

Intermediate Microsoft Access

Quick Reference Guide

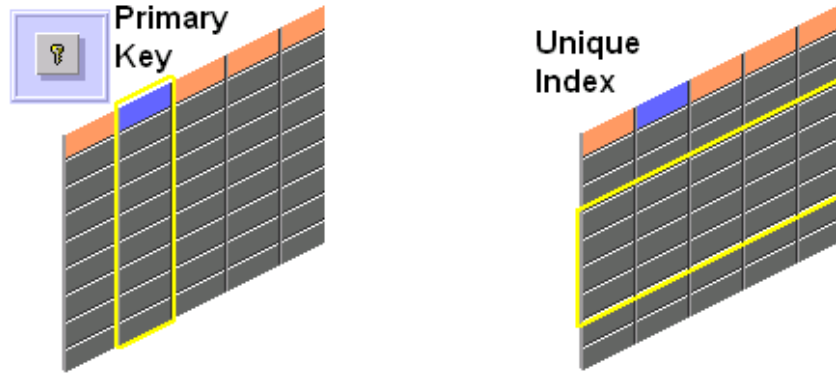
image **Page** **Design**

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Access Tables

Relationships Between Tables

One-to-Many



A one-to-many relationship is the most common type of relationship. It is created if one of the related fields either is a primary key or has a unique index.

The screenshot shows two tables in Microsoft Access:

- Suppliers : Table**

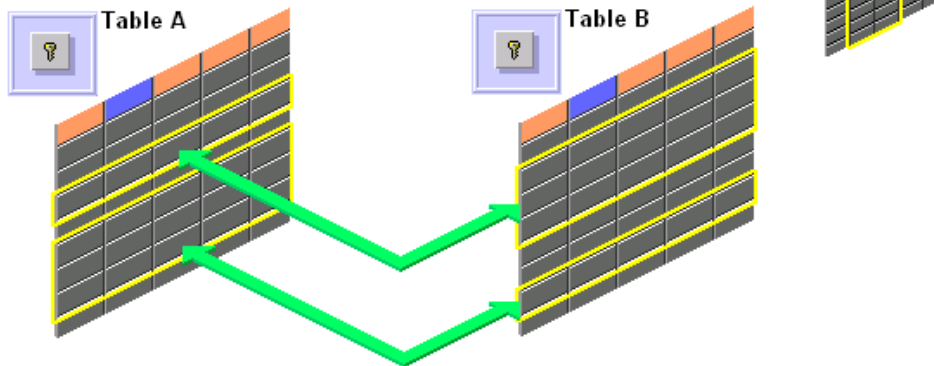
SupplierID	SupplierName	ContactName
1	ABC Books	Debbie Howe
2	EarthenWares	Tom Wilkins
3	NS Toys	Ken Burton
4	Perfect Watch Co.	Larry Williams
- Products : Table**

ProductID	ProductName	UnitsInStock	SupplierID
1	Pens	250	1
2	Pencils	200	1
3	Erasers	150	1
4	Spoons	50	2
5	Cups	48	2

Green arrows indicate the relationship: one arrow points from the 'SupplierID' column in the Products table to the 'SupplierID' column in the Suppliers table, and another arrow points from the 'SupplierID' column in the Suppliers table to the 'SupplierID' column in the Products table. Text annotations state: 'One supplier can supply more than one product.' and 'Each product has only one supplier.'

Many-to-Many

Junction Table



In a many-to-many relationship, a record in Table A has many matching records in Table B and a record in Table B has many matching records in Table A. This type of a relationship is possible only by defining a third table, called a junction table, whose primary key is a combination of the primary keys of Tables A and B.

Primary Key From Orders

↑

Primary Key From Products

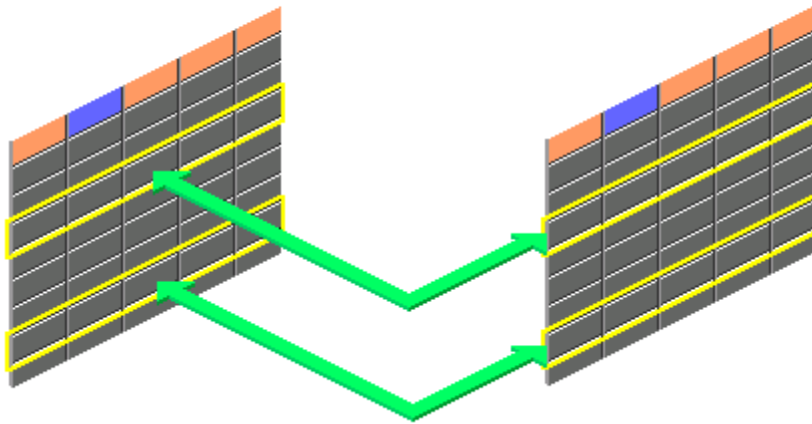
↑

Orders : Table		
OrderID	CustomerID	EmployeeID
10000	F001	6
10001	M882	8
10002	F002	3
0		0

Order Details : Table		
Order ID	ProductID	UnitPrice
10001	25	\$14.00
10001	40	\$9.80
10001	59	\$12.80
10002	25	\$10.60
0	0	\$0.00

Products : Table		
ProductID	ProductName	UnitsInStock
25	Baseball Gloves	15
26	Pearl Necklace	10
0		0

One-to-One



A one-to-one relationship is not common because most information related in this way can be available within a single table. You can use a one-to-one relationship to divide a table with many fields, isolate a part of the table for security reasons or to store information that applies only to a subset of the main table.

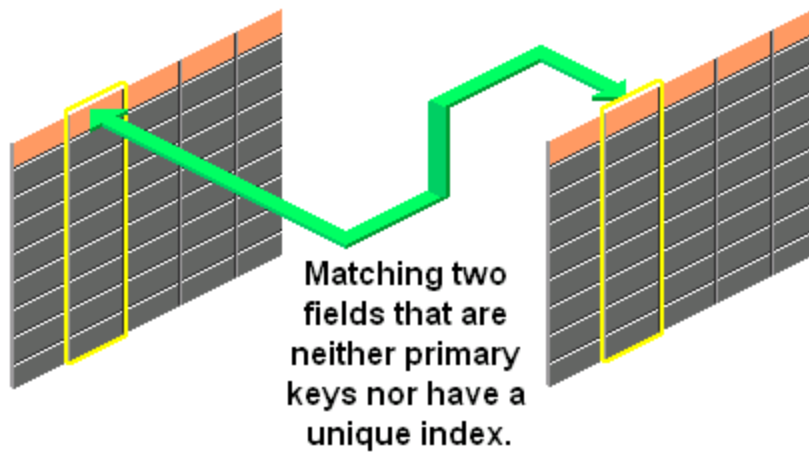
Each soccer player has one matching record in the Employees table.

EmployeeID	EmployeeName
1	Susan Ward
2	Jim Lewis
3	Steve Baker
4	Tom Wilkins
5	Larry Williams
(AutoNumber)	

EmployeeID	Player Nickname	Skill Level
1	Speedy	1
4	Doc	1
5	Willy	2
0		

This set of values is a subset of the EmployeeID values in the Employees table.

Indeterminate



An indeterminate relationship is created if a field that is not a primary key and does not have a unique index is matched with a field from another table that is not a primary key and does not have a unique index. In an indeterminate relationship, there is not any assurance that records are unique in either table.

Relationships: Creating

Click on the Tools menu title.

Click on the Relationships command.

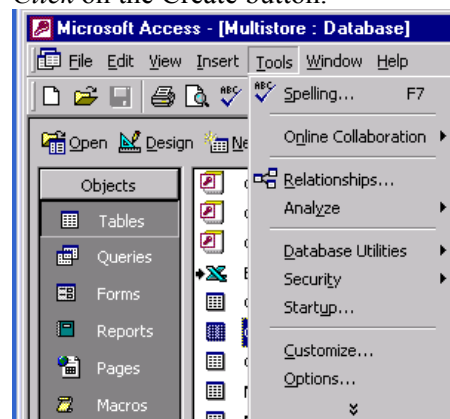
Double-click on the table name.

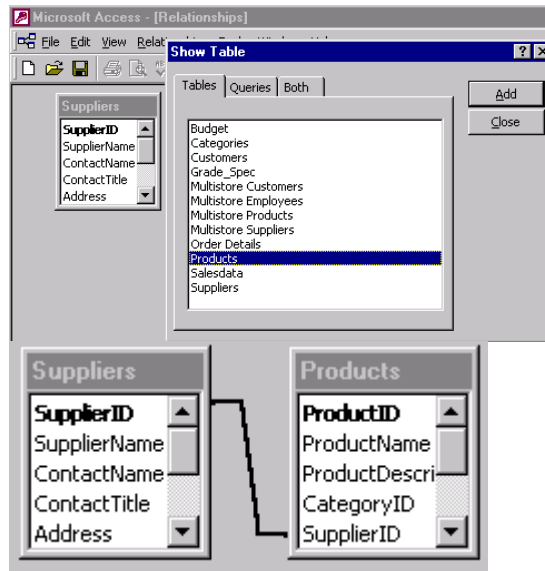
Double-click on another the table name.

Click on the Close button.

Click on a field from a table and hold the left mouse button down. While holding the mouse button down, drag the field from the table to another field in another table and release the mouse button.

Click on the Create button.





Referential Integrity: Enforcing

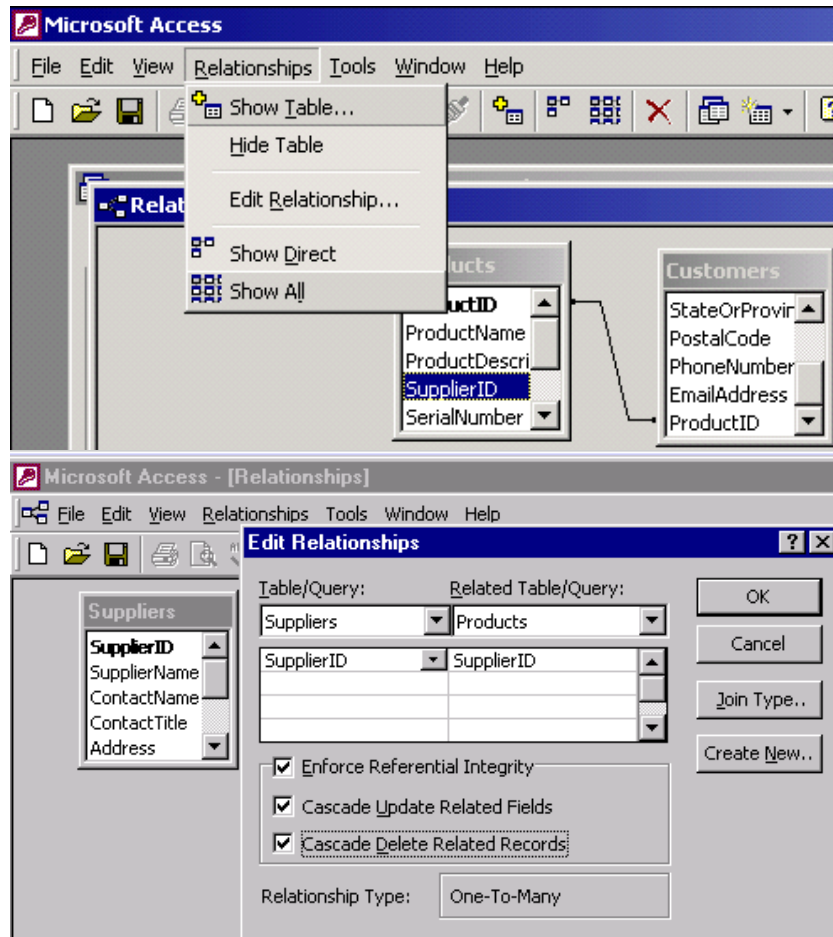
Conditions for Enforcing Referential Integrity

- The matching field from the primary table should be a primary key or should have a unique index.
- The related fields should have the same data type, but there are two exceptions to the condition.
- Both the tables should belong to the same Microsoft Access database.

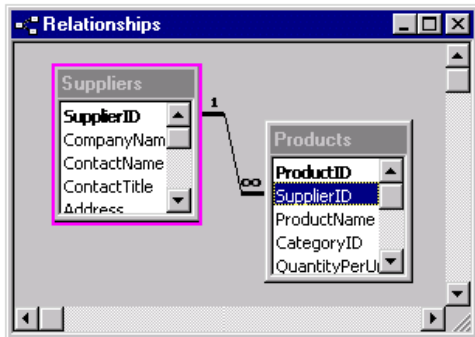
Implications of Enforcing Referential Integrity

- You cannot enter a value that does not exist in the primary key of the primary table into the foreign key field of the related table.
- You cannot delete a record from a primary table if matching records exist in a related table.
- You cannot change a primary key value in the primary table if it has related records.

*Click on the Enforce Referential Integrity check box.
 Click on the Cascade Update Related Fields check box.
 Click on the Cascade Delete Related Records check box.
 Click on OK.*



Related Records: Subdatasheet

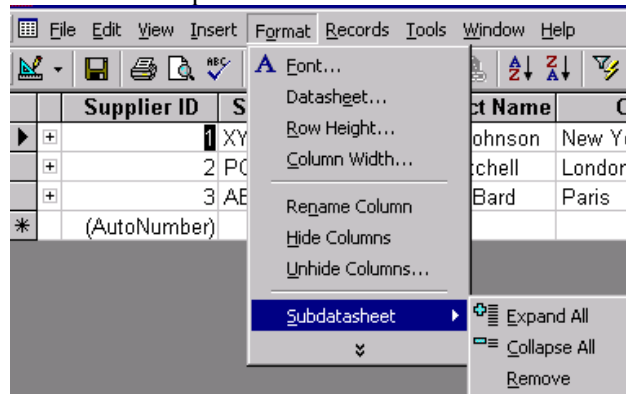


To display the subdatasheet for a single record:

Click on the expand indicator (+) for a record in the Datasheet view.

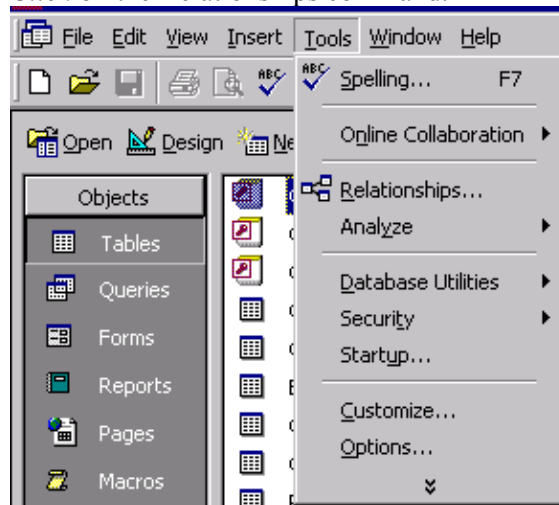
	Supplier ID	Supplier Name	Contact Name	City
+	1	XYZ Inc.	David Johnson	New York
+	2	PQR Corp.	Lee Mitchell	London
-	3	ABC Corp.	Donna Bard	Paris
		Product ID	Product Name	Units In Stock
		5	Bright Ties	45
			Unit Price	\$15.00
*	(AutoNumber)			
*	(AutoNumber)			

To display the subdatasheet for all the records:
Click on the Format menu title.
Place the mouse pointer on the Subdatasheet command.
Click on the Expand All command.

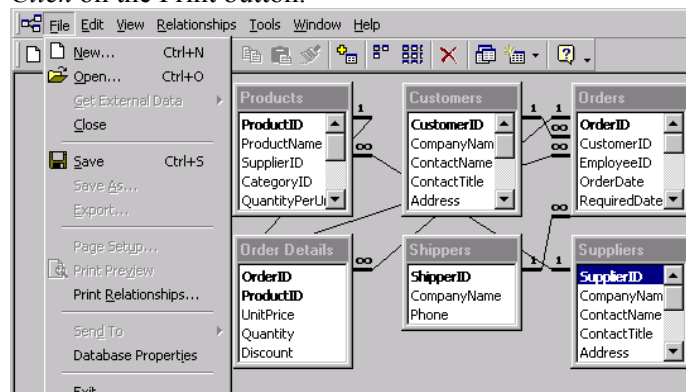


Relationships: Printing

Click on the Tools menu title.
Click on the Relationships command.



Click on the File menu title.
Click on the Print Relationships command.
Click on the Print button.

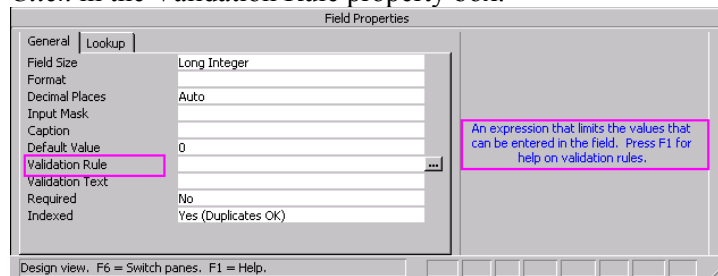


Data Integrity: Maintaining

Data Integrity: Validation Rule

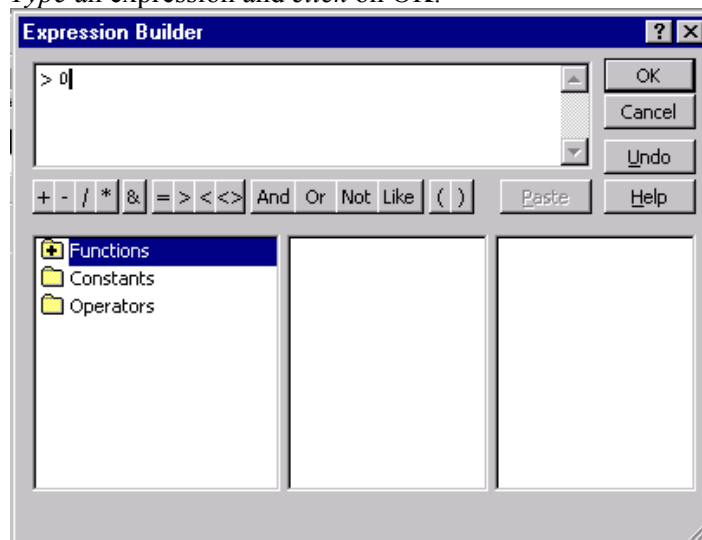
Click on the row selector of a field.

Click in the Validation Rule property box.



Click on the Build button.

Type an expression and click on OK.



Click on the Save button.

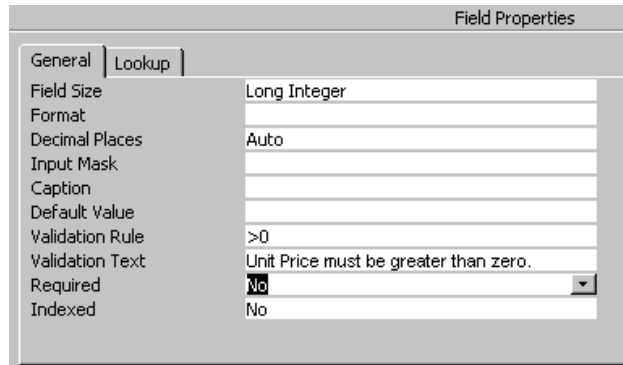
Click on the Yes button.

Data Integrity: Validation Text

Click on the row selector of a field.

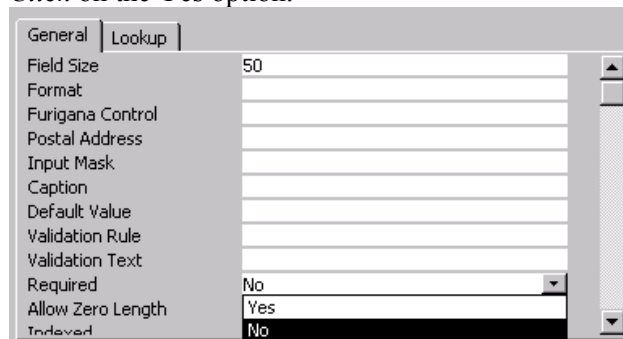
Click in the Validation Text property box.

Type a message and press Enter.



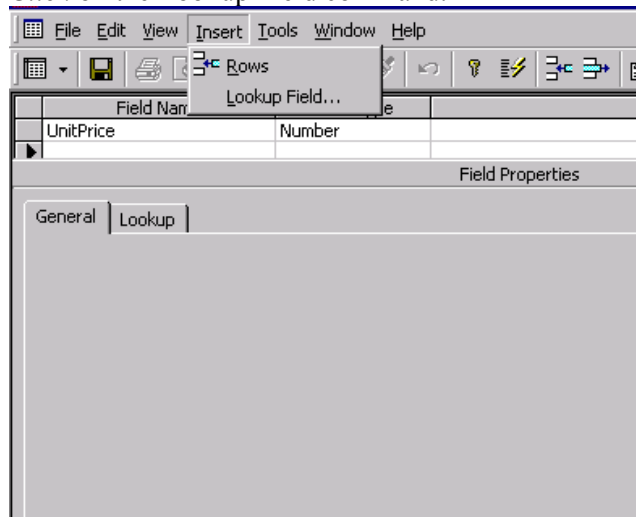
Data Integrity: Required Property

- Click on the row selector of a field.*
- Click in the Required property box.*
- Click on the Required drop-down list button.*
- Click on the Yes option.*

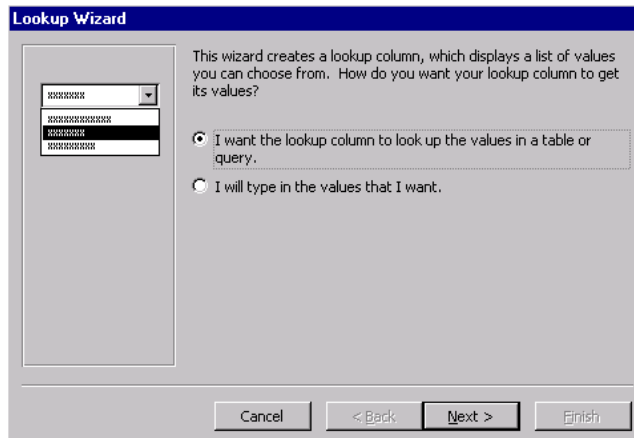


Data Integrity: Lookup Field

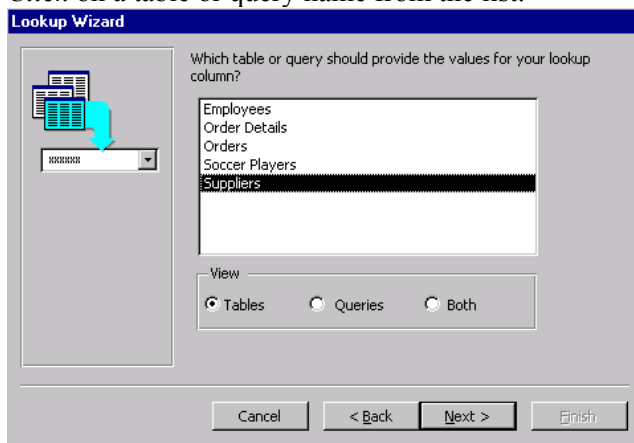
- Create a lookup field that uses the values from an existing table or query:*
- Click on the Insert menu title.*
- Click on the Lookup Field command.*



- Click on the Next button.*

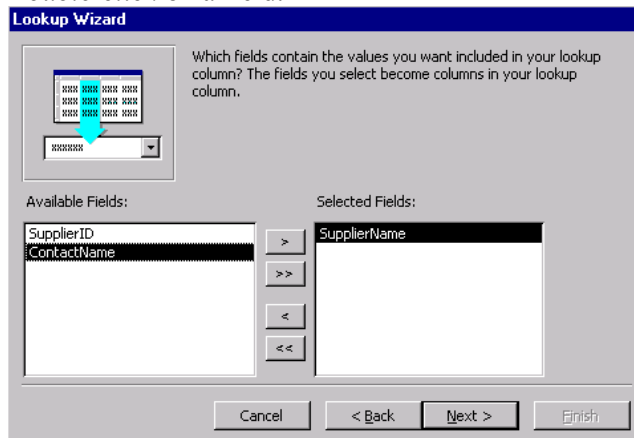


Click on a table or query name from the list.



Click on the Next button.

Double-click on a field.



Click on the Next button.

Lookup Wizard

How wide would you like the columns in your lookup column?

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.

Hide key column (recommended)

SupplierName
ABC Books
EarthenWares
NS Toys
Perfect Watch Co.

Cancel < Back Next > Finish

Click on the Next button.

Type a lookup field name and click on the Finish button.

Lookup Wizard

What label would you like for your lookup column?

Field1

Those are all the answers the wizard needs to create your lookup column.

Display Help on customizing the lookup column.

Cancel < Back Next > Finish

Lookup Wizard

 The table must be saved before relationships can be created. Save now?

Yes No

Click on the Yes button.

Create a lookup field that uses the values typed using the wizard:

Click on the I will type in the values I want radio button.

Click on the Next button.

Press the Tab key.

Type a value and press Tab.

Type the last value and click on the Next button.

Type a lookup field name and click on the Finish button.

Modifying Tables

Input Mask: Modifying

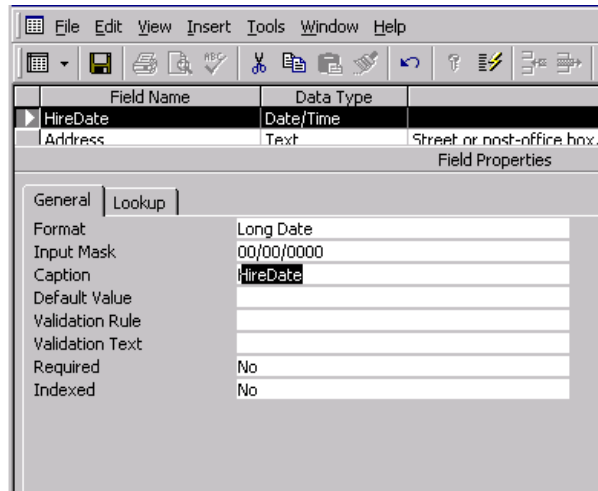
Click on the row selector of a field.

Press the Tab key.

Type an input mask and *press* Enter.

Click on the Save button.

Click on the Yes button.



Lookup Field: Modifying

Click on the Design button.

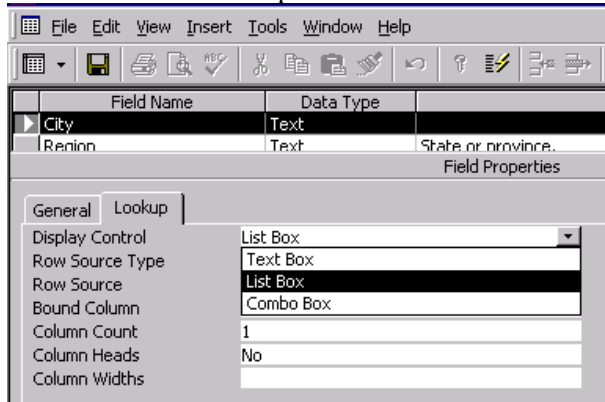
Click on the row selector of a field.

Click on the Lookup tab.

Click in the Display Control property box.

Click on the Display Control drop-down list button.

Click on Combo Box option.

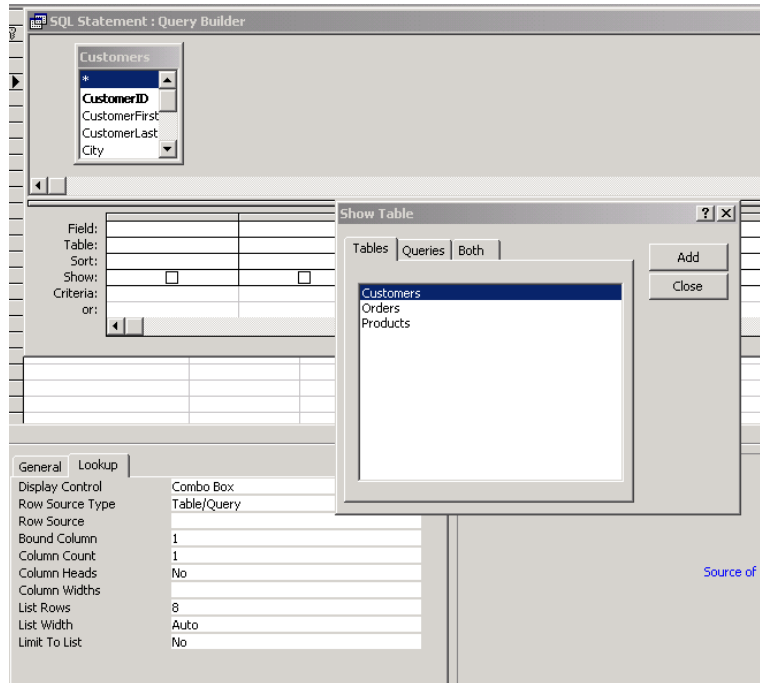


Click in the Row Source Type property box.

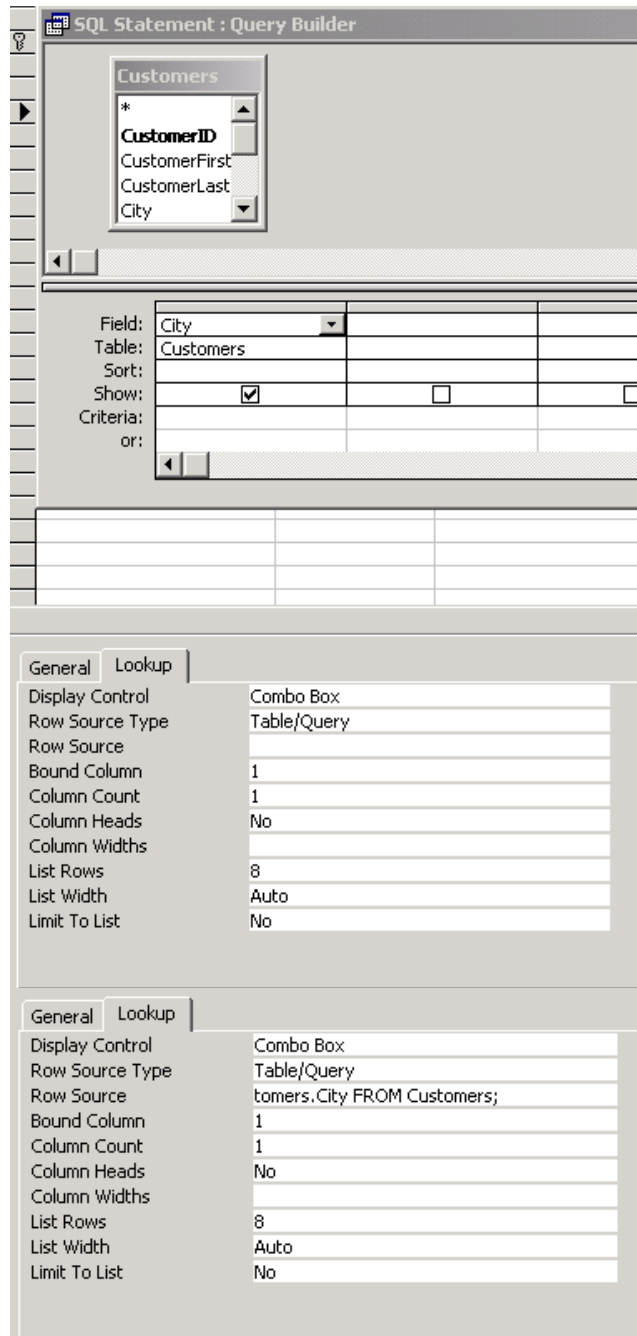
Click on the Row Source Type drop-down list button.

Click on the Table/Query option.

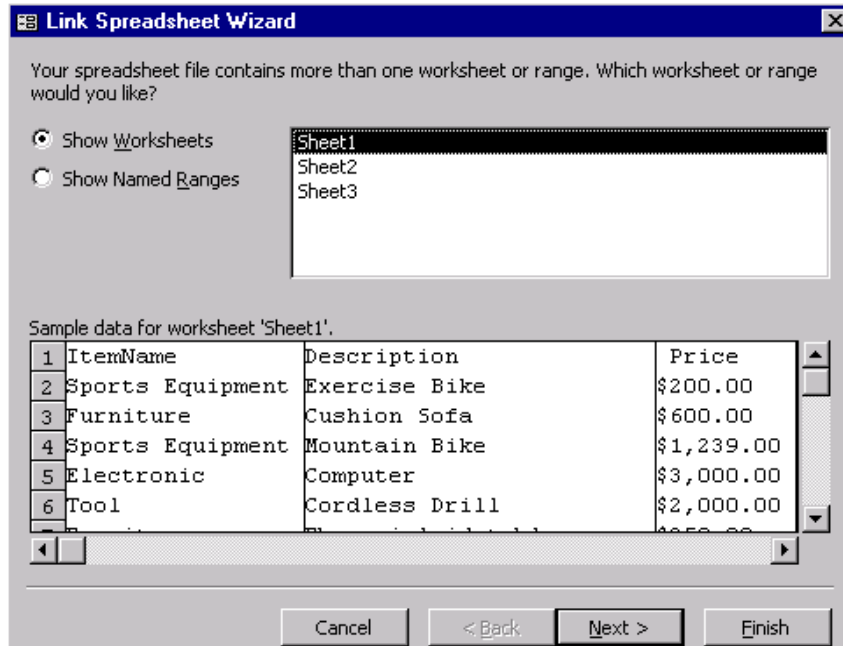
Click in the Row Source property box.



*Click on the Build button.
Double-click on the table.*



*Click on the Close button.
Double-click on a field.*



Follow the "Wizard"

Click on the Next button.

Click on the Next button.

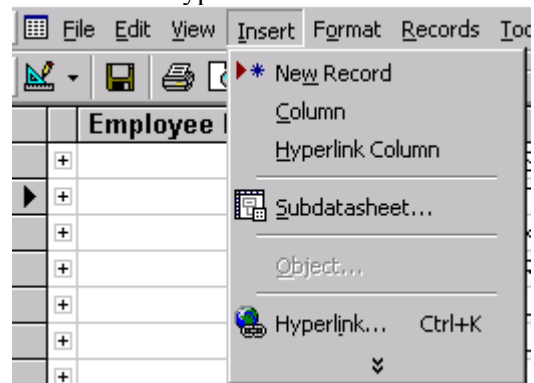
Type a table name and click on the Finish button.

Click on OK.

Hyperlinks: Adding

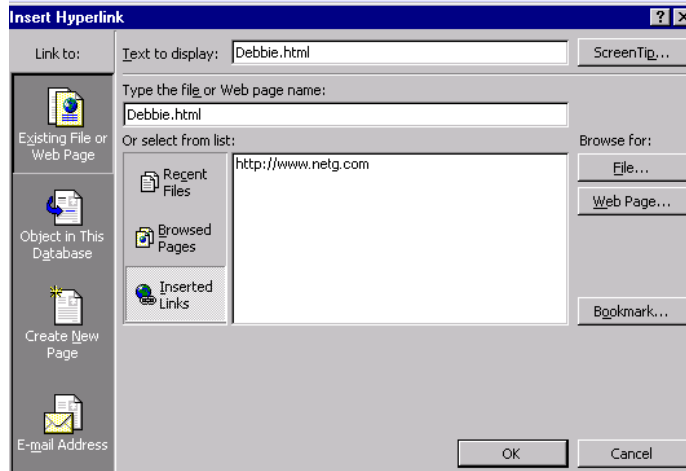
Click on the Insert menu title.

Click on the Hyperlink command.



Click on the File button.

Double-click on a file.



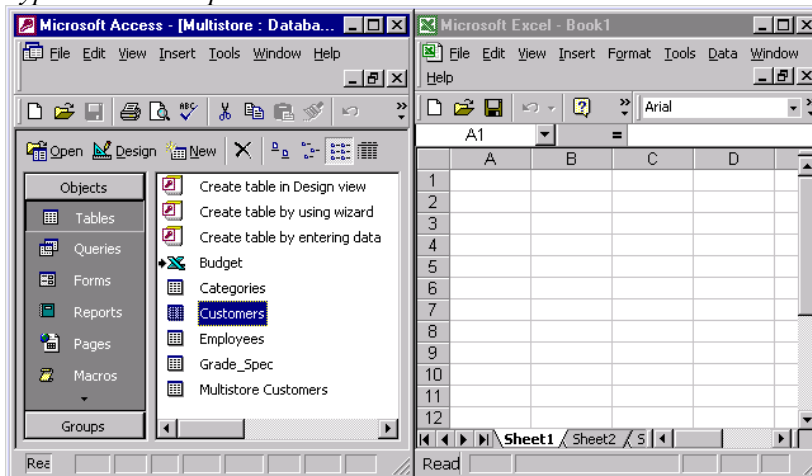
Click on OK.

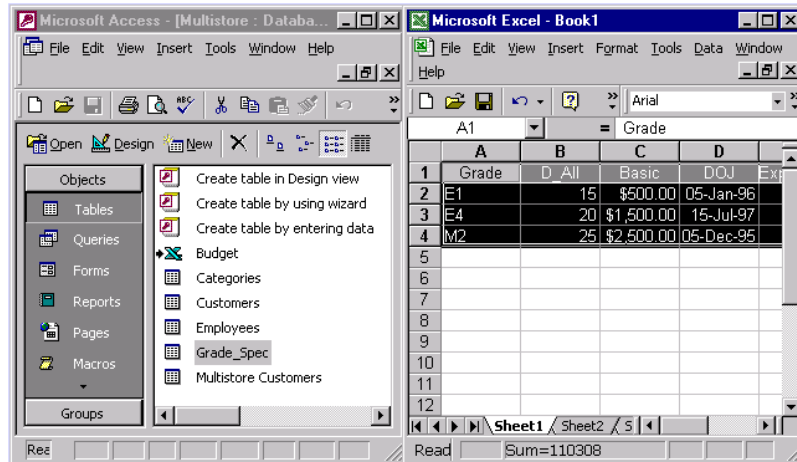
Copying Database Objects to Excel

Click on a database object and hold the mouse button down. While holding the mouse button down, drag the selected object to a cell in the Excel spreadsheet and release the mouse button.

Click on the Save button.

Type a name and press Enter.





Exporting Database Objects to a Web Page

Click on a database object.

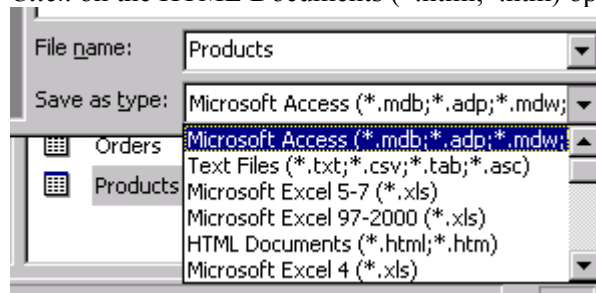
Click on the File menu title.

Click on the Export command.



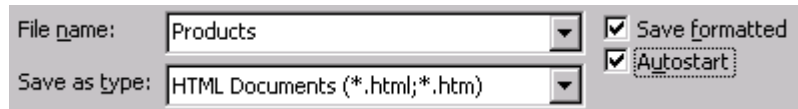
Click in the Save as type drop-down list box.

Click on the HTML Documents (*.html;*.htm) option.



Click on the Save formatted check box.

Click on the Autostart check box.

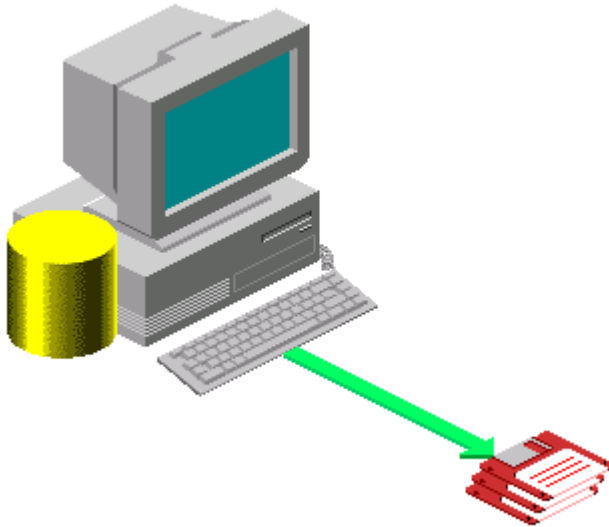


Click on the Save button.

Click on OK.

Database Administration

Database: Backing Up



Click go to the *.mdb file to back up

Click and drag the file to your backup disk as in A: or a ZIP disk

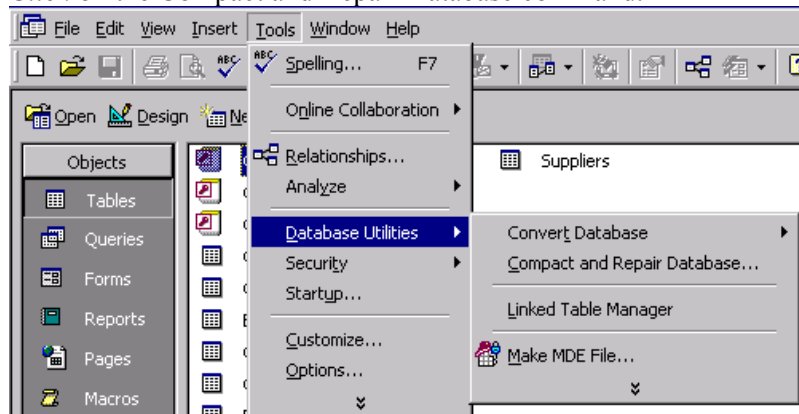
Place your back up in a safe place.

Database: Compacting

Click on the Tools menu title.

Place the mouse pointer on the Database Utilities command.

Click on the Compact and Repair Database command.



Database Conversion: Previous Version

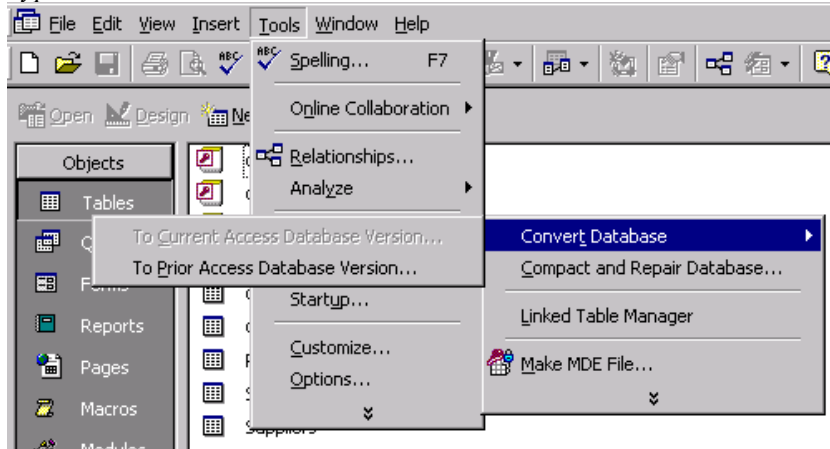
Click on the Tools menu title.

Place the mouse pointer on the Database Utilities command.

Place the mouse pointer on the Convert Database command.

Click on the To Prior Access Database Version command.

Type a name for the converted database and click on the Save button.



Access Forms

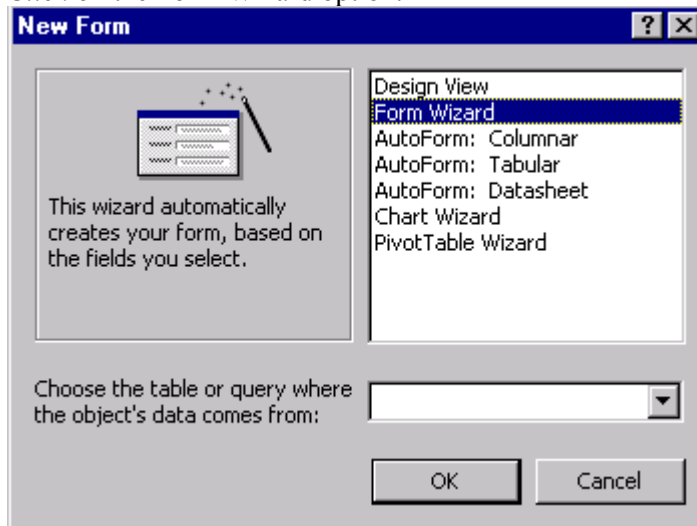
Forms: Creation

Form Creation: Form Wizard

Click on the Forms object.

Click on the New button.

Click on the Form Wizard option.



Click on OK.

Click on the drop-down list button of the Tables/Queries combo box.
 Click on a table or a query.
 Click on the Forward button with two greater than signs.
 Click on the Next button.
 Click on the Datasheet radio button or the Tabular radio button.
 Click on the Next button.
 Click on the Next button.
 Type a title for the form and click on the Finish button.

Forms: Adding Controls

Classification

Bound Control
 Is Tied to a Field in
 an Underlying Table
 or Query

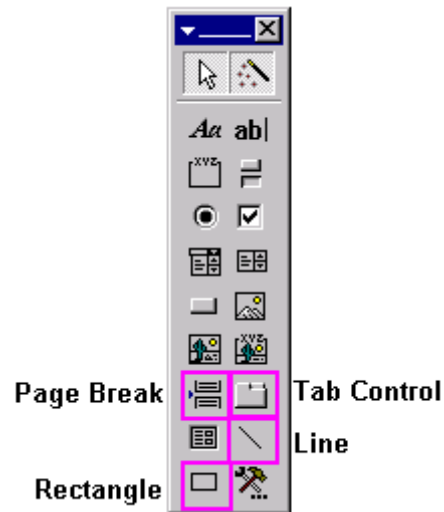
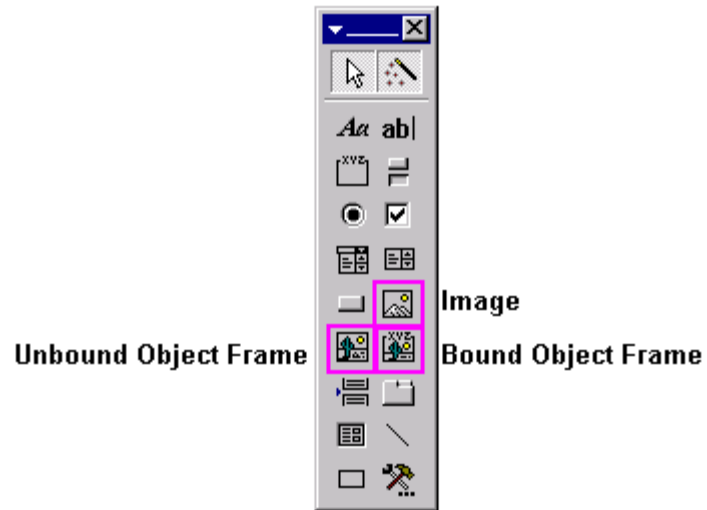
Unbound Control
 Does Not Have a
 Data Source

Calculated Control
 Uses an Expression
 as Its Source of Data



 A vertical task pane titled 'Add New Object' with a close button (X) in the top right corner. The icons are labeled as follows:

- Label: Aa ab|
- Text Box: Aa ab|
- Option Group: A square icon with a smaller square inside.
- Toggle Button: A square icon with a vertical line.
- Option Button: A circle icon with a dot in the center.
- Check Box: A square icon with a checkmark.
- Combo Box: A square icon with a list of items and a dropdown arrow.
- List Box: A square icon with a list of items.
- Command Button: A square icon with a shadow.
- Subform/Subreport: A square icon with a smaller square inside and a list of items.

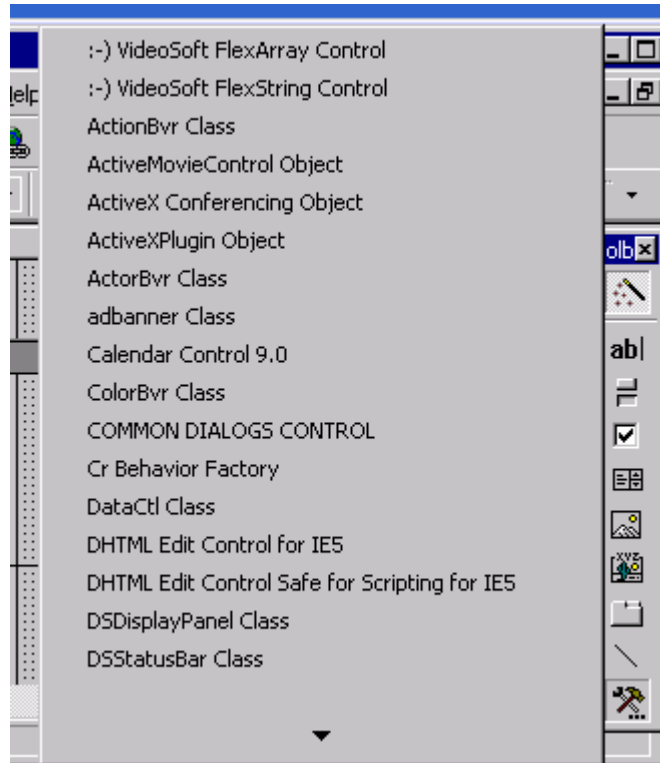


More Controls

- Click on the Toolbox button.*
- Click on the Command Button control button.*
- Click on the highlighted area of the form.*
- Click on the Form Operations option.*
- Click on the Print a Form option.*
- Click on the Next button.*
- Click on a form.*
- Click on the Next button.*
- Click on the Next button.*
- Type a name for the button and click on the Finish button.*

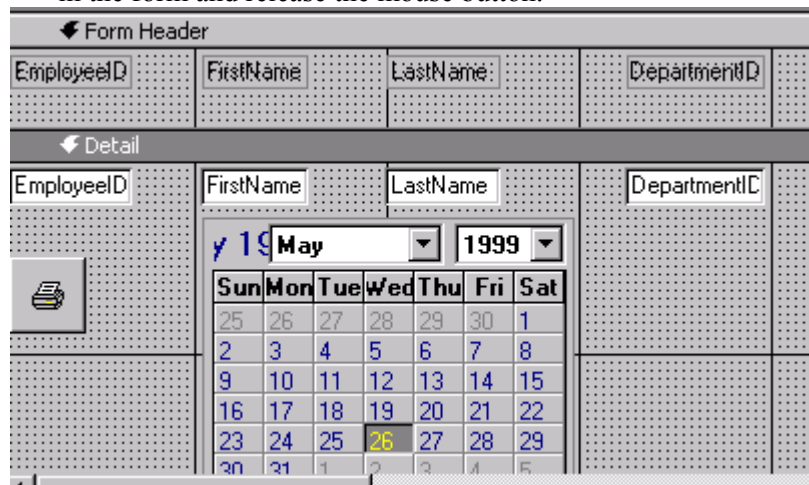
Click on OK.

Click on the More Controls button.



Click on the Calendar Control 9.0 command.

Click on an area in the form and hold the mouse button down. While holding the mouse button down, drag the mouse pointer to another area in the form and release the mouse button.

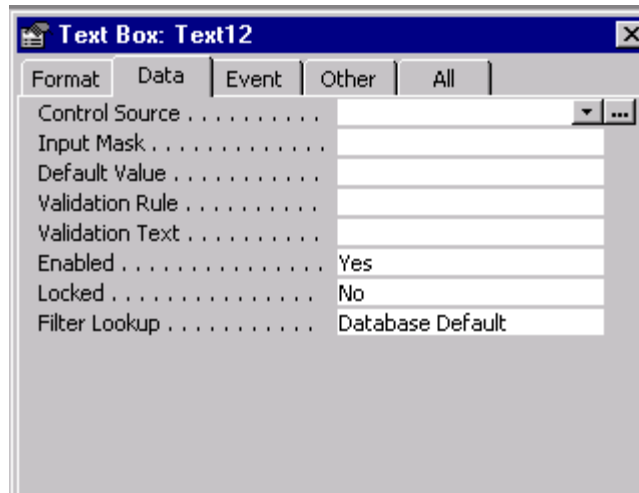


Click on the Unbound Object Frame control button.

Click on an area in the form and hold the mouse button down. While holding the mouse button down, drag the mouse pointer to another area in the form and release the mouse button.

Click on the Create from File radio button.

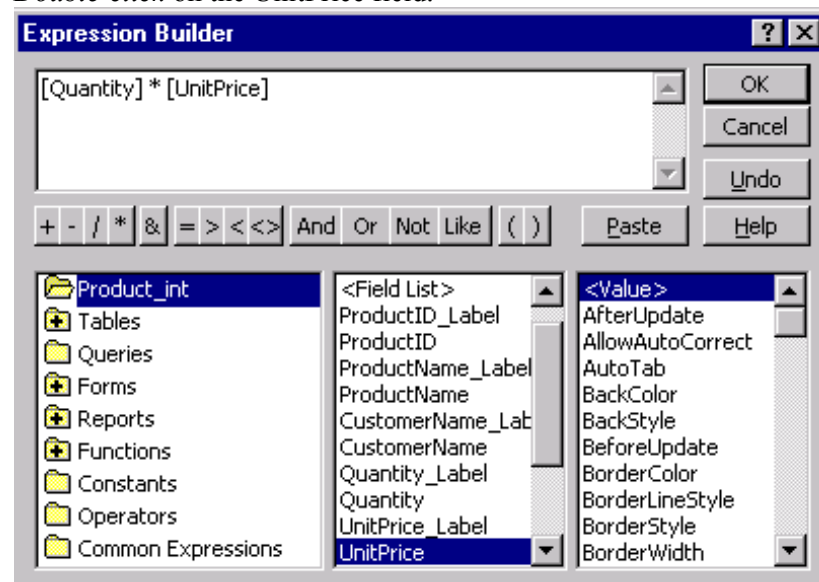
Click on the Browse button.



Double-click on the Quantity field.

Double-click on the multiplication operator () button.*

Double-click on the UnitPrice field.



Click on OK.

Click on the close button.

Form Controls: Formatting

Click on the control for a field or label.

Click on the Font drop-down list button.

Click on a font style.

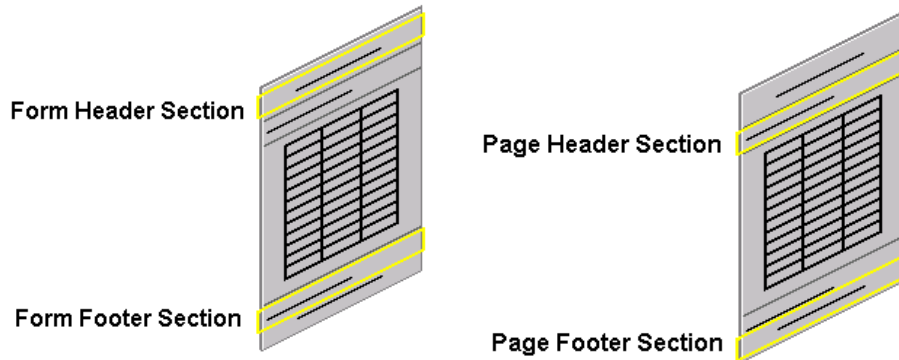
Click on the Font Size drop-down list button.

Click on a font size.

Click on the Font/Fore Color drop-down list button to change the font color of the control.

Click on the Fill/Back Color drop-down list button to change the background color of the control.

Forms: Sections and Records

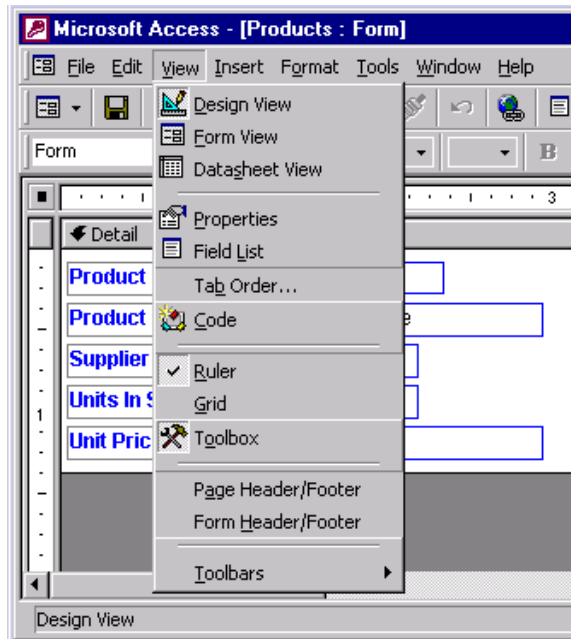


Form Sections: Adding

Click on the View menu title.

Place the mouse pointer on the Expand button.

Click on the Form Header/Footer command.



Click on the Label control button.

Click on an area in the form and hold the mouse button down. While holding the mouse button down, drag the mouse pointer to another area in the form and release the mouse button.

Type a name in the label and press Enter.

Click on the View menu title.

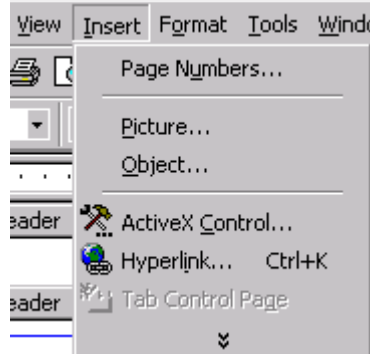
Place the mouse pointer on the Expand button.

Click on the Page Header/Footer command.

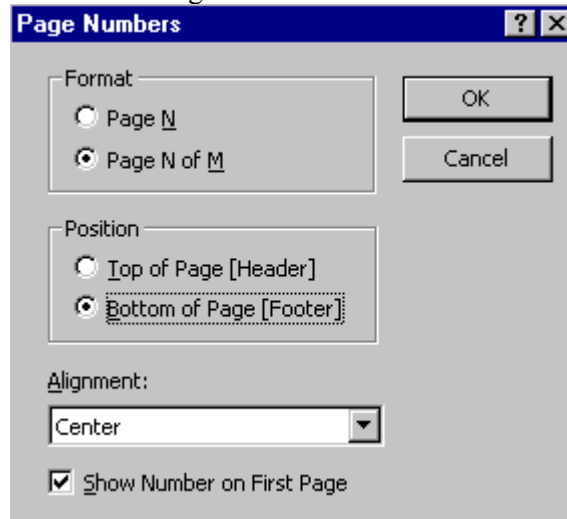
Click on the Line control button.

Click on an area in the form and hold the mouse button down. While holding the mouse button down, drag the mouse pointer to another area in the form and release the mouse button.

Click on the Insert menu title.
Click on the Page numbers command.



Click on the Page N of M radio button.



Click on the Bottom of Page [Footer] radio button.
Click on OK.

Forms: Adding Records

Click on the View menu title.
Click on the Form View command.
Click on the Insert menu title.
Click on the New Record command.
Type new details and click on the Save button.



Access Reports

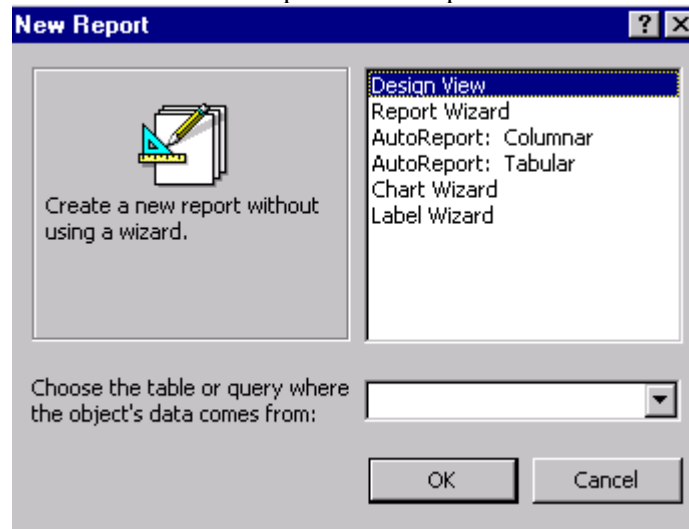
Reports: Basics

Report Creation: Report Wizard

Click on the Reports object.

Click on the New button.

Double-click on the Report Wizard option.



Click on the drop-down list button of the Tables/Queries combo box.

Click on a table or a query.

Click on the Forward button with one or two greater than signs.

Click on the Next button.

Double-click on a field.

Click on the Next button.

Click on the active drop-down list button.

Click on a field.

Click on the Next button.

Click on the Block radio button.

Click on the Next button.

Click on the Next button.

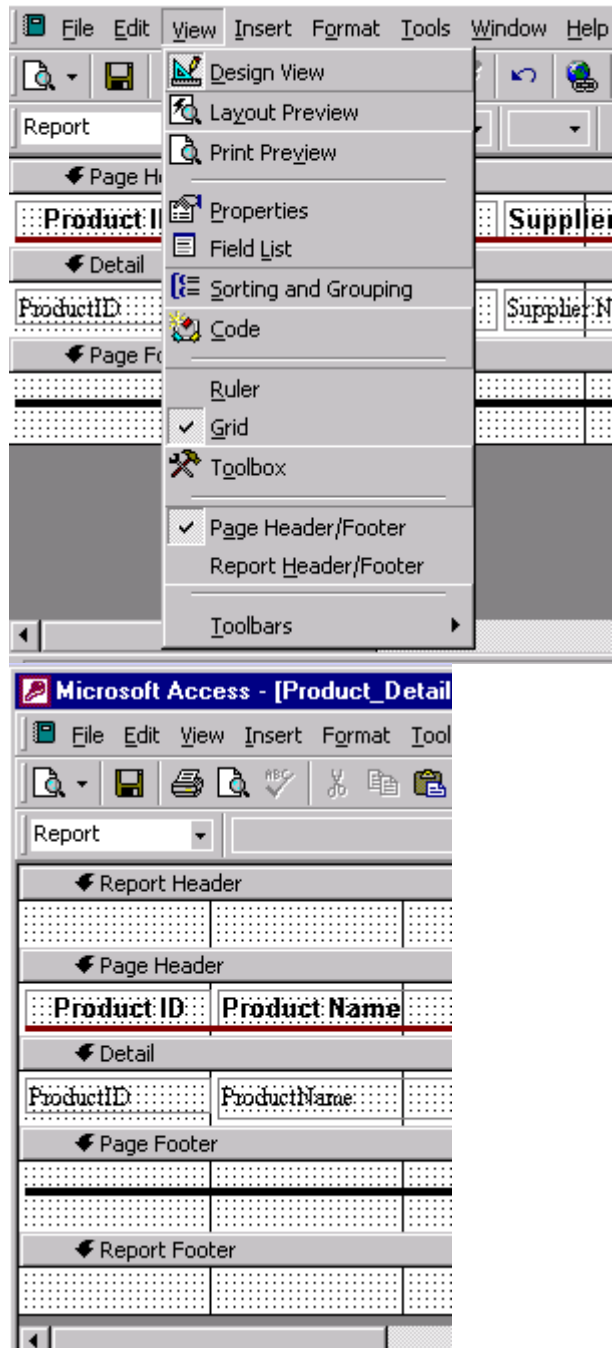
Type a title for the report and *click* on the Finish button.

Reports: Sections

Click on the View menu title.

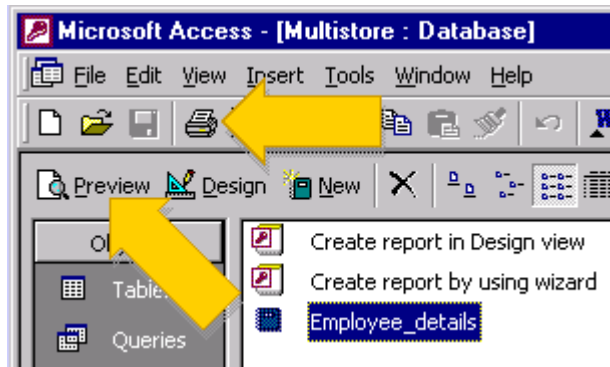
Place the mouse pointer on the Expand button.

Click on the Report Header/Footer command.

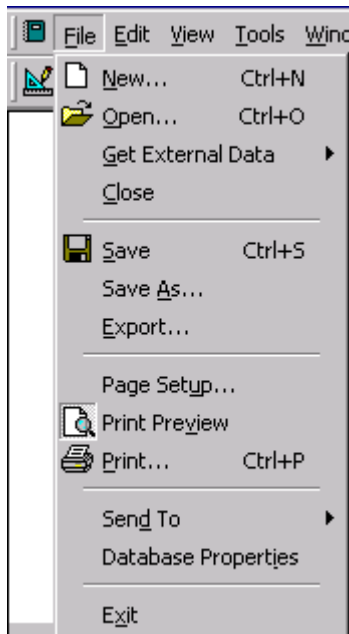


Printing a Report

- Click on a report.*
- Click on the Preview button*
- Click on the File menu title.*
- Click on the Print command.*
- Click on the Setup button.*
- Click on OK.*
- Click on OK.*



“OR”

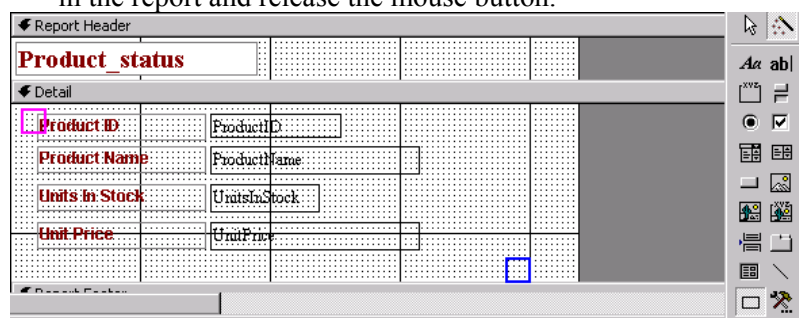


Reports: Controls

Report Controls: Adding

Click on the Rectangle control button.

Click on an area in the report and hold the mouse button down. While holding the mouse button down, drag the mouse pointer to another area in the report and release the mouse button.



Click on the Text Box control button.

Click on an area in the report and hold the mouse button down. While holding the mouse button down, drag the mouse pointer to another area in the report and release the mouse button.

Click on the Properties button.

Click on the Control Source drop-down list button.

Click on a field.

Click on the close button.

Click on a text box.

Double-click in the text box.

Type a title for the text box and press Enter.

Product_status

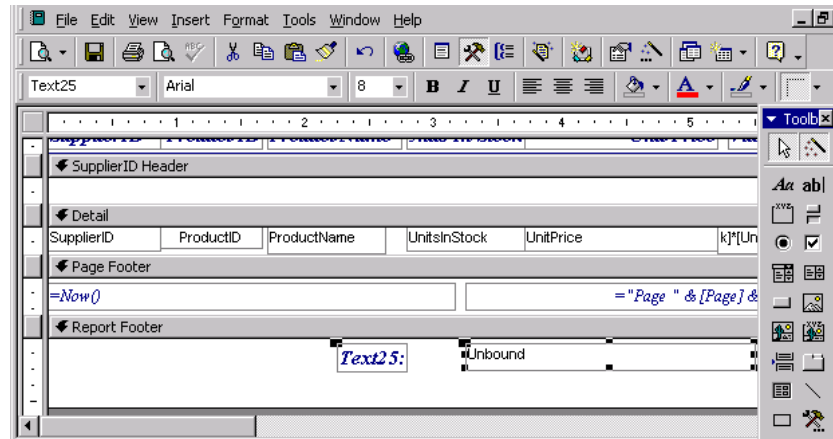
Product ID	<input type="text" value="1"/>
Product Name	<input type="text" value="Cool Shoes"/>
Units In Stock	<input type="text" value="20"/>
Unit Price	<input type="text" value="\$100.00"/>
SupplierID:	<input type="text" value="1"/>

Report Calculated Control: Adding

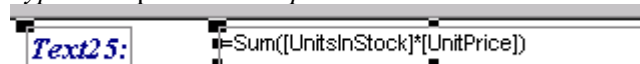
Click on the Text Box control button.

Click on an area in the report and hold the mouse button down. While holding the mouse button down, drag the mouse pointer to another area in the report and release the mouse button.

Click in the text box named Unbound.



Type an expression and press Enter.



Click on a text box.

Double-click in the text box.

Type a title for the text box and press Enter.

Report Controls: Resizing

Click on a control.

Click on a selection handle of a control and hold the mouse button down.

While holding the mouse button down, drag the mouse pointer to an area and release the mouse button.

Report Controls: Formatting

Click on a control.

Click on the Font drop-down list button.

Click on a font style.

Click on the Bold button.

Click on the Fill/Back Color drop-down list button to change the background color of the control.

Click on the Line/Border Width drop-down list button.

Click on the required border value.

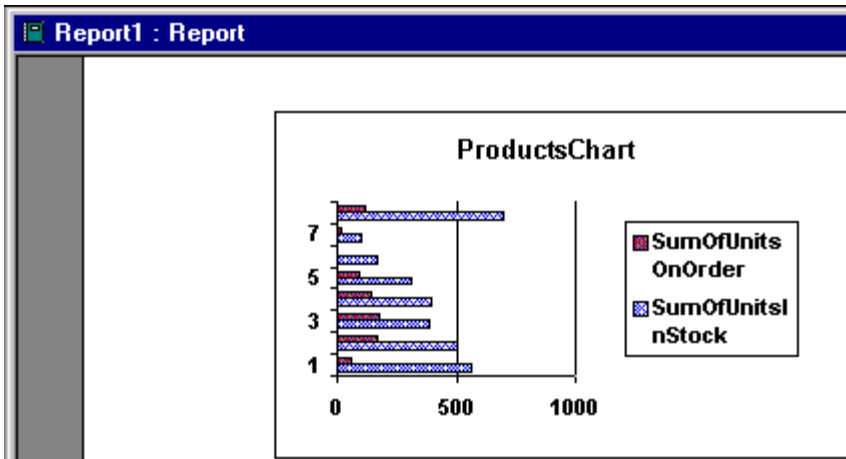
Double-click on the Format Painter button.

Click on a control.

(If we have time)

Create Charts in Access

A Plus out of the Adv Access Class



New Report

This wizard creates a report with a chart.

- Design View
- Report Wizard
- AutoReport: Columnar
- AutoReport: Tabular
- Chart Wizard**
- Label Wizard

Choose the table or query where the object's data comes from:

OK Cancel

New Report

This wizard creates a report with a chart.

- Design View
- Report Wizard
- AutoReport: Columnar
- AutoReport: Tabular
- Chart Wizard**
- Label Wizard

Choose the table or query where the object's data comes from:

- Categories
- Category Sales for 1995
- Current Product List
- Customers
- Customers and Suppliers by C
- Emp_Query
- Employee Sales by Country
- Employees
- Employees_det

Chart Wizard



Which fields contain the data you want for the chart?

Available Fields:

ProductID
ProductName
SupplierID
CategoryID
QuantityPerUnit
UnitPrice
UnitsInStock
UnitsOnOrder

Fields for Chart:

Cancel

< Back

Next >

Finish

Chart Wizard



Which fields contain the data you want for the chart?

Available Fields:

ProductID
ProductName
SupplierID
QuantityPerUnit
UnitPrice
ReorderLevel
Discontinued

Fields for Chart:

CategoryID
UnitsInStock
UnitsOnOrder

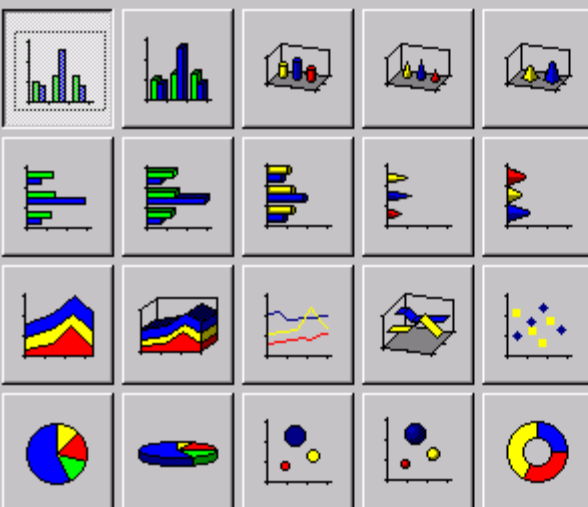
Cancel

< Back

Next >

Finish

Chart Wizard



What type of chart would you like?

Choose a chart that will appropriately display the fields you have selected.

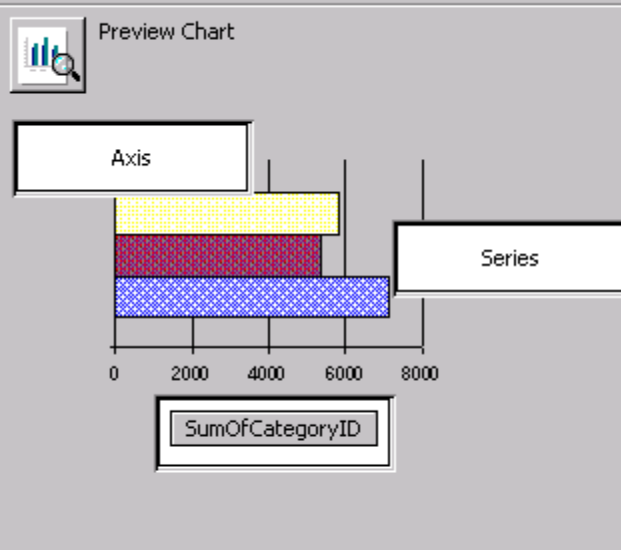
Column Chart

A column chart shows variation over a period of time or illustrates comparisons among items. Categories are organized horizontally, values vertically, placing emphasis on variation over time.

Cancel < Back Next > Finish

Chart Wizard

Preview Chart



How do you want to lay out the data in your chart?

You can drag and drop field buttons to the sample chart. Double-click a number or date field in the chart to change how the chart will summarize or group data.


CategoryID

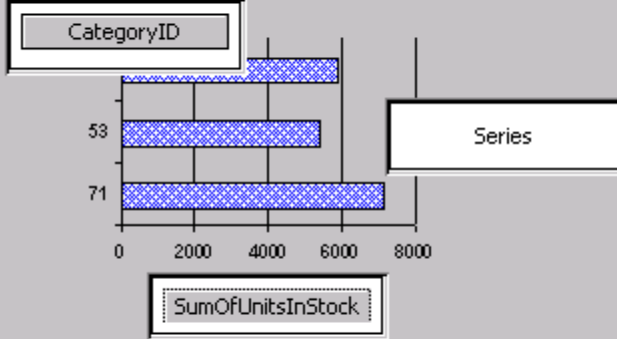
UnitsInStock

UnitsOnOrder

Cancel < Back Next > Finish

Chart Wizard

 Preview Chart



CategoryID

53

71

0 2000 4000 6000 8000

SumOfUnitsInStock

Series

CategoryID

UnitsInStock


UnitsOnOrder

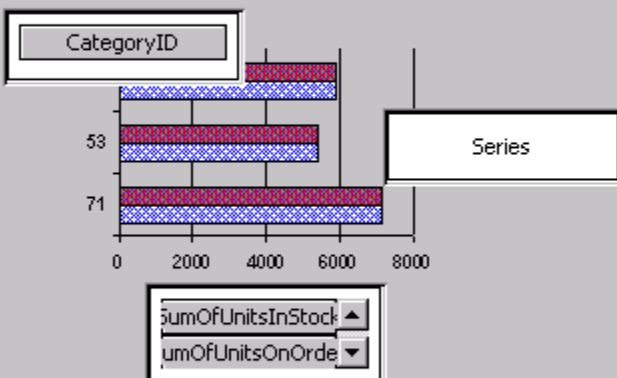
How do you want to lay out the data in your chart?

You can drag and drop field buttons to the sample chart. Double-click a number or date field in the chart to change how the chart will summarize or group data.

Cancel < Back Next > Finish

Chart Wizard

 Preview Chart



CategoryID

53

71

0 2000 4000 6000 8000

SumOfUnitsInStock

SumOfUnitsOnOrder

Series

CategoryID

UnitsInStock


UnitsOnOrder

How do you want to lay out the data in your chart?

You can drag and drop field buttons to the sample chart. Double-click a number or date field in the chart to change how the chart will summarize or group data.

Cancel < Back Next > Finish

Chart Wizard

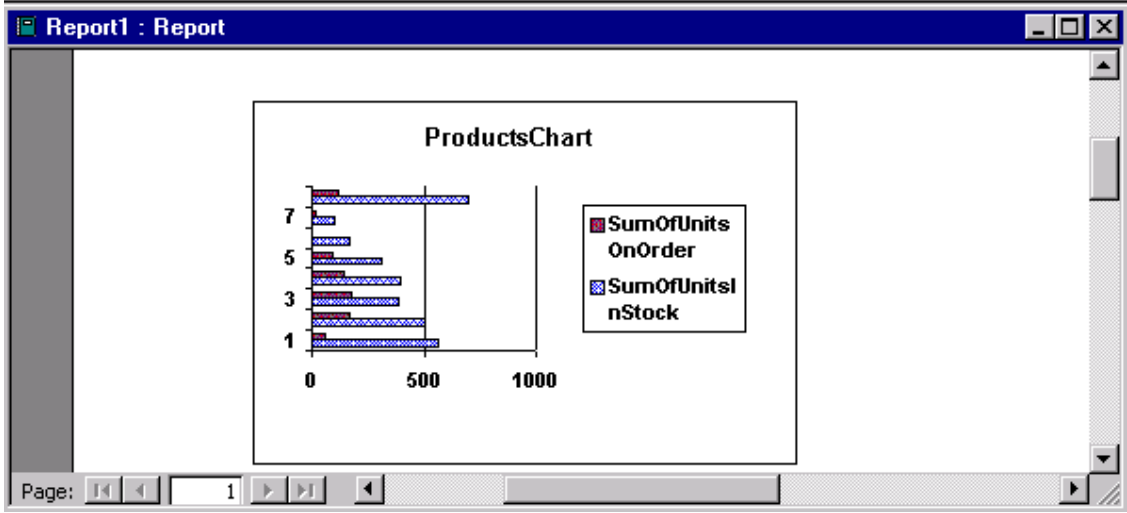


What title would you like for your chart?

Do you want the chart to display a legend?
 Yes, display a legend.
 No, don't display a legend.

After the wizard finishes creating your chart, what would you like to do?
 Open the report with the chart displayed on it.
 Modify the design of the report or the chart.
 Display Help on working with my chart.

Cancel < Back Next > Finish



Additional Information

Button Reference



Open

This button opens the selected database object in the Datasheet view.



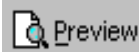
Design

This button opens the selected database object in the Design view.



New

This button creates a new database object.



Preview

This button shows how a database object will look when it is printed.



Format Painter

This button copies the formatting from a text selection and applies the formatting to another selection.



Properties

This button shows the properties of the selected control.



Toolbox

This button is used to display the Toolbox toolbar which contains all the controls used in Microsoft Access.



Select Objects

This button helps you to restore the mouse pointer shape back to an arrow if you have clicked on a control by mistake.



Control Wizards

This button helps you to create a control easily by opening a wizard if a wizard is attached to that control.



Label

This control button displays descriptive text, such as titles, captions or brief instructions on a form, report or data access page.



Text Box

This control button displays data from an underlying record source on a form, report or data access page.



Option Group

This control button can contain multiple option buttons where the option buttons act as a group instead of acting as individual options.



Toggle Button

This control button displays a Yes or No value from an underlying record source.



Option Button

This control button is used with the Yes/No data type which displays a Yes or No value.



Check Box

This control button displays a Yes or No value from an underlying table, query or SQL statement.



Combo Box

This control button allows you to type a value or select a value from a list of choices.



List Box

This control button displays a list of choices from which you can select the appropriate value.



Command Button

This control button is used to start an action or a set of actions.



Image

This control button is used to add a picture that is not to be updated.



Unbound Object Frame

This control button is used to add an unbound control that does not have a data source.



Bound Object Frame

This control button is used to add a bound control that is tied to a field in an underlying table or query.



Page Break

This control button is used to begin a new screen or a new page on a printed form or report.



Tab Control

This control button is used to present several pages of information as a single set.



Subform/Subreport

This control button is used to create a subform or subreport, which is within a form.



Line

This control button is used to add vertical, horizontal or diagonal lines to a form or report.



Rectangle

This control button is used for graphic effects, such as grouping a set of related controls. It emphasizes important data on forms.



More Controls

This button displays a list of additional controls.



Font

This button displays a list of different font styles.



Font Size

This button displays a list of font sizes.



Bold

This button is used to change the fonts to bold.



Fill/Back Color

This button changes the color of the background.



Font/Fore Color

This button changes the color of the fonts.



Line/Border Color

This button changes the color of the lines or borders.



Line/Border Width

This button changes the width of the borders.

Glossary

Alphabetical List of Terms

compacting

The compacting procedure is a method for reducing fragmentation and uses inefficient use of disk space.

control

A control is an object that displays data, performs an action, or is used for decoration on a form, report or data access page.

hyperlink

A hyperlink is a shortcut made to a file stored in a particular location.

indeterminate relationship

An indeterminate relationship is an association that is created if a field that is not a primary key and does not have a unique index is matched with a field from another table that is not a primary key and does not have a unique index.

input mask

An input mask is a format that uses literal characters to control data entry in a field or control.

junction table

A junction table is a table that is created in a many-to-many relationship between two tables. The primary key of the junction table is a combination of the foreign keys from the other two tables.

lookup field

A lookup field is a field that displays a list of options from which the user selects an option.

many-to-many

A many-to-many relationship is an association between two tables in which one record of either table can relate with many records of the other table.

null value

A null value is a blank entry that indicates that the field does not have any value.

one-to-many

A one-to-many relationship is a type of relationship in which the first table can have many matching records in the second table, but a record in the second table has only one matching record in the first table.

one-to-one

A one-to-one relationship is a type of relationship in which each record in the first table has only one matching record in the second table and each record in the second table has only one matching record in the first table.

primary key

A primary key is a field or set of fields in a table that uniquely identifies each record stored in the table.

referential integrity

The referential integrity rules is a system of rules that Microsoft Access uses to ensure that relationships between records in related tables are valid.

required property

The required property criterion is a data integrity criterion that is used to specify whether or not it is mandatory to enter a value in a specific field.

subdatasheet

A subdatasheet is a datasheet that allows you to edit related or joined data in a table, query or form datasheet. A subdatasheet also allows you to edit related or joined data in a subform.

underlying table

An underlying table is a linked table from which data is extracted in forms, reports or data access pages.

validation rule

A validation rule is an expression that limits the values that can be entered in the field.

validation text

A validation text message is an error message that appears when you enter a value prohibited by the validation rule.