

Proicere, Inc.

MS Access: Advanced Queries

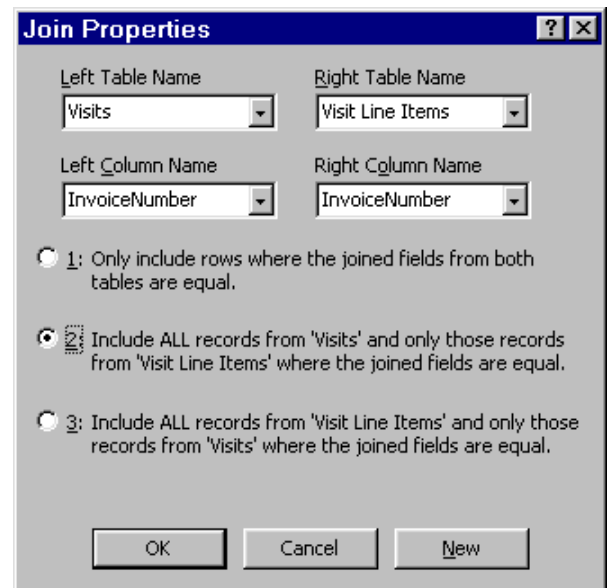
Lesson Notes

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Joins

Joins dictate how two tables or queries relate to each other.

Click on the join line with the right mouse button to access the Join Properties.



Inner Joins

An Inner Join displays only the records from table one that have matching records in table two.

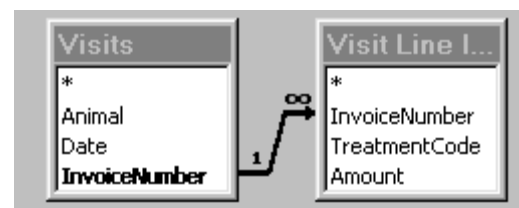
Outer Joins

An outer join will display all the fields from one table and any matching fields in the second table.

There are two types of Outer Joins, Left and Right.

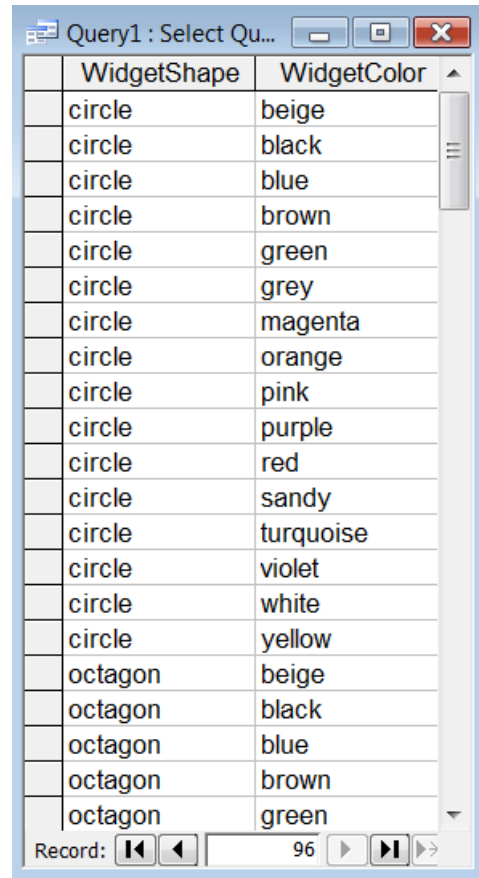
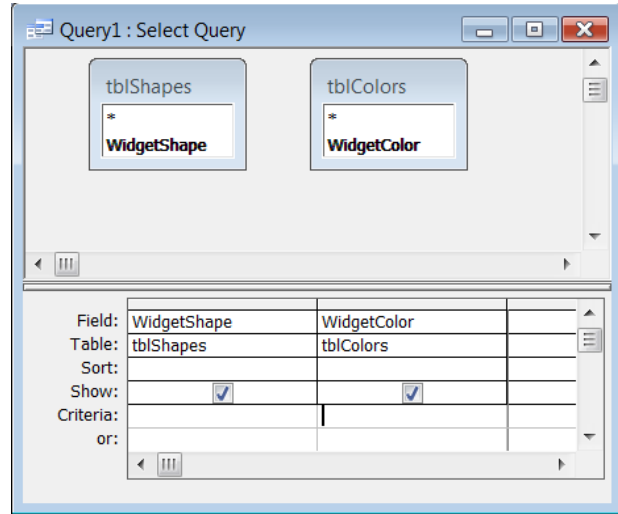
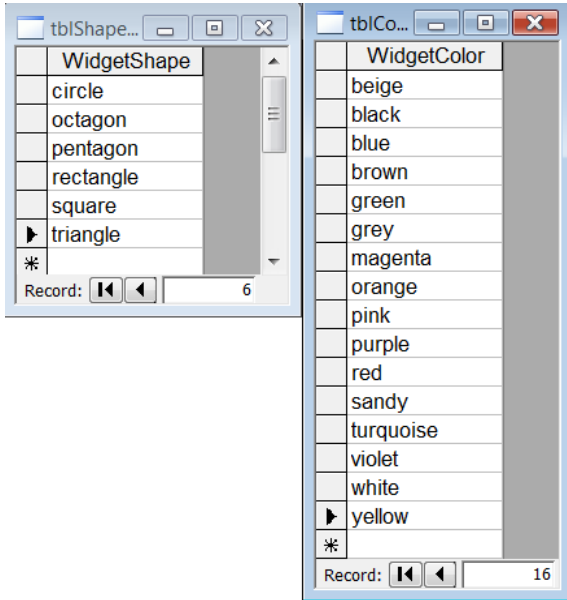
Note: this does not refer to the way they are displayed in the relationship screen.

An Outer Join will display an arrow on the Join Line.



Cartesian Product Query

A Cartesian Product Query or Cross Product Query creates a list of every possible combination of two tables or queries that do not have a join.



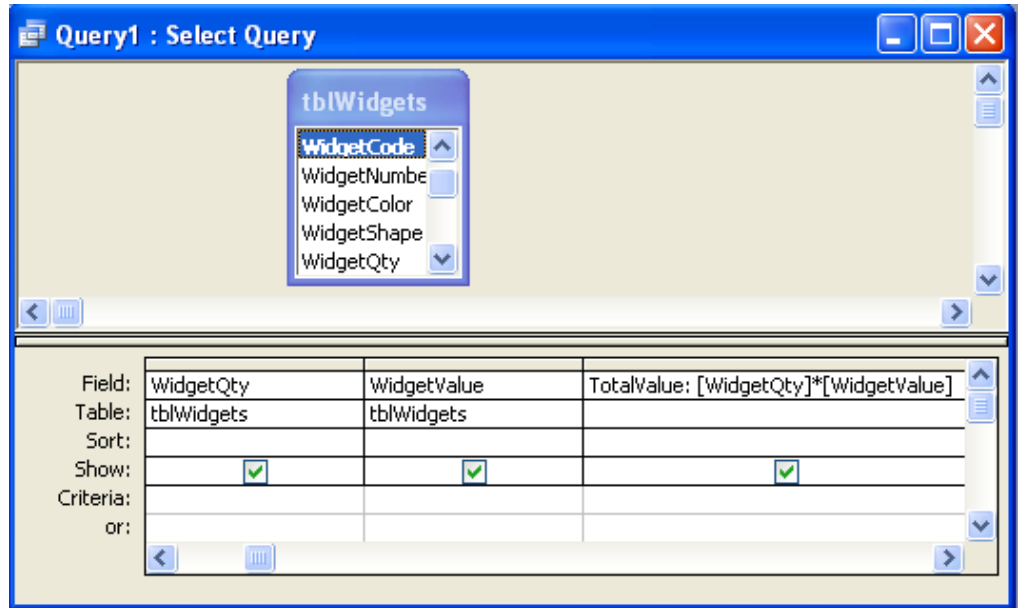
Calculations

Calculations can be done in a query by creating a new field name in the query.

Note: this field will be for display only, the information will not be stored back into the table.

Give the field a name followed by a colon.

Put field names in the square brackets.



Symbols for math

^ = powers

* = multiply

/ = division

+ = additions

- = subtraction

Parenthesis can be used in the equation.

Order of Operation

1. Parenthesis

2. Powers

3. Multiplication and Division

4. Addition and Subtraction

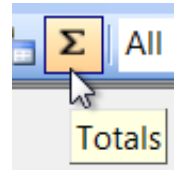
$$5+3*2 = 11$$

$$(5+3)*2 = 16$$

Grouping

Grouping allows the calculation by groups within a query.

Use the Total tool to display the total line where Group by or calculations can be done on a field.



WidgetShape	WidgetValue
circle	\$1.21
circle	\$2.42
triangle	\$3.63
square	\$4.84
pentagon	\$6.05
triangle	\$7.26
circle	\$8.47
square	\$9.68
triangle	\$10.89
pentagon	\$12.10
circle	\$13.31

WidgetShape	WidgetValue
tblWidgets	tblWidgets
Group By	Sum
	Group By
<input checked="" type="checkbox"/>	Sum
	Avg
	Min
	Max
	Count
	StDev
	Var

WidgetShape	SumOfWidgetValue
circle	\$517.88
octagon	\$76.23
pentagon	\$220.22
rectangle	\$72.60
square	\$306.13
triangle	\$301.29

Record: 1 of 6

Top Values

A query can be made to only show the top or bottom values.

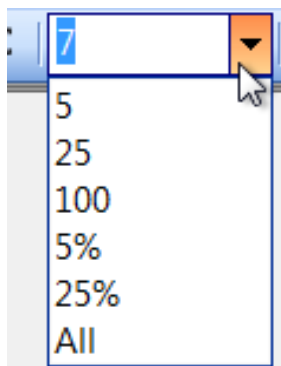
Sort the field holding the values.

- Ascending will display the lowest values.
- Descending will display the highest values.

Use the Top Value tool on the toolbar to select the

quantity of values to display. If the desired value is not listed, it may be typed into the tool.

WidgetShape	WidgetValue
tblWidgets	tblWidgets
	Descending
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



WidgetShape	WidgetValue
circle	\$49.61
pentagon	\$48.40
triangle	\$47.19
circle	\$45.98
circle	\$44.77
square	\$43.56
pentagon	\$42.35
	\$0.00

Functions

Weekday («number»)

Returns the number of the day of the week for the date.

WidgetDate	DayOfWeek: Weekday([tblWidgets].[WidgetDate])
tblWidgets	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WidgetDate	DayOfWeek
Sat, 1/1/00	7
Sun, 1/2/00	1
Mon, 1/3/00	2
Tue, 1/4/00	3
Wed, 1/5/00	4
Thu, 1/6/00	5
Fri, 1/7/00	6

Round («number», «precision»)

Returns the round of a number. The Precision is the desired number of decimal places.

WidgetValue	RoundedValue: Round([WidgetValue],0)
tblWidgets	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WidgetValue	RoundedValue
\$18.15	\$18.00
\$19.36	\$19.00
\$20.57	\$21.00
\$21.78	\$22.00
\$22.99	\$23.00
\$24.20	\$24.00
\$25.41	\$25.00
\$26.00	\$27.00

Len («stringexpr»)

Returns the number of characters in a string.

WidgetShape	Letters: Len([WidgetShape])
tblWidgets	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WidgetShape	Letters
octagon	7
rectangle	9
circle	6
triangle	8
square	6
pentagon	8
square	6
circle	6

IsNull («varexpr»)

Returns -1 if field is empty or 0 if the field has data.

WidgetShape	Empty: IsNull([WidgetShape])
tblWidgets	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WidgetShape	Empty
octagon	0
rectangle	0
	-1
triangle	0
square	0
pentagon	0
square	0
	-1
triangle	0

iif («expr», «truepart», «falsepart»)

The iif function is used to give MS Access instructions based on a true/false question.

The iif function has three parts.

1. The test
2. What MS Access should do if it is True
3. What MS Access should do if it is False

WidgetShape	Empty: IsNull([WidgetShap	Shape: Iif([Empty]=-1,"no shape", "")
tblWidgets		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WidgetShape	Empty	Shape
octagon	0	
rectangle	0	
	-1	no shape
triangle	0	
square	0	
pentagon	0	
square	0	
	-1	no shape
triangle	0	

iif Function combined with another function

The iif function can be combined with other functions as part or all of one of the three sections.

WidgetShape	Empty: Iif(IsNull([WidgetShape]), "No Shape", "")
tblWidgets	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WidgetShape	Empty
octagon	
rectangle	
	No Shape
triangle	
square	
pentagon	
square	
	No Shape
triangle	

Compound iif

An iif Function can be put inside another iif function. The second iif function must still have all three parts.

WidgetShape	Empty: IsNull([WidgetShape	Shape: Iif([Empty]=-1,"no shape", Iif([WidgetShape]="circle", "ROUND", "other"))
tblWidgets		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WidgetShape	Empty	Shape
octagon	0	other
rectangle	0	other
	-1	no shape
triangle	0	other
square	0	other
pentagon	0	other
square	0	other
	-1	no shape
triangle	0	other
circle	0	ROUND
rectangle	0	other

Concatenate Fields

To combine two fields such as first and last name concatenation is need.

To concatenate two fields into one, create a new field in the query.

The New field name is followed by a colon.

Each field name to concatenate is put in square brackets.

Use an & to actually concatenate the fields.

Put additional text in quotes. ie the space between first and last name or the comma and space between City and State **[City]&"", "&[State]**

WidgetColor	WidgetShape	FullName: [WidgetColor] & " " & [WidgetShape]
tblWidgets	tblWidgets	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

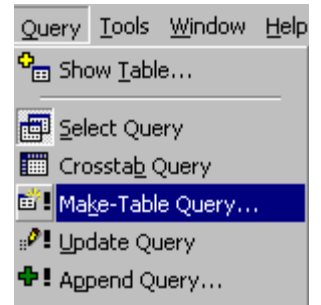
WidgetColor	WidgetShape	FullName
red	circle	red circle
blue	circle	blue circle
yellow	triangle	yellow triangle
purple	square	purple square
green	pentagon	green pentagon
orange	triangle	orange triangle
red	circle	red circle
blue	square	blue square
yellow	triangle	yellow triangle
white	pentagon	white pentagon

Make Table Query

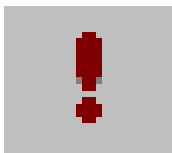
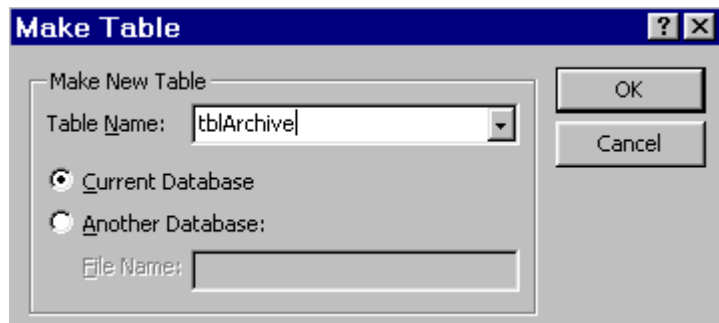
A Make Table Query creates a new table copying data from an existing table based on criteria.

To create an Make Table Query, first create a simple query with the criteria desired. Check the query to verify it is pulling the desired records.

From the menu choose Query, Make Table Query.

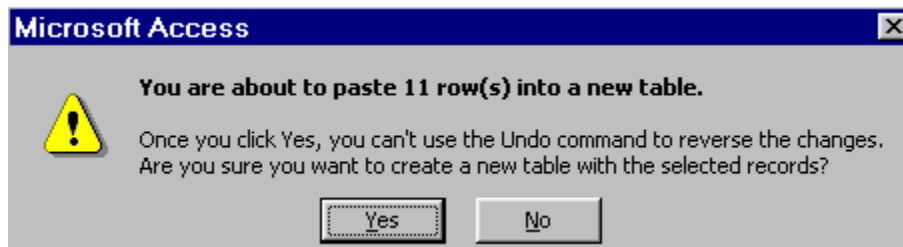


A dialog box will appear. Enter the name of the table to be created.



To run the make table query:
from the design view, choose the run button on the toolbar
from a closed query, open the query.

A message will appear indicating that the query will create a new table and the number of rows in the table..

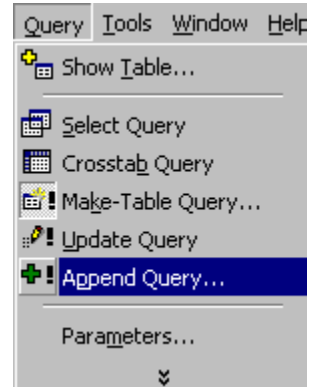


Append Query

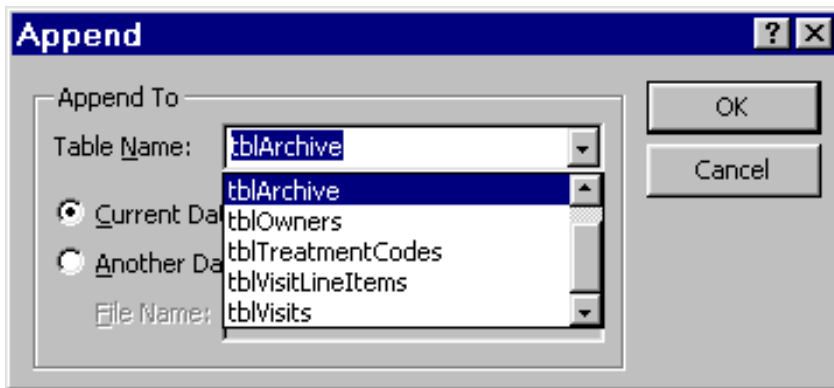
An Append Query adds records to a table copying data from an existing table based on criteria.

To create an Append Query, first create a simple query with the criteria desired. Check the query to verify it is pulling the desired records.

From the menu choose Query, Append Query.

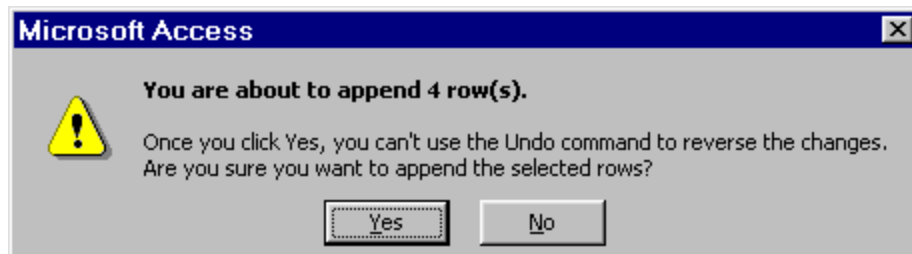


A dialog box will appear. Enter the name of the table to be appended.



To run the append table query:
from the design view, choose the run button on the toolbar
from a closed query, open the query.

A message will appear indicating that the query will append rows to a table and the number of rows to be added.

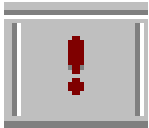
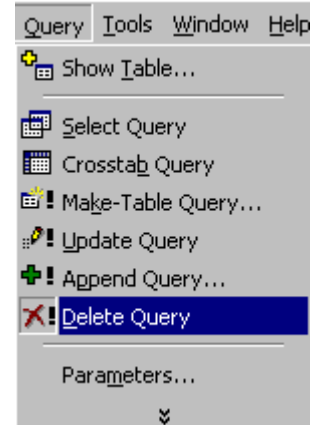


Delete Query

A Delete Query removes records from a table based on criteria.

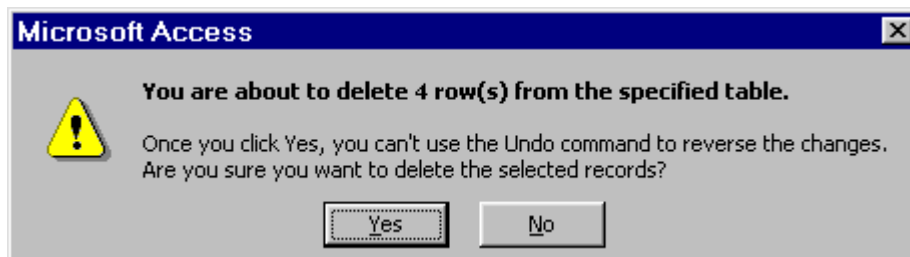
To create a Delete Query, first create a simple query with the criteria desired. Check the query to verify it is pulling the desired records.

From the menu choose Query, Delete Query.



To run the delete query:
from the design view, choose the run button on the toolbar
from a closed query, open the query.

A message will appear indicating that the query will delete rows in the table and the number of rows to be deleted.

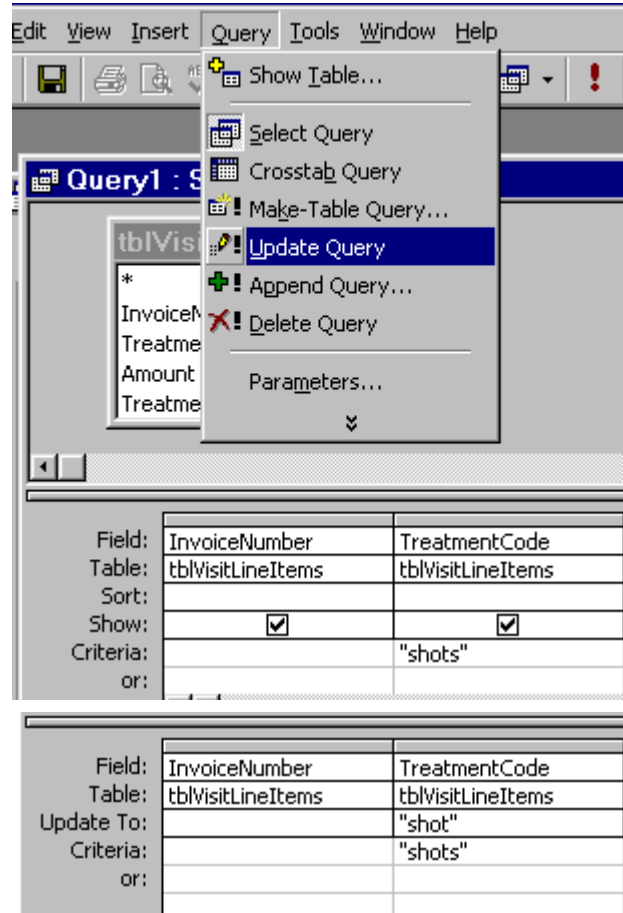


Update Query

An Update Query allows information to be changed throughout a table based on criteria.

To create an Update Query, first create a simple query with the criteria desired. Check the query to verify it is pulling the desired records.

From the menu choose Query, Update Query.



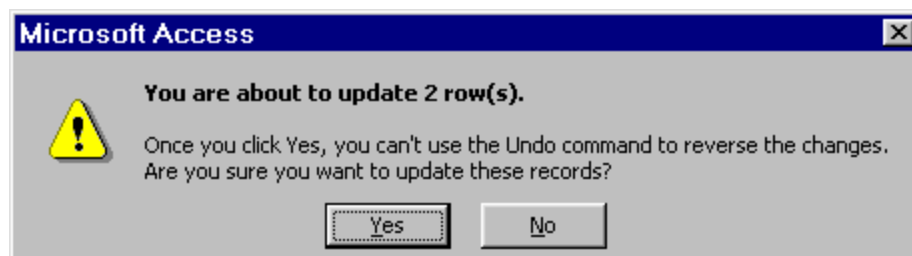
The Update To line will appear in the design grid. Enter the update value.

Note: When the query is switched to the datasheet view, only the field to be updated will appear.



To run the update query:
from the design view, choose the run button on the toolbar
from a closed query, open the query.

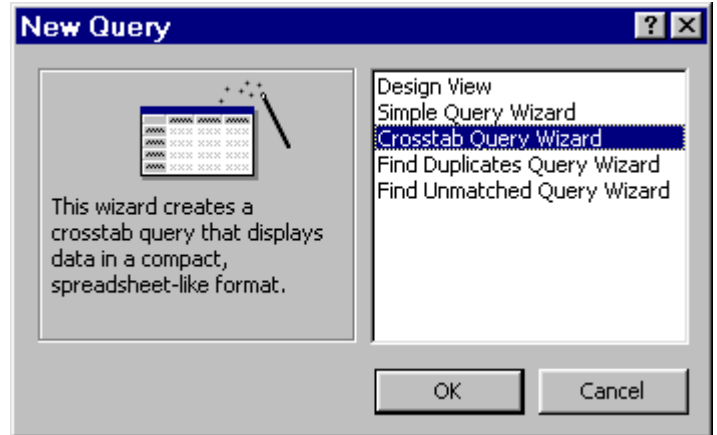
A message will appear indicating that the query will update the table.



Crosstab Query

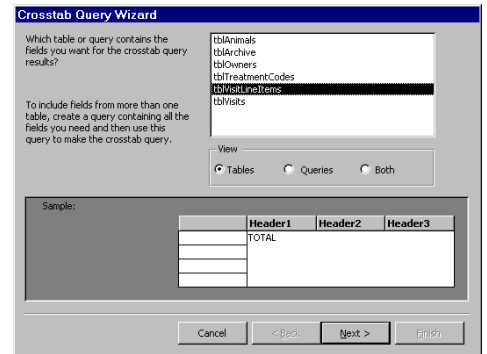
A Crosstab Query is used to create a view of data in a compact form.

To create a Crosstab Query, create a new query using the Crosstab Query Wizard.

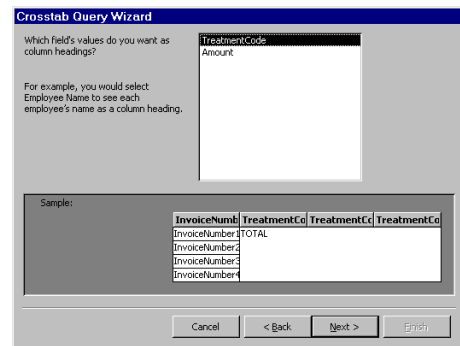
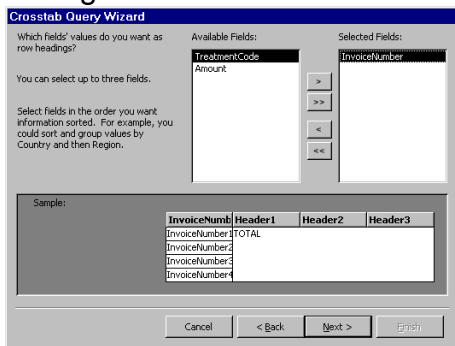


The wizard will start prompting for the information needed to create the query.

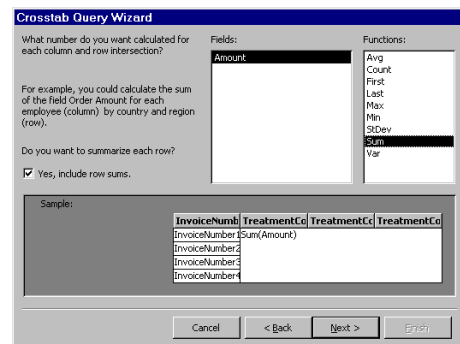
Choose the table or query upon which the query is to be based.



Choose the fields to be used for the row headings, then choose the fields for the column headings.



Choose the field for the calculation, and the type of calculation.



Find Unmatched Query

A Find Unmatched Query checks the records of one table/query against another looking for unmatched records.

To create a Find Unmatched Query, create a new query using the Find Unmatched Query Wizard.

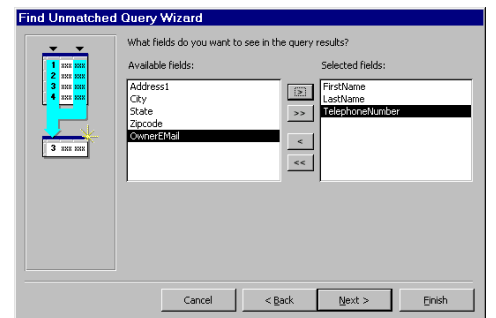
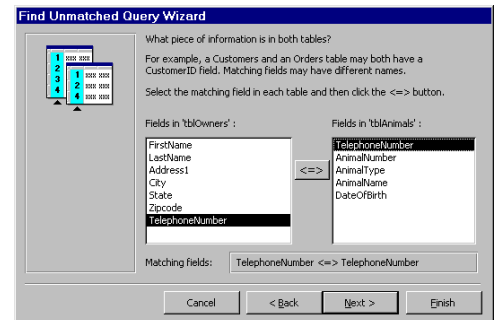
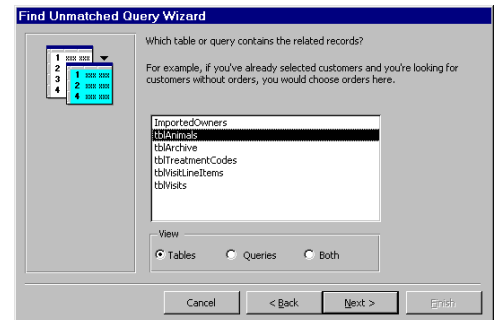
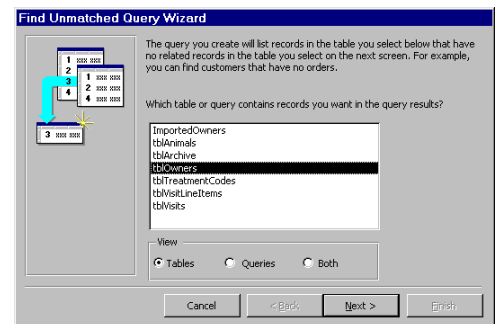
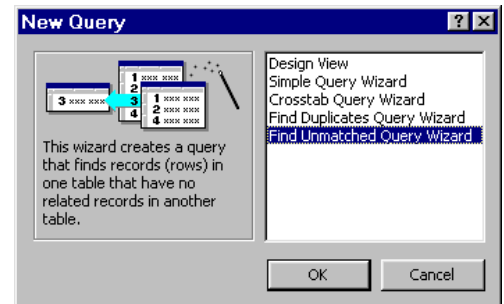
The wizard will start prompting for the information needed to create the query.

Choose the table or query that has the records that may not have matches in the next table or query selected.

Choose the table or query that has the records that the first table should be matching.

Choose the field(s) that should match.

Choose the field(s) that are to display if an unmatched is found.

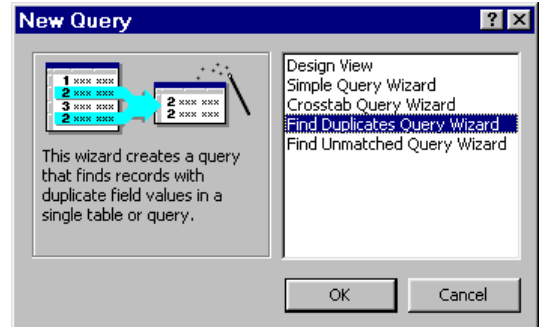


Find Duplicate Query

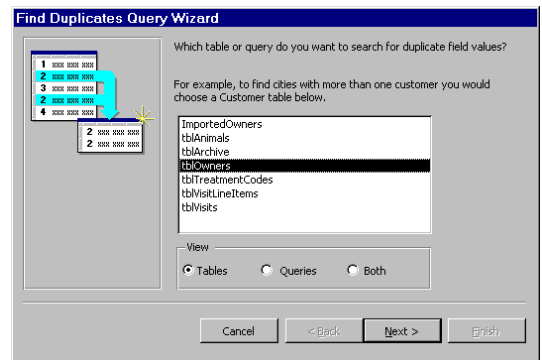
A Find Duplicate Query checks the records of one table/query against another looking for duplicate records.

To create a Find Duplicate Query, create a new query using the Find Duplicate Query Wizard.

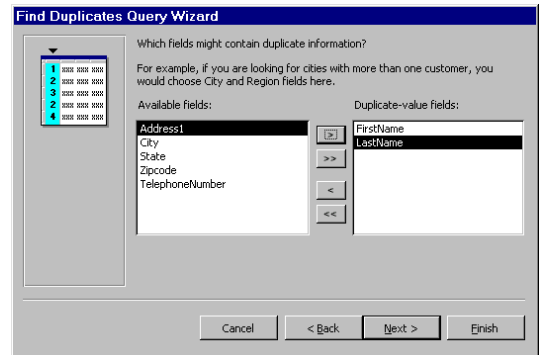
The wizard will start prompting for the information needed to create the query.



Choose the table or query that may have duplicates.



Choose the fields that are to be checked for duplicates.



Choose the fields to display if a duplicate is found.

