and the format or sort order in which you want those records displayed.

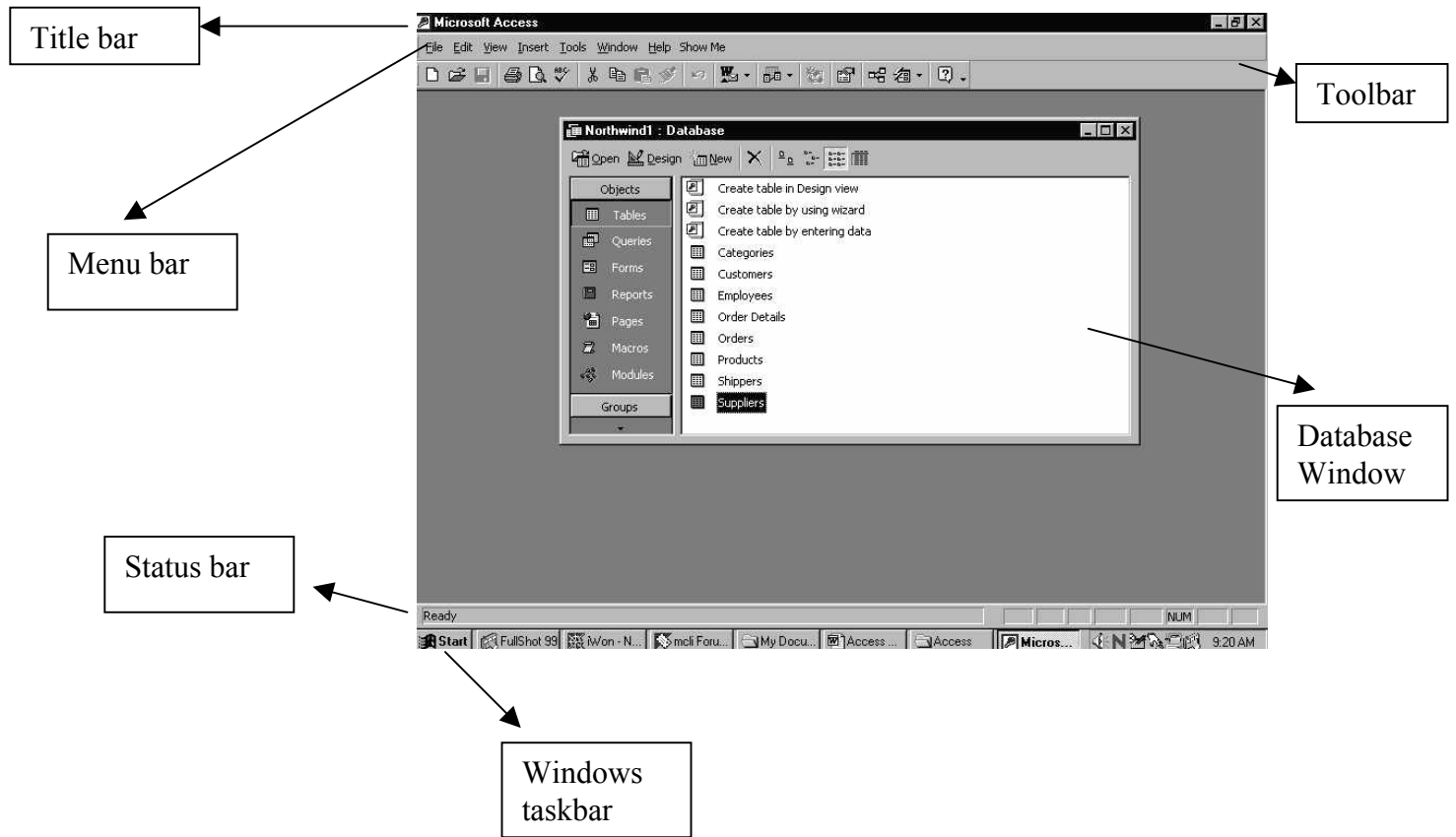
Forms are the customized screens that you use to enter data. You could say they are the user interface for your database.

Reports can be created from any of the data stored in your database.

Pages are web pages created in Access for viewing reports or for data entry via the web.

Macros are sets of instructions used to automate tasks. For example, you can use macros to open or close certain forms or reports, import and export tables, or to quit Access.

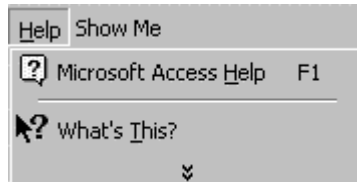
Modules are where programming is done. We will not work with modules in this class.



ON-LINE HELP

Accessing Help

Access has an extensive on-line help system that can be used in several different ways. You can get Help any time you are in Access. The Help File is accessed by clicking the Help button  on your toolbar or by clicking Help on the menu bar.



Help Menu

The Help menu includes:

Microsoft Access Help opens the Office Assistant. The Office Assistant works in a question and answer format. The toolbar Help button  also opens the Office Assistant.

What's This? displays a question mark beside your mouse pointer. When the question mark is displayed you can point to anything on your screen, click on it, and you'll be shown a help tip on that item.

Print the Help Topic

Once you have selected and displayed a Help topic, there is a print button  on the Help window toolbar. Click on the print button to open a print window and print the topic.

Steps to Access Help

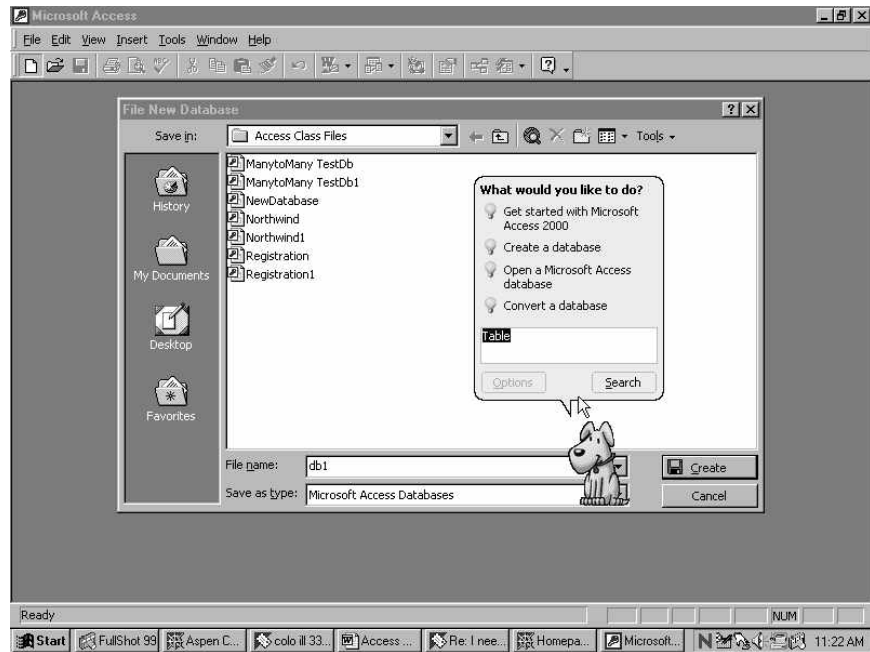
To access Help:

1. Click on the Help button  on the toolbar. OR
2. Click on Help in the menu bar and click on the Help option of your choice.

EXERCISE - ACCESSING ON-LINE HELP

1. To access Help:

- Click on the Help button  on your toolbar. OR
- Click on Help in the menu bar and click on Microsoft Access Help.



2. In the question box, type *What is a macro?*
3. Click on **Search**.
4. Click on the button next to Macros: What they are and how they work.
5. Click on the Close button  to exit Help.

Tip: The F1 key is a shortcut to Help. Press F1 and a Help box will open with information about the item where your cursor is sitting.

CHANGE TABLE VIEWS

Database Tables Tables store your data and are the foundation of the database.

Changing Views There are two primary views for using tables in Access: **Design View** and **Datasheet View**. **Datasheet View** is where you enter data into tables. **Design View** is where you will create and edit your tables.

The View button on your toolbar lets you switch back and forth between these two views. You can click on the View button down arrow for a drop-down menu of the two view choices or you can double-click on the button and it will toggle you back and forth between the two views.



When in Design View, the button looks like:



When in Datasheet View, the button looks like:

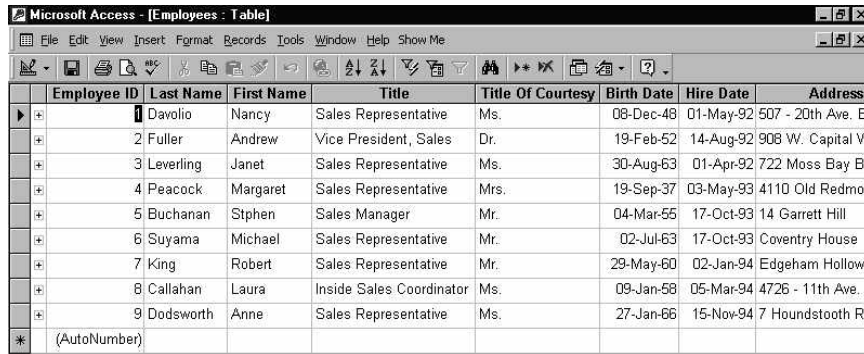


Steps to Switch Views

1. At the database window, open an existing table.
2. Click on the View button on the toolbar to change view.
3. Click on the View button on the toolbar to return to the original view.

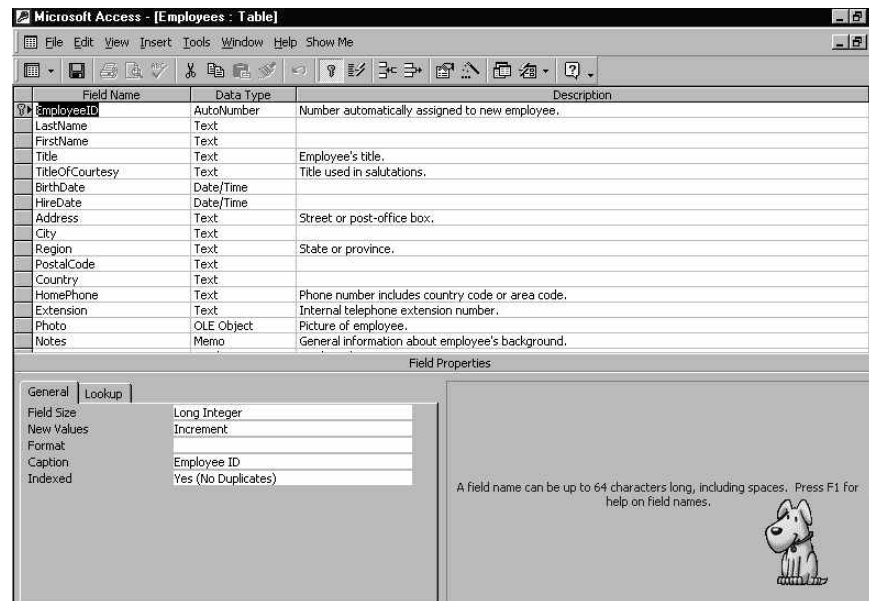
EXERCISE – CHANGING TABLE VIEWS

1. At the Tables button, select the Employees table and click on **Open**. The table opens in Datasheet view.



Employee ID	Last Name	First Name	Title	Title Of Courtesy	Birth Date	Hire Date	Address
1	Davolio	Nancy	Sales Representative	Ms.	08-Dec-48	01-May-92	507 - 20th Ave. E
2	Fuller	Andrew	Vice President, Sales	Dr.	19-Feb-52	14-Aug-92	908 W. Capital W
3	Leverling	Janet	Sales Representative	Ms.	30-Aug-63	01-Apr-92	722 Moss Bay Bk
4	Peacock	Margaret	Sales Representative	Mrs.	19-Sep-37	03-May-93	4110 Old Redmor
5	Buchanan	Stephen	Sales Manager	Mr.	04-Mar-55	17-Oct-93	14 Garrett Hill
6	Suyama	Michael	Sales Representative	Mr.	02-Jul-63	17-Oct-93	Coventry House
7	King	Robert	Sales Representative	Mr.	29-May-60	02-Jan-94	Edgeham Hollow
8	Callahan	Laura	Inside Sales Coordinator	Ms.	09-Jan-58	05-Mar-94	4726 - 11th Ave. N
9	Dodsworth	Anne	Sales Representative	Ms.	27-Jan-66	15-Nov-94	7 Houndstooth Rd
(AutoNumber)							

2. Click on the View button  on the toolbar to switch to Design view.



Field Name	Data Type	Description
EmployeeID	AutoNumber	Number automatically assigned to new employee.
LastName	Text	
FirstName	Text	
Title	Text	Employee's title.
TitleOfCourtesy	Text	Title used in salutations.
BirthDate	Date/Time	
HireDate	Date/Time	
Address	Text	Street or post-office box.
City	Text	
Region	Text	State or province.
PostalCode	Text	
Country	Text	
HomePhone	Text	Phone number includes country code or area code.
Extension	Text	Internal telephone extension number.
Photo	OLE Object	Picture of employee.
Notes	Memo	General information about employee's background.

Field Properties

General | Lookup

Field Size: Long Integer
 New Values: Increment
 Format:
 Caption: Employee ID
 Indexed: Yes (No Duplicates)

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

3. Click on the View button  on the toolbar to switch to Datasheet view.
4. Click on the Close button  to close the table.

TABLES – OPEN AND MOVE AROUND IN DATASHEET VIEW

Open a Table

When you open an Access database and select the Tables button, you see a list of the tables in that database. To open a table in Datasheet View, double click on the table name or, click on a table name to select it and click on the **Open** button.

	Birth Date	Hire Date	Address	City	Region	Postal Code	Country	Home Phone	Extension
+	08-Dec-48	01-May-92	507 - 20th Ave. E.	Seattle	WA	98122	USA	(206) 555-9857	5467
+	19-Feb-52	14-Aug-92	908 W. Capital Way	Tacoma	WA	98401	USA	(206) 555-9482	3457
+	30-Aug-63	01-Apr-92	722 Moss Bay Blvd.	Kirkland	WA	98033	USA	(206) 555-3412	3355
+	19-Sep-37	03-May-93	4110 Old Redmond Rd.	Redmond	WA	98052	USA	(206) 555-8122	5176
+	04-Mar-55	17-Oct-93	14 Garrett Hill	London		SW1 8JR	UK	(71) 555-4848	3453
+	02-Jul-63	17-Oct-93	Coventry House	London		EC2 7JR	UK	(71) 555-7773	428
+	29-May-60	02-Jan-94	Edgeham Hollow	London		RG1 9SP	UK	(71) 555-5598	465
+	09-Jan-58	05-Mar-94	4726 - 11th Ave. N.E.	Seattle	WA	98105	USA	(206) 555-1189	2344
+	27-Jan-66	15-Nov-94	7 Houndstooth Rd.	London		WG2 7LT	UK	(71) 555-4444	452

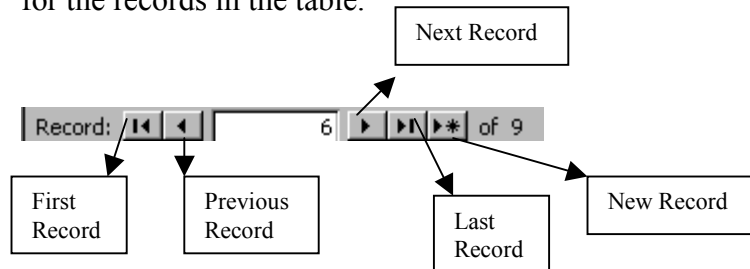
Moving Around in Datasheet View

Use your right arrow key or press Tab or Enter to move between fields in the table. To move back a field at a time, press the left arrow key or press the Shift and Tab keys at the same time.

You can also arrow up and down between records (rows). The record where your cursor is sitting will display a triangle in the gray shaded bar at the far left indicating the active row. An asterisk (*) appears at the row where the next record will be entered. A plus sign (+) indicates a Subdatasheet. If tables are related, a subdatasheet lets you view and/or edit data in a related table.

Navigation Buttons

At the bottom of the Datasheet window are the Navigation buttons for the records in the table.



The Navigation buttons can move you to the first, last, next, previous, or any specific numbered record in the table.

Steps to Move Around in Datasheet View

1. At the Tables button, click on a table name to select it and click on the **Open** button.
2. Use your arrow keys to move forward fields or up and down between records.
3. Hold down your Shift and Tab keys at the same time to move back a field at a time.

EXERCISE – MOVING AROUND IN DATASHEET VIEW

1. At the Tables button, select the Employees table and click on **Open**.



The screenshot shows the Employees table in Datasheet View. The table has columns: Employee ID, Last Name, First Name, Title, Title Of Courtesy, Birth Date, Hire Date, and Address. The first row is highlighted in gray, indicating it is the header row. A gray shaded bar is visible on the left side of the table, indicating the subdatasheet indicator. Arrows point from labels to these features: 'Gray shaded bar' points to the gray bar, 'Subdatasheet indicator' points to the first row, and 'Header row' points to the first row.

Employee ID	Last Name	First Name	Title	Title Of Courtesy	Birth Date	Hire Date	Address
1	Davolio	Nancy	Sales Representative	Ms.	08-Dec-48	01-May-92	507 - 20th Ave. E
2	Fuller	Andrew	Vice President, Sales	Dr.	19-Feb-52	14-Aug-92	908 W. Capital W
3	Leverling	Janet	Sales Representative	Ms.	30-Aug-63	01-Apr-92	722 Moss Bay Bl
4	Peacock	Margaret	Sales Representative	Mrs.	19-Sep-37	03-May-93	4110 Old Redmor
5	Buchanan	Stephen	Sales Manager	Mr.	04-Mar-55	17-Oct-93	14 Garrett Hill
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7	King	Robert	Sales Representative	Mr.	29-May-60	02-Jan-94	Edgeham Hollow
8	Callahan	Laura	Inside Sales Coordinator	Ms.	09-Jan-58	05-Mar-94	4726 - 11th Ave. f
9	Dodsworth	Anne	Sales Representative	Ms.	27-Jan-66	15-Nov-94	7 Houndstooth Rc
(AutoNumber)							

2. Press the Tab key several times to move forward several fields.
3. Hold down the Shift key and press the Tab key several times to move back to the first field.
4. Press the down arrow key several times to move down several records. Arrow up several times to move up to the top record.
5. Click on the Last Record Navigation Button  to move to the last record.
6. Click on the First Record Navigation Button  to move to the first record.

Tip: When in Datasheet View, the F5 key is a shortcut to the Navigation buttons at the bottom of the screen. Pressing the F5 key will place the cursor on the record number and you can type in any specific record number you'd like.

EDIT AND DELETE IN DATASHEET VIEW

Changing Row and Column Size

You can change the size of your rows and columns to accommodate your headings or your data.

Edit a Record

To make changes to a record, just place your cursor in the field you want to edit and make the change. Access places a small pencil icon in the gray shaded bar at the left of the record you are editing.

	5	Buchanan	Stephen	Sales Manager
---	---	----------	---------	---------------

Delete a Record

When in Datasheet View, you can remove a record from the database. First, select the record by clicking the cursor in the gray column at the far left of the table. Then press your delete key. You can also click on the Edit menu and select Delete Record or click on the Delete Record button on the toolbar .

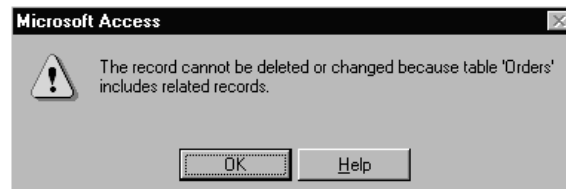
Warning! You may receive a message telling you that you cannot delete the record because other tables have related records. Always use caution when deleting a record.

Steps to Edit and Delete in Datasheet View

1. **Change column width** by placing the pointer in the Header row until the pointer changes to a cross, clicking on the vertical line at the right side of a column heading and pressing and dragging the column.
OR, double-click on a line in the Header row to automatically widen the column to accommodate the widest entry.
2. **Change row height** by placing the pointer on the line below any row (must be done in the gray shaded bar at the left edge of the table). When the pointer changes to a cross, press and drag until the row is the desired height. Changing row height will change the height of all the rows in the table.
3. **Edit a field** by clicking your cursor in that field and making the change.
4. **Delete a record** by clicking the cursor in the gray column at the far left of the table to select the record (row) and then pressing the delete key.

EXERCISE – EDITING IN DATASHEET VIEW

1. In the Header row of the table, place your pointer on the line between the Last Name and First Name fields. When the pointer turns into a double-arrow, press and drag to enlarge the Last Name field.
2. Double click on the same line to automatically re-size the Last Name field.
3. On the gray shaded bar, place your pointer on the line between the first and second records. When the pointer turns into a double-arrow, press and drag to enlarge the row height. Press and drag it back to its original size.
4. Place your cursor in the First Name field of record number 5. Change the name to Stephen.
5. Click anywhere in record number 3. Click on the Delete Record button  on the toolbar. A message box opens. Click on OK.



6. Click on the **Save** button  on the toolbar.
7. Click on the Close button  to close the table.

TABLES – OPEN, MOVE AROUND, AND EDIT IN DESIGN VIEW

Open a Table

To open a table in Design View, click on a table name to select it and click on the **Design** button.

Moving Around in Design View

Use the right arrow or press Tab or Enter to move forward in Design View. The left arrow key or pressing the Shift and Tab keys at the same time moves you back. The up and down arrows move you between rows.

The record where your cursor is sitting displays a triangle in the gray shaded bar at the far left column to indicate the active row.

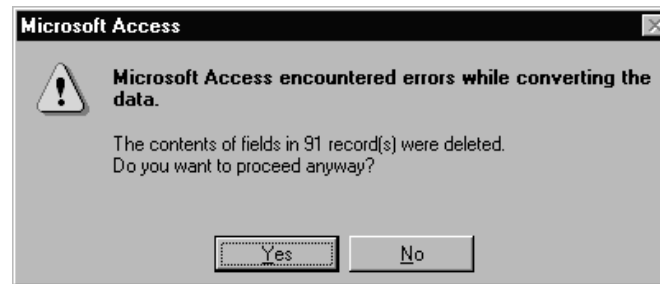
Changing Row and Column Size

Changing row and column size in Design View is done the same way it is done in Datasheet View.

Edit a Field

To make changes to a Field Name or Description, just place your cursor in the field you want to edit and make and save the change.

CAUTION! Making changes to the Data Type field or several of the Field Properties fields may cause you to lose data. Access will give you a warning message and ask if you really want to make that change.



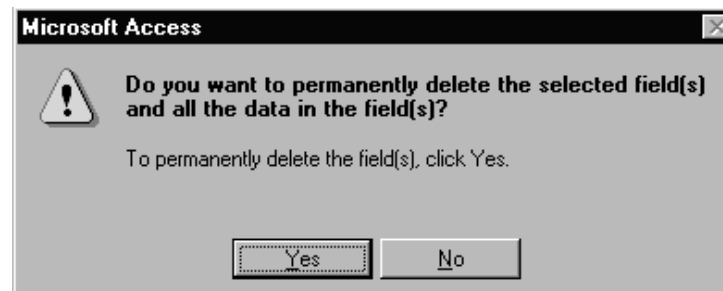
Add a Field

To add a new field to a table, place your cursor in the first empty line at the bottom of the table and type in the new field information.

It is important to remember that if you add a field to an existing table, none of the records already in the database will have any data in that field!

- Insert a Field** You can change the order of the fields in your table or insert a new field someplace other than at the end. To create a blank row to insert a new field, place your cursor in the field below where you want the new row, click on **Insert** in the menu bar, and select **Rows**.
- Move a Field** To move a field from one position to another, select the row by clicking on the arrow in the farthest left column. Then re-click the arrow and hold the mouse key down. A small outline of a box will appear. You can then drag the field to the desired position.
- Delete a Field** **Remember, when you delete in Design View, you are not just deleting a record, you are changing the structure of your table and deleting a field from that table.** To delete a field, select the field by clicking the cursor in the gray shaded bar at the far-left column of the table, and press the delete key. Or, place your cursor somewhere in the row, select **Edit** on the menu toolbar, and select **Delete Rows**.

Warning! Any time a field is deleted from the database, all of the data in that field in all of the records in the database is also deleted. You will receive a warning message asking if you really want to do that.



- A Good Idea!** If you are changing or deleting fields in a table, it's a good idea to save a copy of the table first. To save a table in Access, make sure the table is closed and right click on the table name and select **SaveAs**. This gives you the option of saving a copy of the table – just in case!

Steps for Editing a Table in Design View

1. At the Tables button, click on a table name to select it and click on the **Design** button.
2. **Make changes** to the Field Type and Field Description by placing your cursor in that field and making the change. Use caution when changing Data Type.
3. **Add a new field** by placing your cursor in the first empty line at the bottom of the table and typing the new field information.
4. **To insert a field**, create a blank row by placing the cursor in the row below where you are inserting the new field and clicking on Insert and Rows from the menu bar.
5. **To move a field**, select a row by clicking on the gray shaded bar at the far left of the row. Then click again on the arrow and hold to display the outline of a box. Drag the field to the desired position.
6. **To Delete a field**, select the row by clicking on the gray shaded bar in the far-left column and press the delete key. Click on the **Yes** button in the warning box.

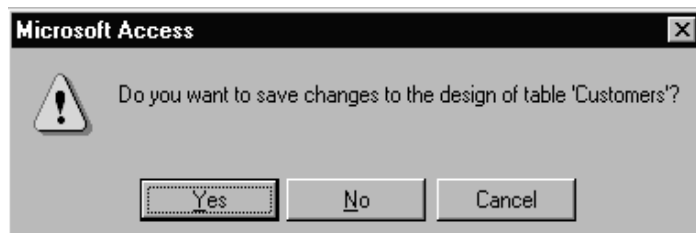
EXERCISE – EDITING IN DESIGN VIEW

1. Select the Customers table and click on the **Design** button.
2. Place your cursor in the Field Name field that says PostalCode.
3. Change the Field Name to ZipCode.
4. Click on the Save button  on the toolbar.
5. Place your cursor in the Data Type column of the Phone field.
6. Click on the down arrow  and select Number.
7. Click on the Save button  on the toolbar.
8. Click on **No** in the warning message box and **OK** in the message box.
9. Click on the down arrow  in the Data Type column of the Phone field and select Text.
10. Place your cursor in the first empty row at the bottom of the table. Enter:

Field Name: ContactAddress

Data Type: Text

Description: Form of address (Mr., Mrs., etc.)
11. Select the new row by clicking on the gray shaded bar in the far left column. Then re-click the gray bar and hold the mouse key down. When a small outline of a box appears, drag the field to beneath the ContactName field.
12. Place the cursor in the Fax row. Click on Insert and Rows in the menu bar.
13. Select the new blank row. Press the delete key. We do not need to add a field here.
14. Click on the Close button  to close the table.

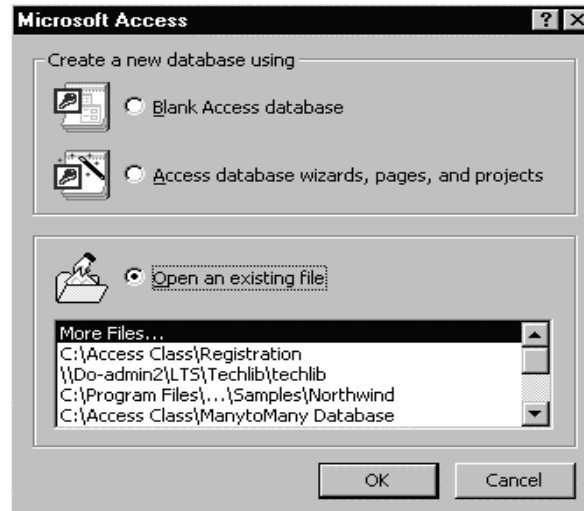


15. A save message box opens. Click on the **No** button. We will not edit the Northwind database.

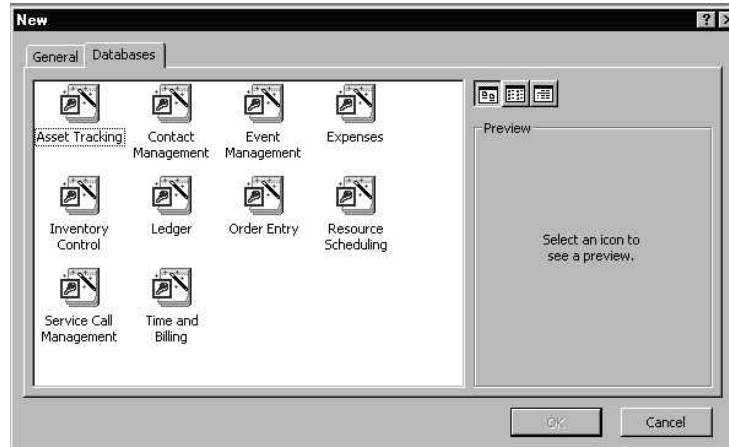
DATABASE WIZARD

Databases already Defined

When you first start Access, a window opens displaying choices to create a new Blank Access database, create a new database using the Database wizard, or to Open an existing file.



If you choose Access database wizards, pages, and projects, you can select from 10 predefined database structures to create your database. The Database wizard includes templates for databases for both home and work.



The database templates are for commonly used types of databases such as Asset Tracking, Inventory Control, and Event Management. After you select one of the templates, the Database wizard will ask you a series of questions and then create the database according to your responses. You choose the table and fields you want to use from a list of already existing tables. Forms and reports will also be created.

Modify It! If you use the wizard, you will probably want to modify the database to your specific needs.

Start Database Wizard To use the Database wizard to create a new database, open Access and select the Database wizard button. If you want to use the Database wizard to create a new database after you're already in Access, click on the New Database button on the menu bar .

This opens a New database window.

New Database Window The New database window includes 3 tabs, **General**, **Databases**, and **Office 97 Templates**.

The **General** tab contains a Blank Database that you can select to create a new database.

The **Databases** tab contains the same 10 predefined database structures that are available when you select the Database wizard button.

Steps to Create a Database Using Database Wizard

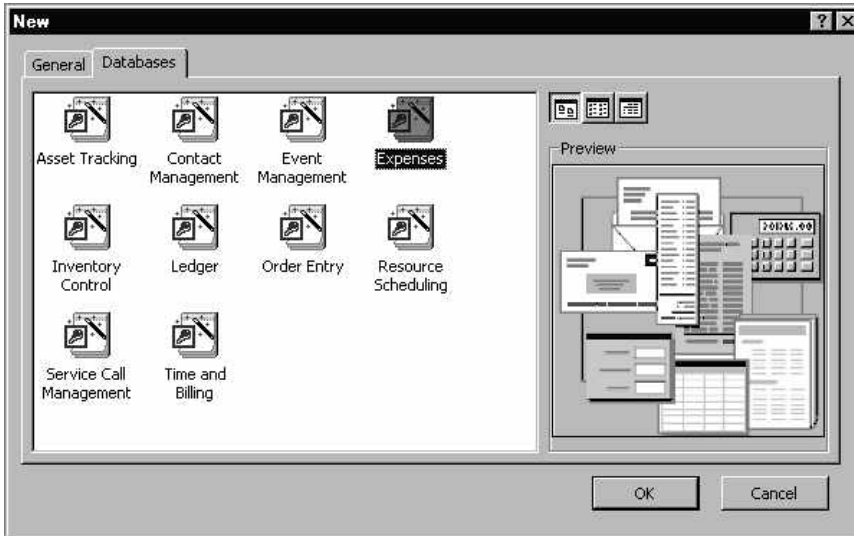
1. Start Access by clicking the **Start** button, clicking on **Programs**, and selecting **Microsoft Access**.
2. Select **Access database wizards, pages and projects** and click on **OK**.
3. Click on the icon for the database you want and click on **OK**.
4. You are prompted to save and name your database. Type a name for the database in the File Name box.
5. Click the **Create** button.

OR

1. Click on the New Database button  on the toolbar.
2. Select the Databases tab, click on the icon for the database you want and click on **OK**.
3. You are prompted to save and name your database. Type a name for the database in the File Name box.
4. Click the **Create** button.

EXERCISE – DATABASE WIZARD

1. Click on the Northwind database window close button  to close the Northwind database.
2. Click on the New Database button  on the toolbar.



3. Select the Databases tab.
4. Click on the New database window close button . We will not create a database using the Database wizard in this class.

CREATE A BLANK DATABASE

A New Database

If you have completed your database planning and find that the Database wizard will not meet your needs, you can create a new, blank database. There are two options for creating a blank database. First, when you start Access, click on the option for a Blank Access database and click OK.

In order to create a new database after you're already in Access, click on the New Database button  on the toolbar. This opens a New database window. Select the Database icon. You will be prompted to name and save your new database. Then Access will open a blank database window and you can begin creating tables.

Auto Save

You must save and name your database before Access even opens it because Access automatically saves changes as you work. It also saves during idle time and every time you close a file or leave the application. In order for Access to do automatic saves once you start, you must start out by telling it *where* to save. It is recommended that you use one-word names rather than putting in spaces. Example: Use MyDatabase rather than My Database.

Steps to Create a Blank Database

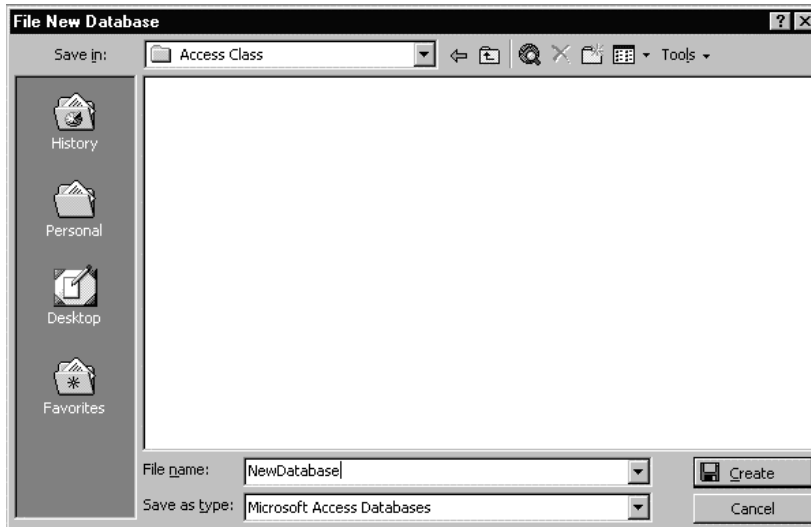
1. Start Access by clicking the **Start** button, clicking on **Programs**, and selecting **Microsoft Access**
2. Select Blank Access database and click **OK**.
3. You are prompted to save and name your database. Type a name for the database in the File Name box.
4. Click the **Create** button.

Steps to Create a Blank Database while in Access

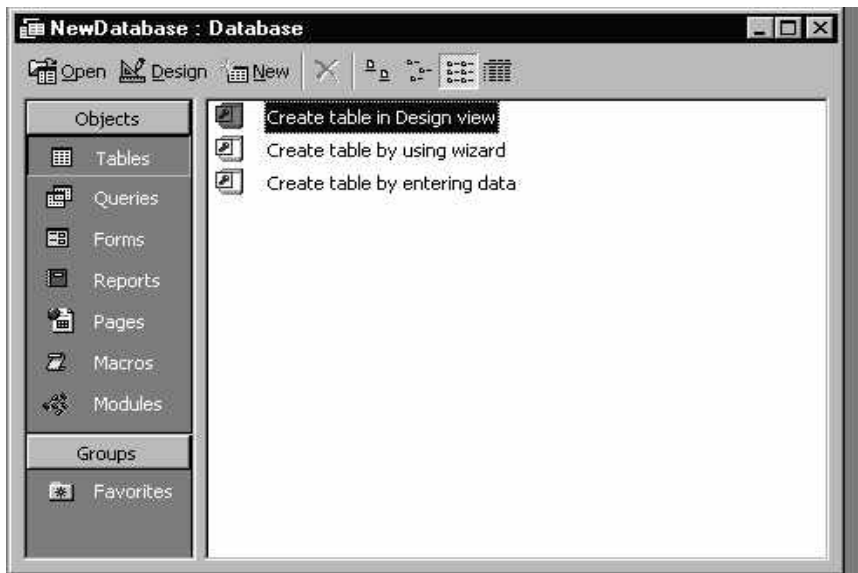
1. Click on the New Database button . A New database window opens.
2. Select the General tab and click the Database icon.
3. Click on **OK**.
4. You are prompted to save and name your database. Type a name for the database in the File Name box.
5. Click the **Create** button.

EXERCISE – CREATING A BLANK DATABASE

1. Click on the New Database button  on the toolbar.
2. Select the General tab.
3. Click on the Database icon and click **OK**. You will be prompted to save the database.



4. Save in the Access class folder. In the File name box, type NewDatabase.
5. Click on the **Create** button.



5. Click on the NewDatabase database window close button . We will use an existing database for the rest of this class.

CREATE A TABLE

Creating a New Table

Whether you are starting a new blank database or creating a new table in an existing database, the first step is to select the **Tables** button in the Database window (See screen print on next page).

There are three buttons on the database window toolbar for use with Tables. The **Open** button will open an existing table. The **Design** button opens an existing table in Design View which allows you to edit the table (**not** the data in it). The **New** button will create a new table. There are also 3 shortcut options for creating a table: **Create table in Design view**, **Create table by using Wizard**, and **Create table by entering data**.

When you click on the **New** button, the New Table window opens. There are 5 options for creating a table.

New Table Options

Datasheet View gives you a blank spreadsheet for entering data. This view is best used after you've already designed the table in Design View.

Design View is where you will design your table. You will enter field names, field descriptions, and field properties here. You cannot enter data in Design View.

Table Wizard contains a number of sample tables (either Personal or Business). If the type of table you need to create is on the list, you can select it, select the fields you want, and Access will walk you through creating the table.

Import Table can be used to import a table from another database.

Link Table can be used to link to a table in another database.

New Table Window in Design View

When you select **Design View** from the New Table window, a blank table opens in Design View.

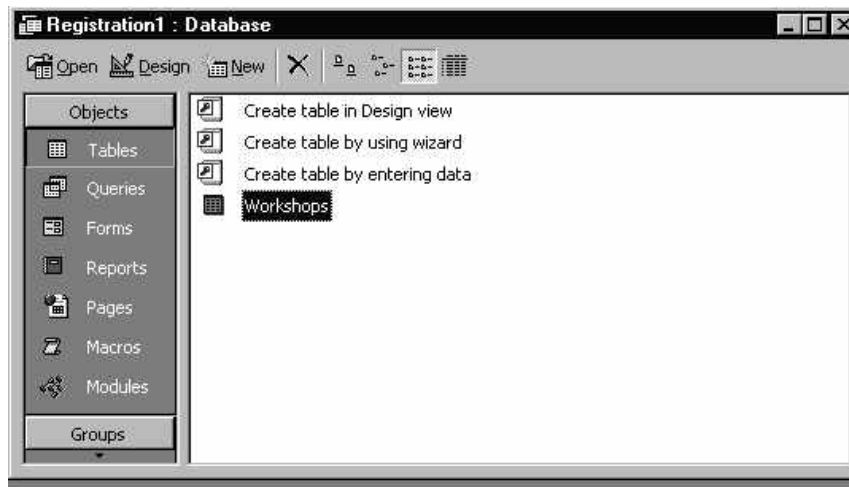
The top half of the form where you will enter the names and types of fields is called the *Field Grid pane*. The lower half is the *Field Properties pane*. That is where the properties of each field are established.

Steps to create a new table in Design View

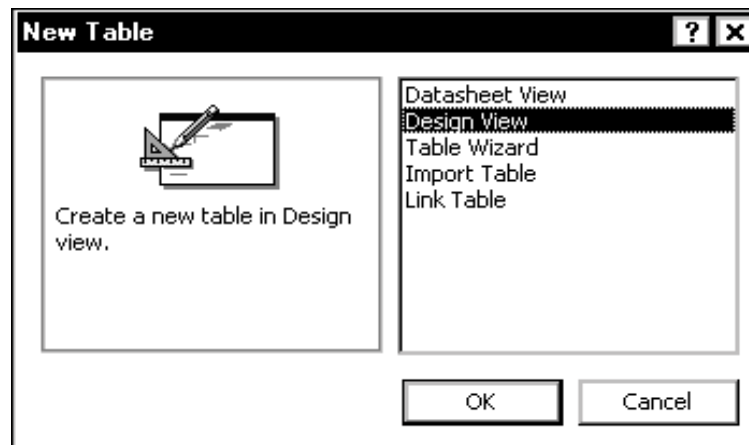
1. Select the **Tables** button in the Database Window.
2. Double-click on **Create table in Design view**.

EXERCISE – CREATING A NEW TABLE IN DESIGN VIEW

1. From the Menu bar, select File and then select Open.
2. From the Access class folder, select the Registration database.
3. Click on the **Open** button.
4. Select the Tables button in the Database Window.



5. Click on the **New** button. The New Table window opens.



6. Click on **Design View**.
7. Click on the **OK** button.

DEFINE FIELDS

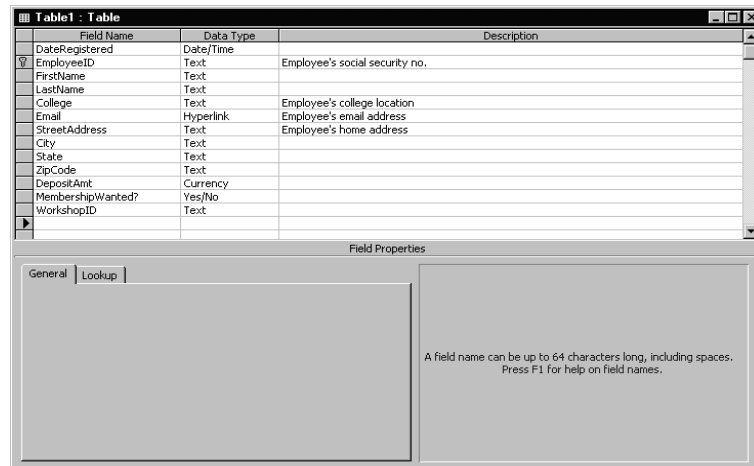
Fields - the smaller, the better	Remember, when creating fields, the smaller the unit, the better! Separate fields into the smallest possible units -- first name, last name, street, city, state, zip, etc. Do not lump them all into one field. This will be very important when sorting, finding, or reporting information.
Field Name	To create a new field you must enter a Field Name in the Field Name column. Field Names can be up to 64 characters and can include letters, numbers, or punctuation.
Data Type	Once you enter the field name, you will assign the Data Type for that field. Data Type is based on the kind (type) of data to be entered in a field and determines how data is stored. The Data Type field has a drop down menu of types to choose from. Text: Will hold up to 255 characters, including letters, numbers, and punctuation. Memo: The same as the Text data type, except will hold an almost unlimited number of characters. Number: Holds numbers only; use this data type if you plan to do any calculations on a numeric field. Date/Time: Allows you to enter date and/or time in any one of seven different formats. Currency: Automatically inserts dollar signs, commas, and two decimal points. Negative numbers are shown in parentheses. AutoNumber: A number field that automatically increments as you add records to the table. Yes/No: Provides a check box for simple yes/no or true/false data types. OLE Object: Allows you to link an object (such as sound, video, spreadsheet, etc.) to this field. Hyperlink: Stores a URL address so that when selected, it opens a web document. Lookup Wizard: Creates a drop-down menu of choices to pick from rather than having to type data in a field.
Description	The Description column is optional. If you want to, you can enter a description of the field and how it will be used.

Steps to Enter Fields in a Table in Design View

1. Click in the first Field Name line.
2. Enter a name for the field and press Enter.
3. In the Data Type field, click on the drop-down arrow  and select a data type. Press Enter.
4. Enter a Description of the field (if desired) and press Enter.
5. Continue until all fields have been entered.

EXERCISE – DEFINING FIELDS

1. Name and define the fields for the table as follows:



Field Name	Data Type	Description
DateRegistered	Date/Time	
EmployeeID	Text	Employee's social security no.
FirstName	Text	
LastName	Text	
College	Text	Employee's college location
Email	Hyperlink	Employee's email address
StreetAddress	Text	Employee's home address
City	Text	
State	Text	
ZipCode	Text	
DepositAmt	Currency	
MembershipWanted?	Yes/No	
WorkshopID	Text	

Field Name

DateRegistered
EmployeeID
FirstName
LastName
College
Email
StreetAddress
City
State
ZipCode
DepositAmt
MembershipWanted?
WorkshopID

Data Type

Date/Time
Text
Text
Text
Text
Hyperlink
Text
Text
Text
Text
Text
Currency
Yes/No
Text

Description

Employee's social security no.

Employee's college location
Employee's email address
Employee's home address

PRIMARY KEY

A Unique Identifier

A *Primary key* is the key field (or fields) in a table that identifies each record in your database as unique. Every table should have a Primary key. Once a field is designated as the Primary Key for a table, that field is required and the data entered must be unique. For example, if you create a table for Employees, the social security number field would be a good choice for Primary key because each person's social security number is unique. By setting a unique Primary key for each table, the database cannot possibly mistake one record for another when you do searches or run reports.

Primary Key Button

To make a field the Primary key field for a table, place your cursor somewhere in that field and click on the Primary Key button  on the toolbar.

Access places a key next to the Field Name to designate that field as the Key field.

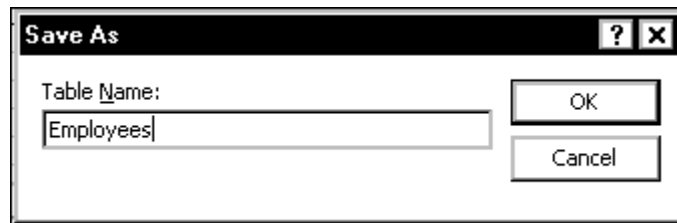
	Field Name
	Date Registered
	EmployeeID
	FirstName
	LastName

Steps to Assign a Primary Key

1. In Design View, place your cursor in the line containing the field you have determined to be the Primary Key.
2. Click on the Primary Key button .
3. Click on the Save button  on your toolbar.

EXERCISE – CREATING A PRIMARY KEY

1. Place your cursor somewhere in the EmployeeID field.
2. Click on the Primary Key button  on the toolbar.
3. From the File menu, select Save OR click on the Save button  on your toolbar.



4. For the Table Name, type Employees and click on **OK**.

FIELD PROPERTIES

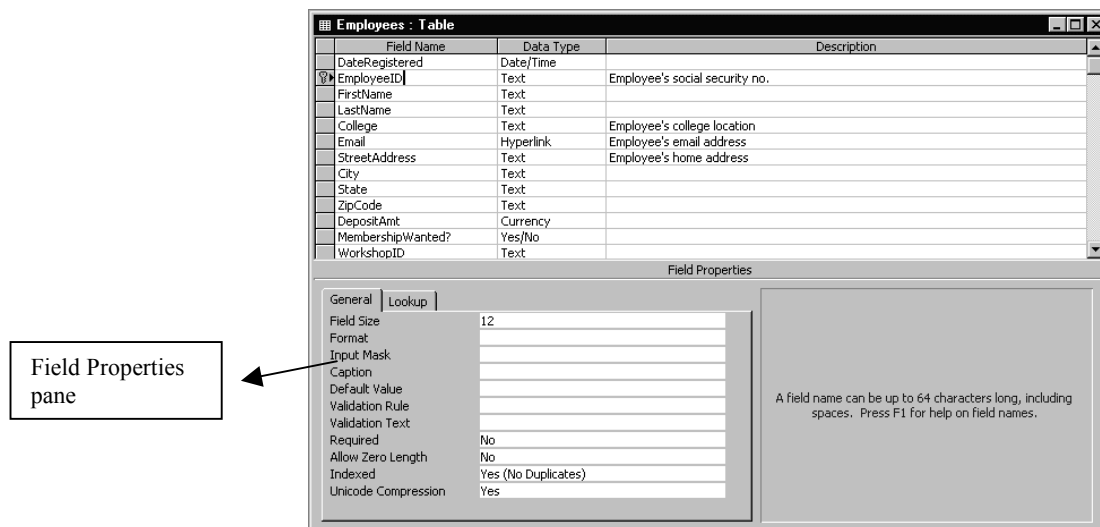
Field Properties Pane	Once you enter a Field Name and Data Type into the upper grid on the New Table window, the options for that data type fill in on the bottom half of the window (the <i>Field Properties pane</i>). The options are displayed on the General tab and are called either <i>properties</i> or <i>attributes</i> .
Field Size	Defaults to 50 characters for all data types except <i>Number</i> . The Number data type offers six subtypes allowing entry of numbers in different formats. Change the Field Size to limit the size of a field when entering data.
Format	Contains drop-down menus of options for formatting data. The options affect the way the data appears on forms and reports. (Example: dollar signs, percent signs, colors, negative numbers, etc.)
Input Mask	A pattern for data to be entered. Entering restrictions here can cut down on data entry time and errors. Explained further on page 38.
Caption	Allows you to enter the label you want for a particular field on your form. If left blank, Access uses the Field Name.
Default Value:	You specify a value that is automatically entered in this field on new records. For example, if a conference registration cost is \$500, the field can be set to default (autofill) to \$500.
Validation Rule	You specify a rule that is checked when data is entered. Validation Rule is explained further on page 42.
Validation Text	The error message that will appear when invalid data is entered (according to the Validation Rule).
Required	A Yes/No value which, if set to Yes, prevents the record from being saved unless data is entered into this field.
Allow Zero Length	A Yes/No value to determine if a field can stay blank (have no data entered). Only available in fields with Text or Memo data types.
Indexed	A Yes/No value to determine if the field is indexed for searching and sorting. Contains a choice to prohibit duplicate values.
Decimal Places	For Number and Currency data types, allows you to set the number of decimal places to be displayed.
Unicode Compression	A Yes/No value which, if set to Yes, automatically compresses large amounts of data and decompresses when the field is opened.

Steps to Enter Field Properties

1. In the upper pane, place the cursor in the field that requires changes to its Properties, and press F6 to drop to the Field Properties pane.
2. Make any desired changes.
3. Press F6 to return to the upper pane.

EXERCISE – SETTING FIELD PROPERTIES

1. Place your cursor in the EmployeeID field and press F6.



2. Place your cursor in the Field Size field. Change the field size to 12.
3. Press F6 to return to the upper pane.
4. Place your cursor in the DateRegistered field and press F6.
5. Place your cursor in the Format field.
6. Click on the down arrow  and select Medium Date.
7. Press F6 to return to the upper pane.
8. Click on the Save button  in the toolbar.

Hint: Pressing the F6 key will toggle the cursor back and forth between the upper and lower panes.

INPUT MASK

Input mask Input Mask is one of the field properties in Access. It consists of an Input Mask Wizard that has 10 different pattern choices for data input.

Once you select one of the patterns (such as zip code, phone number, time, etc.) and then enter data in that field, Access automatically puts the data in the chosen format. Input Mask Wizard contains a **Try It** field which lets you see how each field will look on your form.

Create Your Own Input Mask Wizard also has an **Edit List** button that allows you to change any of the existing patterns. For example, the pattern for a telephone extension is “63215”. If you prefer the phone extension to be entered “6-3215” you can edit the Extension pattern to include the dash. You can also add new patterns.

Steps to Add Input Mask Properties

1. Place your cursor in the field that requires the Input Mask. Press F6 to drop to the Field Properties pane.
2. Place your cursor in the Input Mask property field. Click on the button  at the end of the line. The Input Mask Wizard opens.
3. Select the Mask you want and click in the Try It field. Type in a value for the field to see how the mask will look.
4. To edit a Mask, select the Mask and click on the Edit List button . The Customize Input Mask Wizard window opens.
5. Edit the Input Mask field and click on **Close**.
6. Click on the **Finish** button. The Input Mask Wizard closes.
7. Click on the Save button  on the toolbar.
8. Press F6 to return to the upper pane.

EXERCISE – INPUT MASK

1. Place your cursor in the EmployeeID field and press F6.
2. Place your cursor in the Input Mask field. Click on the button  that appears at the end of the line.
3. The Input Mask Wizard window opens.



The Input Mask Wizard dialog box is shown. It has a title bar 'Input Mask Wizard'. Inside, it asks 'Which input mask matches how you want data to look?'. Below this, it says 'To see how a selected mask works, use the Try It box.' and 'To change the Input Mask list, click the Edit List button.' There is a table with two columns: 'Input Mask:' and 'Data Look:'. The table contains the following rows:

Input Mask:	Data Look:
Zip Code	98052-6399
Social Security Number	531-86-7180
Phone Number	(206) 555-1212
Extension	63215
Password	*****
Short Time	18:07

Below the table is a 'Try It' field with a small input box showing '---' and a larger empty box. At the bottom are five buttons: 'Edit List', 'Cancel', '< Back', 'Next >', and 'Finish'.

4. Select Social Security Number and click in the Try It field.
5. Type 513456789. Note that the dashes are inserted for you.
6. Click on the **Finish** button. The Input Mask Wizard window closes.
7. Press F6 to return to the upper pane.

DEFAULT VALUE

Default Value A Default Value is a value that is automatically entered into a field when entering new records. If most records have the same value in a field, creating a Default Value prevents you from having to enter the same information in every record. The Default can be either a value or an expression.

Expressions An Expression is a formula that calculates a value. For example, expressions can be created to autofill the current date or to leave a field blank.

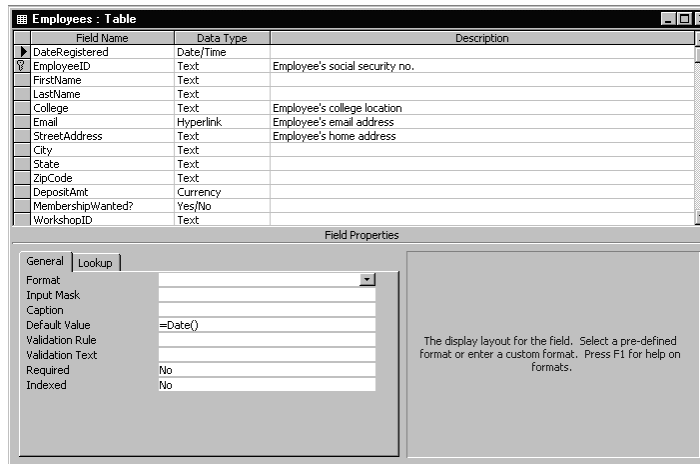
Note: If you add a Default Value after you've already entered some records, the value will be included for all new records added, but will not be added to already existing records.

Steps to Add Default Value Properties

1. Place the cursor in the field that requires the Default Value.
2. Press the F6 key to drop to the Field Properties pane.
3. Click in the Default Value field and enter a value or expression.
4. Click on the Save button  on the toolbar.

EXERCISE – CREATE A DATE FIELD THAT AUTOFILLS WITH TODAY’S DATE

1. Place your cursor in the DateRegistered field and press F6 to drop to the Field Properties pane.



2. Place your cursor in the Default Value property.
3. Enter: =Date()
4. Place your cursor in the State field and press F6 to drop to the Field Properties pane.
5. Place your cursor in the Default Value property.
6. Type AZ and press Enter.
7. Click on the Save button  on the toolbar to save the table.
8. Click on the View button  on the toolbar to view the default values.

Employees : Table							
Date Registered	EmployeeID	FirstName	LastName	College	StreetAddress	City	State
01-May-02							AZ

9. Today's date has been inserted into the DateRegistered field.
10. Click on the View button  on the toolbar to return to Design View.

VALIDATION RULE

Validation Rule

The Validation Rule property lets you set a formula which Access checks when data is entered in a particular field. When you select the Validation Rule field property, you can open an Expression Builder window to create your formula.

The Expression Builder helps to build your formula with buttons for common operators like and, not, plus, minus, etc. Other operators include:

=	equal to	^	exponential
>	greater than	<	less than

There are also three folders containing other, more advanced formula operators and functions. When you click on the operators, Access moves them up to the Expression Builder window and builds your formula. You add your specific formula input. For example, if you have a field for a date and the date must fall before 1999, create a formula requiring the date to be less than or equal to 12/31/1998.

Validation Text

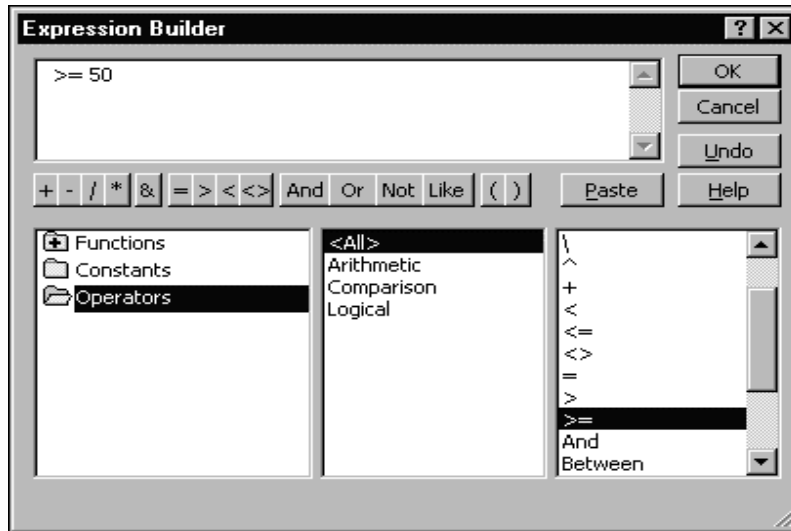
The Validation Text property is where you create the error message that will display when a Validation Rule is broken. In the example above, the Validation Rule requires that the date entered be before 1999. In the Validation Text field you might create the message *The date must be prior to 1999.*

Steps to Add Validation Rule properties

1. Place your cursor in the field that requires the Validation Rule. Press F6 to drop to the Field Properties pane.
2. Place your cursor in the Validation Rule property field. Click on the button . The Expression Builder window displays.
3. Click on the Operators folder. Double click on operators in the third column and add your specific formula input to create a formula in the Expression Builder box.
4. Click **OK**. The Expression Builder window will close.
5. Arrow down to the Validation Text field and enter an error message to display when a Validation Rule is broken.
6. Click on the Save button  on the toolbar.
7. Press F6 to return to the upper pane.

EXERCISE – VALIDATION RULE

1. Place your cursor in the DepositAmt field and press F6 to drop to the Field Properties pane.
2. Place your cursor in the Validation Rule field and click on the button  that appears at the end of the line.



3. The Expression Builder window opens.
4. Click on the Operators folder. The valid operators will appear in the third column. Double click on $\geq$.
5. In the Expression Builder box, type 50 and click **OK**.
6. Place your cursor in the Validation Text field. Type: Deposit must be at least \$50.
7. Click on the Save button  in the toolbar.

LOOKUP FIELD

What is it? A Lookup Field is a list of choices for a field. A Lookup Field creates a drop-down menu of choices to pick from rather than having to type data in a field. Access contains a Lookup Wizard to help create the field.

Lookup Wizard Create a lookup field by opening a table in Design view and selecting Lookup Wizard as the Data Type for a field. This opens the Lookup Wizard, which walks you through creating the lookup field.

You can also add a new Lookup Field by going to the Tables button at the database window and selecting the table that will contain the Lookup Field. In Design view, select Insert and Lookup Field from the menu bar. This also opens the Lookup Wizard.

Note: If you change the Data Type in an existing field to Lookup Wizard, the data type returns to Text once you have completed the Wizard screens and are returned to the table in Design view.

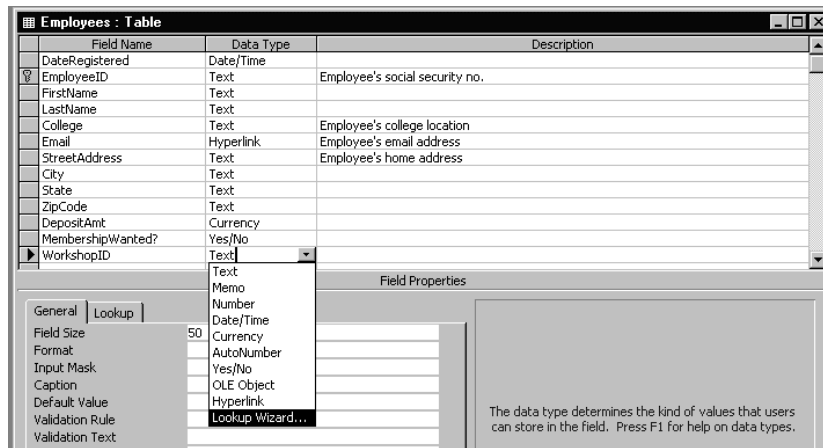
At the first screen of the Lookup Wizard, you select whether you want to type in the values for the drop-down menu or if you want to select them from a table or a query. Once the values for the list have been established you can name (or rename) the field and you're done.

Steps to Create a Lookup Field

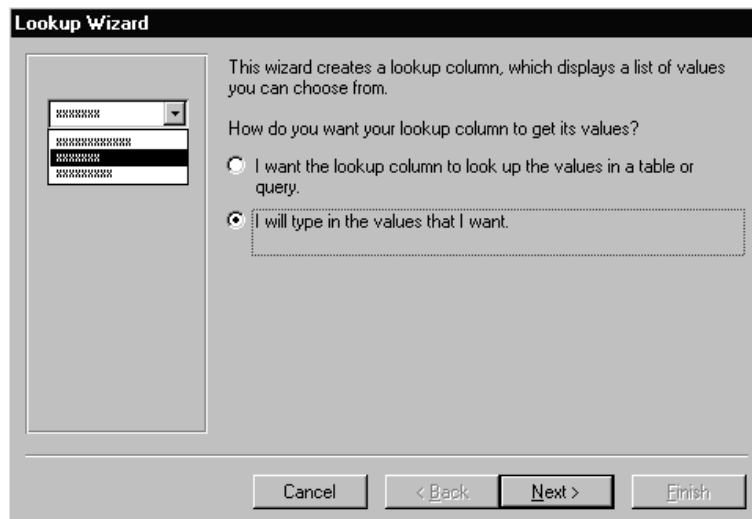
1. Open a table in Design View.
2. Click in the Data Type column of the field to be changed. Click on the down arrow  and select Lookup Wizard.
OR
To create a new lookup field, click on Insert and Lookup Field in the menu bar.
3. The Lookup Wizard window displays.
4. Select whether the values will be selected from the table or query or whether you will type them in and click **Next**.
If selecting values from a table or query, you will next select the fields and the column width.
If typing values enter them in the column provided and press **Next**.
5. Change the column name, if desired. Click on **Finish**.

EXERCISE – CREATING A LOOKUP FIELD

1. Click in the Data Type column of the WorkshopID field.



2. Click on the down arrow  and select Lookup Wizard. The Lookup Wizard window opens.



3. Select I will type in the values that I want and click **Next**.
4. In Col1, enter the following. Press Tab after each entry:
C020
M010
S030
Y040

Lookup Wizard

What values do you want to see in your lookup column? Enter the number of columns you want in the list, and then type the values you want in each cell.

To adjust the width of a column, drag its right edge to the width you want, or double-click the right edge of the column heading to get the best fit.

Number of columns:

Col1
C020
M010
S030
Y040
*

Cancel < Back Next > Finish

5. Click **Next**.
6. Click **Finish**. You are returned to the table in Design View and the Data Type displays as Text.
7. Click on the View button  to change to Datasheet View. A message box opens.

Microsoft Access

 **You must first save the table.**

Do you want to save the table now?

Yes No

8. Click **Yes**.

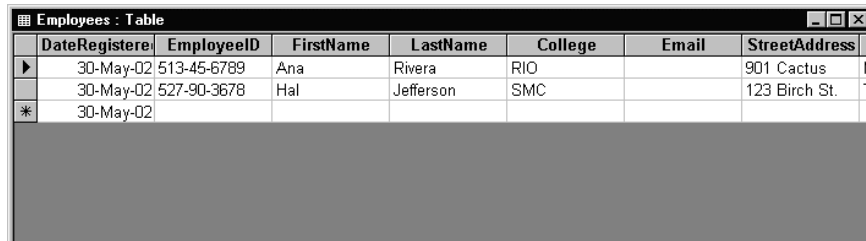
Employees : Table						
Date Registered	EmployeeID	FirstName	LastName	College	StreetAddress	City
01-May-02						AZ

9. Tab to the WorkshopID field.
10. Click on the down arrow  to see the drop down list of choices for the field.
11. Click on the close button  to close the Employees table.

DATASHEET VIEW

A Spreadsheet for Data Entry

Once you have created a table in Design View, you can choose to enter data into that table in **Datasheet View**. Datasheet view gives you a spreadsheet view of your table where you can do data entry. To show your table in Datasheet View, select View on the menu bar and then select Datasheet View. Or, the View button on the toolbar will allow you to toggle back and forth between Datasheet View and Design View.



	DateRegistere	EmployeeID	FirstName	LastName	College	Email	StreetAddress
▶	30-May-02	513-45-6789	Ana	Rivera	RIO		901 Cactus
	30-May-02	527-90-3678	Hal	Jefferson	SMC		123 Birch St.
*	30-May-02						

Default View

When you open a table in Access by clicking the Open button or by double-clicking the table name, it automatically opens in Datasheet View. Once the table is open, click on the View button  on the toolbar to switch to Design View if you want to edit the table itself rather than to add or edit data.

Form Better?

If you are the only user of your database, you can probably use Datasheet View to do all your data entry. However, if others are going to enter data into the database, it might be better to create a Form for entering data. In Datasheet View you are in a spreadsheet which contains all the records in the table. If you do not want to give another person access to edit or delete those records, create a Form for data entry. Forms will be discussed in detail later in this training manual.

Steps to Open a Table in Datasheet View

1. To open a table in Datasheet View:
 - At the database window, select the table you want to open and click on the **Open** button. OR
 - Double-click on the name of the table you want to open and it opens in Datasheet View.

EXERCISE – ENTERING DATA IN DATASHEET VIEW

1. Select the Employees table and click on the **Open** button.
2. Enter data into the spreadsheet as follows. Press Return after each entry.

	<u>Record 1</u>	<u>Record 2</u>
EmployeeID	513-45-6789	527-90-3678
FirstName	Ana	Hal
LastName	Rivera	Jefferson
College	RIO	SMC
Email		
StreetAddress	901 Cactus	123 Birch St.
City	Mesa	Tempe
State	AZ	AZ
ZipCode	85203	85283
DepositAmt	100.00	200.00
MembershipWanted?	No	Yes
WorkshopID	S030	C020

Tip: You can enter data in a Yes/No field using the keyboard rather than the mouse. Just press the spacebar to enter a checkmark for a Yes reply.

HYPERLINKS

What is it? A Hyperlink is a link from your database to data in another source. You can establish Hyperlinks to a document, to an email address, or to the World Wide Web. You can connect to a World Wide Web site or you can use a hyperlink to link to Microsoft Office documents.

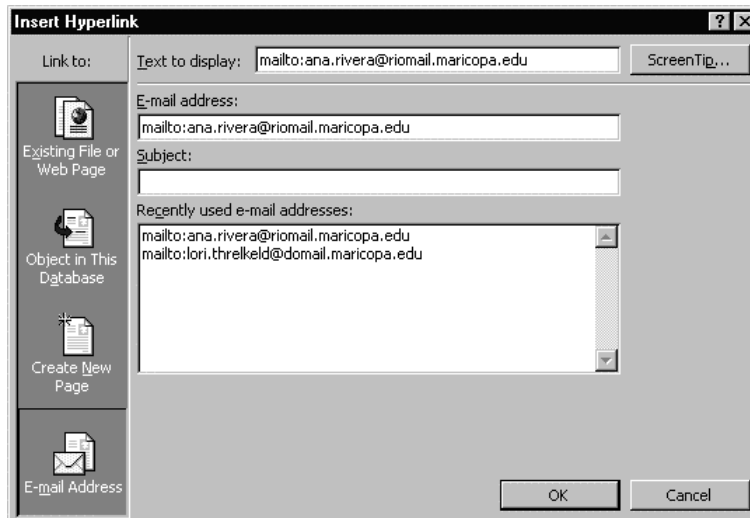
To Create a Hyperlink Hyperlink is one of the field Data Type choices in your tables. Open a table in Design view and create a field with the Hyperlink data type. Then switch to Datasheet View and use the Insert Hyperlink button  on the toolbar to create the link. You can click and open the link when you enter that field in the table in Datasheet View or in a form.

Steps to Create a Hyperlink

1. At the Tables button, open a table in Design View.
2. Add a field and select Hyperlink as the Data Type or change the Data Type in an existing field to Hyperlink.
3. Click on the Save button  on the toolbar.
4. Click on the View button  to change to Datasheet View.
5. Click in a record in the new Hyperlink field and then click on the Insert Hyperlink button  on the toolbar. The Insert Hyperlink window opens.
6. From the Link to column, select the type of object to which you are creating a link.
7. Enter a URL or an email address or click on one of the Browse buttons and select the file to be linked.
8. Click on **OK**. The Insert Hyperlink window closes and the location link is inserted into the field on the datasheet.

EXERCISE – CREATING A HYPERLINK

1. Click in the Email field of record number one.
2. Click on the Insert Hyperlink button  on the toolbar. The Insert Hyperlink window opens.
3. From the Link to column, click on E-mail address.
4. In the E-mail address field, enter ana.rivera@riomail.maricopa.edu.



5. Click **OK**. The Insert Hyperlink window closes.
6. At the table, click on the link to open Netscape and to open an email composition window addressed to the email address in the link.
7. Click on the composition window close button .
8. Click on the Netscape window close button .
9. Click on the Employees table close button .

DELETE A TABLE IN ACCESS

Caution! You can delete a table and all of its contents from Access. However, it is important to remember that Access is a relational database! Data in the table you're deleting could be linked to other tables that you are not deleting. Also, older, existing records in the database could be linked to that table even though you're not using it to add any new records. For example, a database of employees has a table for each department and one of the departments is eliminated. You would not necessarily delete that department table because there are still many records in the database that were created when that department did exist.

Warning Message When you try to delete a table in Access, you will first receive a message asking if you want to delete this table. If you say Yes, you will probably receive another message telling you that you cannot delete a table until all of its relationships have been deleted first. In order to delete the relationships, click **Yes** at the message box asking if you want Access to delete the relationships.



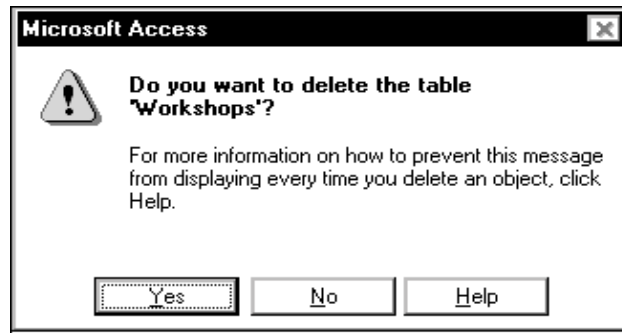
Delete a Table To delete a table and all of its contents, you must select the table in the database window. Then, press the delete key or select Edit from the menu bar and select Delete.

Steps to delete a table in Access

1. At the database window, select the table you want to delete.
2. Press the delete key.
3. If you have already deleted all the relationships for this table, click **Yes** at the message box.
4. If you have not deleted the relationships, Access will ask if you want the relationships deleted. Click **Yes** at the message box.

EXERCISE – DELETING A TABLE

1. Select the Workshops table.
2. Press the delete key.



3. Click on the **No** button. We do not want to actually delete this table.

RELATIONSHIPS

Why Relationships?

In a relational database, tables should be related, or linked, to each other through a matching field. Establishing relationships between the tables allows you to take data from several tables and use it in a single form, report, or query.

Linking Tables

When you create your tables, you must add fields that will link them to the other tables in the database. When you take the *Primary key* from one table and add it to another table in order to link the two tables, it is called a *Foreign key* in the table to which it has been added.

Tip: The linking field should be the only field that the two tables have in common. To avoid confusion, give the linking field the same name in both tables.

Kinds of Relationships

Once your tables are linked through a common field, you can establish the relationships between them. There are 3 kinds of relationships that can be established between tables in Access.

One-to-Many: The Primary key from one table can be used many times in another table. This is the most common relationship type and the one you will most probably use when creating relationships. The link between tables with a One-to-Many relationship looks like this: . The diagram shows a box with '1' on the right side connected by a line to a box with '∞' (infinity symbol) on the left side.

For example, in our database we will establish a one-to-many relationship between the Employees and Workshops tables. Each employee will attend only one workshop but each workshop will have many employees enrolled in it. The WorkshopID field from the Workshops table has been added to the Employees table in order to link the two tables together.

One-to-One: The Primary key from one table can only appear once in the second table. Usually, you should consider combining the two tables rather than establishing one-to-one relationships.

Many-to-Many: Involves three tables. The primary keys from two tables each have one-to-many relationships with a third table. This causes the first two tables to have a many-to-many-relationship with each other. For example in our database, if each employee registered for multiple workshops and each workshop has multiple employees registered in it, then the two tables have a many-to-many-relationship with each other. Many-to-many relationships are explained further on pg. 58.

Toolbar Buttons

To create relationships in Access, you must first create your tables and establish the linking fields. Then, at the Database window, select Tools from the menu bar and select Relationships or click on the **Relationships** button .

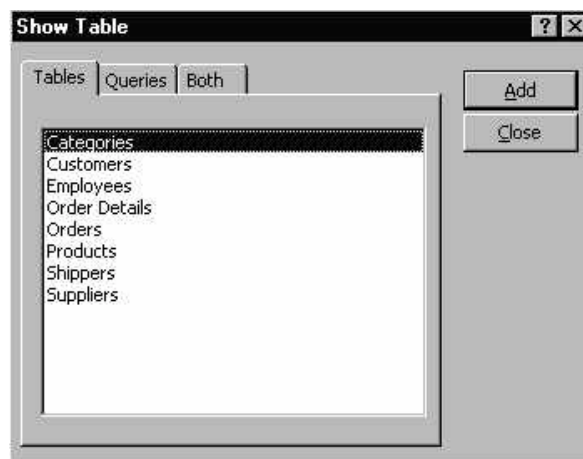
This opens the Relationships window. To display relationships that have already been established, click on the **Show Direct Relationships** button.  The **Show Direct Relationships** button shows relationships for selected tables.

With the **Show All Relationships**  button, you can see all the active relationships in the database.

The **Show Table**  button and the **Clear Layout**  button are also used when creating relationships. The **Show Table** button opens a tables window with a tab showing all the tables names. The **Clear Layout** button clears the relationships window.

Creating the Relationships

To create or edit relationships, click the Relationship button  to open the Relationships window. To add tables click on the **Show Table**  button, select the table(s) you want to add, click on the **Add** button, and close the Show Table window.



To create the relationships, click on the primary key in one of the tables and drag it over the name of the linking key in the other table. This opens the Edit Relationships window.

Edit Relationships Window

The Edit Relationships window lists the two tables that you are linking and all of their fields. You select the field from each table that you want to link to the other.

Referential Integrity

The Edit Relationships window also contains a check box labeled Enforce Referential Integrity. Referential Integrity requires that the data entered in the two linking fields be exactly the same. When you establish links between tables, you should enable Referential Integrity to make sure no inaccurate data is entered.

Editing the Layout

When the Edit Relationships window is closed, you are returned to the Relationships window. The layout now lists each table and its fields and lines connect linked fields. Sometimes the lines cross each other or run behind the tables or you can't see all the fields in the tables. You can edit this layout by holding the mouse button down while the cursor is on a table and moving the table on the page or by dragging the edge of a table to expand its size.

Delete a Relationship

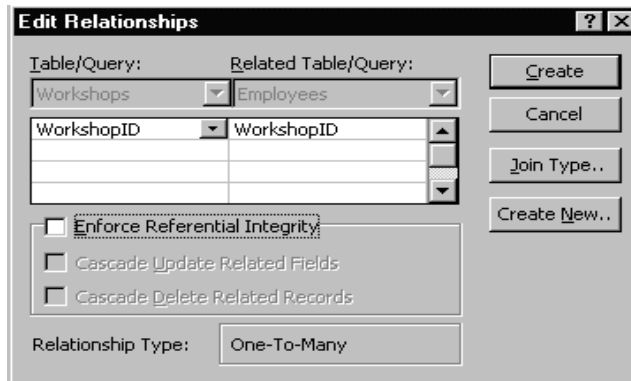
To delete a relationship, just click on the line between the tables. This will select the line. Then press the delete key.

Steps to Create Relationships

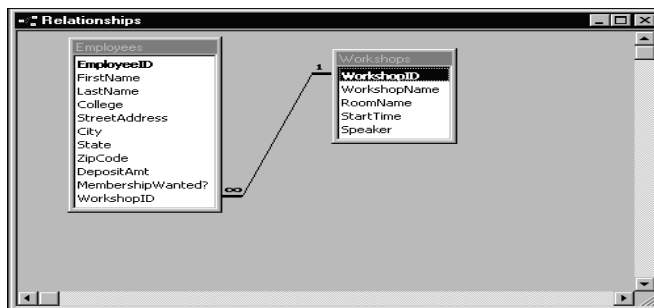
1. At the database window, click on the **Relationships** button  on the toolbar.
2. If the Show Table window does not display, click on the **Show Table** button  on the toolbar.
3. Select the table(s) you want to add and click on the **Add** button. Close the Show Table window.
4. To create the relationships, click on the primary key in one of the tables and drag it over the name of the linking key in the other table. The Relationships window will display.
5. In the Edit Relationships window, click in the Enforce Referential Integrity checkbox.
6. Click on the **Create** button.
7. Click on the **Save** button  on the toolbar.

EXERCISE – CREATING ONE-TO-MANY RELATIONSHIPS

1. Click on the **Relationships** button  on the toolbar.
2. If the Show Table window does not display, click on the **Show Table** button  on the toolbar.
3. Select Employees and click on the **Add** button.
4. Select Workshops and click on the **Add** button.
5. Click on the **Close** button to close the Show Table window.
6. If necessary, click and drag the edges of the tables to expand them.
7. Click on the WorkshopID field in the Workshops table and drag it over the WorkshopID field in the Employees table.



8. At the Edit Relationships window, click in the box to Enforce Referential Integrity.
9. Click on the **Create** button.

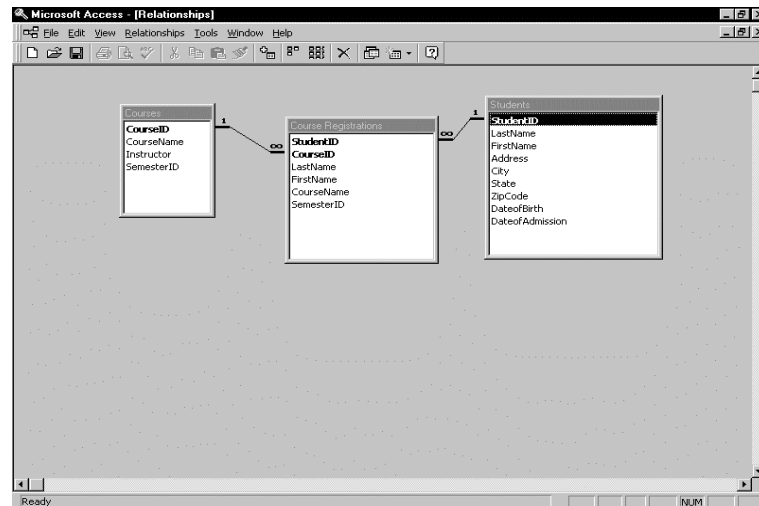


10. Click on the **Save** button  on the toolbar.
11. Click on the Relationships window close box .
12. Click on the Registration database window close box .

MANY-TO-MANY RELATIONSHIPS

Three Tables

A Many-to-many relationship is really two one-to-many relationships with a third table. The primary keys from two tables each have one-to-many relationships with a third table. This makes the first two tables have a many-to-many-relationship with each other.



Junction Table

A Many-to-many relationship is only possible by creating a third table (called a ***Junction table***) which has two primary keys: the foreign keys from the other two tables.

For example, a database for class registration has a table for Students and a table for Classes. Each of those tables has a Primary key. Because many students can be enrolled in more than one class, you would create a third table, perhaps called the Registration table. That table could have multiple student entries and multiple class entries. In the Registration table, add the Primary key fields from both the Students and Classes tables and make both of those fields Primary keys in the Registration table.

Two Primary Keys

To create multiple primary key fields in a table, select one field and then press the Control key and select the second field. This selects them both. When both fields are selected, click on the Primary Key button  on the toolbar.

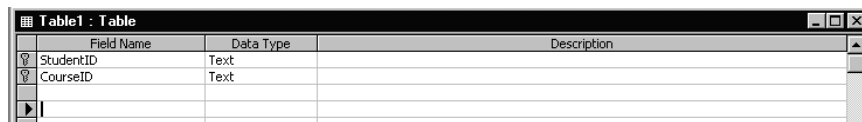
Steps to Create a Many-to-Many Relationship

1. Create the two tables that will have the many-to-many relationship. Create a Primary key for each table.
2. Create a third table. Add the Primary key fields from each of the other two tables. Add any additional fields that you desire.
3. Select the first Primary key field by clicking in the gray shaded bar at the left-hand side of the field. Press the Control key and select the second Primary key field.
4. Click on the Primary Key button  on the toolbar.
5. Click on the close button  to close the table.
6. Click on the Relationships button  on the toolbar to open the Relationships window.
7. If necessary, click the Show Table button  on the toolbar to open the Show Table window. Select the three tables and click the **Add** button and click the **Close** button to close the Show Table window.
8. Click and drag the Primary key field from each of the primary tables over the corresponding Primary key field in the junction table.
9. Click the close button  to close the Relationships window.

EXERCISE – CREATING MANY-TO-MANY RELATIONSHIPS

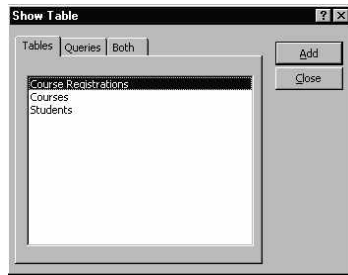
1. Click on the Open Database button  on the toolbar.
2. From the Access class folder, select the ManytoMany Test database.
3. Click on the **Open** button.
4. At the Tables button in the Database Window, double-click on Create table in Design view button.
5. Name and define the following fields for the table:

<u>Field Name</u>	<u>Data Type</u>
StudentID	Text
CourseID	Text
6. Click in the gray shaded bar at the left hand side of the StudentID field and then press the Control key and click the gray shaded bar at the left hand side of the CourseID field. Both fields are selected.
7. Click on the Primary Key button  on the toolbar.

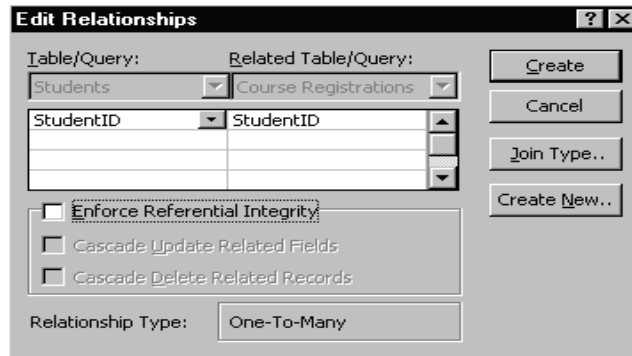


Field Name	Data Type	Description
StudentID	Text	
CourseID	Text	

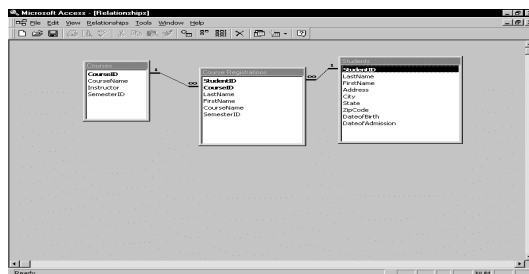
8. Click on the Save button  on the toolbar.
9. For the table name, type Course Registrations and click on **OK**.
10. Place the cursor in the StudentID field and then click in the Input Mask field in the Field Properties pane.
11. Click on the button  that appears at the end of the line. The Input Mask Wizard window opens.
12. Select Social Security Number and click on the **Finish** button.
13. Click on the Save button  on the toolbar.
14. Click on the Course Registrations table close button  to close the table.
15. Click on the Relationships button  on the toolbar to open the Relationships window.
16. Click on the Show Table button  on the toolbar. The Show Table window opens.



17. Select the Courses table and click **Add**. Select the Course Registrations table and click **Add**. Select the Students table and click **Add**.
18. Click **Close** to close the Show Table window.
19. Click and drag the StudentID field from the Students table over the StudentID field in the Course Registrations table. The Relationships window opens.



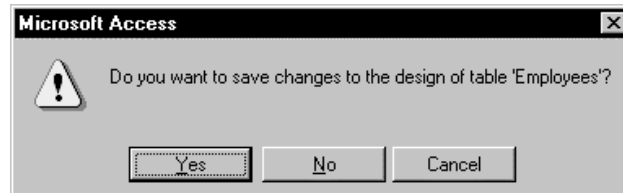
20. Click in the Enforce Referential Integrity check box and click **Create**.
21. Click and drag the CourseID field from the Courses table over the CourseID field in the Course Registrations table. The Relationships window opens.
22. Click in the Enforce Referential Integrity check box and click **Create**.



23. Click on the Relationships window close button . A Save message box opens. Click **Yes**.

EXIT ACCESS

Save First! When you are ready to exit Access, it's a good idea to save first. Although data will be saved automatically when you quit, other changes might not be. If you have not saved changes to the design of a table or query or report, Access will ask you if you want to save changes before exiting.



Exit Access To close Access, select Exit from the File menu or click the Close button  for the Access window.

Steps to Exit Access

1. From the File menu, select Exit.
- OR
2. Click the Close button  for the Access window.

EXERCISE – EXITING ACCESS

1. Click on the Save button  on the toolbar.
2. From the File menu, select Exit.

FORMS

Used to Enter Data

Forms are used for entering data into the database. They can also be used for editing and viewing data. You can create a form in Design View or you can use the Form Wizard. To create, edit, view, or use a Form you must first select the Forms button at the database window.

The Forms button has the same three buttons that are on the Tables tab: **Open**, **Design**, and **New**. The **Open** button will open an existing form. The **Design** button will open an existing form in Design View which allows you to edit the form (**not** the data in it). The **New** button will create a new form. There are also 2 shortcut options for creating a form: **Create form in Design view** and **Create form by using Wizard**.

New Form

When you select the **New** button, the New Form window opens.

There are 7 options for creating a new form:

Design View: Gives you a blank form where you can design your own form. This view is also used to edit forms.

Form Wizard: Asks you a series of questions and creates a form according to your responses. You choose the fields you want on your form and the style and background you want to use.

AutoForm: Columnar: Creates a fairly plain form using all the fields from the table you specify. AutoForm uses fields from only one table and it uses all the fields in that table. The AutoForm: Columnar form arranges records in a column and you can only see one record at a time.

AutoForm: Tabular: Creates a fairly plain form using all the fields from the table you specify. The AutoForm: Tabular form arranges records in a table (or grid) and you can see more than one record at a time.

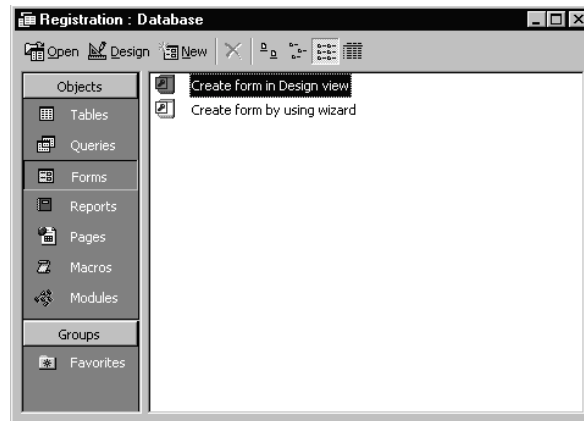
AutoForm: Datasheet: Creates a fairly plain form using all the fields from the table you specify. The AutoForm: Datasheet form arranges records as if you were looking at a Datasheet view of a table. You can see more than one record at a time.

Chart Wizard: Builds a chart using the fields and data that you specify.

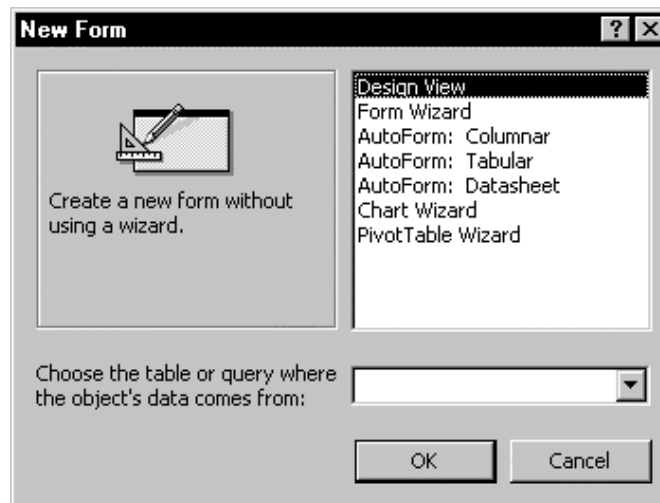
PivotTable Wizard: Takes an Access table and changes it into an Excel spreadsheet. You specify the columns and rows and the data is summarized into a spreadsheet.

EXERCISE – OPENING A NEW FORM

1. Start Access, select Open an existing file and click on **OK**.
2. Find the Access Class folder on the hard drive (C:) and select the Registration database.
3. Click the **Open** button.
4. Select the Forms button at the database window.



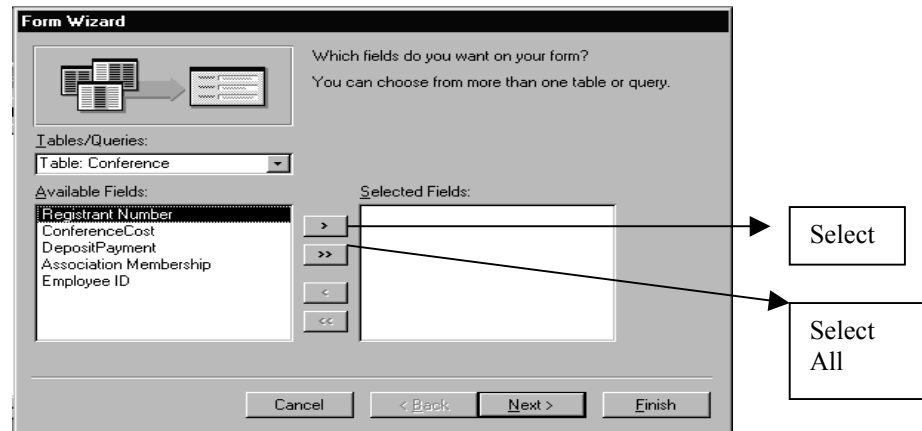
5. Click on the **New** button.



FORM WIZARD

Easiest Way

Form Wizard is the easiest way to create a form in Access. Once you select Form Wizard from the New Form window, the Wizard asks which fields you want on your form.



The form has a Tables/Queries field where you can pick which table you want to take fields from. The fields from the selected table are displayed in the Available Fields list. To move fields from the Available Fields list to your own Selected Fields list, you use the **Select**  or **Select All**  buttons. You can select fields from more than one table.

The next few screens in Form Wizard are used to select how you want the fields on your form to display and what style you want.

You Can Modify

On the last screen of the Form Wizard you name your form. There is also an option to Modify the form's design. Once Form Wizard creates the basic form, you can modify it to your specific needs.

Sub-Forms

Depending on your tables and their relationships, sometimes the Form Wizard gives you the option of creating a Form with sub-form(s). This option is only available when you are creating a form using two tables with a one-to-many relationship. When you create a form with a subform, the fields that you selected from the two tables appear in two separate areas on your form rather than all together in one, single form.

The advantage of using a subform is that you can see more than one record from the subform at a time. For example, in a database using a Students table for a form and a Classes table for a subform, you could pull up a student's name and be able to see all the classes that the student has taken rather than having each class shown on a separate record.

Conference

DepositPayment \$200.00

Association Memb ☒

Employee ID ☒

First Name

Last Name

College

Street Address

City

State

Zip Code ☒

Record: 1 of 3

Single
Form

Employees

Employee ID 513-45-6789 **City** Mesa

First Name Ana **State** AZ

Last Name Rivera **Zip Code** 85203

College RIO

Street Address 901 Cactus

Conference

	DepositPayment	Association Memb
▶	\$200.00	☒
*		☐

Record: 1 of 1

Record: 1 of 3

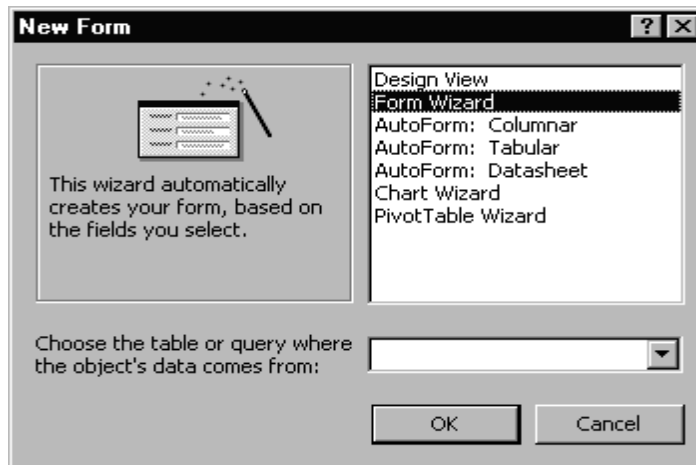
Form with
Subform

Steps to Create a Form Using Form Wizard

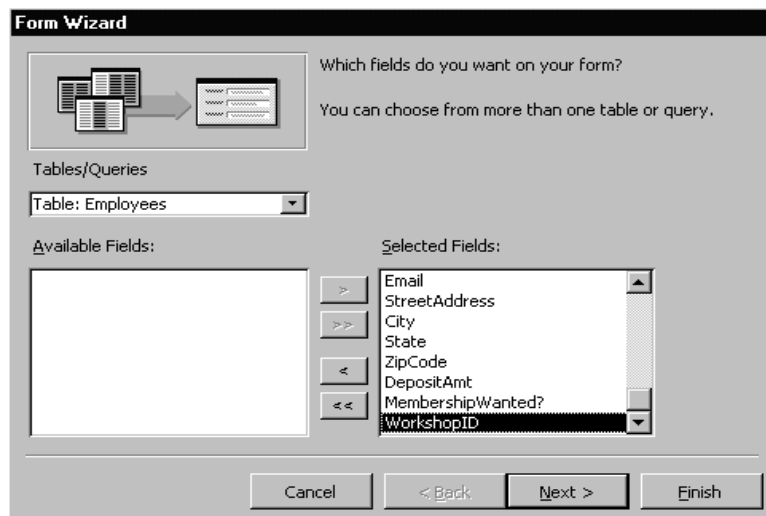
1. At the database window, select the Forms button.
2. Click on the **New** button.
3. Select Form Wizard and click **OK**.
4. Select the tables(s) you want on the form by clicking on the down arrow  in the Tables/Queries field. Select the fields for the form by double clicking on them in the Available Fields list.
5. Click on the **Next** button.
6. If you selected more than one table or query for your form, the next screen asks how you want to view your data. Decide whether to create a Single form or a Form with sub-form. Clicking on the different options will cause them to display in the window. Select one and click on **Next**.
7. Select the layout and style for the form on the next two screens. Clicking on the different options will cause them to display in the window. Click on **Next** each time.
8. Name your form and click on the **Finish** button.

EXERCISE – CREATING A FORM WITH FORM WIZARD

1. Select Form Wizard.

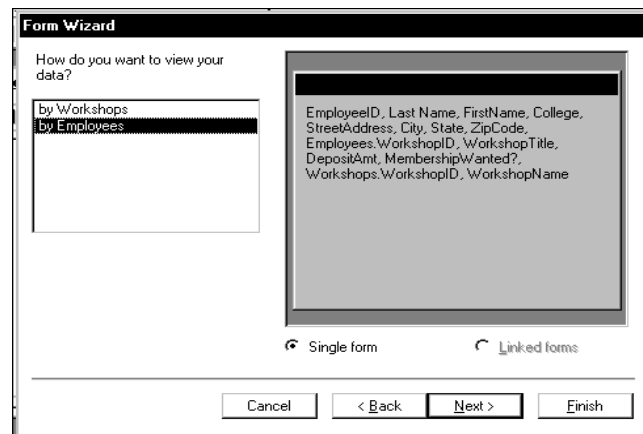


2. Click OK.
3. Click on the down arrow ▼ in the Tables/Queries field. Select Table: Employees.

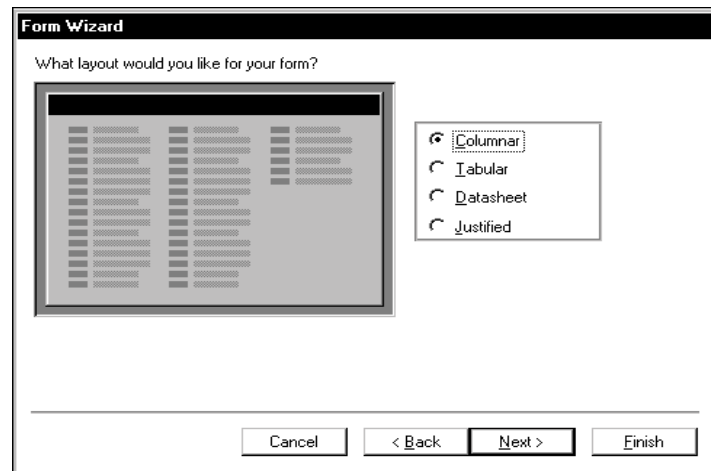


4. Click on the Select All button >>.
5. Click on the down arrow ▼ in the Tables/Queries field. Select Table: Workshops.
6. Select WorkshopName and click on the Select button >.
7. Click on Next.

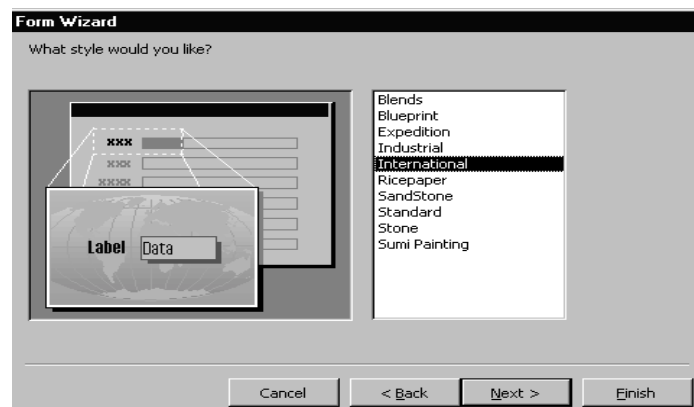
8. Make sure By Employees is selected to view your data and click **Next**.



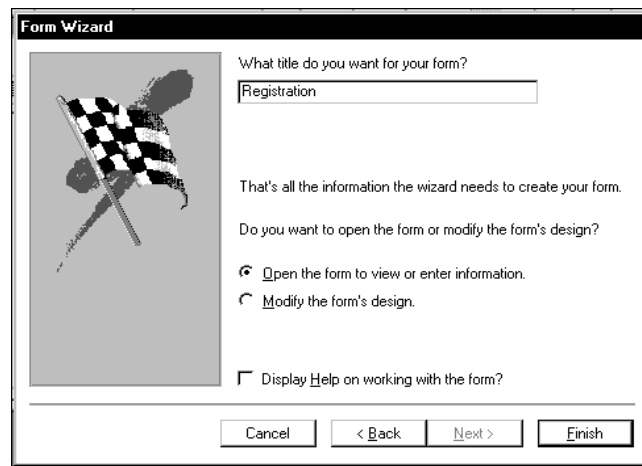
9. Select the Columnar option and click **Next**.



10. Select International and click on the **Next** button.



11. Change the Form name to Registration.



12. Click on the **Finish** button.
13. The completed form opens on the screen. Click on the close  button.

ENTER DATA USING A FORM

Easiest Way Once you have created a form, you can use it to enter data into your database. It is typically easier and safer to enter data into a form instead of entering directly into the table in Datasheet View.

Open the Form When you finish creating a form, it is then open on the screen for you to begin entering data. However, all of the forms are listed on the Forms button at the Database Window for you to open and use anytime.

Record indicator bar

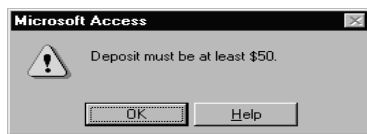
The form includes the fields that you selected and a Record indicator bar at the bottom. The Record indicator tells you which record you are currently viewing or entering. The record indicator bar is used to enter a Record number to pull up a specific record, to scroll through the existing records, or go to the next blank record.

Enter a Record To enter a new record into the database, click on the New Record button  on the Record indicator bar. Then enter data into each of the fields, pressing the Enter or Tab key to move to the next field.

Edit or Delete a Record You can also edit or delete a record from a form. To edit, select the record, click in the field to be edited and make the change. To delete a record from a form, select the record and click on Edit and Delete Record from the menu bar or click on the Delete Record button  on the toolbar.

EXERCISE – ENTERING DATA USING A FORM

1. At the Forms button, select the Registration form and click on **Open**.
2. Click on the New Record button .
3. Tab to the Employee ID field and enter: 528-06-7894. Press **Enter**.
4. First Name: Betty. Press **Enter**.
5. Last Name: Smith. Press **Enter**.
6. College: GCC. Press **Enter**. Press **Enter** to bypass the Email field.
7. Street Address, City, State, ZipCode: 411 S. Oak St., Phoenix, AZ, 82098. Press **Enter** after entering each field.
8. DepositAmt: 45. Press **Enter**.
9. A Validation Rule error message appears. Click **OK**.



10. Change the DepositAmt to 75. Press **Enter**.
11. Click in the MembershipWanted? box. **Hint:** Press the spacebar to enter a checkmark for a yes reply.
12. WorkshopID: Click on the down arrow  and select C020. Press **Enter**.
Hint: You can also open a drop-down list by pressing the F4 key.
13. WorkshopName autofills. Press **Enter**.
14. Enter the following records into the form. Press Enter after entering each field.

318-20-6119 Patricia Yee PVC 80336 S. Maple Rd., Phoenix, AZ, 87651

\$150 deposit Yes membership Workshop: Y040

526-40-7823 John Bullock GCC 8934 W. Pine St., Mesa, AZ, 96054

\$500 deposit No membership Workshop: M010

489-12-6768 Mark Wilson SMC 509 N. Mahogany Ave., Peoria, AZ, 72014

\$250 deposit Yes membership Workshop: M010

325-67-8902 Lori Jones SCC 8765 Yucca Way, Scottsdale, AZ, 85281

\$150 deposit Yes membership Workshop: Y040

FORM IN DESIGN VIEW

Create/Edit a Form

You may prefer to create your own form instead of using the Form Wizard. You can create or edit a form in Form Design View just like you create or edit a table in Table Design View.

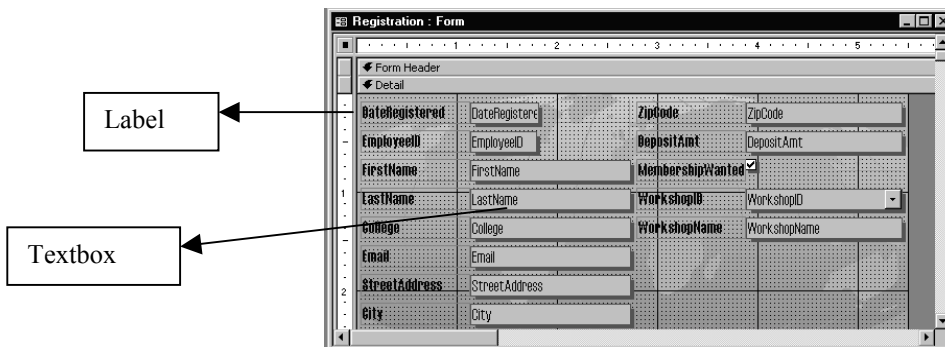
Create New Form

To create a new form, click on the **New** button at the Forms button. Select Design View, select the table you are using to build your form, and click on **OK**. There is a Field List button  on the toolbar that gives you a drop down list of fields from which to select the fields for the form. Click and drag the fields from the list to position them on the form. We will not create a new form in this class.

Design View

You must be at the Forms button to edit a form in Design View. Select the form you wish to modify and click on the **Design** button.

When you open a form in Design View, you see that the form is divided into three sections: Form Header, Detail, and Form Footer.



At the **Form Header** you can add graphics, a logo or a title for your form.

The **Details** section contains the fields that are on the form. The fields are displayed on the form in 2 parts: the label and the textbox. The label holds the title or instructions for the field and the textbox holds the data.

The **Form Footer** section can contain a page number, date, or summary information.

Form Toolbox

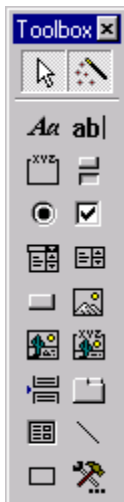
To edit or create a form in form design view, you will need to use the toolbox. If it does not open automatically when you open the form, you can open the toolbox by selecting View and then Toolbox from the menu bar. Or, there is also a toolbox button on the toolbar .

Steps to Open a Form in Design View

1. At the Forms button, select the Form to be opened.
2. Click on the **Design** button.

EXERCISE – OPENING A FORM IN DESIGN VIEW

1. Click on the View button  on the toolbar to switch to Design View.
2. If the toolbox bar does not appear, click on View on the menu bar.
3. Click on Toolbox.



FORM HEADER

Adding a Form Title

To add a title to your form, you must be in the Form Header area on the form. You can expand the Form Header area by clicking on the line between the Header and the Detail sections. When the pointer becomes a double-arrow, drag the line down to expand the Header area.

To insert a title, click on the Label button  in the toolbox and click in the Header section where you want to position the title. Then type your form title. You can adjust the font or font size of the title once you've typed it in and pressed Enter. You can change the font color or the title background color using the Font/Fore

Color button  or the Fill/Back Color button  on the toolbar.

Insert Graphic

You can also add a graphic or logo to your Form Header. The first step is to click on the Image button  in the toolbox. Next click in the Header section where you want the graphic inserted. This opens a search window where you can specify the file containing the graphic. Once you locate the graphic and click **OK**, it is inserted into the Form Header.

Remove the Title or Graphic

If you select the wrong graphic or just want to remove either the graphic or title from the Form Header, select it and press the delete key.

Steps to add a Title to a Form Header

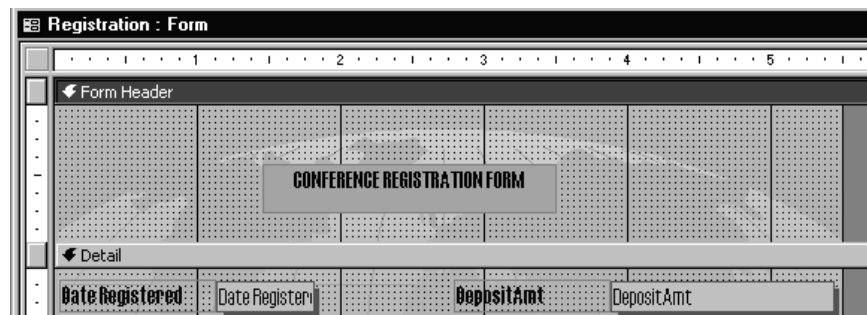
1. If necessary, expand the Header area by placing the pointer on the top line of the Detail section until the pointer becomes a double arrow and clicking and dragging the section down.
2. If the Form Header area opens in black, click somewhere in the Header area and then click on the Fill/Back Color button  and select a lighter color.
3. Click on the Label button  in the toolbox and click in the Header area where you want to insert the title.
4. Type the title and press Enter.
5. Change font, font size or font color by first selecting the title and then using the options on the formatting toolbar.

Steps to Add a Graphic to a Form Header

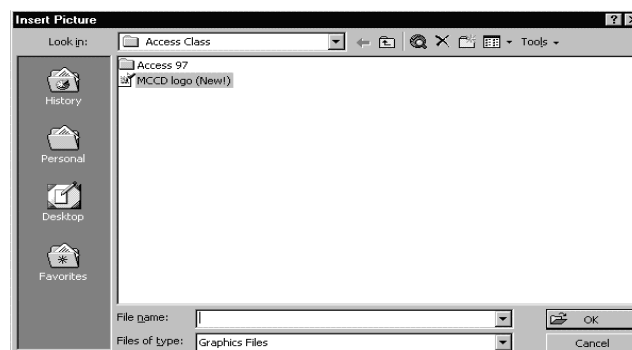
1. If necessary, expand the Header area by placing the pointer on the top line of the Detail section until the pointer becomes a double arrow and clicking and dragging the section down.
2. If the Form Header area opens in black, click somewhere in the Header area and then click on the Fill/Back Color button  and select a lighter color.
3. To insert a graphic, click on the Image button  in the toolbox and click in the Header area where you want to insert the graphic.
4. The Insert Picture window will display.
5. Specify the file location for the graphic in the search window and click **OK**.

EXERCISE – ADDING TITLE AND GRAPHIC TO A FORM HEADER

1. Place your cursor on the line separating the Form Header from the Detail section. When the pointer changes to a double-arrow, click and drag the line down to expand the Form Header section.
2. If the Form Header area opens in black, click somewhere in the Header area and then click on the Fill/Back Color button  and select a lighter color.
3. Click on the Label button  in the toolbox.
4. Click in the middle of the third column in the Form Header area.
5. Type Conference Registration Form and press Enter.
6. On the formatting toolbar, click on the Font Size down arrow  and select 14.
7. Click on the lower right corner of the title label box. When the pointer changes to a double arrow, drag until you can see the full title.



8. Click on the down arrow on the Font/Fore Color button  on the toolbar. Select red.
9. Click on the Image button  in the toolbox.
10. Click in the middle of the first column in the Form Header area. The Insert Picture search window opens.



11. Look in the Access Class folder and select mccdlogo. Click **OK**.

Registration : Form

Form Header

MARICOPA COMMUNITY COLLEGES

CONFERENCE REGISTRATION FORM

Detail

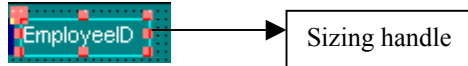
Date Registered	Date Register	DepositAmt	DepositAmt
EmployeeID	EmployeeID	MembershipWanted	☒

12. Click on the View button  on the toolbar to switch Form View.
13. View your changes and click on the View button  on the toolbar to return to Design View.

FORM DETAILS

Edit Fields

You can change the position or size of a field, delete a field, or rename a field on a form. To change the size of a field, place the cursor on one of the sizing handles on the edge of the field. When the cursor changes to a double-arrow,  drag the edge until the field is the size you want.



To move a field, select the field and place the cursor on an edge of the field. The pointer changes to a hand. You can then drag the field to where you want it on the form.



Fields are displayed in the Detail section of a form in two parts: the Label and the Text Box. To separate them, position the pointer at the top left corner of either the Label or the Text box until the pointer changes to a hand with a pointing finger. Then click and drag the box to the position you desire.

Delete a Field

To delete a field, select it and press the delete key.

Rename a Field

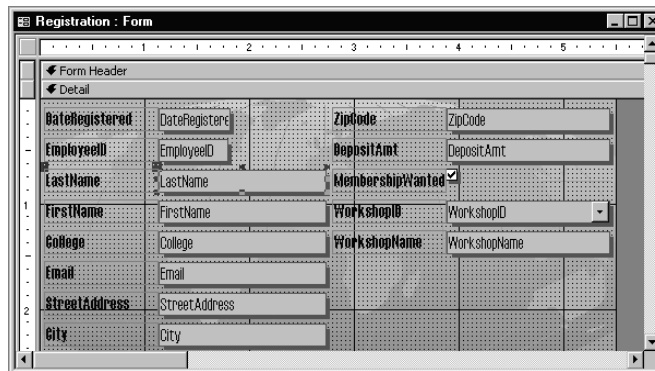
To change the name of a field, select it and then click again in the field to put it in edit mode and type your change.

Steps to Edit Fields on a Form

1. At the Forms button, open a Form in Design View.
2. **To change the size of a field**, select the field, place the cursor on one of the sizing handles, and drag to the preferred size.
3. **To move a field**, select the field, place the mouse pointer on an edge of the field until the pointer changes to a hand, and click and drag to another position on the form.
4. **To separate the two parts of the field**, position the pointer at the top left corner of either the Label or the Text box. When the pointer changes to a hand with a pointing finger, click and drag the box to the position you desire.
5. **To delete a field**, select the field and press the delete key.
6. **To re-name a field**, select it, click again in the field and type the change.

EXERCISE – EDITING FIELDS ON A FORM

1. Place your cursor on the line separating the Form Header from the Detail section. When the pointer changes to a double-arrow, click and drag the line up to expand the Detail section.
2. Click on the LastName field and place the mouse pointer on an edge of the field until the pointer changes to a hand.
3. Click and drag the field up above the FirstName field.
4. Click on the FirstName field and place the mouse pointer on an edge of the field until the pointer changes to a hand.
5. Click and drag the field down below LastName field. You will probably need to move and adjust both fields to position them properly.



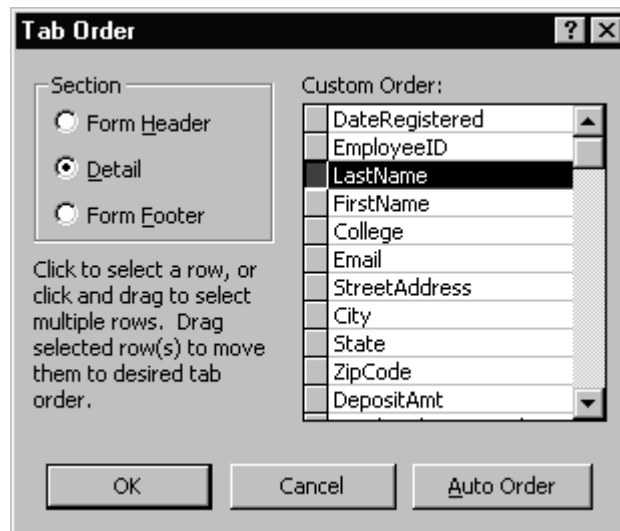
6. Select the label part of the DepositAmt field. Click the field again to put it in edit mode.
7. Change the field name to Amount of deposit.
8. Click on the check box part of the MembershipWanted field. Position the pointer on the top left corner of the check box until the pointer changes to a hand with a pointing finger.
9. Drag the checkbox to the right about one inch.
10. Click on the right edge of the MembershipWanted label box and drag the right edge until the entire MembershipWanted label can be seen.
11. Click on the View button  on the toolbar to switch to Form View to see your changes.
12. Tab through the fields and note that the tab order is incorrect. Tab order is covered next.
13. Click on the View button  on the toolbar to return to Design View.

CHANGE TAB ORDER

Why Change?	You can change the tab order on your Access forms to specify the order in which you enter data into the fields. <i>The tab order is determined by the order of the fields in the table. If you change the order of the fields on your form, the tab order will not automatically follow your changes.</i> You may also want to change the tab order without moving the fields. For example, if you are entering data from a paper form and the fields are in a different order than they are on your form, you can set the tab order to match the paper form to aid in data entry.
Tab Order Window	To change the tab order of the fields on a form, select a field and click on View and Tab Order in the menu bar. The Tab Order window opens. There is a Custom Order list on the Tab Order window that lists all the fields on the form in the current tab order. You change the order by clicking and dragging the fields to the order in which you want them.
Auto Order	The Tab Order window also contains an Auto Order button. Clicking on this button will create the tab order as the fields are on the form, left-to-right and top-to-bottom.
Nothing Happened?	When you change the tab order and return to the form, nothing visibly changes – the fields themselves do not move. However, if you press the tab key to move through the fields, you will see that the cursor moves to fields in the order that you specified.
Steps to Change Tab Order	1. At the Forms button, open a Form in Design View. 2. Select a field. 3. Click on View and Tab Order on the menu bar. 4. Select, click and drag the fields in the Custom Order list until they are in the preferred tab order. 5. Click on OK. 6. To set the tab order to as the fields are on the form, select a field and click on View and Tab Order on the menu bar. 7. Click on the Auto Order button. 8. Click on OK.

EXERCISE – CHANGING TAB ORDER

1. In the Detail area on the form, click in the FirstName field to select it.
2. In the menu bar, click on View and then click on Tab Order.
3. Select the FirstName field by clicking in the grey box to the left of the field name. Click again and hold until the outline of a box appears.
4. Drag the field to below the LastName field.



5. Click on **OK**.
6. Click on the View button  on the toolbar to switch to Form View.
7. Press the Tab key several times to see the tab order.
8. Click on the View button  on the toolbar to return to Design View.

FIELD PROPERTIES IN DESIGN VIEW

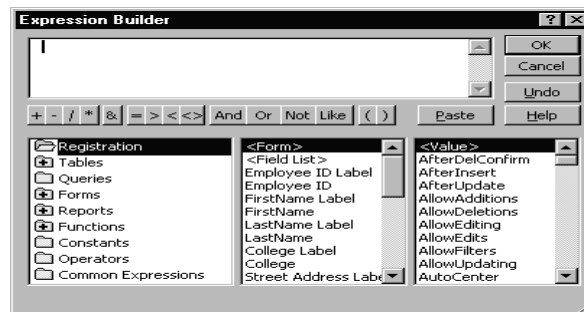
Change Properties

In addition to changing field names and positions, Access allows you to change a field's properties in Form Design view. To change properties, select a field on a form in Design View and click on the Properties button  on the toolbar. This opens the Text Box for the selected field. The Text Box contains 5 tabs, including an All tab that includes the fields from all 5 tabs.

These tabs contain properties from the selected field's Properties pane of the table in Design view. The Format tab contains information about font, color, size, and other properties for the selected field.

Expression Builder

For fields with a data type of number or currency, you can access the Expression Builder window by selecting the text box part of the field, clicking on the Properties button , selecting the Data tab, and clicking on the button  at the end of the Control Source field.



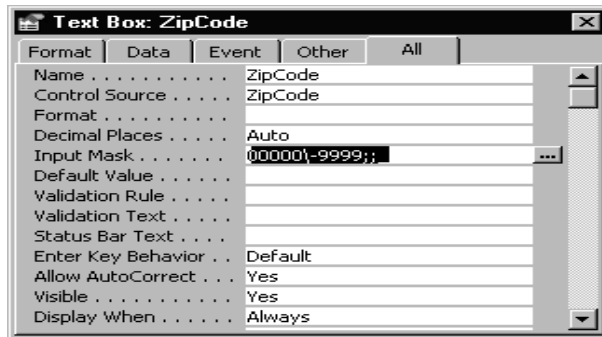
This Expression Builder window is the same as the one in the Validation Rules property of a table in Design View. You can create calculations on fields here in Form Design View as well.

Steps to Change Field Properties

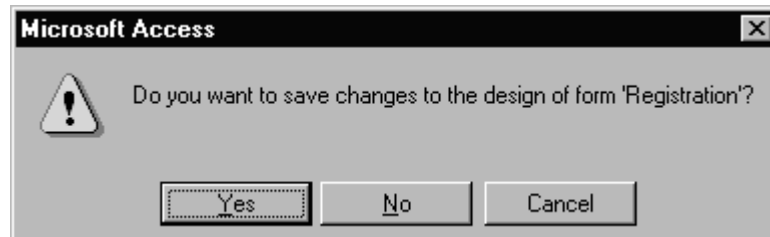
1. At the Forms button, open a Form in Design View.
2. Select a field.
3. Click on the Properties button  on the toolbar. The Text Box window will display.
4. Select the appropriate tab and change the desired property.
5. Click on the Text Box close button .

EXERCISE – CHANGING FIELD PROPERTIES IN FORM DESIGN VIEW

1. Select the text box part of the ZipCode field and click on the Properties button  on the toolbar.
2. Select the All tab.



3. Select the Input Mask field and click on the button  at the end of the field.
4. At the Input Mask Wizard, select Zip Code and click on **Finish**.
5. Click on the Text Box close button .
6. Click on the View button  on the toolbar to switch to Form View.
7. View the change and click on the View button  on the toolbar to return to Design View.
8. Click on the Form close button .



9. At the Save box, click on **Yes**.
10. Click on the Registration database close button .

CREATE A FORM USING TABLES WITH A MANY-TO-MANY RELATIONSHIP

Some Data Automatically Entered

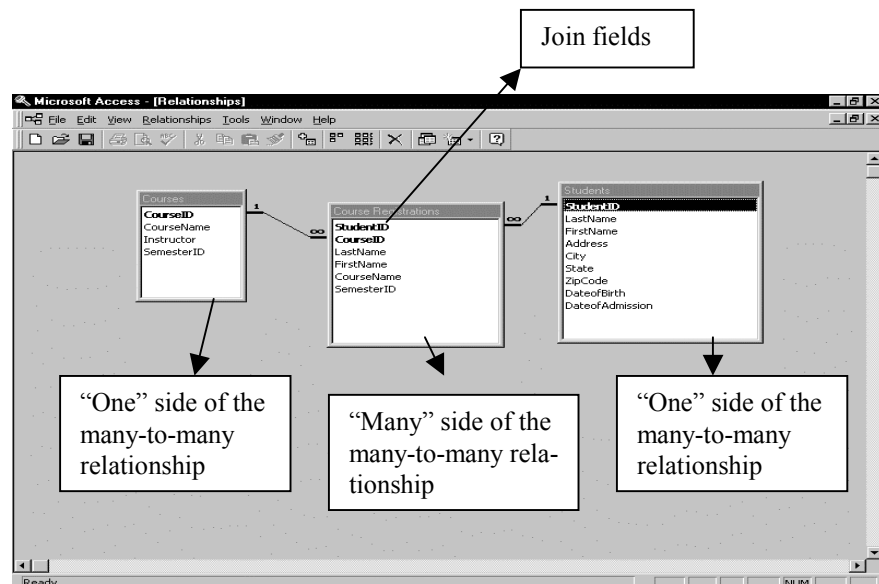
When creating a form using tables with a many-to-many relationship, you will probably add fields to the form that automatically fill in when new records are added.

For example, in our ManytoMany Test database, the Course Registrations table is a Junction table and the fields in the table are already included in either the Courses or the Students table. The Junction table is used to unite the students records with the courses records. When creating a form, we really only need the StudentID and the CourseID fields but will add the LastName, FirstName, and CourseName fields for verification. When a StudentID is entered, the name fields autofill and when the CourseID is entered, the CourseName field autofills.

Primary Keys

In order for fields to autofill on a form, you must put the Primary Key field(s) from the Junction table on the form. This is because the “join” field **must** come from the table on the “many” side of the many-to-many relationship. The other fields (the ones that will autofill) are taken from the other tables.

Note: This is true whether using tables with a many-to-many- relationship or tables with a one-to-many relationship.

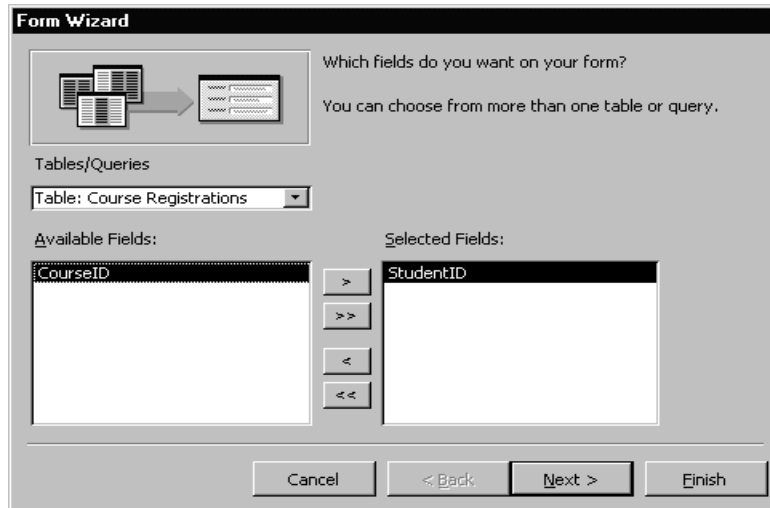


**Steps to Create a
Form that
Autofills Data**

1. At the database window, select the Forms button.
2. Double-click on Create form by using wizard.
3. Click on the down arrow  in the Tables/Queries field and select the junction (many-to-many) table.
4. Select the Primary Key field(s) for the form by double clicking on them in the Available Fields list.
5. Click on the down arrow  in the Tables/Queries field and double-click any additional fields for the form from the other table(s) related to the many-to-many junction table.
6. Click on the **Next** button.
7. The next screen asks how you want to view your data. If applicable, select whether to create a Single form or a Form with subform.
 - Select Single form for a simple form listing all the fields that you selected.
 - Select Form with subform for a form that displays one record at a time in the main form and displays multiple related records in the subform.Click on **Next**.
9. Select the layout and style for the form on the next two screens. Click on **Next** each time.
10. Name your form and click on the **Finish** button. The form will open on the screen.
11. When data is entered into the primary key field, the other related fields will autofill.

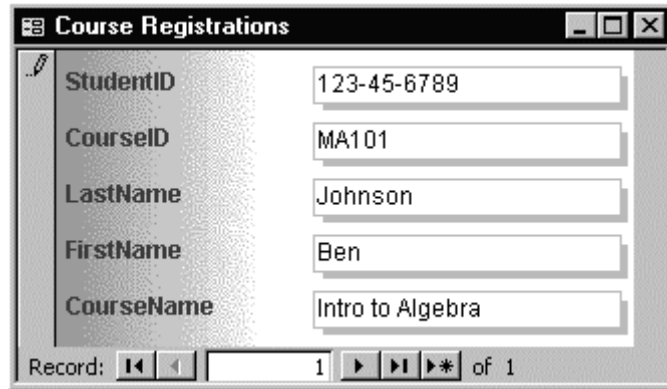
EXERCISE – CREATING A FORM USING TABLES WITH A MANY-TO-MANY RELATIONSHIP

1. Click on the Open Database button  on the toolbar.
2. From the Access class folder, select the ManytoMany Test database and click on **Open**.
3. Select the Forms button at the database window.
4. Double-click on Create form by using wizard. The Form Wizard window opens.
5. Click on the down arrow  in the Tables/Queries field. Select Table: CourseRegistrations.
6. Double-click the StudentID field.



7. Double-click the CourseID field.
8. Click on the down arrow  in the Tables/Queries field. Select Table: Students.
9. Double-click the LastName and FirstName fields.
10. Click on the down arrow  in the Tables/Queries field. Select Table: Courses.
11. Double-click the CourseName field. Click the **Next** button.
12. Select By CourseRegistrations to view your data and click **Next**.
13. Select the Columnar layout option and click **Next**.
14. Select the Blends style option and click **Next**.
15. Accept the title Course Registrations and click on the **Finish** button. The Course Registrations form opens on the screen.

16. In the StudentID field, type: 123-45-6789. Press the Enter key and the StudentID field fills and the LastName and FirstName fields autofill.
17. In the CourseID field, type: MA101. Press the Enter key and the CourseID field fills and the CourseName field autofills.



The screenshot shows a window titled "Course Registrations" with a list of fields and their values:

Field	Value
StudentID	123-45-6789
CourseID	MA101
LastName	Johnson
FirstName	Ben
CourseName	Intro to Algebra

At the bottom, there is a record navigation bar showing "Record: 1 of 1" with navigation buttons.

18. Click on the Course Registrations form close box .
19. Click on the ManytoMany Test database close box .

FIND RECORDS

Datasheet View or in a Form

It is important that you be able to find records in your database. Whether you want to just view a record or to edit or delete it, you have to find it first.

You can do a find in a form or in a table in Datasheet View –the steps to find a record are the same. If you search for records in a table, you view multiple records. If you search for records in a form, you view found records one at a time.

Find Button

The first step in finding a record is to decide in which field you want to search. Then place the cursor in that field and click on the

Find button .

Clicking on the **Find** button opens a Find in Field window where you enter the criteria for the records for which you are searching. For example, if you are looking for a record for a person, you could search in the Last Name field. The Find in Field window contains a **Find What** field where you enter what you are looking for – in this case, the person's last name. There are options in the **Match** field to match the whole name or only part of it and in the **Match Case** field to make the search case sensitive or not.

Once you have entered what you want to find, click on the **Find Next** button and you will be taken to the first record that meets that criterion. Clicking **Find Next** will take you to the next occurrence.

Wildcard Character

When searching, especially in a large database, you may sometimes need to use a wildcard character. In Access, the asterisk (*) is a wildcard character. A wildcard is a symbol used in a search to replace unknown characters. For example, if you were searching for the Smyth Brothers Company but were not sure of how to spell it, you could search the Company Name field for *Brothers* which would retrieve every record with the word Brothers somewhere in the company name.

Steps to Find a Record

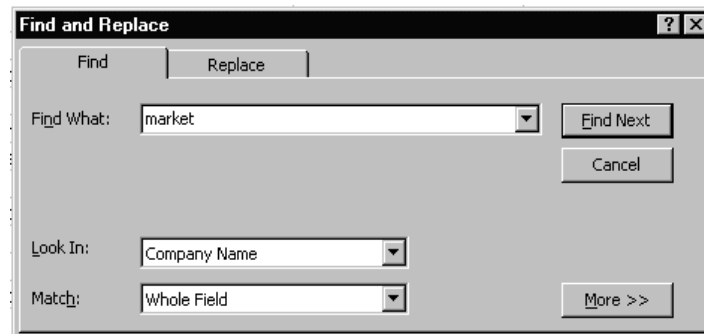
1. At a form or in a table in Datasheet View, place the cursor in the field where you are searching.
2. Click on the Find button  in the toolbar. The Find in Field window displays.
3. Enter search criteria in the *Find What* field.
4. Click on the **Find Next** button to see the first matching record.
5. Click on the **Find Next** button to see the next matching record.
6. When there are no more matches, a dialog box opens. Click **OK**.
7. Click on the **Cancel** button.

NOTES

EXERCISE – FINDING RECORDS

We will be using the Northwind database for this exercise because it has many more records than our Registration database.

1. Click on the Open Database button  on the toolbar.
2. Select the Northwind database and click on **Open**.
3. Select the Tables button, select the Customers table and click **Open**.
4. You want to find a customer – you're not sure of the exact name but the word Market is in the name. Place your cursor in any record in the Company Name field.
5. Click on the Find button  on the toolbar.



6. In the Find What field, type market.
7. Click on **Find Next**. A message box tells you that there were no records found.



8. Click **OK**.
9. In the Find What field, type *market*.
10. Click on **Find Next**. Access selects Bottom-Dollar Markets.
11. Click on **Find Next**. Access selects Great Lakes Food Market.
12. Click on the **Cancel** button.
13. Click on the table close button  to close the Customers table.

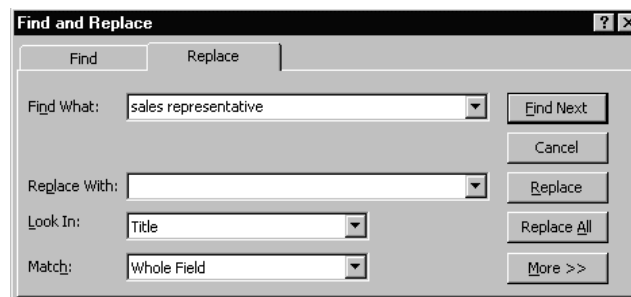
REPLACE DATA

Find and Replace

Access has a way for you to both find and replace data in a record in one step. You can find and replace data while you are at a form or in a table in Datasheet View - the steps are the same in both places. First you place the cursor in any record in the field that you want changed.

Replace in Field Window

Under the Edit option in the menu bar, there is a Replace option. When you choose the Replace option, the Find and Replace window opens. You can also open this window by pressing the Ctrl key and the H key at the same time.



Replace or Replace All

In the *Find What* field, you enter what you want found and changed and in the *Replace With* field you enter the replacement entry. For example, a company changes the title for all of its Sales Representatives to Sales Associate. You place the cursor in the Title field and then tell Access to change all occurrences of Sales Representative to Sales Associate. The Replace in Field window contains both **Replace** and **Replace All** buttons so you can replace just one entry or all occurrences of an entry.

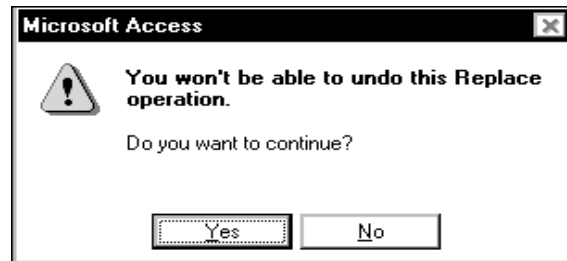
Steps to Replace Data

1. At a form or in a table in Datasheet View, place the cursor in the field to be changed.
2. Click on Edit on the menu bar and then click on **Replace**.
3. In the Find What field, type the entry you want found and changed.
4. In the Replace With field, enter the replacement entry.
5. Click on either the **Replace** or the **Replace All** button.
6. A message box opens saying the text can't be found. Click **OK**.
7. Click **Yes** at the message box to agree to the change and click on **Close**.

EXERCISE – REPLACING DATA

In the title field of the Employees table, we want to change all occurrences of Sales Representative to Sales Associate.

1. Select the Employees table and click on **Open**.
2. Click in any record in the Title field.
3. From the menu bar, click on Edit and then click on Replace.
4. In the *Find What* field, type Sales Representative.
5. In the *Replace With* field, type Sales Associate.
6. Click on the **Replace All** button.
7. A message box opens. Click **Yes**.



8. Click on the **Cancel** button. Note that the change has been made.
9. Click on the Employees table close button .

SORT A TABLE

Two options

When you sort records, you rearrange them in an order that you have specified. You can do a sort on any field in any table in Microsoft Access. You can open the table and sort in Datasheet View or you can sort in a form. Sorting in Datasheet View allows you to see many records at once and even print them. Sorting from a form puts the records in the requested order, but you then have to scroll through them one at a time.

Ascending or Descending Order

Start a sort by placing your cursor anywhere in the field that you want sorted. There are two sort buttons on the toolbar: **Sort Ascending**  and **Sort Descending** .

When you click on the **Sort Ascending** button , the records in the field are sorted in alphabetical order, A-Z. When you click on the **Sort Descending** button , the records in the field are sorted in reverse alphabetical order, Z-A.

You can also do a sort through the menu bar by selecting Records and selecting Sort. You are then given the choice of selecting Sort Ascending or Sort Descending.

Remove the Sort

Sometimes you may want to sort records temporarily, just to check data or to print them for research or a report. You can do a sort on a field and then put it back in its original order. After sorting the records, just click on Records on the menu bar and select Remove Filter/Sort.

Steps to Sort a Field

1. In a table in Datasheet View, place the cursor in the field to be sorted.
2. Click on one of the Sort buttons   on the toolbar.
3. To return to the original order, click on Records in the menu bar.
4. Click on Remove Filter/Sort.

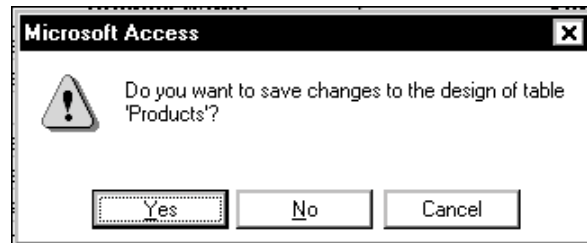
EXERCISE – SORTING A TABLE

1. Select the Products table and click on **Open**.



Product ID	Product Name	Supplier	Category	
1	Chai	Exotic Liquids	Beverages	10
2	Chang	Exotic Liquids	Beverages	24
3	Aniseed Syrup	Exotic Liquids	Condiments	12
4	Chef Anton's Cajun Seasoning	New Orleans Cajun Delights	Condiments	48
5	Chef Anton's Gumbo Mix	New Orleans Cajun Delights	Condiments	36
6	Grandma's Boysenberry Spread	Grandma Kelly's Homestead	Condiments	12
7	Uncle Bob's Organic Dried Pears	Grandma Kelly's Homestead	Produce	12
8	Northwoods Cranberry Sauce	Grandma Kelly's Homestead	Condiments	12
9	Mishi Kobe Niku	Tokyo Traders	Meat/Poultry	16

2. Place your cursor in any record in the Product Name field.
3. Click on the **Sort Ascending** button  on the toolbar. Note the order of the records.
4. Click on the **Sort Descending** button  on the toolbar. Note the order of the records.
5. Click on Records in the menu bar.
6. Click on Remove Filter/Sort.
7. Click on the close button  to close the Products table. A message box opens.



8. Click on **No**.

FILTER BY SELECTION

A More Complex Find and Sort

A filter is a type of search (or sort) for specific records. It is a set of criteria you apply to records in order to sort them. As we just learned, a sort is done on only one field and sorts all the records in the database. A filter specifies only certain records within a field. Filter by Selection is done on only those records that you select or specify.

Find First

As an example, you have a business and you want to see all the orders from one particular customer. The first step to creating a filter is to find a record containing that Customer's name. Once you have done a Find on the Customer Name and have one of the customer's records selected, you can Filter by Selection.

Filter by Selection

When you Filter by Selection, you are selecting one particular record in one particular field and are then asking to filter out any records that do not contain the same data in that field. There is a



Filter by Selection button on the toolbar or you can select Records on the menu bar, select Filter, and then Filter by Selection. Once you have a view of the filtered records, you can print them but you cannot save that particular filtered view.

Undo the Filter

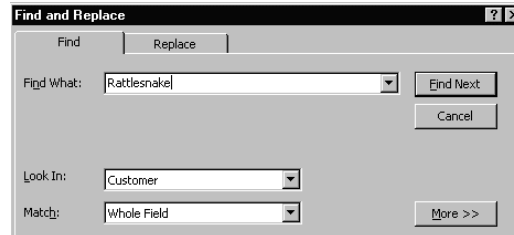
Filters are not saved and are just a view of some of the data from the table. To undo a filter, click on the Remove Filter button  or close the window displaying the filtered information.

Steps to Create a Filter

1. In a table in Datasheet View, find and select a record in the field to be filtered.
2. Click on the **Filter by Selection** button .
3. After viewing the data, click on the Remove Filter button  or click on the close button  and respond to the message box asking if you want save the changes.

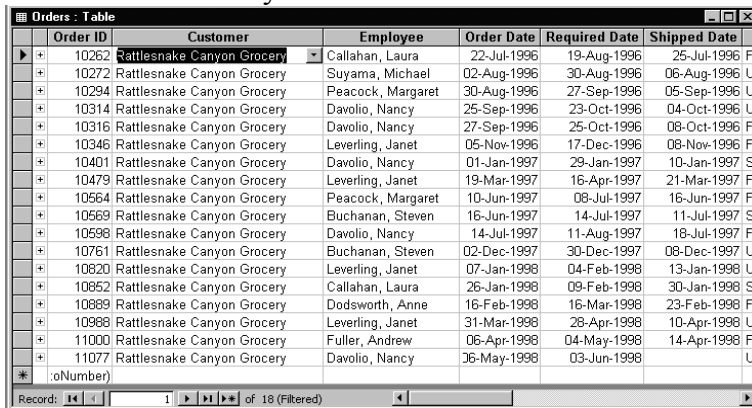
EXERCISE – FILTERING BY SELECTION

1. Select the Orders table and click on **Open**.
2. Place your cursor in any record in the Customer field.
3. Click on the Find  button on the toolbar.
4. In the *Find What* field, enter Rattlesnake*.



The 'Find and Replace' dialog box is shown with the 'Find' tab selected. The 'Find What' field contains 'Rattlesnake'. The 'Look In' dropdown is set to 'Customer'. The 'Match' dropdown is set to 'Whole Field'. Buttons for 'Find Next', 'Cancel', and 'More >>' are visible.

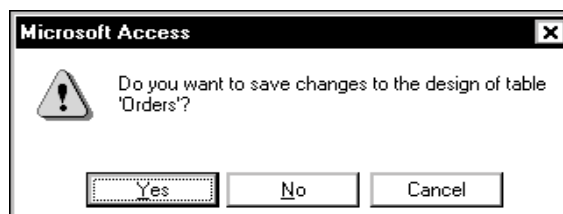
5. Click on the **Find Next** button.
6. Click on the **Cancel** button.
7. Click on the Filter by Selection  button.



The 'Orders : Table' view shows a list of orders. The 'Customer' column is highlighted, and the table is filtered to show only orders from 'Rattlesnake Canyon Grocery'. The status bar at the bottom indicates '1 of 18 (Filtered)' records.

Order ID	Customer	Employee	Order Date	Required Date	Shipped Date	Status
10262	Rattlesnake Canyon Grocery	Callahan, Laura	22-Jul-1996	19-Aug-1996	25-Jul-1996	Fi
10272	Rattlesnake Canyon Grocery	Suyama, Michael	02-Aug-1996	30-Aug-1996	06-Aug-1996	U
10294	Rattlesnake Canyon Grocery	Peacock, Margaret	30-Aug-1996	27-Sep-1996	05-Sep-1996	U
10314	Rattlesnake Canyon Grocery	Davolio, Nancy	25-Sep-1996	23-Oct-1996	04-Oct-1996	U
10316	Rattlesnake Canyon Grocery	Davolio, Nancy	27-Sep-1996	25-Oct-1996	08-Oct-1996	Fi
10346	Rattlesnake Canyon Grocery	Leverling, Janet	05-Nov-1996	17-Dec-1996	08-Nov-1996	Fi
10401	Rattlesnake Canyon Grocery	Davolio, Nancy	01-Jan-1997	29-Jan-1997	10-Jan-1997	S
10479	Rattlesnake Canyon Grocery	Leverling, Janet	19-Mar-1997	16-Apr-1997	21-Mar-1997	Fi
10564	Rattlesnake Canyon Grocery	Peacock, Margaret	10-Jun-1997	08-Jul-1997	16-Jun-1997	Fi
10589	Rattlesnake Canyon Grocery	Buchanan, Steven	16-Jun-1997	14-Jul-1997	11-Jul-1997	S
10598	Rattlesnake Canyon Grocery	Davolio, Nancy	14-Jul-1997	11-Aug-1997	18-Jul-1997	Fi
10761	Rattlesnake Canyon Grocery	Buchanan, Steven	02-Dec-1997	30-Dec-1997	08-Dec-1997	U
10820	Rattlesnake Canyon Grocery	Leverling, Janet	07-Jan-1998	04-Feb-1998	13-Jan-1998	U
10852	Rattlesnake Canyon Grocery	Callahan, Laura	26-Jan-1998	09-Feb-1998	30-Jan-1998	S
10889	Rattlesnake Canyon Grocery	Dodsworth, Anne	16-Feb-1998	16-Mar-1998	23-Feb-1998	Fi
10988	Rattlesnake Canyon Grocery	Leverling, Janet	31-Mar-1998	28-Apr-1998	10-Apr-1998	U
11000	Rattlesnake Canyon Grocery	Fuller, Andrew	06-Apr-1998	04-May-1998	14-Apr-1998	Fi
11077	Rattlesnake Canyon Grocery	Davolio, Nancy	16-May-1998	03-Jun-1998		U

8. Click on the close  button. A message box opens.



A Microsoft Access message box titled 'Microsoft Access' with a warning icon. The text asks: 'Do you want to save changes to the design of table 'Orders'?'. There are three buttons: 'Yes', 'No', and 'Cancel'.

9. Click on **No**.

FILTER BY FORM

Filter by Form When you Filter by Form, you combine specific records from more than one field and then filter out any records that do not contain the same data in those fields. There is a **Filter by Form** button  on the toolbar or you can select Records on the menu bar, select Filter, and then Filter by Form.

For Example For Example, you have a business and one of your customers is having problems with one particular shipper. You want to see all the orders from one specific customer shipped by one particular shipper. The first step is to open the Customers table and click on the Filter by Form button on the toolbar. This opens the Filter by Form window containing one line listing all the fields in the table.

Apply Filter At the Filter by Form window, you select the fields you want to filter on and enter the data you want to see in those fields. Then click on the **Apply Filter** button  on the toolbar to complete the search. You can also select Filter from the menu bar and then select Apply Filter/Sort.

Undo the Filter Filters are not saved and are just a view of some of the data from the table. To undo a filter, simply close the window displaying the filtered information or click on the **Remove Filter** button. . The Apply Filter button becomes a Remove Filter button once a filter is applied.

Steps to Filter by Form

1. Open a table in Datasheet View and click on the **Filter by Form** button . The Filter by Form window displays.
2. Select the fields you want to see and enter the data you want to see in those fields.
3. Click on the **Apply Filter** button .
4. After viewing the data, click on the close button .
5. Respond to the message box asking if you want save the changes.

EXERCISE - FILTERING BY FORM

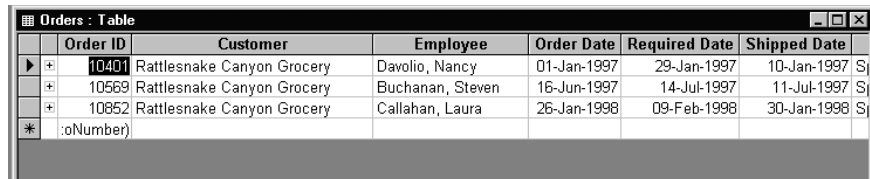
You have a business and one of your customers is having problems with one particular shipper. You want to see all the orders from one specific customer shipped by one particular shipper.

1. Select the Orders table and click on **Open**.
2. Place your cursor in any record in the Customer field.
3. Click on the Filter by Form button  on the toolbar.



Order ID	Customer	Employee	Order Date	Required

4. Click in the Customers field. Type Rattlesnake Canyon Grocery.
5. Click in the Ship Via field.
6. Click on the Down arrow and select Speedy Express.
7. Click on the Apply Filter button  on the toolbar.



Order ID	Customer	Employee	Order Date	Required Date	Shipped Date
10401	Rattlesnake Canyon Grocery	Davolio, Nancy	01-Jan-1997	29-Jan-1997	10-Jan-1997
10569	Rattlesnake Canyon Grocery	Buchanan, Steven	16-Jun-1997	14-Jul-1997	11-Jul-1997
10852	Rattlesnake Canyon Grocery	Callahan, Laura	26-Jan-1998	09-Feb-1998	30-Jan-1998

8. Click on the close button .
9. Click on the **No** button in the message box.
10. Click on the close button  to close the Northwind database.

CREATE OR DELETE A QUERY

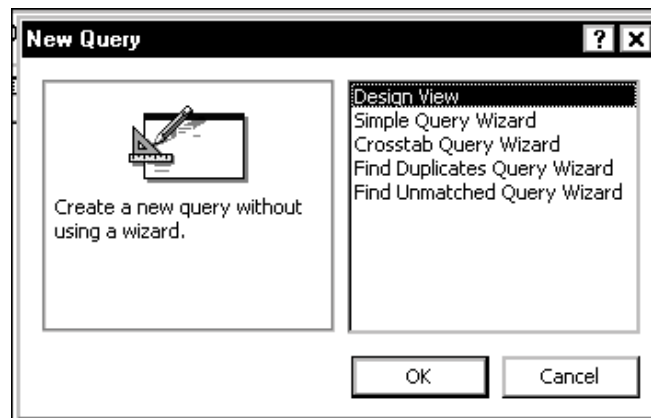
A Saved Search	A Query, like a filter, is a set of criteria applied to records in a table in order to sort and retrieve them. However, unlike a filter, you can save a query to be opened and viewed again and again. Many queries are created as the basis for reports. Reports cannot be created with criteria or calculations, so those reports must be based on a query.
Current Every Time!	A query saves the find and sort <i>process</i> – not the <i>results</i>. Every time the query is run, it retrieves current database information. To create, edit, view, or delete a query, select the Queries button at the database window. The Queries button has three buttons: Open, Design, and New. The Open button opens an existing query. The Design button opens an existing query in Design View and the New button is used to create a new query. There are also 2 shortcut options for creating a query: Create query in Design view and Create query by using wizard.
New Query	Clicking the New button at the Queries button opens the New Query window. There are five options for creating a new query. Design View: Gives you a blank form and you create a query without using a Query Wizard. Simple Query Wizard: Asks you to select the table(s) and the fields for which you want to see data and then creates the query. Crosstab Query Wizard: You select the tables and fields and the Wizard creates a query that appears similar to a table or spreadsheet. This query includes a calculating column. Find Duplicates Query Wizard: Creates a query that finds records with duplicate values in a field in one table only. For example, using the WorkshopID field in our registration database, it would find and group the registrants for the workshops. Find Unmatched Query Wizard: Creates a query that finds records with no data in the matching field in another table. For example, using the WorkshopID field in our registration database, it would find workshops without any registrants.
Delete a Query	To delete an existing query, select the query at the database window and press the Delete key. You can also delete from the menu bar by selecting Edit and Delete. You will receive a message asking you to verify that you want to delete the query. Click Yes .

Steps to Open a New Query

1. Select the Queries button at the Database window.
2. Click on the **New** button.
3. Select one of the New Query options and click **OK**.

EXERCISE – OPENING THE NEW QUERY WINDOW

1. Click on the Open Database button  on the toolbar.
2. Find the Access Class folder on the hard drive (C:) and select the Registration database.
3. Click the **Open** button.
4. Select the Queries button.
5. Click on the **New** button.



SIMPLE QUERY WIZARD

The Easiest Way! Using the Simple Query Wizard is probably the easiest way to create a query in Access. There are only a very few steps involved and the query is created for you.

Select the Fields The first screen of the Simple Query Wizard contains a Tables/Queries list, an Available Fields list, and a Selected fields box. In the Tables/Queries list, you select the table(s) containing the fields you want to include in the query. The Available Fields list displays the fields from the selected table. You choose the fields you want to include in the query. The Selected Fields box lists the fields as you select them from the Available Fields list.

Summary Options Depending on the fields selected, the next screen may give you the option of choosing between a Detail query and a Summary query. Choosing Detail will show every field of every record. If you select the Summary option, you have additional options for how you would like the data summarized. For example, the Wizard will create summary fields that do a count or calculate an average.

Name the Query The only other step in the Simple Query Wizard is to name the query and click on the **Finish** button. Access creates and saves the query and then opens it in Datasheet View.

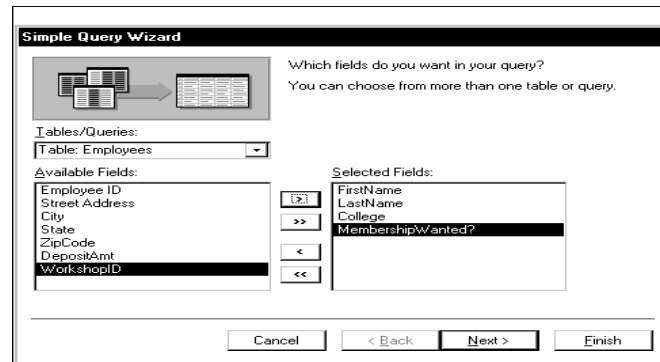
**Steps to Use
Simple Query
Wizard**

1. At the Queries button, click on the **New** button.
2. Select Simple Query Wizard and click on **OK**.
3. Click on the drop down arrow in the Tables/Queries field and select the table(s) for the query by double-clicking the table(s) in the drop down list.
4. Select the fields for the query by double-clicking the fields in the Available Fields list. Click on **Next**.
5. If the Detail vs. Summary screen appears, select one and click on **Next**.
6. Enter a title for the query and click **Finish**.

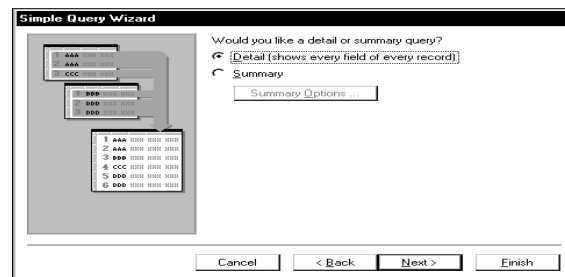
EXERCISE – USING THE SIMPLE QUERY WIZARD

We want to create a query listing registrants' names, college location, and whether or not they have purchased a membership.

1. Select Simple Query Wizard and click **OK**.



2. In the Tables/Queries box, select Table: Employees.
3. From the Available Fields list, double-click the FirstName, LastName, College, and MembershipWanted? fields to select them.
4. Click **Next**.



5. Select Detail (shows every field of every record). Click **Next**.
6. For the title, enter Memberships and click **Finish**.

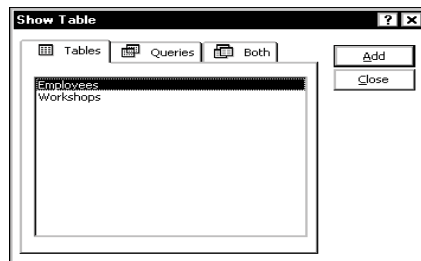
Memberships : Select Query				
	FirstName	LastName	College	MembershipW
▶	Patricia	Yee	PVC	☒
	Lori	Jones	SCC	☒
	Mark	Wilson	SMC	☒
	Ana	Rivera	RIO	☐
	John	Bullock	DO	☐
	Hal	Jefferson	MCC	☒
	Betty	Smith	GCC	☒
*				☐

7. Click on the Memberships query close button  to close the window.

CREATE A QUERY IN DESIGN VIEW

Design View You can create a query without using one of the Query Wizards or you can edit an existing query in Query Design View. To open an existing query in Design View, click on the Queries button, select the query and click on the **Design** button.

New Query To create a new query, select the Queries button and double-click on Create query in Design view. When the Select Query window opens, the Show Table window also opens.



The Show Table window for queries is the same as the Show Table window for creating table relationships. Select the table(s) to be used in the query, click on the **Add** button, and close the window.

Select Query Window The Select Query window consists of an upper half called the Table Relationships window and a lower half called the Query grid. The tables selected for the query display in the upper window and you create the query and query criteria in the Query grid.

You Can Create a Query Anywhere You can create queries at any of the other database window buttons— you don't have to be at the Queries button. If you create a query from a table or from the tables button with a table selected, the Select Query window opens with that table already added, and the Show Table box does not automatically appear. To create a query from anywhere other than the Query button, click on the

New Object button  on the toolbar and select Query. This opens the New Query window.

Steps to Create a Query in Design View

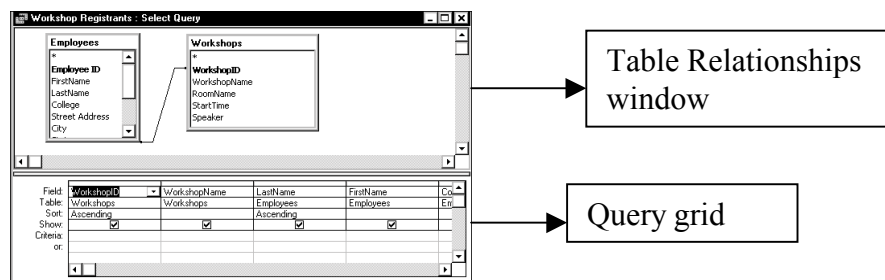
1. At the Queries button, click **New**, select **Design View** and click **OK**. The Select Query window and the Show Table windows will display.
2. From the Show Table window, select the table(s) the query will be based on, clicking on the **Add** button for each table. Then click on the **Close** button.
3. From the table(s) field list, double-click the fields to be used in the query to move them down into the query grid. **Be sure to select the fields in the order you want them to appear in the datasheet.**
4. Enter criteria information for the fields, if needed.
Click in the **Sort** row to designate fields that you would like to have sorted in ascending or descending order.
Click in the **Show** row to designate whether or not you want the field to display in the query.
In the **Criteria** row you can enter specific criteria to be matched in the field.
5. Save and name the new query.
6. Click on the View button  on the toolbar to view the query results.

NOTES

EXERCISE – CREATING A QUERY IN DESIGN VIEW

We are going to create a simple query to retrieve an alphabetical list of the people signed up for each workshop.

1. Click on the **New** button.
2. Select Design View and click **OK**. The Select Query window and the Show Table window open.
3. At the Show Table box, select Employees and click **Add**.
4. Select Workshops and click on the **Add** button. Click on the **Close** button.



5. From the Workshops table, double-click on the WorkshopID field.
6. Click in the Sort field and click on the down arrow . Select Ascending.
7. From the Workshops table, double-click on the WorkshopName field.
8. From the Employees table, double-click on the LastName field.
9. Click in the Sort field and click on the down arrow . Select Ascending.
10. From the Employees table, double-click on the FirstName field and then double-click on the College field.
11. Click on the Save button on the toolbar. A Save As message box opens.
12. Type Workshop Registrants and click **OK**.
13. Click on the View button on the toolbar.

WorkshopID	WorkshopName	LastName	FirstName	College
C020	Distance Learning	Jefferson	Hal	MCC
C020	Distance Learning	Smith	Betty	GCC
M010	Web-Based Education	Bullock	John	DO
M010	Web-Based Education	Wilson	Mark	SMC
S030	Making Learning Fun	Rivera	Ana	RIO
Y040	Computers in the Classroom	Jones	Lori	SCC
Y040	Computers in the Classroom	Yee	Patricia	PVC

14. Click on the Workshop Registrants query close button to close the window.

AND VS. OR CRITERIA IN QUERIES

And Query In the query grid (bottom half) of the Select Query window, the fifth row is called the Criteria row. In this row you enter criteria for limiting the records retrieved from the selected field. If your query contains more than one field and you enter criteria for each field, it is called an **And** query. You are asking that the data retrieved meet the criteria from the first field AND from the next field, etc. You can also select the same field twice, enter it in two different columns and enter different criteria in each column. You are asking that the data retrieved for that field meet the first criteria AND the second criteria. For example, if you were in an ingredients field of a recipes database, you could specify that you only wanted to see recipes which included both chocolate AND nuts.

Or Query The next row in the query grid is labeled the Or row. In an **Or** query, you are creating more than one criteria for a single field from a table. You are asking that the data retrieved for the field meets one criterion OR another. For example, if you create a query on an ingredients field and set criteria for chocolate OR nuts, you will see all the recipes with either chocolate or nuts or both.

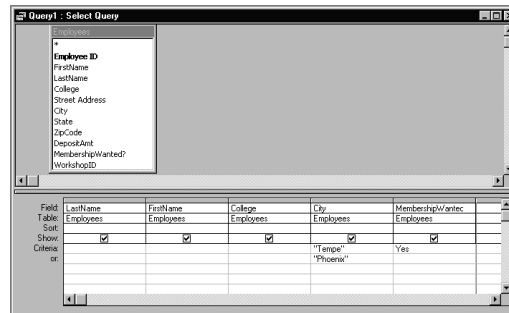
Steps for Entering Criteria in a Query

1. At the Queries button, double-click on Create query in Design view.
2. From the Show Table window, select the table(s) the query will be based on and click the **Close** button.
3. From the table(s) field list, select the fields to be used in the query in the order you want them to display.
4. In the Criteria row, enter criteria information for the fields. When creating an Or query, enter the criteria in the Or row.
5. Click on the View button  on the toolbar to switch to Datasheet View to see the results of the query.
6. Click on the View button  on the toolbar to switch back to Design View. If necessary, make modifications to the query.
7. Save and name the new query.
8. Click on the View button  on the toolbar to switch to Datasheet View to see the results of the query.

EXERCISE - CREATING AND/OR QUERIES

Suppose that the cities of Tempe and Phoenix offer a discount if you buy membership to our organization. We want to create a query to list the employees who live in those cities and bought a membership.

1. Click on the **New** button.
2. Select Design View and click **OK**. The Select Query window and the Show Table window open.
3. At the Show Table box, select Employees and click **Add**. Click on the **Close** button.



4. From the Employees table field list, double click on LastName.
5. Next double click on FirstName, College, City, and Membership Wanted.
6. In the criteria grid, click in the Criteria row of the City column and enter Tempe.
7. Press the down arrow to drop to the Or row and enter Phoenix.
8. Click in the *Criteria* row of the Membership Wanted? column and enter Yes.
9. Click in the *or* row of the Membership Wanted? column and enter Yes.
10. Click on the View button  on the toolbar to view the results of the query.

	LastName	FirstName	College	City	MembershipW
▶	Jefferson	Hal	MCC	Tempe	☒
	Smith	Betty	GCC	Phoenix	☒
	Yee	Patricia	PVC	Phoenix	☒
*					☐

11. Click on the View button  on the toolbar to return to Design View.
12. Click on the Save button  on the toolbar. Name the query Discount Memberships. Click **OK**.
13. Click on the close button  to close the query window.

CREATE A CALCULATING QUERY

Creates a New Field

Calculating queries can be used when information in the database needs to be computed. To create a calculating query, you will usually create a new field that holds the new calculated information. Add the field in the query only and not in the table in Design View. Each time you run the query, the calculation field will be updated to reflect any new data that has been added to the table. Calculation fields can be used to calculate totals, balances due, put first and last names together for a full name, or do mathematical projections.

Design View

A new calculating query is created in Query Design view by selecting the fields the calculations will be based on and then adding the new field and the formula for the calculation.

Creating the Formula

To create a formula for a calculation field, use operators, functions, and field names. Some of the most common operators are:

+ (plus), - (minus), * (multiply), / (divide), < (less than), > (greater than), <= (less than or equal to), >= (greater than or equal to), = (equal to), <> (not equal to), if, then

Field names in a formula are put in square brackets. For example, if you want a field to calculate a 5% increase in profits, the formula would be: [Profit]*1.05. You can name the new field by preceding the formula with the name followed by a colon.

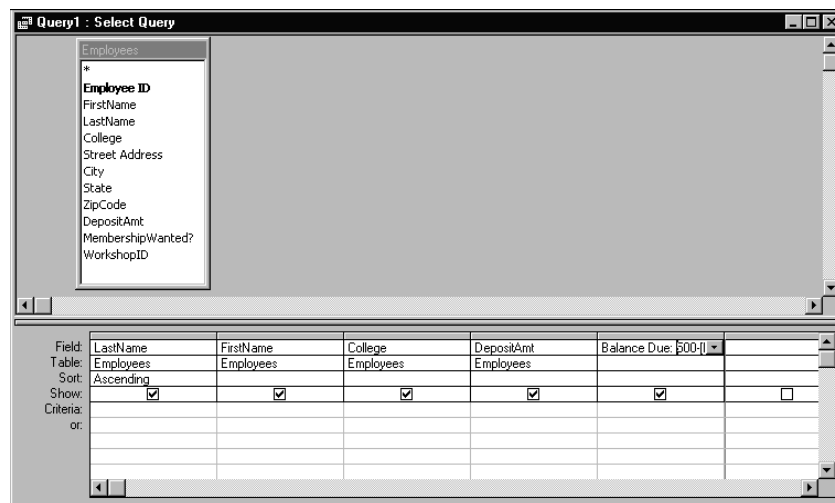
Steps to Create a Calculating Field

1. At the Queries button, double-click on Create query in Design view.
2. From the Show Table window, select the table(s) the calculation query will be based on and click the **Add** button. Click on the **Close** button to close the Show Table window.
3. From the table(s) field list, select the fields to be used in the query in the order you want them to display.
4. Enter sort and criteria information for those fields, if needed.
5. In a blank column of the criteria grid, enter a formula in the Field row.
6. Enter sort and criteria information for the new field, if desired. Switch to Datasheet view to see the results of the query.
7. Save and name the new calculating query.

EXERCISE - CREATING A CALCULATING QUERY

We are going to create a field to calculate balances due for our registrants based on their deposits.

1. Click on the **New** button.
2. Select Design View and click **OK**. The Select Query window and the Show Table window open.
3. At the Show Table box, select Employees and click **Add**.
4. Click on the **Close** button on the Show Table box.



5. From the Employees table field list, double click on LastName.
6. Next double click on FirstName, College, and DepositAmt.
7. In the criteria grid, click in the Sort field of the LastName column and click on the down arrow. Select Ascending.
8. Click in the fifth column of the Field row in the criteria grid. Enter:
BalanceDue: 500-[DepositAmt]
9. Click on the View button to see the results of the query.
10. Click on the Save button on the toolbar.
11. Name the query Balances Due and click **OK**.
12. Click on the close button to close the query.

CREATE AN UPDATE QUERY

Change Many Records at Once

With an update query you can change or update the data in a group of records all at one time. Once you create and run an update query, you cannot undo the changes, so use with caution. It's a good idea to make a copy of the table(s) first and practice your update query on the copied table before running the query for real.

Design View

To create an update query, create a new query in Design View and select the table(s) and fields to be updated. There is a Query Type button on the toolbar  which includes Update Query as one of the types that you can create and run. Choosing Update Query adds an Update To row in the criteria grid where you enter the change. There is a run button  on the toolbar to run the query.

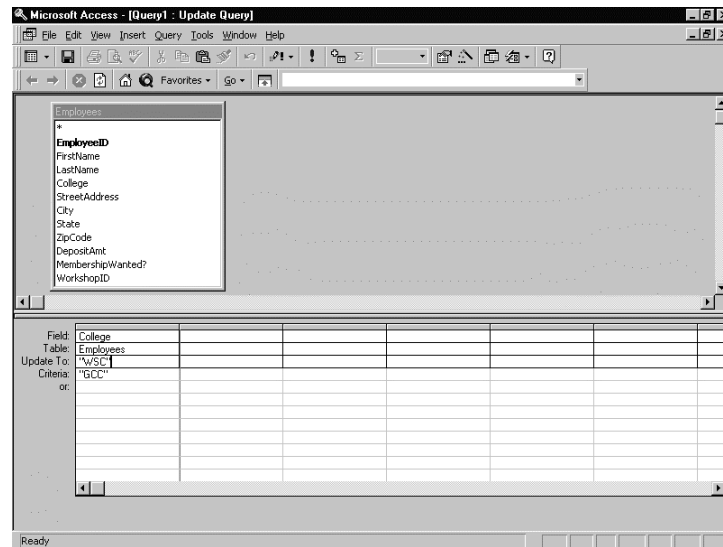
Steps to Create an Update Query

1. At the Queries button, click **New**, select **Design View**, click **OK**.
2. From the Show Table window, select the table(s) the update query will be based on and click the **Add** button.
3. Click on the **Close** button to close the Show Table window.
4. From the table(s) field list, select the fields to be updated.
5. Enter criteria information for those fields, if needed.
6. Click on the down arrow on the Query Type button  on the toolbar. Select Update Query.
7. The Sort and Show rows are removed and an Update To row is added. Click in the Update To row of the column(s) containing fields to be updated and enter the new data.
8. Click on the Run  button on the toolbar to run the query.
9. Click **Yes** at the message box that opens asking you to confirm the update.
10. Click on the close button  to close the query window.
11. Click **Yes** or **No** at the message box asking if you want to Save the query.

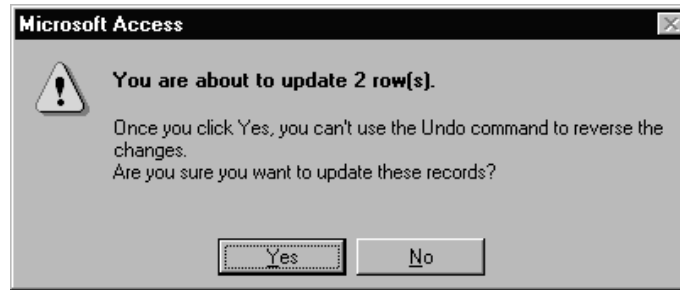
EXERCISE – CREATING AN UPDATE QUERY

Suppose GCC has changed its name to West Side College (WSC). We want to change GCC to WSC in all records.

1. Click on the **New** button.
2. Select Design View and click **OK**. The Select Query window and the Show Table window open.
3. At the Show Table window, select Employees and click **Add**. Click on the **Close** button.



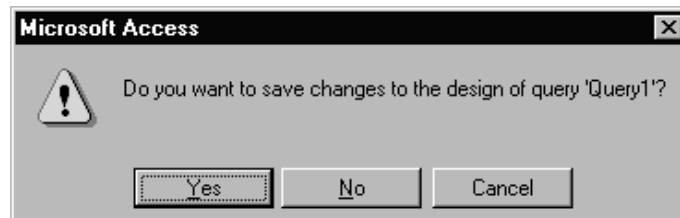
4. From the Employees table field list, double click on College.
5. In the criteria grid, enter GCC in the Criteria row of the College column.
6. Click on the down arrow on the Query Type button  on the toolbar. Select Update Query.
7. The Sort and Show rows are removed and an Update To row is added. Click in the Update To row of the College column.
8. Enter WSC and press Enter.
9. Click on the View button  to see how many records will be updated.
10. Click on the View button  to return to Design View.
11. Click on the Run button  on the toolbar. A message box opens.



12. Click **Yes**.

13. Click on the View button  to see that the records were updated.

14. Click on the close button  to close the query window. A message box opens.



15. Click **No** – we will not save this query because it was a one-time change (or update).

16. Click on the Tables button and select the Employees table. Click **Open**.

Employees : Table								
	Date Registered	EmployeeID	FirstName	LastName	College	StreetAddress	City	
▶	01-May-02	318-20-6119	Patricia	Yee	PVC	80336 S. Maple	Phoenix	AZ
	01-May-02	325-67-8902	Lori	Jones	SCC	8765 Yucca Ws	Scottsdale	AZ
	01-May-02	489-12-6768	Mark	Wilson	SMC	509 N. Mahogari	Peoria	AZ
	01-May-02	513-45-6789	Ana	Rivera	RIO	901 Cactus	Mesa	AZ
	01-May-02	526-40-7823	John	Bullock	WSC	8934 W. Pine S	Mesa	AZ
	01-May-02	527-90-3678	Hal	Jefferson	SMC	123 Birch St.	Tempe	AZ
	01-May-02	528-06-7894	Betty	Smith	WSC	411 S. Oak St.	Phoenix	AZ
*	02-May-02							AZ

17. Each occurrence of GCC has been changed to WSC. Click on the close button  to close the Employees table.

NOTES

CREATE A DELETE QUERY

Use With Caution

A Delete query allows you to delete a group of records all at one time. It actually removes records from the database tables. Once you create and run a delete query, you cannot undo the changes, so use with caution! Just like with an update query, it's a good idea to make a copy of the table(s) first and practice your delete query on the copied table before running the query for real.

All Records or Set Criteria

Creating a delete query is very similar to creating an update query. Create a new query in Design View and select the table(s) and fields holding the records to be deleted. Remember, you are not deleting the fields from the table, you are deleting records from the database. The table field lists in the upper grid of the Query window always include an asterisk (*) as the first choice on the list. Selecting the asterisk selects all the fields. If you select the asterisk and then press the Delete key, you will delete all of the records in the table. You will probably want to select certain fields and create criteria for the records you want to delete. After creating the criteria, click on the Query Type button on the toolbar  and select Delete Query from the drop down menu.

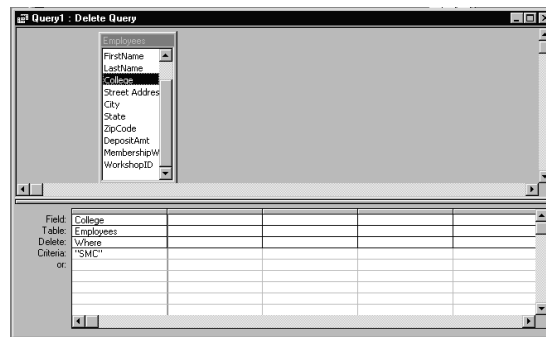
Steps to Create a Delete Query

1. At the Queries button, click **New**, select **Design View**, click **OK**.
2. From the Show Table window, select the table(s) the delete query will be based on and click the **Add** button.
3. Click on the **Close** button to close the Show Table window.
4. From the table(s) field list, select the fields containing the records to be deleted.
5. Click on the down arrow on the Query Type button  on the toolbar. Select Delete Query.
6. Enter criteria information for the fields, if needed.
7. Click on the Run  button on the toolbar to run the query.
8. A warning box will open telling you how many records will be deleted and asking if you want to continue.
9. Click **Yes**.

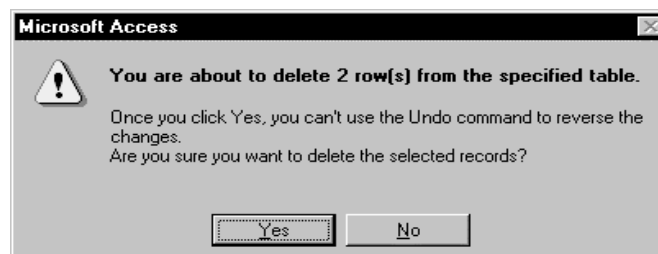
EXERCISE – CREATING A DELETE QUERY

All SMC employees must attend a meeting the day of our conference. We want to delete all SMC employees from our database.

1. Select the Queries button and click on the **New** button.
2. Select Design View and click on **OK**. The Select Query window and the Show Table window open.
3. At the Show Table window, select Employees and click **Add**.
4. Click on the **Close** button on the Show Table window.



5. Double click on College in the Employees table.
6. Click on the down arrow on the Query Type button  on the toolbar. Select Delete Query.
7. In the criteria grid, enter SMC in the Criteria row of the College column.
8. Click on the Run button  on the toolbar. A message box opens.



9. Click on **No**. We will not actually delete any records.
10. Click on the query window close button . A message box opens asking if you want to save the query.
11. Click **No**.
12. Click on the Close button  to close Access.

CREATE OR DELETE A NEW REPORT

Reports Reports draw data from tables or queries and arrange the data in an organized way for printing. To create, edit, view, or delete a report, select the Reports button at the database window. The Reports button has three buttons on it: **Preview**, **Design**, and **New**. The **Preview** button previews an existing report (like the Print Preview option does in most software packages). The **Design** button opens an existing report in Design View where you can do editing. The **New** button is used to create a new report. There are also 2 shortcut options for creating a report: **Create report in Design view** and **Create report by using Wizard**.

New Report Clicking the New button at the Reports button opens the New Report window. There are six options for creating a new report.

Design View: Gives you a blank form and you create a report without using a Report Wizard.

Report Wizard: Asks you a series of questions and creates a report according to your responses. You select the table(s) or Query and the fields you want in the report. You also select the layout and style for the report.

AutoReport: Columnar: Creates a simple report using all the fields from the table or query you specify. AutoReport uses fields from only one table or query and it uses all the fields from that table or query. The AutoReport: Columnar format arranges records one-by-one in a column.

AutoReport: Tabular: Creates a simple report using all the fields from the table or query you specify. Only one table or query is used in this report. The AutoReport: Tabular format arranges fields in a table (or grid) so you see more records per page than in a Columnar report.

Chart Wizard: Builds a chart using the fields and data that you specify.

Label Wizard: Formats and creates mailing labels based on the fields and format that you specify.

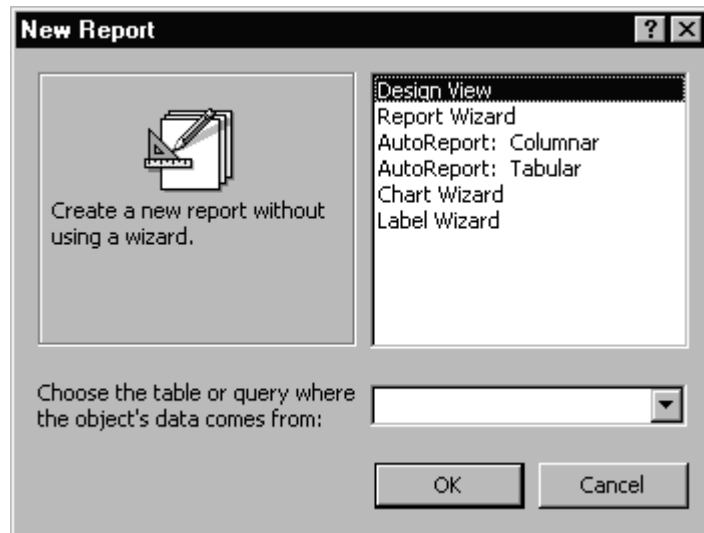
Delete a Report To delete an existing report, select the report at the database window and press the Delete key. You can also delete from the menu bar by selecting Edit and Delete. You will receive a message asking you to verify that you want to delete the Report. Click **Yes**.

Steps to Open a New Report

1. Select the Reports button at the database window.
2. Click on the **New** button.
3. Select one of the new Report options and click **OK**.

EXERCISE – OPENING THE NEW REPORT WINDOW

1. Start Access, select Open an existing file and click **OK**.
2. Find the Access class folder on the hard drive (C:) and select the Registration database.
3. Click the **Open** button.
4. Select the Reports button.
5. Click on the **New** button.



CREATE A REPORT USING AUTOREPORT

Only One Step! If you need a printout of all of the records from a particular table or of the results of a particular query, the easiest way to produce that report is by using one of the AutoReport options. You can create an AutoReport from a table or from a query and all of the fields will be used in the report. The only step is to specify the table or query in the New Report window and click on the OK button.

Two Styles The two AutoReport format options are Columnar and Tabular. If you select Columnar, the records will display one-by-one in a column- usually only a few per page. If you select the Tabular option, you will see many more records per page and they will be arranged in a table format.

Zoom Button When AutoReport or ReportWizard finish creating a report, the report opens in the magnified view in Preview view. There is a Zoom button  on the toolbar that allows you to toggle back and forth between a magnified view where you can read data and a whole page view where you can see the layout of the report.

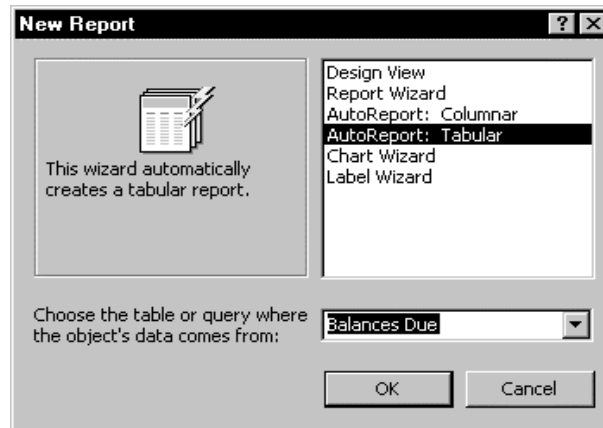
Steps to Create an AutoReport

1. From the Reports button at the database window, click on the **New** button.
2. Select one of the AutoReport options.
3. Click on the down arrow  in the drop box under the report options list.
4. Select the table or query to be used in the report. Click **OK**.
5. The report opens in Preview View. After viewing, click on the Print button  on the toolbar to print the report, if desired.
6. Click on the close button  to close the report.
7. A Save message window opens. Click **Yes**.
8. Name the report and click **OK**.

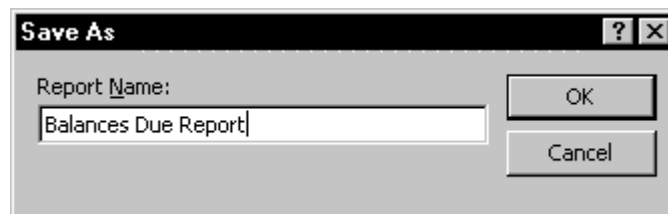
EXERCISE- CREATING A REPORT USING AUTOREPORT

We will create a report based on our Balances Due query.

1. Select AutoReport: Tabular.
2. Click on the down arrow  in the drop box under the report options list.
3. Select Balances Due.



4. Click on **OK**.
5. The report opens in Preview View. Click on the Zoom button  on the toolbar to switch views.
6. Click on the close button  to close the report.
7. A Save message window opens. Click **Yes**.



8. Name the report Balances Due Report. Click **OK**.

CREATE A REPORT USING REPORT WIZARD

Best Way You can create a report in Design View without using a Report Wizard, but it is a complicated process. You will probably want to create reports in Report Wizard and then make modifications in Design View.

Walks You Through the Process The Report Wizard steps you through the process of creating a report. You decide the fields to appear on the report and determine sort breaks (groups) and sort order. You can also select from format and style options.

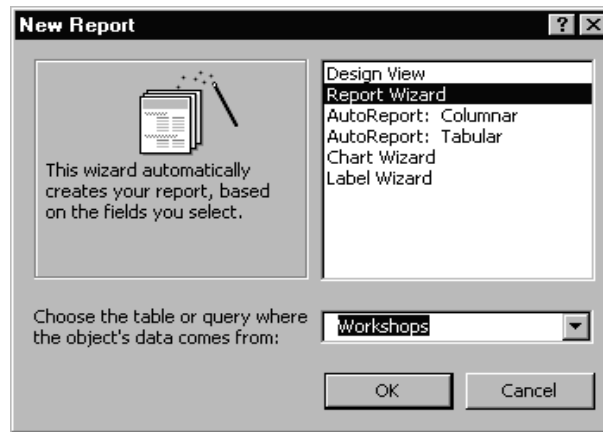
Steps to Create a Report using Report Wizard

1. Select the Reports button at the database window. Click **New**.
2. Click on Report Wizard and click on the down arrow  in the drop box under the report options list.
3. Select the table or query to select fields from and click **OK**.
4. At the first Report Wizard screen, select the fields that you want to include on the report. Click **Next**.
5. At the next screen, select how to view your data. Click **Next**.
6. The next screen determines Grouping Levels. To designate a sort break for your data, select the field name and click the right arrow . The right side of the screen displays how the sort will look. The left arrow  moves a field back, if you change your mind. You can select more than one grouping level and then use the Priority arrows to change the order of the levels.
7. Click on the **Grouping Options** button to specify further grouping criteria, if desired. Click **OK** if you selected the Grouping Options button. Click **Next**.
8. Specify sort order, if desired, at the next Wizard screen. You can designate up to 4 sort levels. Click **Next**.
9. Select from the layout options and click **Next**.
10. Select from the style options and click **Next**.
11. Name the report and click **Finish**. The report opens in Preview View.
12. After viewing, click on the close button  to close the report.

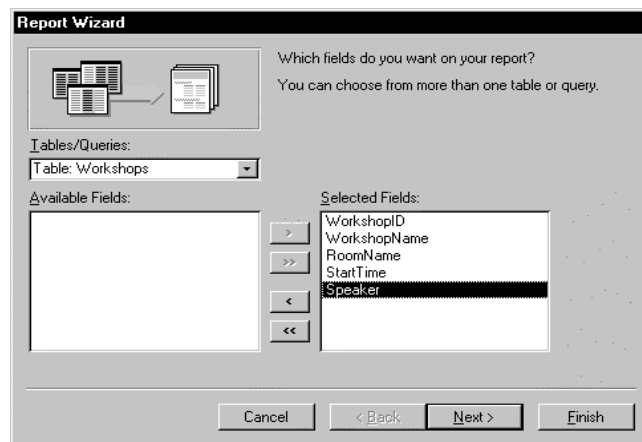
EXERCISE – CREATING A REPORT USING REPORT WIZARD

We will create a report of Workshop registrants, sorted by Workshop.

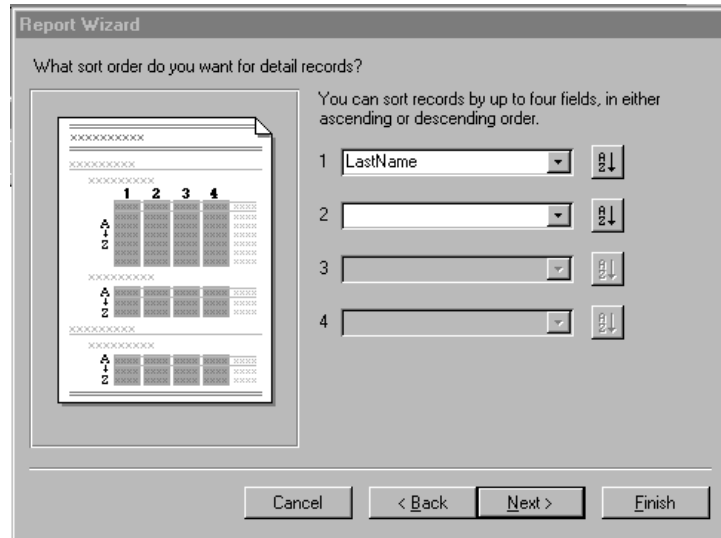
1. Click on the **New** button and select Report Wizard.



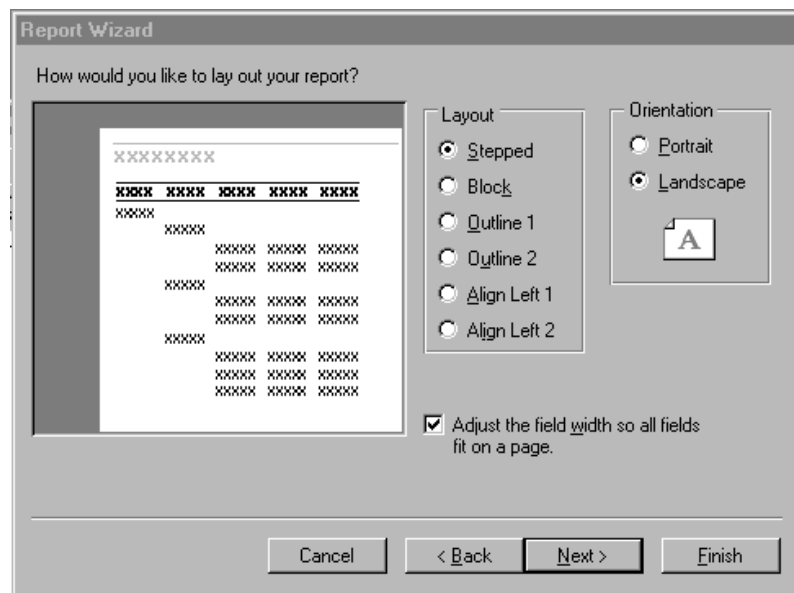
2. Click on the down arrow  in the drop box under the report options list and select Workshops. Click **OK**.



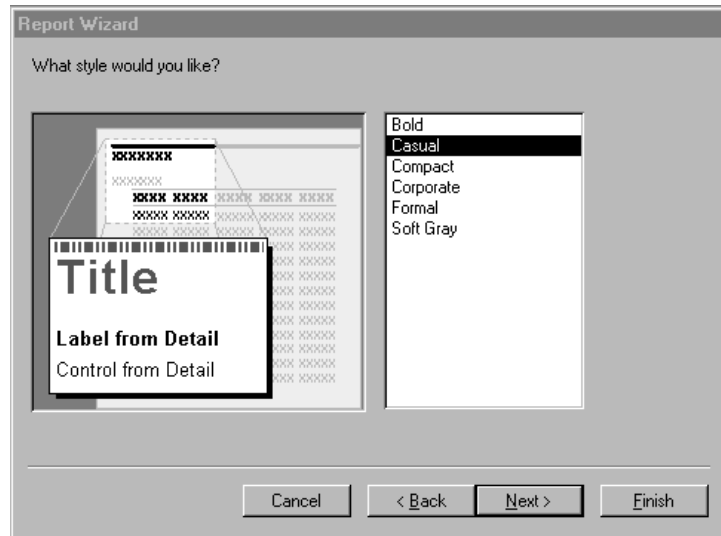
3. Click on the double-arrow button  to select all the fields in the Available fields list.
4. Click on the down arrow  at the Tables/Queries box. Select Table: Employees.
5. From the Available fields list, double-click LastName, FirstName, StreetAddress, City, State, and ZipCode. Click **Next**.
6. Choose to view data by Workshops. Click **Next**.
7. Add no additional groupings. Click **Next**.



8. Click on the down arrow  at the first sort order box. Select LastName.
9. Click on the **Next** button.



10. Select Landscape in the Orientation box. Click **Next**.



11. Select Casual and click **Next**.
12. Name the report Workshop Registrant Info. Click **Finish**.
13. The report opens in Preview View. Click on the Zoom button  on the toolbar to switch views.
14. Click on the close button  to close the report.

EDIT A REPORT IN DESIGN VIEW

Create or Modify a Report

If you use AutoReport or Report Wizard to create reports, you can modify your reports in Design View. You can also create a report from scratch in Design View. It is very similar to creating a Form in Design view, only even more complicated.

Design View

You must be at the Reports button to edit a report. Select the report you wish to modify and click on the **Design** button to open the report in Design View.

The Report Design window is divided into seven sections: Report Header, Page Header, Group Header, Detail, Group Footer, Page Footer, and Report Footer. You may not see each of the sections on every report- they are dependent on the reports groupings, summary fields, etc. The Header and Footer sections contain header and footer information for the whole report, the specific page, and any groupings on which the report is based. The Detail section contains the fields and the data.

Like Form Design View

Modifications to a report in Design View are done the same way that they are done to a Form in Design View (see pg. 72-78). You can import a graphic to the header area, change font or color for a title, change the size of fields, move fields, and more. When moving fields on a report, be sure to line up headings with data in the different sections of the report. An easy way to do that is to select the fields and then click on Format on the menu bar, select Align, and then align to the left, right, top, bottom, or to grid.

Tip: In order to move or change the size of a field in both the Page Header and Group Header areas or in one of the Headers and the Detail area, click on the field in the first area and then shift click on the field in the second area.

Steps to Modify a Report in Design View

1. At the Reports button of the database window, select the report you wish to modify.
2. Click on the **Design** button.
3. Make any necessary modifications.
4. Click on the Save button  on the toolbar.
5. Click on the close box  to close the report.

EXERCISE – EDITING A REPORT IN DESIGN VIEW

In the Workshop Registrant Info report that we created, the fields did not fit on the form and the data was chopped off. In this exercise, we will fix the report.

1. Select the Workshop Registrant Info report and click on the **Design** button.
2. Select the title in the Report Header section and place the pointer on an edge of the title to change the pointer to a hand. Click and drag the title to the center of the Report Header section.

3. Click on the maximize button  to expand the window.
4. Click and drag the bottom borders of the Page Header and the WorkshopID Header sections to expand these sections.
5. In the Page Header section, select the LastName field and then hold down the shift key and click on the FirstName, StreetAddress, City, State, and ZipCode fields. Place the pointer on an edge of one of the fields to change the pointer to a hand, and move the fields down into the WorkshopID Header section above the corresponding fields in the Detail section. Be sure that the fields are beneath the existing fields in the WorkshopID Header section.
6. Because the speaker names are too long to fit in the field box, we'll move and expand the Speaker field. In the Page Header, select the Speaker field and shift click the Speaker field in the WorkshopID Header field. Drag the fields 4 inches to the right. Place the pointer on the right edge of one of the selected Speaker fields to change the pointer to a double arrow and drag the edge to make the fields longer.
7. Repeat step 7 with the StartTime, RoomName, WorkshopName, and Workshop ID fields.

Report Header						
Workshop Registrant Info						
Page Header						
WorkshopID	WorkshopName	RoomName		StartTime	Speaker	
WorkshopID Header						
WorkshopID	WorkshopName	RoomName		StartTime	Speaker	
Detail						
			LastName	FirstName	StreetAddress	City
			State			
			LastName	FirstName	StreetAddress	City
			State			
Page Footer						

8. Click on the View button  on the toolbar to see the changes.
9. Click on the View button  on the toolbar to return to Design View.
10. Repeat the steps in step 7 to make any necessary adjustments to the fields so that all the information in each of the fields is visible.
11. Click on the View button  on the toolbar to see the changes.
12. Click on the View button  on the toolbar to return to Design View.
13. Click on the Save button  on the toolbar.
14. Click on the close box  to close the report window.

NOTES

ADD A TOTAL FIELD TO A REPORT

2 Types of Totals

There are two different ways to calculate totals in a report. You can calculate a total for a group of records or you can calculate a grand total for all the records in the report.

Add the Field

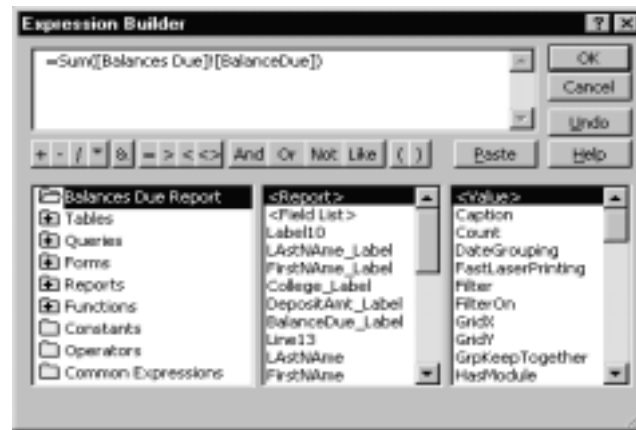
In order to add a total field to your report, you must first create a new field on the report in design view. To add a field to a report, click on the Text Box button **ab** in the toolbox and then click in the report where you want to place the textbox.

To calculate a total for a group of records, the field is added to the group header or group footer of the report.

To calculate a grand total for all the records, the field is added to the report header or report footer.

Properties

Once you've added the text box to the report, the next step is to edit the properties for the text box. The formula is added at the Control Source property. You can access an Expression Builder window to help create the formula by clicking on the button  at the end of the Control Source property field.



For grand totals, you will probably use the Sum function and then designate the field(s) that you want to see totaled. Formulas are always preceded by an equal sign (=) and field names, table names, and query names are put in square brackets.

For example, the formula to calculate the grand total of the Balances Due field from the Balances Due query looks like this:

=sum([Balances Due])[BalanceDue]

Query Name

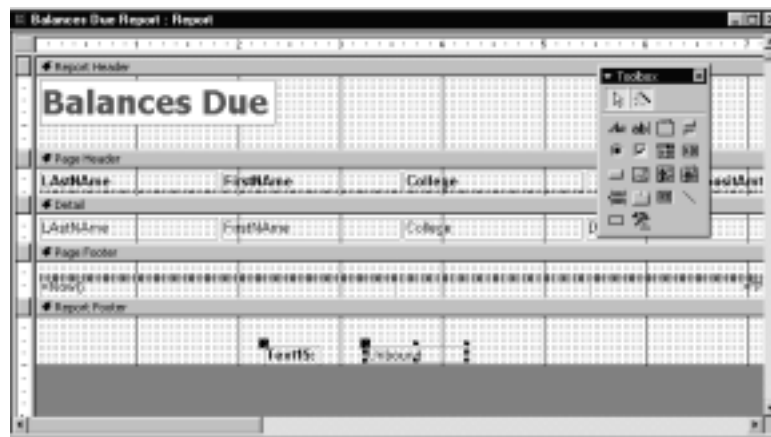
Field Name

Steps to Add a Total Field to a Report

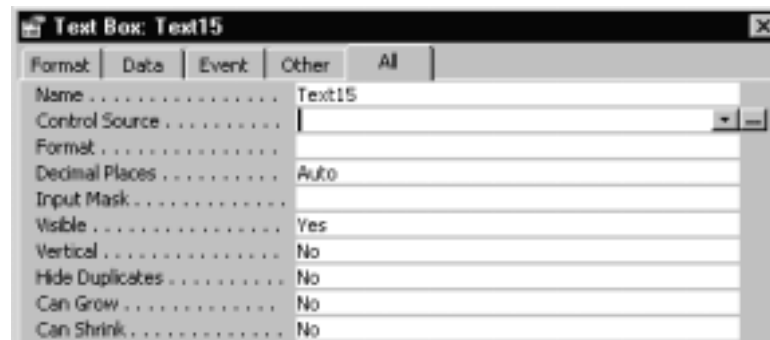
1. Open a report in design view.
2. Click on the Toolbox button  on the toolbar to open the toolbox.
3. In the toolbox, click on the Text Box button  and then click in the report where you want to place the field.
For a **Grand total** click in the report header or report footer section
OR
For a **Group total**, click in the group header or group footer section.
4. Click on the Properties button on the toolbar  to open the Properties window.
5. Select the All tab.
6. Click in the Control Source property field and click on the button  at the end of the field. The Expression Builder window opens.
7. Create the formula and click **OK**.
8. Click on the close box  to close the Properties window.
9. Click in the Label part of the new field to place it in edit mode and type a name for the field.
10. Click on the View button  on the toolbar to switch to Preview view.

EXERCISE – ADDING A TOTAL FIELD TO A REPORT

1. Select the Balances Due Report and click on the Design button  on the toolbar to open it in design view.
2. Click on the Toolbox button  on the toolbar.
3. In the toolbox, click on the Text Box button .
4. Click near the right edge of the report right below the Report Footer bar. The footer area expands and a text box and label box are created.

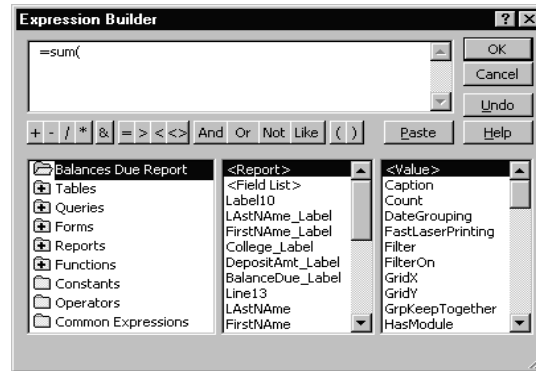


5. Make sure that the textbox side of the new field is selected and click on the Properties button  on the toolbar. The Properties window opens.

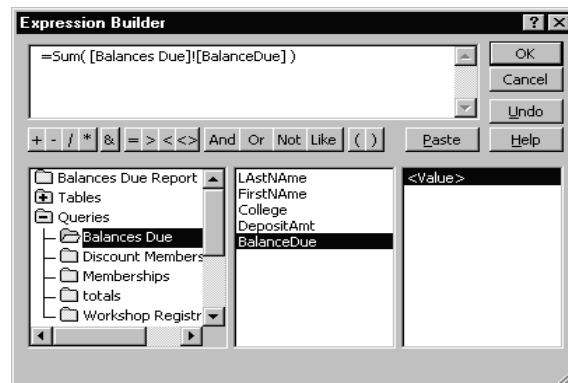


6. Select the All tab.
7. Click in the Control source property field and click on the button  at the end of the field. The Expression Builder window opens.

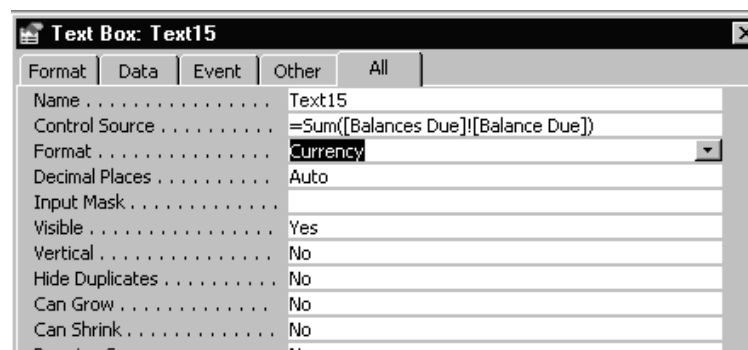
8. In the top half of the Expression Builder window, click in the box and type: =sum(



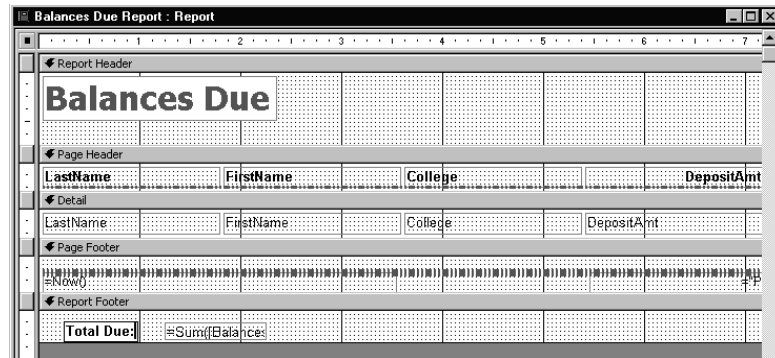
9. In the first column on the bottom half of the window, double-click on the Queries folder. The folder expands.
10. Double-click on the Balances Due folder.
11. In the second column, double-click on BalanceDue.
12. In the Expression Builder box, type) to close the parenthesis and click **OK**.



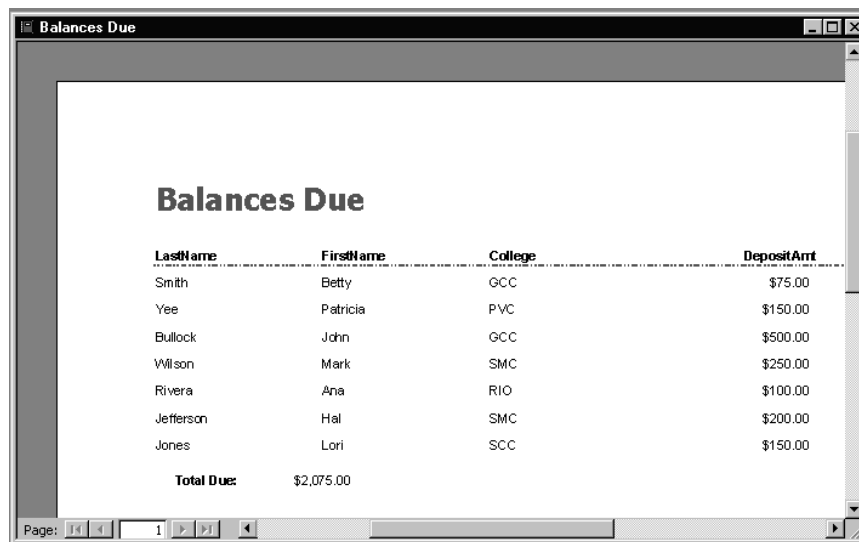
13. At the Properties window, click in the Format field and click on the down arrow  at the end of the field. Select Currency.



14. Click on the Properties window close button  to close the window.
15. Click twice in the label part of the new field to place it in edit mode and type Total Due:



16. Click on the View button  on the toolbar to switch to Preview view to view the Total field.



Last Name	First Name	College	Deposit Amt
Smith	Betty	GCC	\$75.00
Yee	Patricia	PVC	\$150.00
Bullock	John	GCC	\$500.00
Wilson	Mark	SMC	\$250.00
Rivera	Ana	RIO	\$100.00
Jefferson	Hal	SMC	\$200.00
Jones	Lori	SCC	\$150.00
Total Due:			\$2,075.00

17. Click on the close button  to close the report. A Save window opens, click **Yes** to save the report.

NOTES

PRINT A REPORT

Preview Before Printing

Before printing anything, it's a good practice to preview it. Reports are displayed in Print Preview view, so you have already previewed your reports before you print them. If you are printing tables in datasheet view or query results in datasheet view, click on the Print Preview button  on the toolbar and preview them before printing.

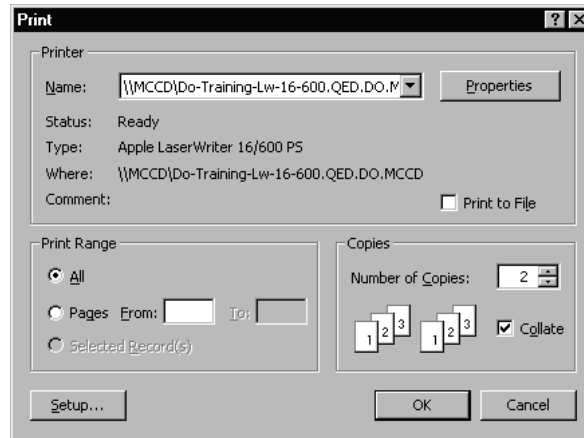
Print Options

There are two options for printing your reports. You can click on the Print button  on the toolbar and the report will print as it looked in the Print Preview. It will print to your designated default printer. You can also choose File on the menu bar, then select Print. This opens the Print dialog box. At the Print dialog box you can designate a printer, specify a range of pages to print instead of printing an entire report, and specify number of copies printed. From the Print box you can also click on a **Properties** button and open the Page Setup dialog box. Here you have options for setting margins and can choose between Portrait, Landscape, or Rotated orientation.

1. At the Database window, click on the Reports button. Select a report to print.
2. Click on the Print Preview button  on the toolbar to preview the report.
3. From the menu bar, select File and then Print. The Print dialog box opens.
4. Make print specifications, if necessary.
5. Click on the **Properties** button to designate paper size, number of copies to print, and portrait vs. landscape orientation.
6. Click on **OK** to close the Properties window.
7. Click on **OK** to print the report.

EXERCISE – PRINTING A REPORT

1. Select the Workshop Registrant Info report.
2. Click on the Print Preview button  on the toolbar to preview the report.
3. Click on the Zoom button  on the toolbar to switch to layout view.
4. From the menu bar, select File and then Print. The Print dialog box opens.



5. Change Number of Copies to 2.
6. Click on the **Properties** button.



7. Change the Orientation to Landscape. Click **OK**.
8. We will not print this report in class. Click on the **Cancel** button.
9. Click on the close box  to close the report window.

CREATE A FORM LETTER

Two Ways to Create a Form Letter Using Microsoft Word

There are two different ways to merge your Access database data with Microsoft Word. From within Access, you can use a Mail Merge Wizard to merge data from a table or query into an MS Word form letter. Or, you can export Access data to a mail merge data source file that can be used when doing a mail merge in Word.

Mail Merge Wizard

To use the Microsoft Word Mail Merge Wizard in Access, first select the table or query that you want to merge into your form letter. Then, from the menu bar select Tools, Office Links, and Merge it with MS Word. This opens the Mail Merge Wizard where you either create a new form letter or link to an existing document. The fields from the selected table or query are available

from the Insert Merge Field button  on the toolbar when the document opens. You can then insert the fields and complete the mail merge. To use the Mail Merge Wizard you must be using MS Word version 7.0/95 or later.

Export to a Mail Merge Data Source File

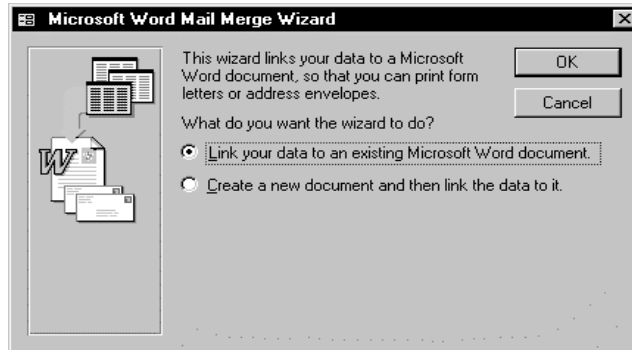
Using any version of Microsoft Word, you can export data from a table or query to a data source file. This is done by selecting the table or query and selecting File and Export from the menu bar. You can then save the data using Microsoft Word Merge as the type. In Word, when doing a mail merge, the table or query will now be available for selection as a Data Source. For instructions on how to do a mail merge in Microsoft Word, consult the Microsoft Word 2000 manual.

**Steps to Create a
Form Letter
Using the Mail
Merge Wizard**

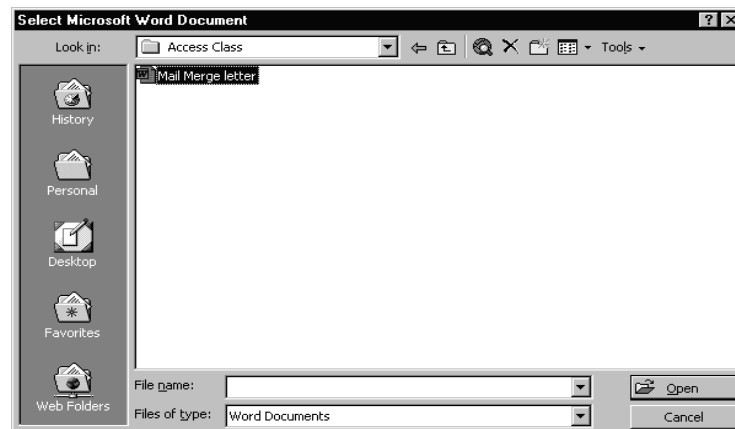
1. Select the table or query to be merged with the form letter.
2. In the menu bar, click on Tools, Office Links, and Merge It with MS Word. The Microsoft Word Mail Merge Wizard opens.
3. Choose to create a new document or link to an existing document and click on **OK**. The document opens.
4. Create or edit the document. If linking to an existing document, the Select Document window opens for you to designate which document you want to edit.
5. Use the Insert Merge Field button  to insert Access fields into the form letter.
6. Click on the Save button  on the toolbar to save the document.
7. To complete the mail merge, click on Tools and Mail Merge on the toolbar.
8. The Mail Merge Helper window opens. Click on the **Merge** button.
9. The Merge window opens. Click on the **Merge** button.
10. The Merge window closes and the merge fields are filled in from the Access data source.
11. Save or print the form letters. Click on the Microsoft Word close box .
12. If a Save window opens, click **Yes** or **No**.
13. Microsoft Word closes and you are returned to the Access database window.

EXERCISE – CREATING A FORM LETTER

1. Click on the Tables button and select the Employees table.
2. In the menu bar, click on Tools, Office Links, and Merge It with MS Word. The Microsoft Word Mail Merge Wizard opens.

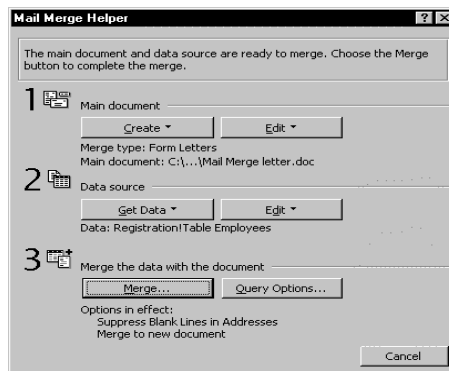


3. Select Link your data to an existing Microsoft Word document and click **OK**. The Select Document window opens. For class we will use a form letter that has already been created and some of the merge fields have been added.

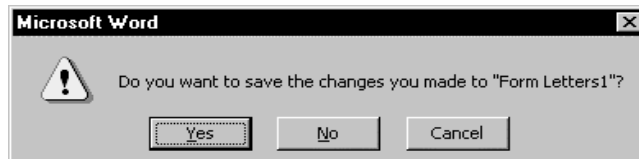


4. Find the Access Class folder on the hard drive (C:), select Mail Merge letter and click **Open**. The document opens in MS Word.
5. Place the cursor on the blank line under the Workshop selected line and type: Amount deposited:
6. Click on the Insert Merge Field button  on the toolbar and select DepositAmt.

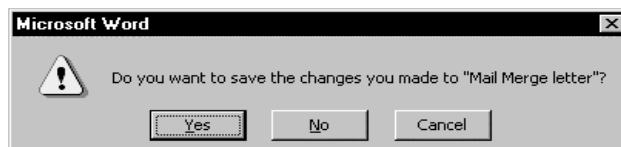
7. To complete the mail merge, click on Tools and Mail Merge on the toolbar.



8. The Mail Merge Helper window opens. Click on the **Merge** button.
9. The Merge window opens. Click on the **Merge** button.
10. The Merge window closes and the merge fields are filled in from the Access table.
11. Using the vertical scroll bar, scroll down to view additional letters.
12. Click on the Microsoft Word close box . A Save window opens.



13. Click **No**. We will not save this document. Click on the Microsoft Word close box .



14. Another Save window opens. Click **No**. We will not save changes to the Mail merge letter.
15. Microsoft Word closes and you are returned to the Access database window.

CREATE MAILING LABELS

Label Wizard Access contains a wizard that walks you through creating and formatting standard Avery mailing labels. The Label Wizard can be found in the New Report window at the Reports button. At the New Report window, select Label Wizard. Then specify from which table or query the data will come.

You select The Label Wizard walks you through a few screens where you will determine the label format and the fields to go on the label. You can select the label size, format, font, font size, and font color. Remember when choosing a font color that you will need a color printer for the color to show.

Steps to Create Mailing Labels

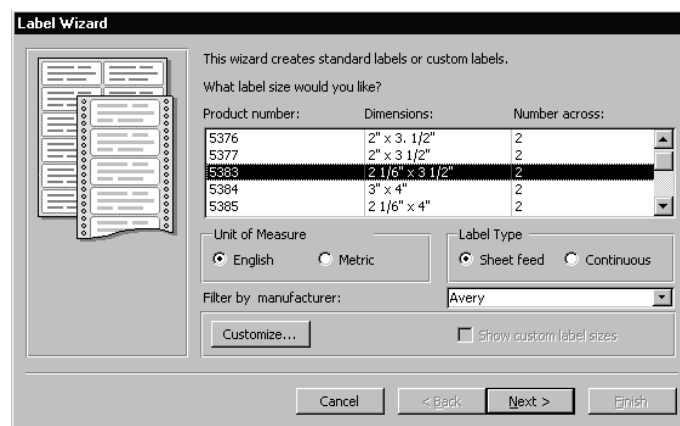
1. At the Reports button, click on the **New** button.
2. Select Label Wizard.
3. Click on the down arrow  in the drop box under the report options list.
4. Select the table or query to be used for the label data. Click **OK**.
5. Select the Avery label of your choice and click **Next**.
6. Click on the down arrow  in the Font name, Font size, and Font weight boxes and make your selections. Click on the button  in the Text color box and change the color, if desired. Click **Next**.
7. At the next screen, double-click the fields to print on the labels. Be sure to insert commas, spaces, and returns to format the label correctly. Click on **Next**.
8. At the next screen, double-click to select field(s) to sort by and click **Next**.
9. At the last screen, name the labels report and click on **Finish**.
10. The labels report opens in Preview View. After viewing, click on the Print button  on the toolbar to print the labels, if desired.
11. Click on the close button  to close the report.

EXERCISE – CREATING MAILING LABELS

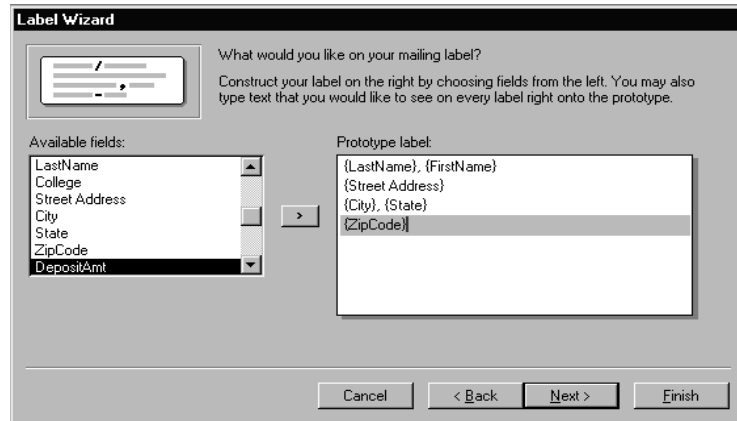
1. Click on the Reports button and then click on the **New** button.
2. Select Label Wizard.



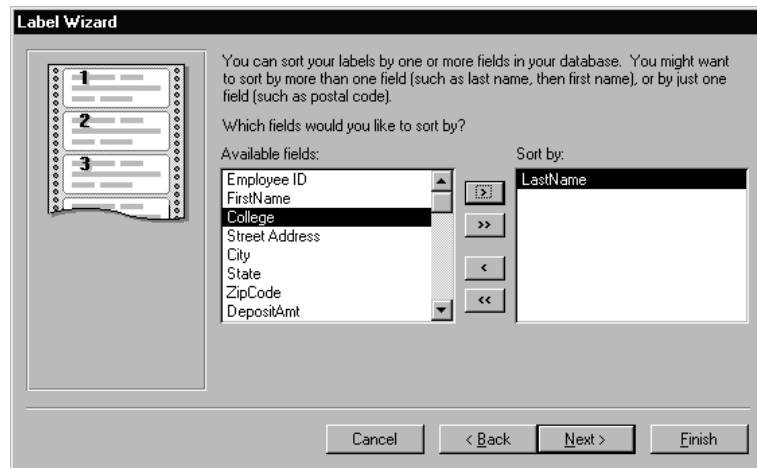
3. Click on the down arrow ▼ in the drop box under the report options list and select Employees. Click **OK**.
4. Be sure that Avery is selected in the Filter by manufacturer field.
5. Select English in the Unit of Measure field, and Sheet feed in the Label Type field.
6. Select Avery number 5383. Click **Next**.



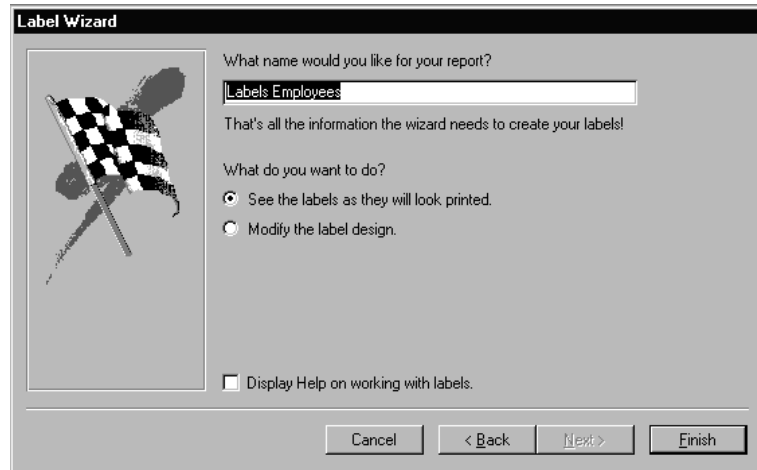
7. At the next screen, under Font name click on the down arrow ▼ and select Bookman Old Style. Click on the button [...] at the end of the Text color box and select a color. Click **OK**.
8. Click on the **Next** button.



9. From the Available fields list, double-click on LastName. In the Prototype label window, type a comma (,) and press the space bar one time.
10. Double-click on FirstName. Press the Enter key.
11. Double-click on StreetAddress. Press the Enter key.
12. Double-click on City, type a comma (,) and press the space bar one time.
13. Double-click on State. Press the Enter key.
14. Double-click on ZipCode. Click **Next**.



15. At the next screen, double-click on LastName in the Available fields list. Click **Next**.



16. At the last screen, accept the name Labels Employees for the labels report. Click on the **Finish** button.
17. The labels report opens in Preview View. Click on the Zoom button  on the toolbar to view in whole page view.
18. Click on the close button  to close the label report.

DATA ACCESS PAGES

Access Data from the Internet

Data Access Pages are HTML pages used for editing and viewing data in the database from an intranet or the Internet. To create, edit, view, or use a data access page, you must first select the Pages button at the database window.

The Pages button has the same three buttons that are on the other Objects buttons: **Open**, **Design**, and **New**. The **Open** button opens an existing page. The **Design** button opens an existing page in Design View, allowing you to edit the page. The **New** button has options for creating a new page. There are also 3 shortcuts at the Pages button: **Create data access page in Design view**, **Create data access page by using wizard**, and **Edit Web page that already exists**.

New Page

When you select the **New** button, the New Data Access Page window opens.

There are 4 options for creating a new page:

Design View: Gives you a blank page (similar to a form or a report) where you can design your own page. This view is also used to edit pages.

Existing Web page: Creates a data access page based on an existing page.

Page Wizard: Asks a series of questions and creates a page according to your responses. You choose the fields, sorting and grouping levels, and style that you want on your page.

AutoPage: Columnar: Creates a fairly plain page using all the fields from the table or query you specify. AutoPage uses fields from only one table or query and it uses all the fields in that table or query. The AutoPage: Columnar option arranges fields in a column and you can only see one record at a time.

Internet Explorer Required

Creating a data access page using the wizard is a simple process. After the page is created you can open it up in Internet Explorer and see how it looks. The required browser is Microsoft Internet Explorer 5 or later.

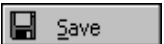
Publish to the Internet

According to Microsoft, once you've created a data access page, all web server products and platforms are supported for publishing it to the Internet. However, it is highly recommended that you use Microsoft Windows NT Server running Microsoft Internet Information Server (ISS) 4.0.

Publish to an Intranet

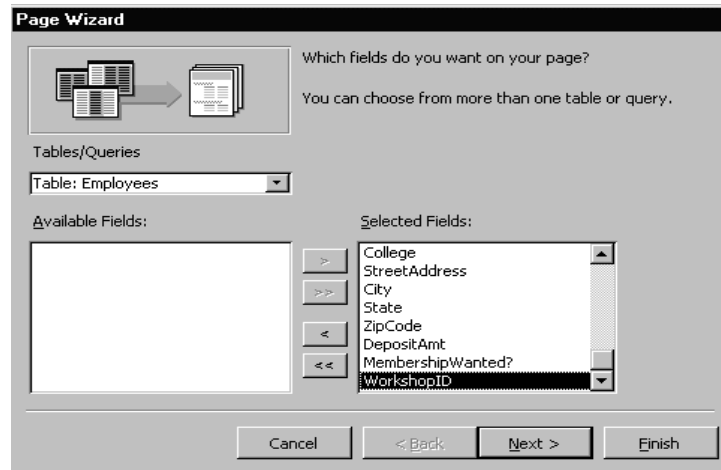
For publishing your data access page to a small server running on a local area network, you may prefer to use Microsoft Personal Web Server rather than Microsoft Windows NT Server running Microsoft Internet Information Server 4.0.

Steps to Create a Data Access Page

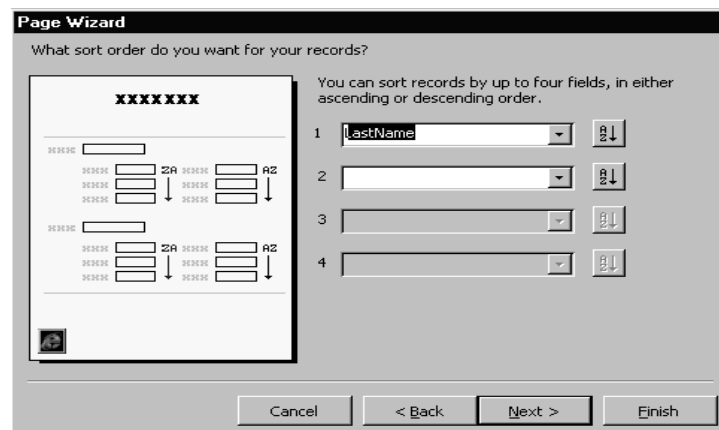
1. At the Pages button in the database window, double-click on Create data access page by using wizard.
2. Select the fields you want on the page from the tables and queries in the database and click **Next**.
3. Select any desired grouping levels. Click **Next**.
Note: Including grouping levels results in a read-only page (i.e. you cannot add or edit records)
4. Determine sort order(s) and click **Next**.
5. Type a title for the page. Select the check box next to Do you want to apply a theme to your page?
6. Click **Finish**. The page is created and a Theme window opens.
7. Select a theme (style) for your page and click **OK**.
8. To enter a title at the top of the page, click where it says Click here and type title text. Type a title for the page.
9. Click on the View button  to switch to Page View.
10. Click on the Close button  to close the page. A box opens asking if you want to save changes to the page. Click **Yes**.
11. A Save As window opens. At the Save in field, click on the down arrow  and select where to save the page.
12. At the File name field, name the page and click on the Save button .

EXERCISE – CREATING A DATA ACCESS PAGE

1. Click on the Pages button  at the Database window.
2. Double-click on Create data access page by using Wizard. The Page Wizard opens.



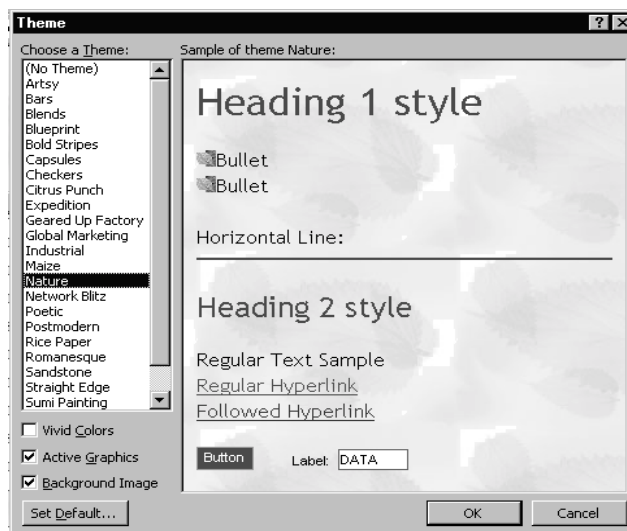
3. In the Tables/Queries box, select Table: Employees.
4. Click on the double-arrow button  to move all the fields to the Selected Fields panel. Click **Next**.
5. At the next screen, click on the back arrow  to remove the WorkshopID grouping and click **Next**.
6. At the Sort order screen, click on the down arrow  in box 1 and select LastName. Click **Next**.



- At the last screen, type Registration as the title for the page and click in the box to select Do you want to apply a theme to your page. Click **Finish**.



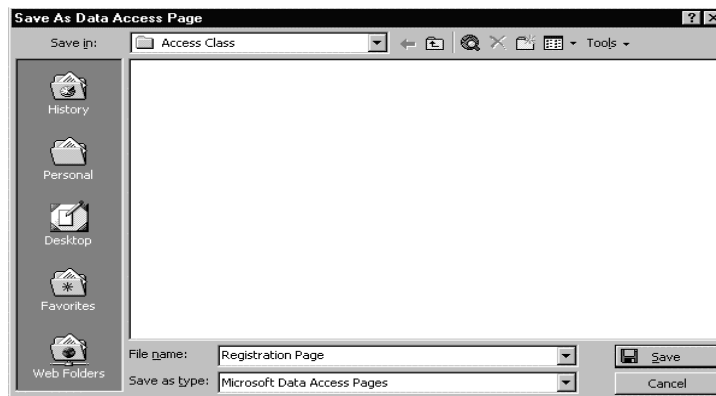
- The Theme window opens. From the Choose a Theme column, select Nature and click **OK**.



- The Page opens in Design View. At the top of the page, click where it says Click here and type title text. Type Conference Registration.



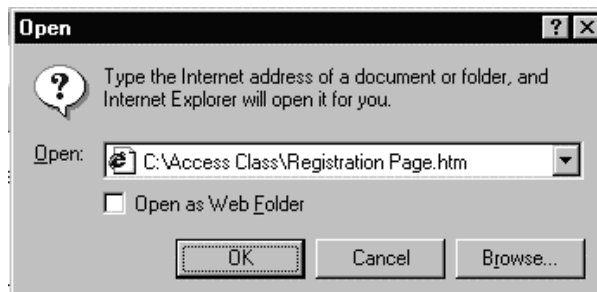
10. Click on the View button  on the toolbar to switch to page view.
11. Click on the Close button  to close the page. A Save dialog box opens asking if you want to save the page. Click **Yes**.
12. A Save As window opens. Save the page in the Access Class folder on the hard drive (C:). In the File Name box, type Registration Page and click **Save**.



13. Click on the Access minimize button  to minimize Access to the taskbar.



14. At the desktop, double-click on the icon to open Internet Explorer.
15. On the menu bar, click on File and then click on Open. The Open window opens.
16. Click on the Browse button and a search window opens. At Look in, click on the down arrow  and select the Access Class folder on the hard drive (C:).
17. Select the Registration Page and click **Open**.
18. You are returned to the Open window. Click **OK**.



19. The page opens in Internet Explorer. Use the navigation buttons to scroll through the records or to add a new record.



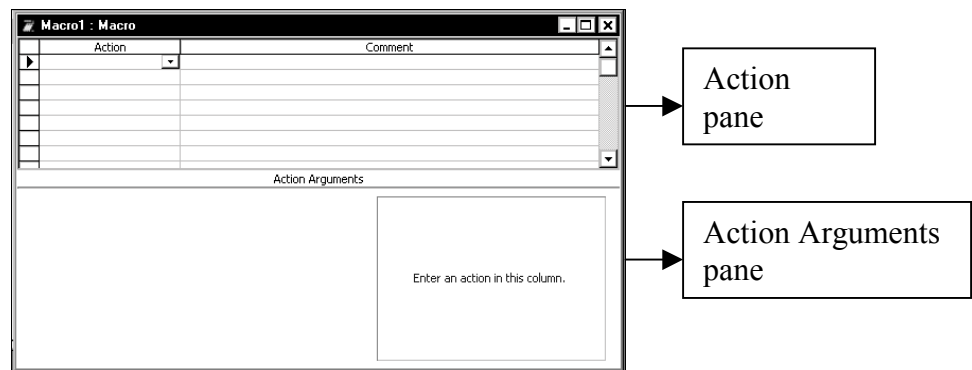
20. Click on the New Record button  to get a blank record.
21. Enter the following record:
926-07-5478 Monica Johnson DO 2624 E. Elm St., Tempe, AZ, 85281
\$300 deposit No membership Workshop: S030
Note: Some of the properties from the table do not carry over to a data access page.
You can add an input mask, default value, etc. to the data access page in design view.
22. Click on the Save Record button  to enter the record.
Note: The record is saved but this does not give you a blank form to enter the next record. You must click on the New Record button  to get a blank record.
23. Click on the close button to close Internet Explorer.
24. From the Windows task bar, click on the Microsoft Access button  to maximize Access.

MACROS

What is it? In Access, a macro is a saved series of processes (or actions) to be performed all at one time. It can be used to automate tasks. Some of the processes that can be included in a macro are print, apply a filter, do a save, or open or close a table, report or form.

To create, edit, view, or delete a macro, select the Macros button at the database window. The Macros button has three buttons: **Run**, **Design**, and **New**. The **Run** button is used to run an existing macro. The **Design** button opens an existing macro in Design view. The **New** button is used to create a new macro.

Macro Builder To create a macro, select the Macros button in the database window and click on the **New** button. This opens the Macro Builder window.



Action Pane The Macro Builder window is divided into two parts: the Action pane on the top half and the Action Arguments pane on the lower half of the window. The Action pane has an Action column with a drop-down list of available actions and a Comment column where comments are entered. From the drop-down list, you select each process you want to take place in the order you want them to happen. Each line of the Action pane can contain only one action. Some of the simpler actions in the Action drop-down list include:

ApplyFilter: Applies a saved query to the form, report, or table you specify

Close: Closes a window

Open Form/Report/Table: Opens the form, report, or table that you select

PrintOut: Prints the table (in Datasheet View), form, or report you specify

Quit: Quits Access. You select whether to save first or create a prompt to save

Action Argument Pane

The bottom half of the Macro Builder is the Action Arguments pane. Different actions have different arguments, so depending upon the action selected in the Action pane the arguments (or parameters) fill in on the bottom pane.

For example, if you select OpenReport from the Action list, in the Action Arguments pane you will select which of your saved reports you want to open. You will also select in which view you would like the report to open. When you select Save from the Action list, in the Action Arguments pane you designate the type of object you want saved (table, form, report, etc.) and then which specific table, form or report.

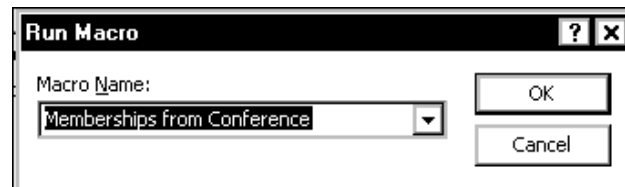
Hint: The F6 key will toggle the cursor back and forth between the upper and lower panes of the Macro Builder.

Running a Macro

Once you have created and saved a macro, you have several options for running it. You can select the Macros button, select the macro, and click the **Run** button. From the Macro Builder win-

dow, you can click the Run button  on the toolbar or select Run and then Run from the menu bar.

You can run a macro from any button in the database window or from within a table, form or report by selecting Tools on the menu bar. The next choice is Run Macro or Macro, then Run Macro. When you run a macro from anywhere other than the Macros button, a box opens and you must identify which macro you want to run and then click **OK**.



Delete a Macro

To delete a macro, click on the Macros button, select the macro to be deleted and press the Delete key. You can also delete from the menu bar by selecting Edit and Delete. You will receive a message asking you to verify that you want to delete the macro. Click **Yes**.

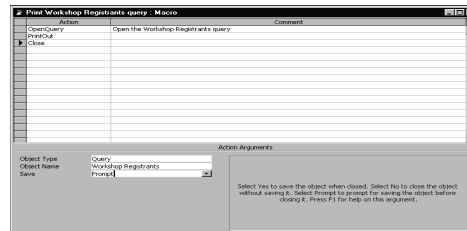
Steps to Create a Macro

1. Select the Macros button in the database window and click on the New button. The Macro window opens.
2. Place your cursor in the first line in the Action column, click on the down arrow , and select an action.
3. Enter a comment in the Comment column, if desired.
4. Press the F6 key to drop to the Action Arguments pane.
5. Enter information in the Arguments fields.
6. Place your cursor in the second line of the Action column and repeat steps 2-5 until all the necessary actions have been completed.
7. Click on the Save button  on the toolbar.
8. Enter a name for the macro and click **OK**.
9. To run the macro, click on the Run button .
10. Click on the close button  to close the macro window.

EXERCISE – CREATING A MACRO

We will create a macro to automate selecting, opening and printing a query.

1. Select the Macros button at the database window.
2. Click on the **New** button. The Macro window opens.

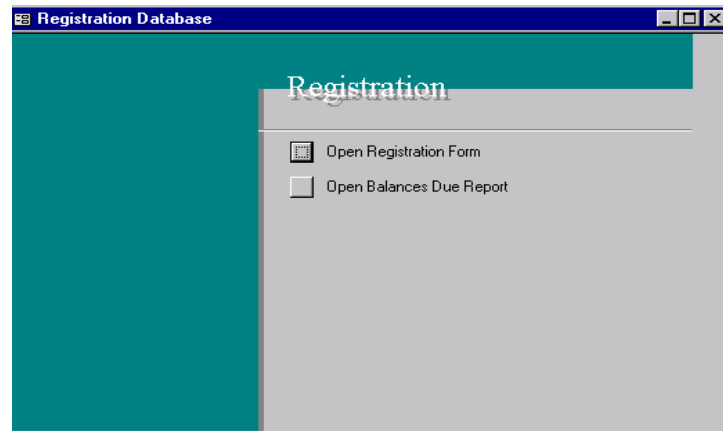


3. Click in the first line of the Action column and click on the down arrow . Select OpenQuery.
4. Press Enter to move to the Comments column and enter Open the Workshop Registrants query.
5. Press the F6 key to drop to the Action Arguments pane.
6. Click on the down arrow in the Query Name field and select Workshop Registrants.
7. Press the F6 key to return to the Action pane.
8. Click in the second line of the Action column and click on the down arrow .
9. Select PrintOut.
10. Press the down arrow key to move to the third line of the Action column and click on the down arrow .
11. Select Close.
12. Press the F6 key to drop to the Action Arguments pane.
13. Click on the down arrow in the Object Type field and select Query.
14. Press the down arrow key to move to the Object Name field and click on the down arrow . Select Workshop Registrants.
15. Click on the Save button on the toolbar.
16. Name the macro Print Workshop Registrants query. Click **OK**.
17. Click on the Macro Builder window close button .
18. Click on the **Run** button. The query will be run and sent to the printer.

CREATE A SWITCHBOARD

What is it?

A Switchboard is a form that makes it easy for users to get to the forms, reports, or macros in the database. You can think of it as the main menu for your database. A Switchboard form can also be used to limit access to the tables in the database. Once you have created a Switchboard form, you can then designate it as a Startup Form that will automatically display when the database is opened.

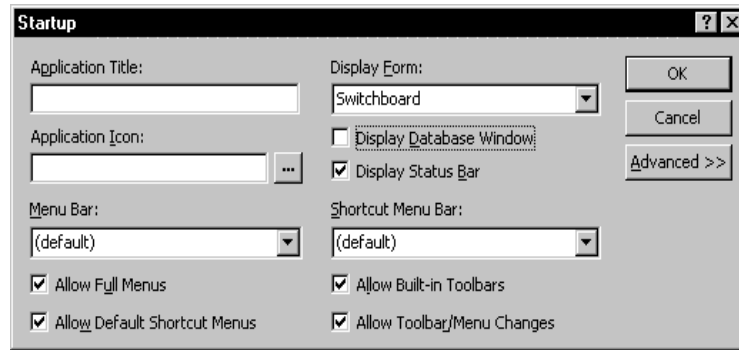


Switchboard Manager

Access contains a Switchboard Manager that is used to create, edit, or delete switchboards in a database. It is found on the menu bar under Tools, then Database Utilities, then Switchboard Manager. At the Switchboard Manager, you select the forms, reports, and macros that you want on the Switchboard form and name the buttons for those items. When you create a switchboard, Access creates a table to describe the buttons on the switchboard and adds the switchboard form to the Forms button.

Startup Manager

Once you've created a switchboard that opens when you open the database, you may not want others to see or use the Database window that appears behind the switchboard form. The display of the Database window can be turned off from the Tools menu. Select Startup and the Startup window opens. The Switchboard form will already be selected in the Display Form field. To remove the Database window behind the form, de-select the Display Database Window field. You can always access the database by re-opening the Startup window and re-selecting the Display Database Window field.



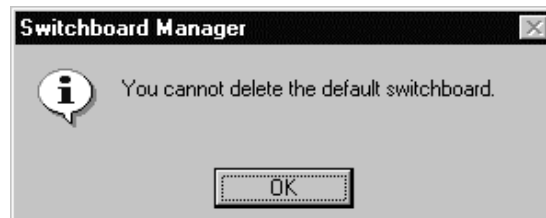
It Didn't Work?

Occasionally, a switchboard will not automatically open even though you have designated it as the Startup form. You can correct this by opening the Startup Manager (click Tools on the menu bar and select Startup). Then click in the Display Form field and select the switchboard.

Delete a Switchboard

To delete a switchboard, open the Switchboard Manager window by clicking Tools, Add-Ins, and Switchboard Manager on the toolbar. Select the switchboard you want to delete and click on the **Delete** button.

If you have only one switchboard created, you will receive a message saying you cannot delete the default switchboard.



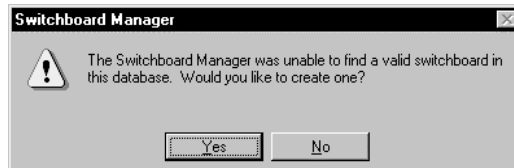
To delete the default switchboard, click on the Switchboard Manager **Close** button. At the database window, go to the tables button and select the Switchboard Items table. Press the delete key. Then go to the Forms button, select the Switchboard form and press the delete key.

Steps to Create a Switchboard

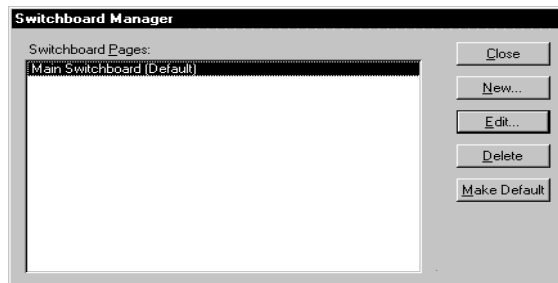
1. Click on Tools in the menu bar, then Database Utilities, and then Switchboard Manager.
2. If there are any existing Switchboard forms, the Switchboard Manager window will open. Click on the **New** button to create a new switchboard.
OR, if there are no existing Switchboard forms, a message box will display asking if you would like to create one. Click **Yes**. The Switchboard Manager window will open.
3. A Default Main Switchboard page will be created. Click **Edit**. The Edit Switchboard Page window will open.
4. Click in the Switchboard Name field and name the switchboard.
5. Click on the **New** button. The Edit Switchboard Item window will open.
6. In the Text field, enter the label for the first switchboard button.
7. In the Command field, click on the down arrow  and select a command (or action) for the first switchboard button.
8. According to the action chosen in step 7, click on the down arrow  in the third field and make the appropriate selection. Click **OK**.
9. Repeat steps 5-8 until all Switchboard buttons have been created.
10. Click on the Edit Switchboard Page **Close** button.
11. To make the switchboard automatically open when the database is opened, select it in the Switchboard Manager window and click on the **Make Default** button.
12. Click on the Switchboard Manager **Close** button.
13. If the switchboard does not automatically open as the default form, click on Tools in the menu bar, then Startup. Click on the down arrow  in the Display Form field. Select your switchboard form from the list and click **OK**.

EXERCISE - CREATING A SWITCHBOARD

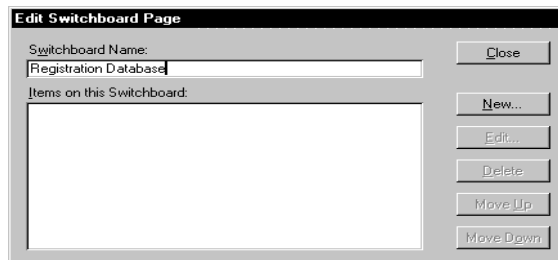
1. Click on Tools in the menu bar, then Database Utilities, and then Switchboard Manager.
2. A message box opens asking if you'd like to create a switchboard. Click **Yes**.



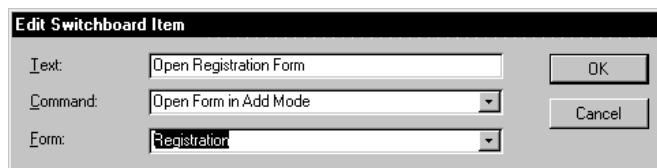
3. The Switchboard Manager window opens. A Default Main Switchboard page has been created. Click **Edit**.



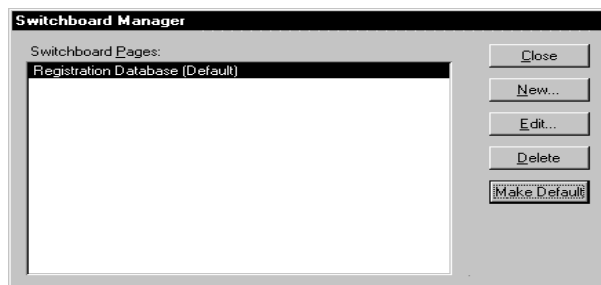
4. The Edit Switchboard Page window opens. Click in the Switchboard Name field, delete Main Switchboard and type Registration Database.



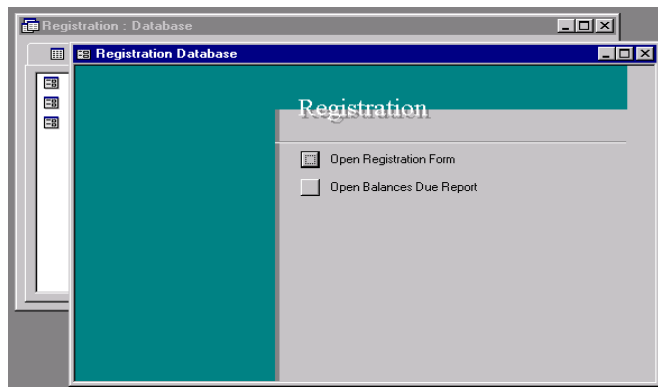
5. Click on the **New** button to create a new item on the switchboard. The Edit Switchboard Item window will open.
6. In the Text field, type Open Registration Form. Tab to the Command field.
7. In the Command field, click on the down arrow and select Open Form in Edit Mode.
8. In the Form field, click on the down arrow and select Registration. Click **OK**.



9. Click on the **New** button to create a new item on the switchboard. The Edit Switchboard Item window opens.
10. In the Text field, type Open Balances Due Report. Press Tab to move to the Command field.
11. In the Command field, click on the down arrow ▼ and select Open Report.
12. In the Report field, click on the down arrow ▼ and select Balances Due Report. Click **OK**.
13. At the Edit Switchboard Page window, click on the **Close** button .
14. At the Switchboard Manager window, click on the **Make Default** button.

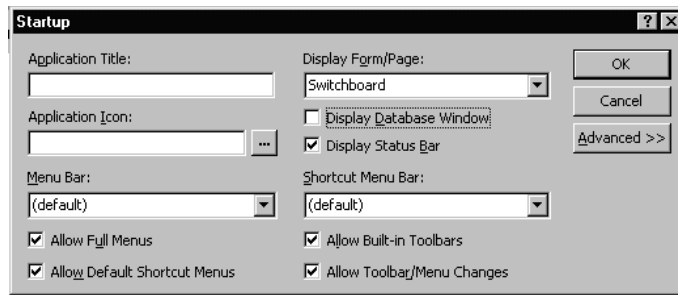


15. Click on the **Close** button  to close the Switchboard Manager window.
16. Click on the close button  to close the Registration database.
17. Click on the Open Database button  on the toolbar. The Open window opens.
18. From the Access Class folder, select the Registration database. Click **Open**.
19. The Registration database will open. The Switchboard form should open with the Database window displaying behind the Switchboard form. If the Switchboard form did not open, don't worry. It will be corrected in step 21.

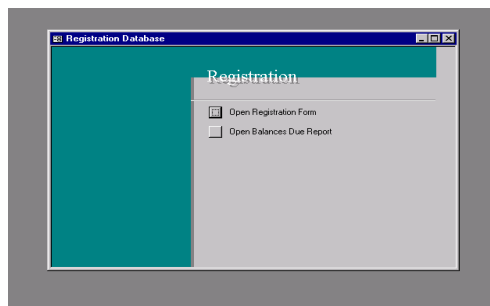


20. On the menu bar, click on Tools and then click on Startup. The Startup window opens.

21. If the Switchboard form **did not** open automatically in step 19, click on the down arrow ▼ in the Display Form/Page field. Select Switchboard.



22. De-select the Display Database Window checkbox. Click **OK**.
23. If the Switchboard form is open, click on the close button  to close the form.
24. Click on the close button  to close the Registration database.
25. Click on the Open Database button  on the toolbar. The Open window will open.
26. From the Access Class folder, select the Registration database. Click **Open**.
27. The Registration database will open with the Switchboard form open. The Database window does not display behind the Switchboard form.



28. To re-display the database window, click on Tools on the menu bar, and then click on Startup. The Startup window will open.
29. Click in the Display Database Window checkbox to enter a check mark. Click **OK**.
30. Click on the close button  to close the Switchboard form.
31. Click on the Open Database button  on the toolbar. The Open window will open.
32. From the Access Class folder, select the Registration database. Click **Open**.
33. The Registration database will open with the Switchboard form open. The Database window displays behind the Switchboard form.
34. Click on the Switchboard form close button  to close the form.

IMPORT DATA FROM ANOTHER ACCESS DATABASE

Easy to do! You can import tables, reports, forms, or any object from one Access database to another. Access creates a copy of the information in the external database and places it in your database. If you are importing reports, forms, queries, etc. you **must** remember to import the table(s) that they are based on as well.

With or Without Data When you import an object from another Access database, you have the option of importing that table, report, macro, etc. with data or without data (Definition only). You can also choose whether or not to import relationships (if you import tables with relationships). If you import only the definition of a table, the table is created and you can easily modify it in Design View. There may be some restrictions to the modifications you can make to tables with established relationships and with data in them.

A Good Idea Once you have imported an object into your database, it is always a good idea to open it in Design View and make any modifications that you need. When importing tables, be sure to check the Data Type and Properties of the imported fields so you know what to expect when entering data.

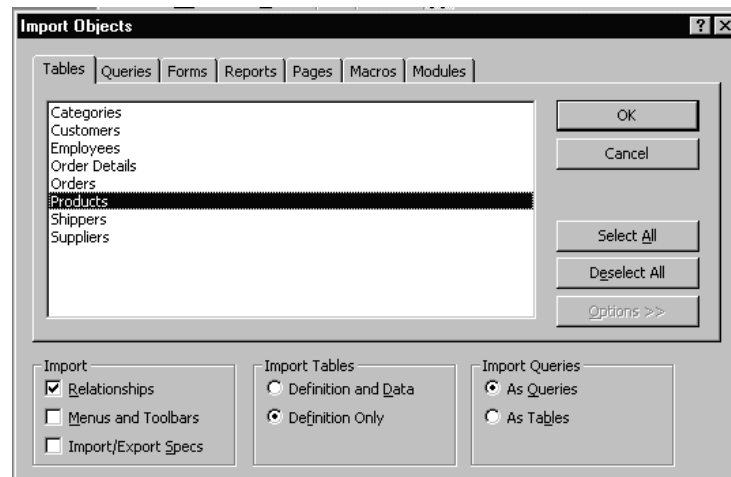
Steps to Import from Another Access Database

1. From the menu bar, select File, Get External Data, and Import. This opens the Import find window. Select the Access file to import.
2. Click on the **Import** button.
3. The Import Objects window opens. Select objects for import from any of the database window tabs. You can make selections from more than one database window tab and from more than one object at each tab or use the **Select All** button if you want to import all the objects from a tab.
4. Click on the **Options** button. Make selections for the import.
5. Once you've selected everything you want to import, click on the **OK** button.
6. Access returns you to your original database and the objects have been imported.

EXERCISE – IMPORTING FROM AN ACCESS DATABASE

We will import a table and a form from the Northwind database into our Registration database.

1. From the menu bar, select File, Get External Data, and Import. The Import find window opens.
2. Select the Northwind database and click on **Import**. The Import Objects window opens.



3. At the Tables tab, select Products.
4. Click on the **Options** button.
5. Under Import Tables, select Definition Only.
6. Click on the Forms tab and select Product List.
7. Click **OK**. The window closes.
8. Click on the Tables button. Select Products and click on the **Design** button to view the table.
9. Click on the View button  to see that no data was imported.
10. Click on the close button  to close the table.
11. Click on the Forms button to see that the Product List form was also imported.
12. Click on the Registration database close  button to close the database.

CLONE AN ACCESS DATABASE

An Exact Copy

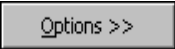
It is possible to create an exact copy of an Access database without the data— in effect to “clone” the database.

For example, if you have a database that tracks annual data and you want to start over with new data each year, you can clone the database and start over with new data for the new year. You can copy the tables, forms, queries, reports, macros, and pages so you don’t have to recreate them.

Import Without Data

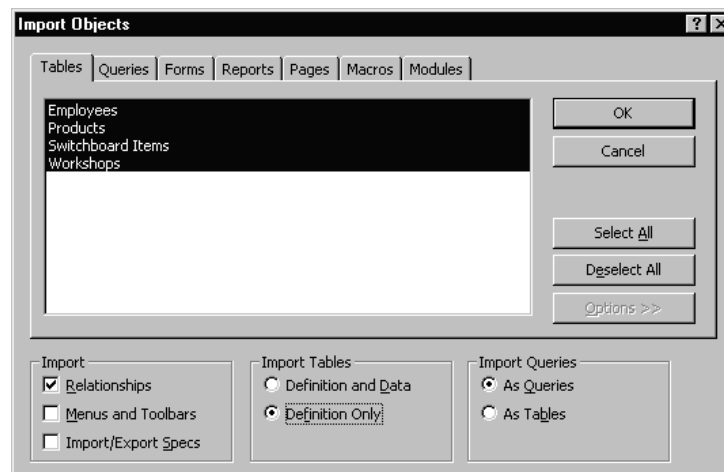
Cloning an Access database is nothing more than importing from an Access database into an Access database. You just create a new, blank database and import the original one *without data*.

Steps to Clone an Access Database

1. Create a new (blank) Access database by clicking on the New button  on the toolbar.
2. At the File New Database window, name the file, specify where to save it, and click on the **Create** button. A blank database opens.
3. In the menu bar, click on File, then Get External Data, and then Import. The Import find window opens.
4. Select the database that you are cloning and click on the **Import** button. The Import Objects window opens.
5. Select the Tables tab and click on the Select All  button.
6. Select each of the other 6 tabs (Queries, Forms, Reports, Pages, Macros, Modules) and click on the Select All  button at each tab.
7. Click on the Options  button to expand the window.
8. Under Import Tables, select Definition Only and click **OK**.

EXERCISE – CLONING AN ACCESS DATABASE

1. Click on the New  button. The New window opens.
2. At the General tab, click on the Database icon and click **OK**. The File New Database window opens.
3. Save in the Access Class folder. In the File name box, type Registration Clone. Click on the Create  button.
4. At the database window, click on File, then Get External Data, and then Import. The Import find window opens.
5. Select the Registration database and click on the Import  button. The Import Objects window opens.
6. Select the Tables tab and click on the Select All  button.



7. Select each of the other 6 tabs (Queries, Forms, Reports, Pages, Macros, Modules) and click on the Select All  button at each tab.
8. Click on the Options  button to expand the window.
9. Under Import Tables, select Definition Only. Click **OK**.
10. A Save As Data Access Page window opens. At the Save in window, click on the down arrow  and select Desktop. Click on the **Save** button.
11. When the import is complete, click on the Tables button and open the Employees table to see that all were imported without data. Click the Employees table Close  button.
12. Click the Registration Clone database Close  button.

IMPORT AND EXPORT DATA FROM AN EXTERNAL SOURCE

Imports into a Table

You can import data from a source other than another Access database as long as Access supports the file format of that other source. Access copies the data into a table in your database. You can create a table first and then import into that table, or you can let Access create the table for you. After you select a source to import from, the Import Wizard opens and walks you through the process of importing.

What you can Import

Access supports importing data from these file formats:

Spreadsheet files: the Import Wizard allows you to name field headings and create a primary key and will create a table from the imported spreadsheet. Access can import from Microsoft Excel V3.0 or later and Lotus 1-2-3. Before importing a spreadsheet, it is recommended that you open the spreadsheet program and eliminate all formatting (underlining, blank rows and columns, etc.) and put column names immediately above each column of data. The Import Wizard will use those column names as field names.

Text files: like with a spreadsheet file, the Import Text Wizard walks you through the import process and will create a table for the import unless you designate an existing one. Access can import delimited text (separated by commas or tabs) and Fixed-width text files. Software programs that cannot be imported directly into Access can often be exported to a text file and then imported into Access.

Tip: When importing from a text file, it is usually best to determine your fields and create a table to import into rather than letting Access create the table for you.

Database files: files from FoxPro V2.x-6.x, Paradox V3.x or later, and dBASE III or later can be imported directly into Access. You can import tables, queries, reports, etc. when importing from a database application.

To import data from a Filemaker Pro database, save the Filemaker Pro data in HTML format, then import that HTML data into Access.

Exporting Just like you can import data, you can export data from Access to a source other than another Access database. The source you are exporting to must be one of the Access supported file formats. Your data is not actually exported out of your database, but is copied into the other application. To export data, select the database object you're exporting and then select File and Export from the Menu bar. Designate which file you're exporting to and click Save. You can then select to export with or without data, click OK, and the export is complete.

- Some Tips** Some additional tips for importing or exporting data:
- The key to successfully importing from or exporting to another file is to be sure that the other file is saved in one of the file formats that Access will support.
 - When exchanging data with another application, check the documentation to determine file format.
 - Try exporting applications that cannot be imported into Access to a text file and then importing into Access.
 - Most file formats do not support importing or exporting text attributes such as font, size, or color.

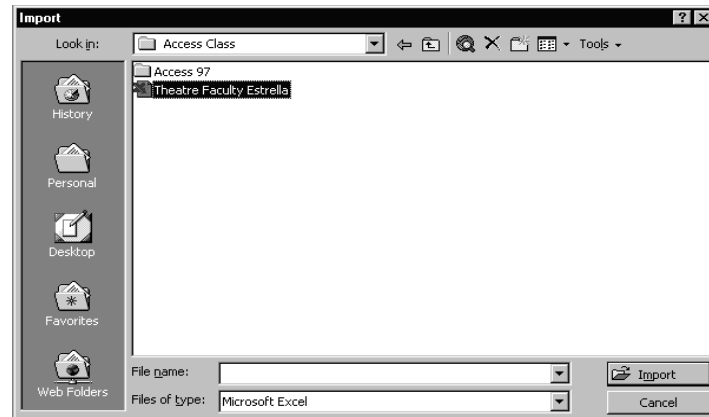
**Steps to Import
from an External
Source**

1. From the menu bar, select File, Get External Data, and Import. This opens the Import find window. Select the file to import.
2. Click on the **Import** button. The Import Wizard opens.
3. Make selections from each screen of the Wizard. Click on the Next button after each selection.
4. At the last screen, name the table and click **Finish**.
5. A message window opens telling you when the import is completed. Click **OK**.
6. If a message box opens asking if you want to analyze your data, select **Yes** or **No**.
7. If you select **Yes**, a Wizard opens. Make selections from each screen of the Wizard. Click on the **Next** button after each selection.
8. At the last screen, click **Finish**.

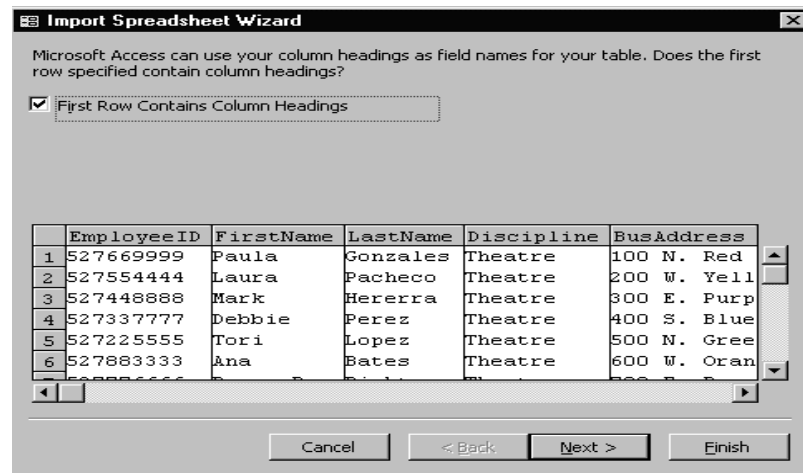
EXERCISE – IMPORTING FROM AN EXTERNAL SOURCE

In this exercise, we will import an Excel spreadsheet into our Access Registration database.

1. From the Menu bar, select File and then select Open.
2. From the Access class folder, select the Registration database. Click **Open**.
3. From the menu bar, select File, Get External Data, and Import.
4. At the Access Class folder, in the Files of Type field select Microsoft Excel.



5. Select Theatre Faculty Estrella and click **Import**. The Import Spreadsheet Wizard opens.



6. Select First Row Contains Column Headings and click **Next**.
7. Select In a New Table to store the data and click **Next**.
8. At the next screen, click **Next**.

Microsoft Access recommends that you define a primary key for your new table. A primary key is used to uniquely identify each record in your table. It allows you to retrieve data more quickly.

☐ Let Access add primary key.
☒ Choose my own primary key. EmployeeID
☐ No primary key.

	EmployeeID	FirstName	LastName	Discipline	BusAddress
1	527669999	Paula	Gonzales	Theatre	100 N. Red
2	527554444	Laura	Pacheco	Theatre	200 W. Yell
3	527448888	Mark	Hererra	Theatre	300 E. Purp
4	527337777	Debbie	Perez	Theatre	400 S. Blue
5	527225555	Tori	Lopez	Theatre	500 N. Gree
6	527883333	Ana	Bates	Theatre	600 W. Oran

Buttons: Cancel, < Back, Next >, Finish

9. Select Choose my own primary key button, click on the down arrow and select EmployeeID. Click **Next**.

That's all the information the wizard needs to import your data.

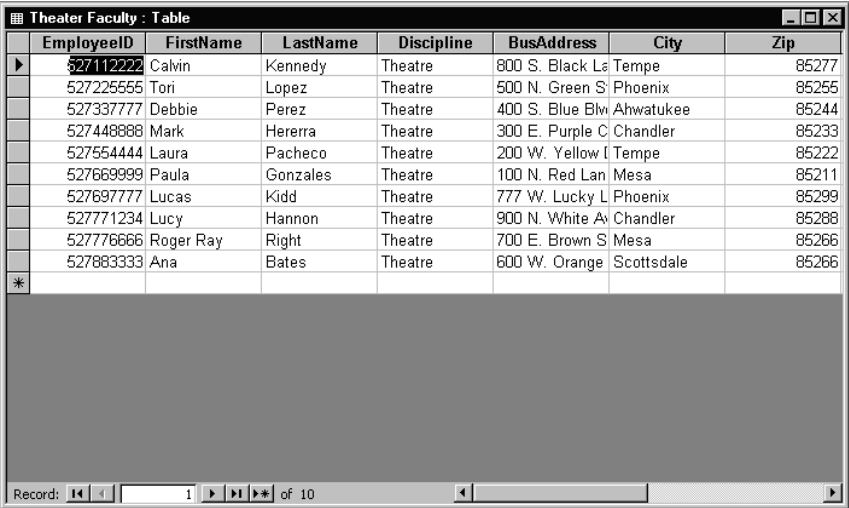
Import to Table:
Theater Faculty

☐ I would like a wizard to analyze my table after importing the data.
☐ Display Help after the wizard is finished.

Buttons: Cancel, < Back, Next >, Finish

10. Name the table Theater Faculty and click **Finish**.
11. A message window opens when the import is completed. Click **OK**.
12. At the Tables button, select the Theater Faculty table and click **Open**.

13. The Spreadsheet has been imported and the data displays in Datasheet View.



	EmployeeID	FirstName	LastName	Discipline	BusAddress	City	Zip
▶	527112222	Calvin	Kennedy	Theatre	800 S. Black La	Tempe	85277
■	527225555	Tori	Lopez	Theatre	500 N. Green S	Phoenix	85255
■	527337777	Debbie	Perez	Theatre	400 S. Blue Blw	Ahwatukee	85244
■	527448888	Mark	Hererra	Theatre	300 E. Purple C	Chandler	85233
■	527554444	Laura	Pacheco	Theatre	200 W. Yellow I	Tempe	85222
■	527669999	Paula	Gonzales	Theatre	100 N. Red Lan	Mesa	85211
■	527697777	Lucas	Kidd	Theatre	777 W. Lucky L	Phoenix	85299
■	527771234	Lucy	Hannon	Theatre	900 N. White As	Chandler	85288
■	527776666	Roger Ray	Right	Theatre	700 E. Brown S	Mesa	85266
■	527883333	Ana	Bates	Theatre	600 W. Orange	Scottsdale	85266
*							

Record: 1 of 10

14. Click on the close button  to close the Theater Faculty table.

LINK TO AN EXTERNAL TABLE

Linking vs. Importing

Instead of importing from or exporting to an external table, you may choose to link to another table. When you link to another table, you can view, edit or update the data, and you can create reports and queries based on the external table. When you link to another table, you leave the data where it is rather than bringing it into your database. Being linked to another table does not prevent you from viewing or updating data even if someone else is using the table in its original database.

Can't Change the Structure

Even though you can edit and update data in linked tables, you are prevented from making changes to the structure of the tables. You cannot add, delete, or rearrange fields in a linked table. However, you can edit the field properties to add default values or change the way the data will display. Changes made in the data in linked tables will display in both of the linked databases.

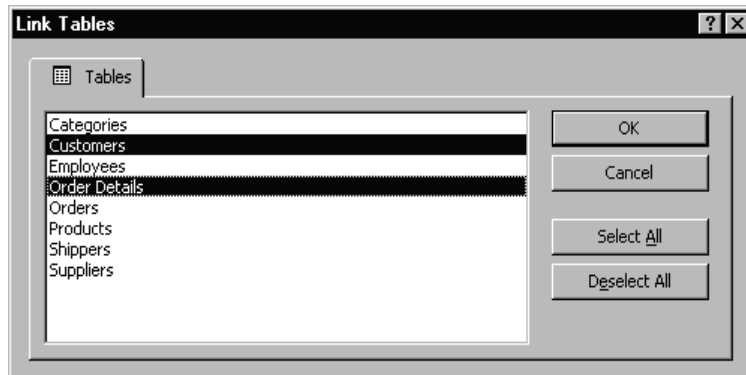
Steps to Link to an External Table

1. From the menu bar, select File, Get External Data, and Link Tables. This opens the Link find window. Select the file with which you are linking.
2. Click on the **Link** button. The Link Tables window opens.
3. Select the table(s) to be linked to your database and click on **OK** or click on the **Select All** button to select all of the tables.
4. The Link Tables window closes and you are returned to the original database.
5. At the Tables button, the linked table is now listed and designated by an arrow on the left edge of the Tables sheet.

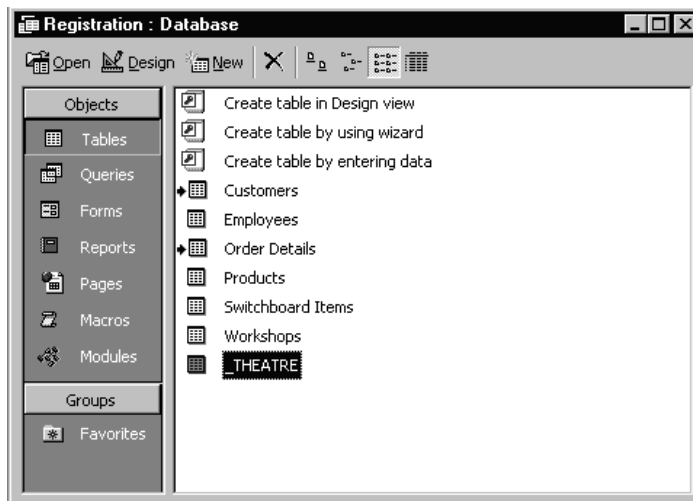
EXERCISE – LINKING TO AN EXTERNAL TABLE

We are going to link two tables in the Northwind database to our Registration database.

1. From the menu bar, select File, Get External Data, and Link Tables. The Link find window opens.
2. Select the Northwind database and click **Link**.



3. From the Link Tables window, select Customers and click on Order Details to select it also. Click **OK**.
4. The Link Tables window closes and the new tables are added at the Registration database Tables button. Arrows at the left edge of the tables designate the linked tables.



5. Click on the close button  to close Access.

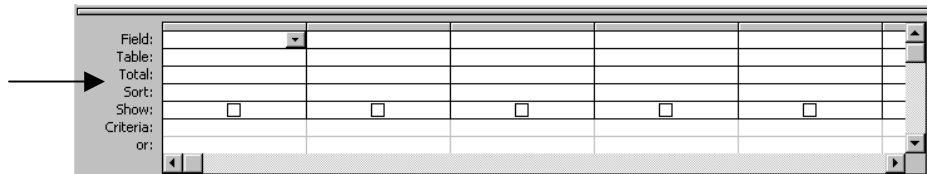
Appendices

Additional Features in Access

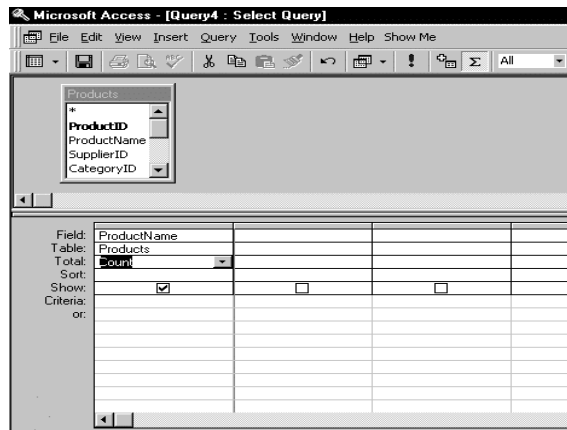
APPENDIX A – COUNTING RECORDS IN A QUERY IN ACCESS

You can add a field with a Count function to a query in Access. To use the Count function, your database should include at least 2 tables and they must be related. To create a field to count records, you must create or edit a query in design view.

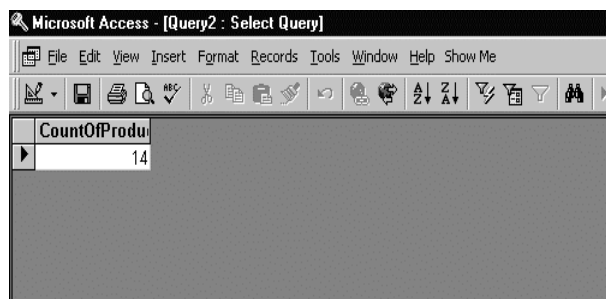
1. Open a query in Design View.
2. Select the table(s) the query will be based on and select the field(s) to be used in the query in the order you want them to display.
3. Click on the Totals button  on the toolbar. In the Criteria grid, a Total row is inserted above the Sort row.



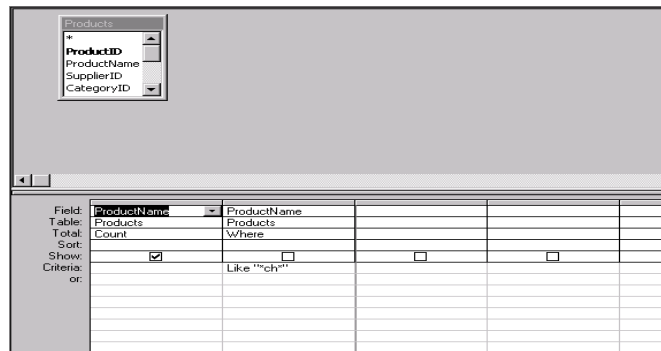
4. Place the cursor in the Total row of the field to be counted. Click on the down arrow  and select Count.



5. Click on the View button  to see the count of records.



6. To add criteria for a count, you must add the field that is being counted twice in the Criteria grid.
7. Place the cursor in the Total row of the first occurrence of the field to be counted. Click on the down arrow  and select Count.
8. Place the cursor in the Total row of the second occurrence of the field to be counted. Click on the down arrow  and select Where.
9. Place the cursor in the Criteria row of the second occurrence of the field and enter the criteria.



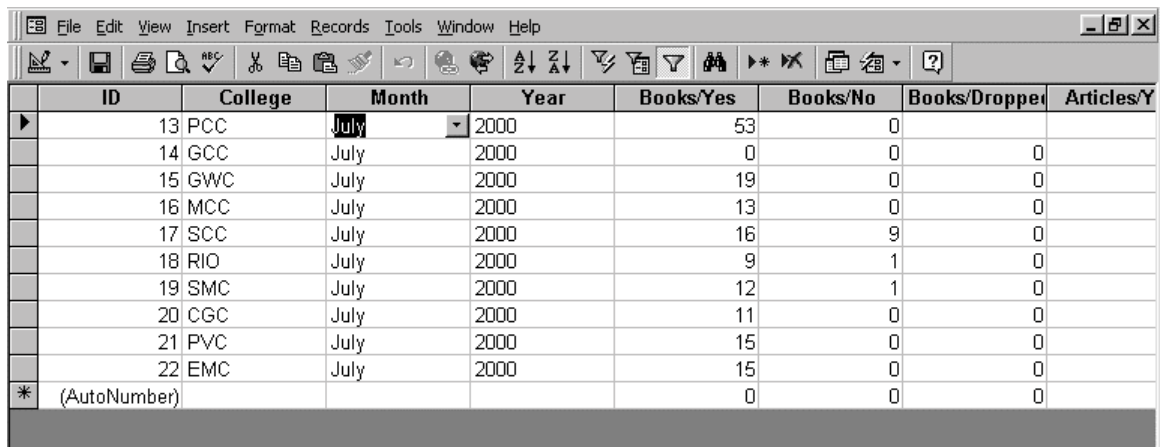
Field	ProductName	ProductName			
Table:	Products	Products			
Total:	Count	Where			
Sort:					
Show:	☒	☐	☐	☐	
Criteria:		Like "ch"			
or					

10. Click on the View button  to see the count of records.
11. Click on the Save button  to save the query.
12. Enter a name in the Query Name field and click **OK**.

APPENDIX B - CREATE A QUERY IN ACCESS TO TOTAL NUMBERS IN FIELDS

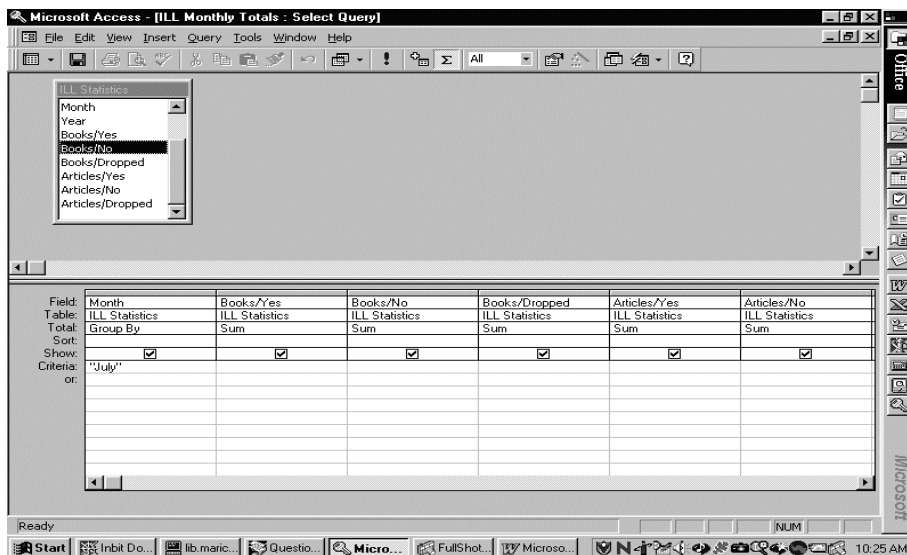
It is possible to create a query in Access that will compute a total for fields with a data type of Number or Currency.

1. Create or open a query in Design View.
2. Select the field(s) that hold the data to be computed. The Field(s) must have a data type of Number or Currency for the calculations to work.



ID	College	Month	Year	Books/Yes	Books/No	Books/Dropped	Articles/Yes
13	PCC	July	2000	53	0	0	0
14	GCC	July	2000	0	0	0	0
15	GWC	July	2000	19	0	0	0
16	MCC	July	2000	13	0	0	0
17	SCC	July	2000	16	9	0	0
18	RIO	July	2000	9	1	0	0
19	SMC	July	2000	12	1	0	0
20	CGC	July	2000	11	0	0	0
21	PVC	July	2000	15	0	0	0
22	EMC	July	2000	15	0	0	0
*(AutoNumber)				0	0	0	0

3. Click on the Totals button  on the toolbar. A Total row is added above the Sort row in the Query grid part of the Query window. The default value for this row is Group By.



4. Click in the Total row of the column(s) for which you want to calculate totals. Click on the down arrow  and select Sum.
5. Click on the Save button  on the toolbar to save the query.
6. Click on the View button  on the toolbar to view the query results.

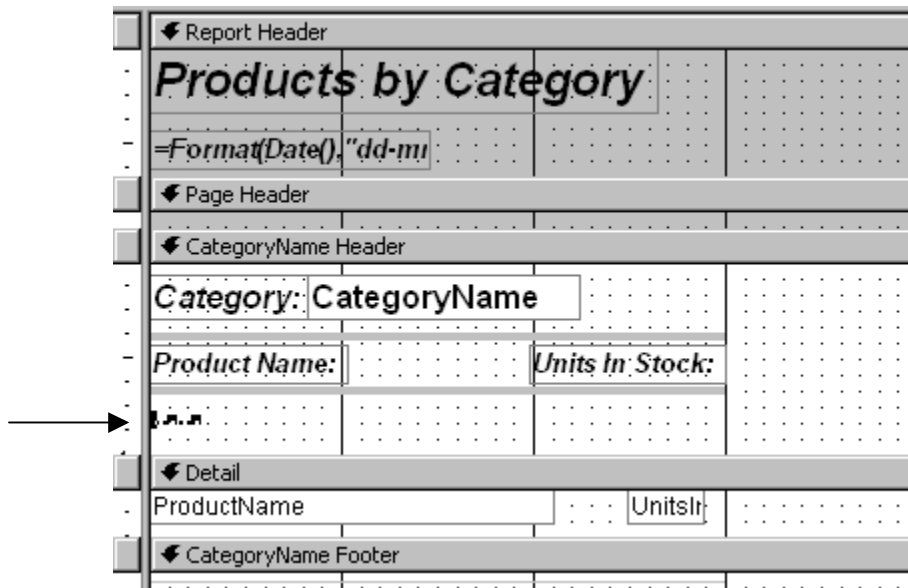
File Edit View Insert Format Records Tools Window Help                    						
Month	SumOfBooks/Yes	SumOfBooks/No	SumOfBooks/Dropped	SumOfArticles/Yes	SumOfArticles/No	Su
July	163	11	0	16	3	

7. Click on the Close button  on the toolbar to close the query window.

APPENDIX C - ADDING A PAGEBREAK TO A REPORT IN ACCESS

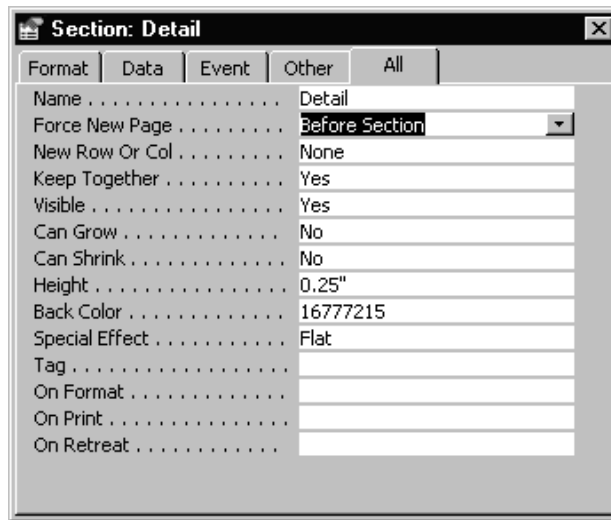
To add a pagebreak to a report:

1. Create a report and open it in Design View.
2. If not already open, open the toolbox by clicking on the Toolbox button  on the toolbar.
3. Click on the Page Break button  in the toolbox.
4. Click on the report where you want the page break inserted. The page break is indicated by a short, broken line along the left edge of the report.



There is another way to create a break in a report. You can create breaks so that each record, group of records or section will start on a new page.

1. Create a report and open it in Design View.
2. Double-click the section selector (the gray bar that divides the sections) of the section where you want the break. This opens the Properties box.



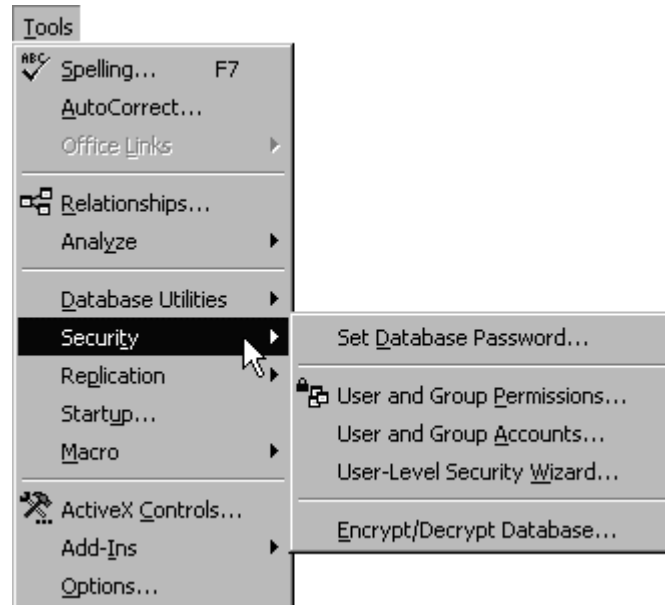
3. Click on the All tab and click in the **ForceNewPage** field.
4. Click on the down arrow  and select from these options:
 - None:** This is the default. Does not create a section break
 - Before Section:** Prints the section on a new page
 - After Section:** Prints the next (following) section on a new page
 - Before & After:** Prints the section on a new page and prints the following section on a new page

To print each record on a separate sheet: double-click the section selector of the Detail section and set the **ForceNewPage** property to **After Section**.

To print each group on a separate sheet: double-click the section selector of the Group Header section and set the **ForceNewPage** property to **Before Section**.

APPENDIX D - SECURITY OPTIONS IN ACCESS

There are several security options in Access. These are listed under the **Tools** menu in the **Security** option.



The security options are listed out of order! Before you can set a password or assign permissions, user and group accounts must be set up first.

The User-Level Security Wizard may be your best bet since it walks you through all the options.

For more information regarding security issues, please refer to the Access Online Help, F1.

Following are the screen prints for these options – in the order they *should* be!

User and Group Accounts:



Following are the help screens from the Microsoft Access Online Help regarding setting up user groups.

Create a security user account

To complete this procedure, you must be logged on as a member of the [Admins group](#).

1. Start Microsoft Access by using the workgroup in which you want to use the account.

Important The accounts you create for users must be stored in the [workgroup information file](#) that those users will use. If you're using a different workgroup to create the database, change your workgroup before creating the accounts.

2. Open a database.
3. On the **Tools** menu, point to **Security**, and then click **User And Group Accounts**.
4. On the **Users** tab, click **New**.
5. In the **New User/Group** dialog box, type the name of the new account and a [personal ID \(PID\)](#), and then click **OK** to create the new account, which is automatically added to the [Users group](#).

User names can range from 1 to 20 characters, and can include alphabetic characters, accented characters, numbers, spaces, and symbols, with the following exceptions:

- The characters " \ [] : | < > + = ; , . ? *
- Leading spaces
- Control characters (ASCII 10 through ASCII 31)

Caution Be sure to write down the exact account name and PID, including whether letters are uppercase or lowercase, and keep them in a secure place. If you ever have to re-create an account that has been deleted or created in a different workgroup, you must supply the same name and PID entries. If you forget or lose these entries, you can't recover them.

Notes

- The PID entered in step 5 is not a password. Microsoft Access uses the PID and the user name as seeds for an encryption algorithm to generate a secure identifier for the user account.
- It is usually easier to manage security if you organize users into groups, and then assign permissions to groups rather than to individual users.

Create a security group account

As part of securing a database, you can create [group accounts](#) in your Microsoft Access [workgroup](#) that you use to assign a common set of [permissions](#) to multiple users.

To complete this procedure, you must be logged on as a member of the [Admins group](#).

1. Start Microsoft Access by using the workgroup in which you want to use the account.

Important The accounts you create for users must be stored in the [workgroup information file](#) that those users will use. If you're using a different workgroup to create the database, change your workgroup before creating the accounts. You can change workgroups by using the Workgroup Administrator

2. Open a database.
3. On the **Tools** menu, point to **Security**, and then click **User And Group Accounts**.
4. On the **Groups** tab, click **New**.
5. In the **New User/Group** dialog box, type the name of the new account and a [personal ID \(PID\)](#).

Group names can range from 1 to 20 characters, and can include alphabetic characters, accented characters, numbers, spaces, and symbols, with the following exceptions:

- The characters " \ [] : | < > + = ; , . ? *
- Leading spaces
- Control characters (ASCII 10 through ASCII 31)

Caution Be sure to write down the exact account name and PID, including whether letters are uppercase or lowercase, and keep them in a secure place. If you have to re-create an account that has been deleted or created in a different workgroup, you must supply the same name and PID entries. If you forget or lose these entries, you can't recover them

6. Click **OK** to create the new group account.

User and Group Permissions:



Following is the help screen from the Microsoft Access Online Help regarding permission.

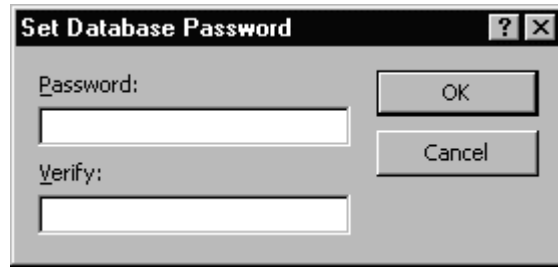
Assign or remove permissions for a database and existing tables, queries, forms, reports, and macros

1. Open the database that contains the tables, queries, forms, reports, and macros that you want to secure.
The [workgroup information file](#) in use when you log on must contain the user or group accounts that you want to assign permissions for at this time; however, you can assign permissions to groups and add users to those groups later.
2. On the Tools menu, click Security, and then click User And Group Permissions.
3. On the **Permissions** tab, click **Users** or **Groups**, and then click the user or group that has the permissions you want to assign in the **User/Group Name** box.
4. Click the type of object in the **Object Type** box, and then click the name of the object to assign permissions for in the **Object Name** box.
Tip You can select multiple objects in the **Object Name** box by dragging through the objects you want to select, or by holding down CTRL and clicking the objects you want.
5. Under **Permissions**, select the permissions you want to assign, or clear the permissions you want to remove for the group or user, and then click **Apply**. Repeat steps 4 and 5 to assign or remove permissions for additional objects for the current user or group.
6. Repeat steps 3 through 5 for any additional users or groups, and then click **OK** when you have finished.

Notes

- Some permissions automatically imply the selection of others. For example, the Modify Data permission for a table automatically implies the Read Data and Read Design permissions because you need these to modify the data in a table. Modify Design and Read Data imply Read Design. For macros, Read Design implies Open/Run.
- When you edit an object and save it, it retains its assigned permissions. However, if an object is saved with a new name by using the **Save As** command on the **File** menu, or by cutting and pasting, importing, or exporting the object, the associated permissions are lost, and you have to reassign them. This is because you are creating a new object that is assigned the default permissions defined for that object type.
- Hidden objects aren't displayed in the **Object Name** box unless you select **Hidden objects** on the **View** tab of the **Options** dialog box (**Tools** menu).

Set Database Password:



A screenshot of a Windows-style dialog box titled "Set Database Password". The dialog box has a title bar with a question mark icon and a close button (X). Inside the dialog, there are two text input fields. The first field is labeled "Password:" and the second field is labeled "Verify:". To the right of the "Password:" field is an "OK" button, and to the right of the "Verify:" field is a "Cancel" button.

Following is the help screen from the Microsoft Access Online Help regarding setting up passwords.

About creating and changing passwords

This topic provides reference information about:

[Database passwords](#)

[Security account passwords](#)

[Visual Basic for Applications \(VBA\) passwords](#)

Database passwords

The first kind of password is called a "database password." If you set a database password, all users must enter that password before they are allowed to open the database. Adding a database password is an easy way to prevent unwanted users from opening your database; however, once a database is open, no other security measures are provided unless user-level security has been defined as well. If you have user-level security defined for your database, you can prevent users from setting a database password.

Security account passwords

The second kind of password is called a "security account password" and is only used when [user-level security](#) has been defined for a [workgroup](#). A security account password is created to make sure that no other user can log on using that user name.

By default, Microsoft Access assigns a blank password to the default [Admin user account](#) and to any new user accounts that you create in your workgroup. As part of securing a database, it's important to add a password to:

- The Admin user account (to activate the **Logon** dialog box).
- The user account that owns the database and its tables, queries, forms, reports, and macros.
- Any user accounts that you add to the [Admins group](#).

In addition, you might want to add passwords to the accounts you create for users, or instruct users to add their own passwords.

Users can create or change their own user account passwords; however, only an administrator account can clear a password if a user forgets the password.

Visual Basic for Applications (VBA) passwords

The third kind of password is called a Visual Basic for Applications (VBA) password. You use this password once per session to protect VBA code in modules and modules behind forms and reports. This password prevents unauthorized users from editing, cutting, pasting, copying, exporting, and deleting VBA code.

Hide objects in the Database window

1. In the [Database window](#), click the object you want to hide.
2. Click **Properties**  on the toolbar.
3. Click **Hidden**, and then click **OK**.

Notes

- To show all hidden objects, click **Options** on the **Tools** menu, click the **View** tab, and then select the **Hidden Objects** check box. The icons for hidden objects will be displayed with a dimmed outline. You can then repeat the steps, but in step 3 clear **Hidden**, to unhide the objects.
- In a [Microsoft Access project](#), you cannot hide tables, views, database diagrams, or stored procedures.

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