FEDRAL TVET AGENCY

INFORMATIONTECHNOLOGY

SUPPORT SERVICE

Level II

LEARNINGGUIDE#14

Unit of Competence: -	**Operate Database Application**
Module Title: -	**Operating Database Application**
LG Code:	**EIS ITS2 M04 1019 LO5-LG14**
TTLM Code:	**EIS ITS2 TTLM 1019 V1**

LO 5: Create database Queries

Introduction Learning Guide # 14

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Retrieving Information

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, you will be able to –

- Existing database is accessed and required records located
- Simple query is created and required information retrieved
- Query with multiple criteria is developed and required information retrieved
- Data are selected and appropriately displayed

1: **Learning Instructions**

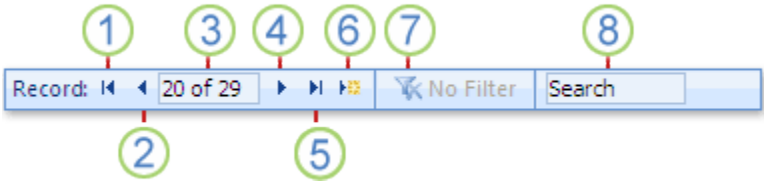
1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 18.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page 5.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
1. Accomplish the “Self-check 2” in page 9.
2. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).

3. Read the information written in the "Information Sheets 3 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the "Self-check 3" in page 12.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
6. Read the information written in the "Information Sheets 4 . Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
7. Accomplish the "Self-check 4" in page 14.
8. Read the "Operation Sheet 1"in page 15. and try to understand the procedures discussed.
9. If you earned a satisfactory evaluation proceed to "Operation Sheet 2" in page 17. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
10. Read the "Operation Sheet 2" and try to understand the procedures discussed.
11. If you earned a satisfactory evaluation proceed to "Operation Sheet 3" in page 37. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
12. Do the "LAP test" in page 50 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.

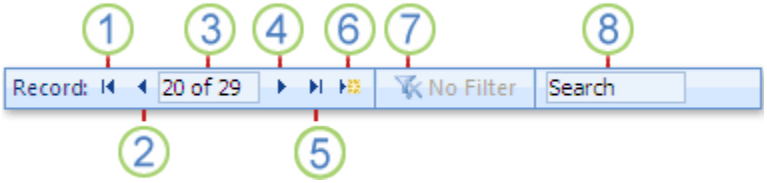
Information Sheet 1	Accessing & Locating Required records

Locate specific records in a database: As your database grows, locating specific records will involve more than a quick glance at a datasheet. In this article, learn five ways to locate specific records based on your needs.

Browse through all records You can browse through records by using the TAB key when you want to move through one record at a time, in order, to locate a specific record. You can also browse through records in a table in Datasheet view using the record navigation buttons. The record navigation buttons are available at the bottom of the table or form.



Browse through all recordsYou can browse through records by using the TAB key when you want to move through one record at a time, in order, to locate a specific record. You can also browse through records in a table in Datasheet view using the record navigation buttons. The record navigation buttons are available at the bottom of the table or form.



The techniques that you can use to search and filter records are very useful for finding specific records for the case at hand. However, you might want to perform the same search or filter operation regularly. Instead of reproducing a set of search and filter steps every time, you can create a query. A query is a powerful and flexible way to locate specific records because it lets you perform customized searches, apply customized filters, and sort records. You can build your own queries to help you focus on specific records and to answer specific questions. Once created, a query can be saved and reused, and can also be used in building forms and reports.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. You can browse through records by using the--- key(2)
   A. TAB
   B. ALT
   C. Delete
   D. None
2. The -----buttons are available at the bottom of the table or form.(2)
   A. record navigation
   B. Save button
   C. A&B

. 3. ---is a powerful and flexible way to locate specific records & customized searches

   A. True
   B. False

Note: **Satisfactory rating - 3 and 5 points** **Unsatisfactory - below 2 and 5 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 2	Creating Simple Query to Retrieve Information

A query is a request for data results, for action on data, or for both. You can use a query to answer a simple question, to perform calculations, to combine data from different tables, or even to add, change, or delete table data .A **query** is a derived item in the database meant

to answer specific questions that relate to the information in the database. It is the means to retrieve relevant information in one or more tables.

2.1Types of Queries

- **Select Query**
  - The select query is the simplest type of query and because of that, it is also the most commonly used one in Microsoft Access databases.
  - A select query is the most common type of query.
  - It retrieves data from one or more tables and displays the results in a datasheet where you can update the records (with some restrictions).
  - You can also use a select query to group records and calculate sums, counts, averages, and other types of totals.
  - It can be used to select and display data from either one table or a series of them depending on what is needed.
  - In the end, it is the user-determined criteria that tell the database what the selection is to be based on.
  - After the select query is called, it creates a "virtual" table where the data can be changed, but at no more than one record at a time.
- **Action Query**
  - Action queries are very popular in data management because they allow for many records to be changed at one time instead of only single records like in a select query.
  - When the action query is called, the database undergoes a specific action depending on what was specified in the query itself.
  - This can include such things as creating new tables, deleting rows from existing ones and updating records or creating entirely new ones.
  - Four kinds of action queries are:
    - Append Query
      - An append query adds a group of records from one or more tables to the end of one or more tables. For example, suppose that you acquire some new customers and a database containing a table of information on those customers. To avoid typing all this information into your own database, you'd like to append it to your Customers table.

- Delete Query
  - A delete query deletes a group of records from one or more tables. For example, you could use a delete query to remove products that are discontinued or for which there are no orders. With delete queries, you always delete entire records, not just selected fields within records.
- Make Table Query
  - As the name suggests, it creates a table based on the set results of a query.A make-table query creates a new table from all or part of the data in one or more tables.Make-table queries are helpful for creating a table to export to other Microsoft Access databases or a history table that contains old records.

- Update Query
  - Allows for one or more field in your table to be updated.
  - An update query makes global changes to a group of records in one or more tables.
  - For example, you can raise prices by 10 percent for all dairy products, or you can raise salaries by 5 percent for the people within a certain job category. With an update query, you can change data in existing tables.

- **Parameter Query**
  - In Microsoft Access, a parameter query works with other types of queries to get whatever results you are after.
  - This is because, when using this type of query, you are able to pass a parameter to a different query, such as an action or a select query.
  - It can either be a value or a condition and will essentially tell the other query specifically what you want it to do.
  - It is often chosen because it allows for a dialog box where the end user can enter whatever parameter value they wish each time the query is run. The parameter query is just a modified select query.
  - A parameter query is a query that when run displays its own dialog box prompting you for information, such as criteria for retrieving records or a value you want to insert in a field.
  - You can design the query to prompt you for more than one piece of information; for example, you can design it to prompt you for two dates.

- Access can then retrieve all records that fall between those two dates.
- Parameter queries are also handy when used as the basis for forms, reports, and data access pages.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. .--- is a request for data results, for action on data, or for both(2)
   A. A query
   B. Table
   C. Form
   D. None
2. --- deletes a group of records from one or more tables (2)
   A. A delete query
   B. Append Query
   C. Parameter query
3. Allows for one or more field in your table to be updated.(2)
   A. Update Query
   B. Parameter query
   C. Select query

Note: **Satisfactory rating - 3 and 5 points** **Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 3	Developing Query With Multiple Criteria

3.1 Introduction to query criteria

A criterion is similar to a formula — it is a string that may consist of field references, operators, and constants. Query criteria are also referred to as expressions in Access.

The following tables shows some sample criteria and explains how they work.

Criteria	Description
>25 and <50	This criterion applies to a Number field, such as Price or UnitsInStock. It includes only those records where the Price or UnitsInStock field contains a value greater than 25 and less than 50.
DateDiff ("yyyy", [BirthDate], Date()) > 30	This criterion applies to a Date/Time field, such as BirthDate. Only records where the number of years between a person's birthdate and today's date is greater than 30 are included in the query result.
Is Null	This criterion can be applied to any type of field to show records where the field value is null.

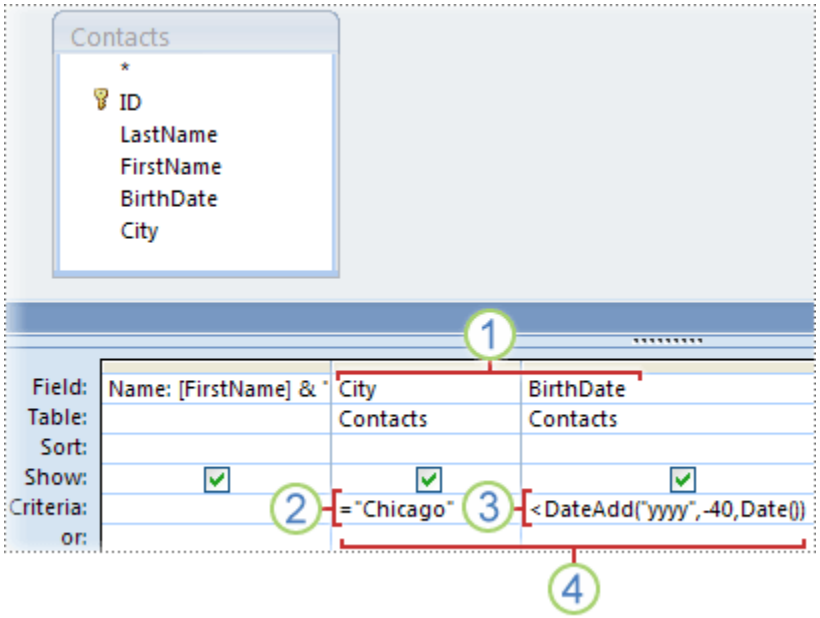
As you can see, criteria can look very different from each other, depending on the data type of the field to which they apply and your specific requirements. Some criteria are simple, and use basic operators and constants. Others are complex, and use functions, special operators, and include field references.

This topic lists several commonly used criteria by data type. If the examples given in this topic do not address your specific needs, you might need to write your own criteria. To do that, you must first familiarize yourself with the full list of functions, operators, special characters, and the syntax for expressions referring to fields and literals.

Here, you will see where and how you add the criteria. To add a criteria to a query, you must open the query in Design view. You then identify the fields for which you want to specify criteria. If the field is not already in the design grid, you add it by either dragging it from the query design window to the field grid, or by double-clicking the field (Double-clicking the field automatically adds it to the next empty column in the field grid.). Finally, you type the criteria in the Criteria row

Criteria that you specify for different fields in the Criteria row are combined by using the AND operator. In other words, the criteria specified in the City and BirthDate fields are interpreted like this:

City = "Chicago" AND BirthDate < DateAdd (" yyyy ", -40, Date())



- The City and BirthDate fields include criteria.
- Only records where the value of the City field is Chicago will satisfy this criterion.
- Only records of those who are at least 40 years old will satisfy this criterion.
- Only records that meet both criteria will be included in the result.

What if you want only one of these conditions to be met? In other words, if you have alternate criteria, how do you enter them?

If you have alternate criteria, or two sets of independent criteria where it is sufficient to satisfy one set, you use both the Criteria and the or rows in the design grid.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1 - A criterion is similar to (2)

a. a formula
b. String
c. A&B

2.- is a string that may consist of field references, operators, and constants(2)

A. Criterion

B. Value

Note: **Satisfactory rating - 2 and 4 points** **Unsatisfactory - below 2and 4points**

You can ask you teacher for the copy of the correct answers.

Information Sheet 4	Selecting & Displaying Data

4.1 Introduction

Data selection is defined as the process of determining the appropriate data type and source, as well as suitable instruments to collect data. The primary objective of data selection is the determination of appropriate data type, source, and instrument(s) that allow investigators to adequately answer research questions.

4.2 The function of displaying data

- ✓ Displaying data in research is the last step of the research process.
- ✓ It is important to display data accurately because it helps in presenting the findings of the research effectively to the reader.
- ✓ To make the findings more visible and make comparisons easy.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. --is defined as the process of determining the appropriate data type and Source (2)

A. Data selection

b. Data processes

c. A&B

2.- It is important to display data accurately(2)

A. True

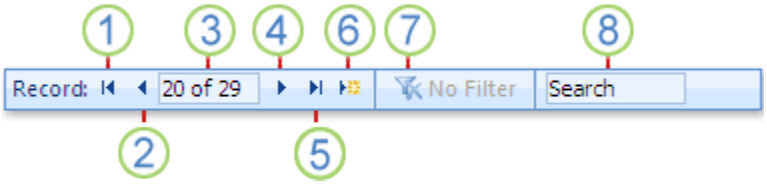
B. False

Note: **Satisfactory rating - 2 and 54points** **Unsatisfactory - below 2 and 4points**

You can ask you teacher for the copy of the correct answers.

Operation Sheet-1	**Accessing &Locating Records**

Steps to Browse through all records **You can browse through records by using the TAB key when you want to move through one record at a time, in order, to locate a specific record. You can also browse through records in a table in Datasheet view using the record navigation buttons. The record navigation buttons are available at the bottom of the table or form.**



1. Go to the first record

2. Go to the previous record

3. **Current Record** box

4. Go to the next record

5. Go to the last record

6. Open a new (blank) record

7. Filter indicator

8. Search box

Steps to Search for a specific record

- Open the table or form, and then click the field that you want to search.
- On the **Home** tab, in the **Find** group, click **Find**, or press CTRL+F.

  The **Find and Replace** dialog box appears, with the **Find** tab selected.

- In the **Find What** box, type the value for which you want to search.
- To change the field that you want to search or to search the entire underlying table, click the appropriate option in the **Look In** list.
- In the **Search** list, select **All**, and then click **Find Next**.
- When the item for which you are searching is highlighted, click **Cancel** in the **Find and Replace** dialog box to close the dialog box. Records that match your conditions are highlighted

Steps to Create a query to find a specific record

- On the **Create** tab, in the **Queries** group, click **Query Design**.
- In the **Show Table** dialog box, double-click **Issues**, and then click **Close**.

- In the query designer, double-click the asterisk (*****) in the **Issues** table. This helps make sure that the query will display all the fields from the records it returns.

  Issues.* appears in the first column of the design grid, in the **Field** row. This indicates that all the fields from the Issues table should be returned.

- In the query designer, double-click **Status** on the **Issues** table.

  Status appears in the second column in the design grid, in the **Field** row.

- In the second column of the design grid, clear the check box in the **Show** row. This helps make sure that the query does not display the Status field.

  If you do not clear the **Show** check box in the Status column, the Status field will be displayed two times in the query results.

- In the second column of the design grid, in the **Criteria** row, type **="Closed"**. This is your search criterion. This is how you make sure that the query will return only those records where the value of **Status** is "Closed."

  Note: In this example, only one search criterion is used. You can use many search criteria for any given search by adding criteria to more fields, and by using the

- On the **Design** tab, in the **Results** group, click **Run**.

  Note: Unless you have already begun tracking issues and therefore have data in the Issues table — and you have set the status of at least one issue to "Closed" — the query will not return any results. However, you can save the query, and use it at any time in the future.

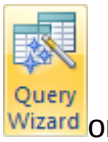
- Press CTRL+S to save the query.
- In the **Save As** dialog box, type a name for the query in the **Query Name** field, such as **Closed Issues**, and then click **OK**.

Operation Sheet-2	**Creating Simple Query to Retrieve Information**

The simplest way to create a query is by using the Query Wizard. It presents a list of tables and

queries you can select from the current database.

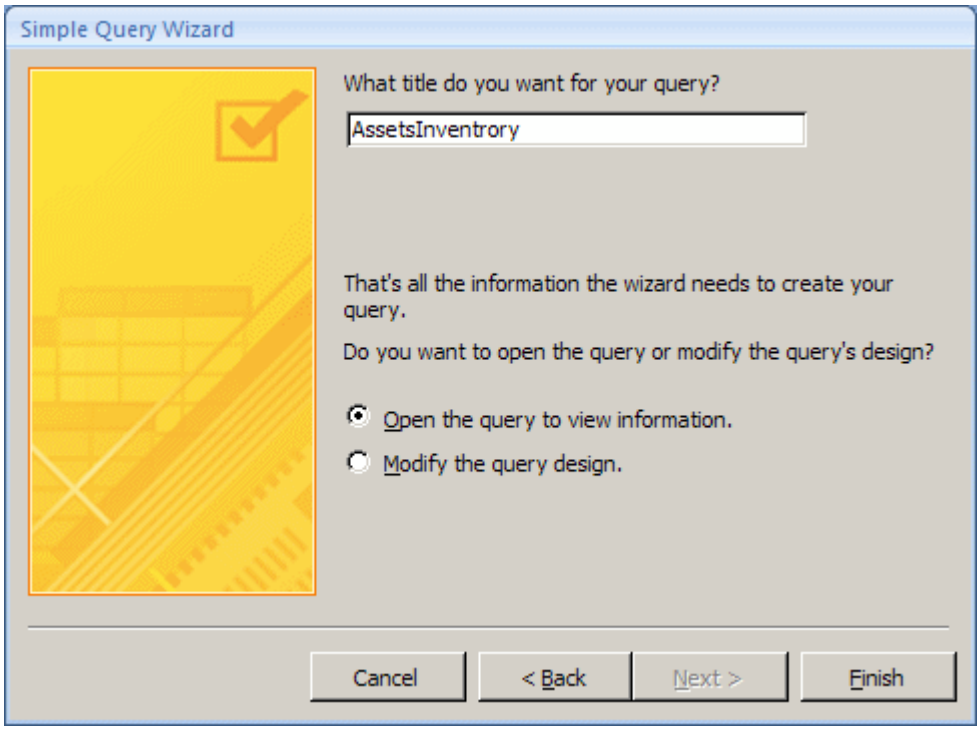
StepsTo use the Query Wizard, 17

1. 

on the Ribbon, you can click the Create tab and, in the Other section, click Query Wizard . This would display the New Query dialog box:

2. On the New Query dialog box, you can click Simple Query Wizard and click OK. The first page of the Simple Query Wizard expects you to choose the origin of the query as a table or an already created query. After selecting the table or query, the second page of the wizard would present the fields of that list and you can select those you want:

The next page of the wizard allows you to specify the name of the query:

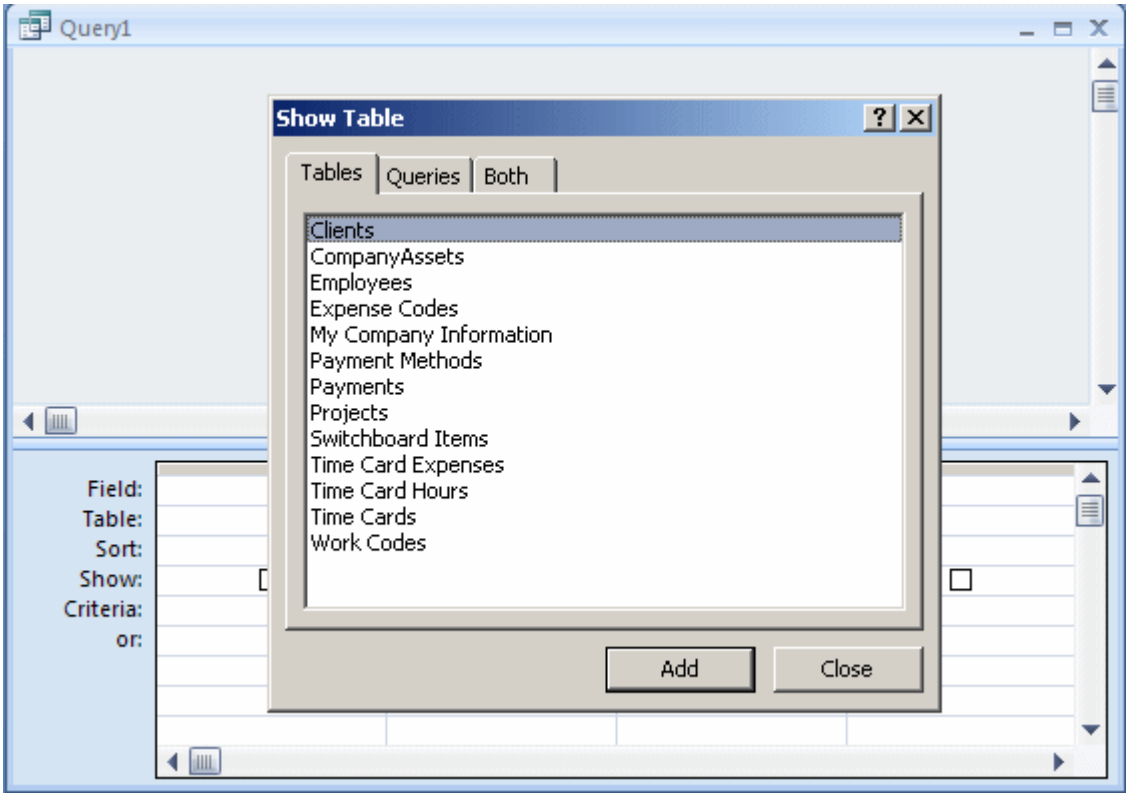


Steps to create Query in Design view

Like other objects of a database, a query can be designed. You design a query using the Design View:

- To display a query in Design View, from the Navigation Pane, you can right-click a query and click Design View
- To start designing a new query, in the Other section of the Create tab of the Ribbon, click Query Design

This would display the Show Table dialog box that allows you to specify the table or query that holds the fields you want to use in the intended query

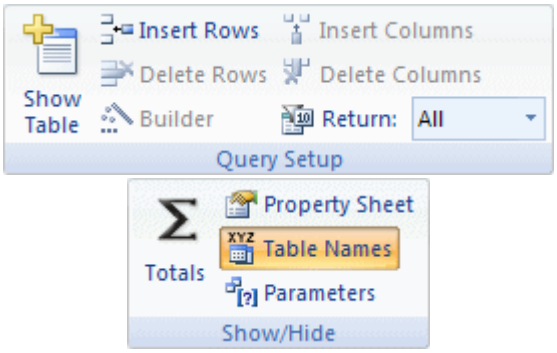


If the Show Tables dialog box is closed or for any reason you want to display it:

- In the Query Setup section of the Design tab of the Ribbon, you can click the Show Table button 

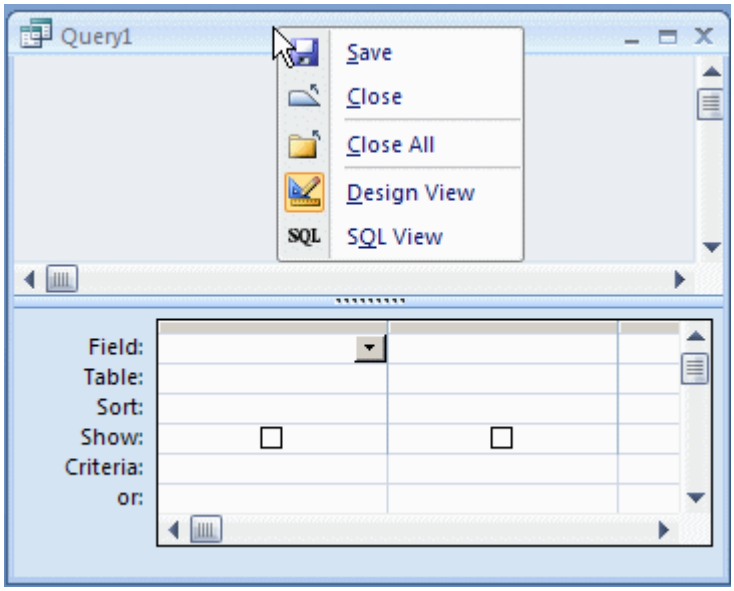
- You can right-click anywhere on the query window and click Show Table...

When a query is displaying in Design View, the Design tab of the Ribbon displays the buttons used for a query:

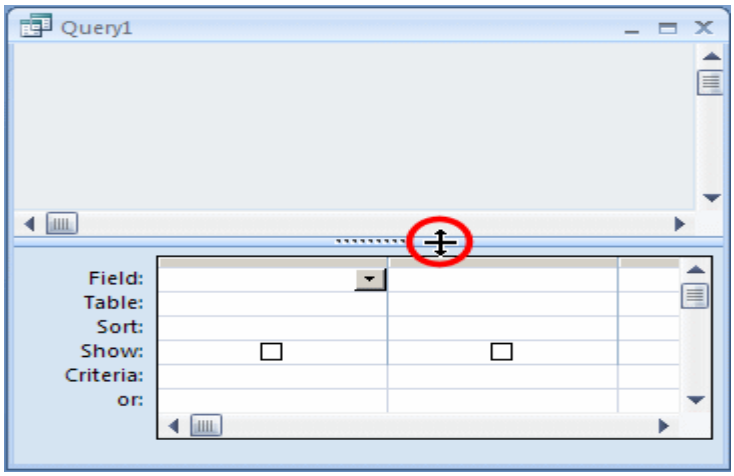


The Query Window

The Query window allows you to design and manage various aspects of a query. You can right-click the title bar of the Query window to access a menu:



One of the operations you can perform on the Query window consists of resizing its top and bottom sections by dragging the splitter bar up or down:



Selecting the Columns

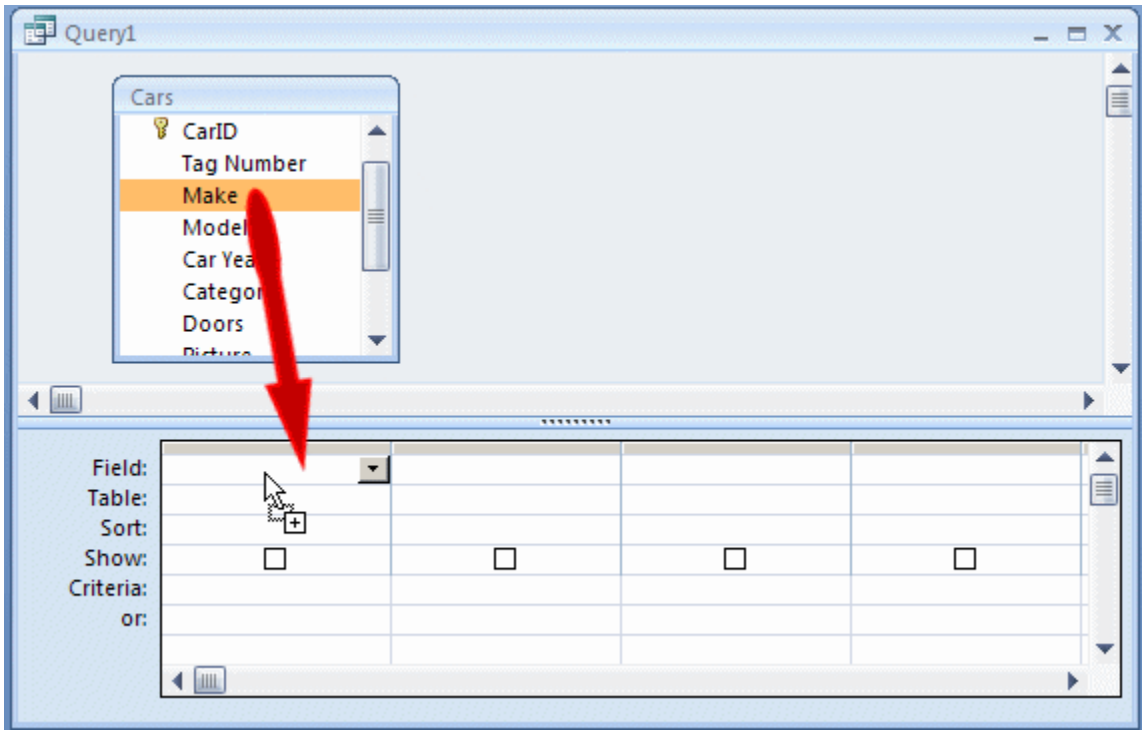
To create the fields for a query, you use the table(s) or query(queries) displayed in the upper section of the window. Once you have decided on the originating object(s), you can select which fields are relevant for your query:

- To select one field from the list, just click it
- To select many fields on the same range, you can click one of them, press and hold Shift. Then click one field on the other end of the desired range
- To select fields at random, click one of the desired fields, press and hold Ctrl; then click each one of the desired fields
- To select all fields, you can click the * line on the list of fields

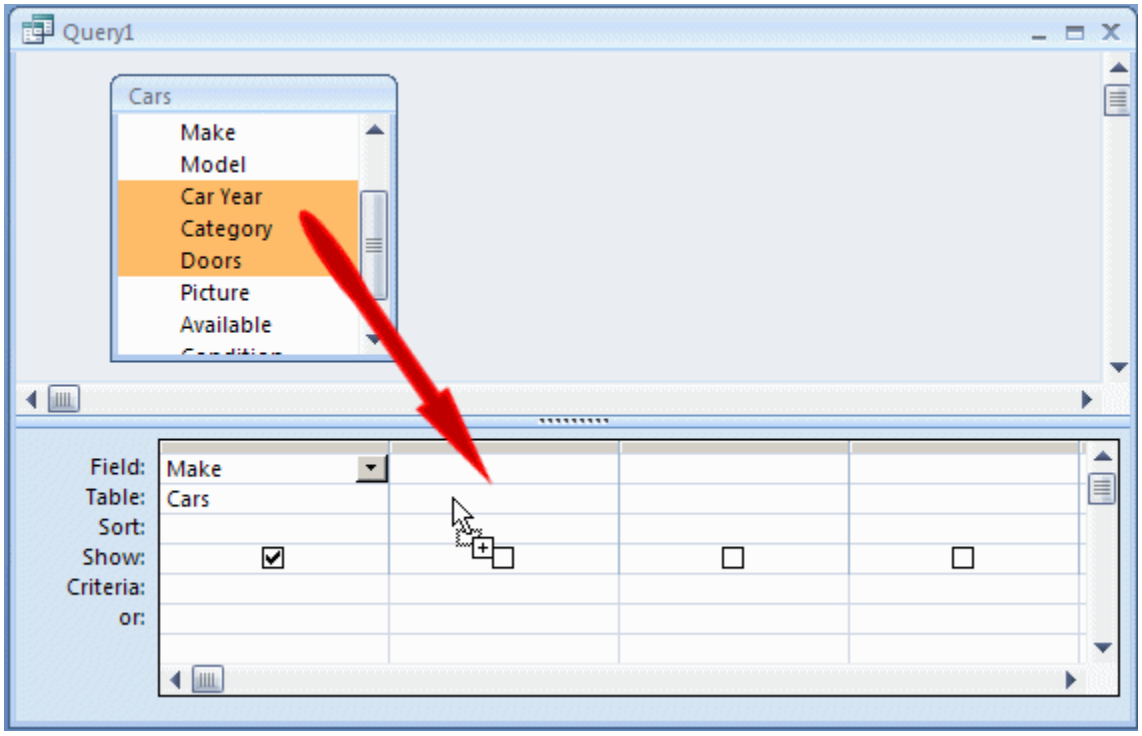
To Add Columns

To make a field participate in a query, you have various options:

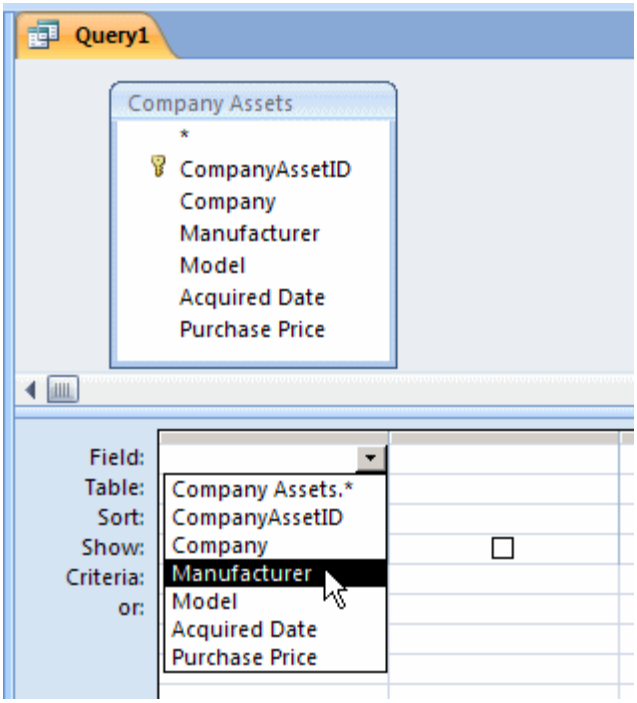
- Once you have made your selection on the list in the top part of the query window, you can drag it and drop it in the bottom section of the query window



- You can also select more than one field and drag them:

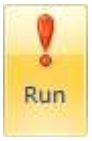


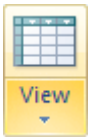
- Instead of dragging a field or all fields, you can either double-click a field to add it to the query, or double-click the line with * to add all fields to the query
- In the bottom part of the query window, click an empty Field box to show a combo box. Then click the arrow of that combo box and select an item from the list:



Executing a Query

To execute a query:

- If the query is currently closed, from the Navigation Pane:
  - You can double-click it
  - You can right-click it and click Open
- If the query is already opened and it is in Design View, on the Ribbon:
  - You can click the Run button 

  - You can click the View button 

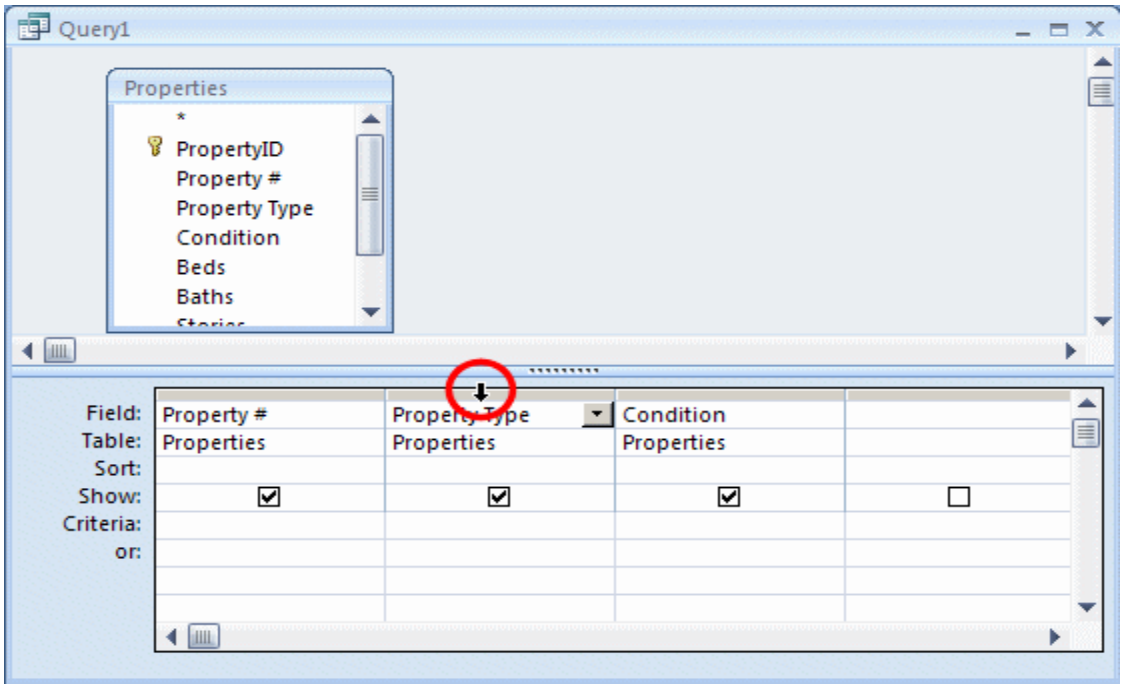
 or you can click the arrow of the View button and click Datasheet View

If you manually write a SQL statement and want to execute it, change the view to Datasheet View.

Selecting a Column

Some operations require that you select a column from the bottom section of the query window:

- To select a field in the lower section of the view, click the tiny bar of the column header:



The whole column will be selected

- To select a range of columns, click the column header of one at one end, press and hold Shift, then click the column header at the other end

Since selecting a column in the Query window is a visual operation, there is no equivalent in SQL.

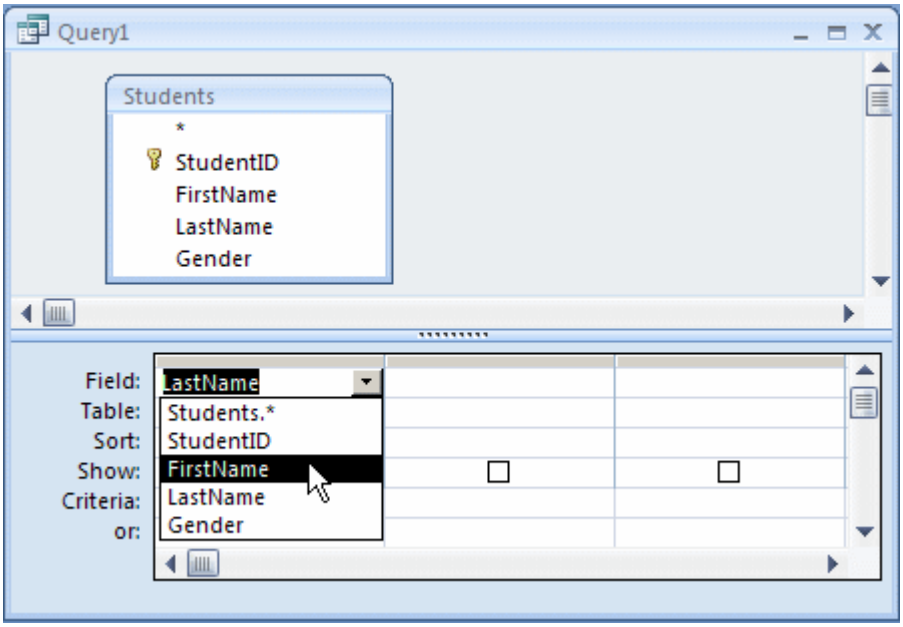
Removing a Column From a Query

As seen above, a query is built by selecting columns from the originating list and adding them. If you do not need a column anymore on a query, which happens regularly during data analysis, you can either delete it or replace it with another column:

- To delete a column:
  - Once it is selected, you can press Delete
  - Right-click the column header and click Cut
- To delete a group of columns, select them and press Delete

Replacing a Column

To replace a column, click the arrow on the combo box that displays its name and select a different field from the list:

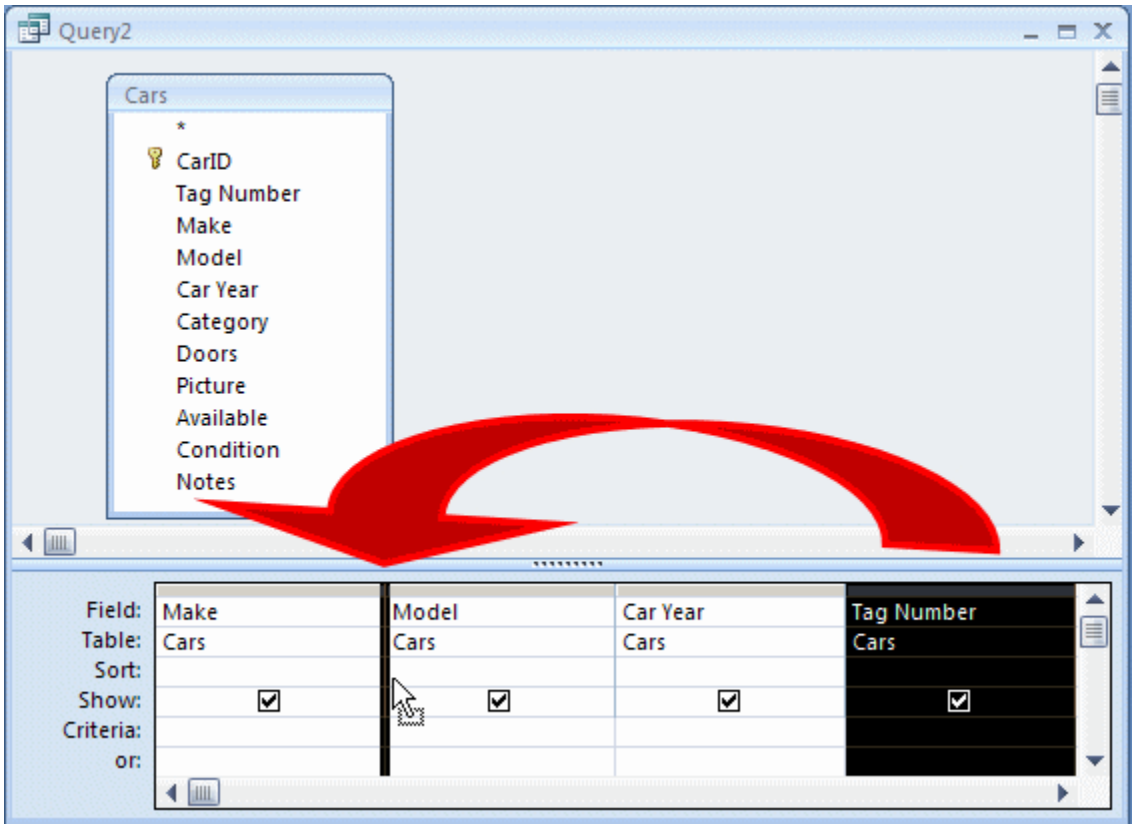


Moving a Column

Columns on a query are positioned incrementally as they are added to it. If you do not like the arrangement, you can move them and apply any sequence of your choice. Before moving a column or a group of columns, you must first select it. Then:

To move a field

1. click its column header once.
2. Click it again and hold your mouse down,
3. drag in the direction on your choice



4. To move a group of columns, first select the group and then proceed as if it were one column

To Create a select query in a desktop database:

- ✓ Click Create > Query Design.
- ✓ In the Show Table box, double-click the Products table > Close.
- ✓ To add the fields to the design grid, double-click the Product Name and List Price fields.
- ✓ In the criteria row, under List Price add a criteria. For example, >=10 to show a list of products more than or equal to $10.00.

Field:	Product Name	List Price
Table:	Products	Products
Sort:		
Show:	☑	☑
Criteria:		>=10
or:		

5. To see the query results, on the Design tab, click Run.

Product Name	List Price
Northwind Traders Chai	$18.00
Northwind Traders Syrup	$10.00
Northwind Traders Cajun Seasor	$22.00
Northwind Traders Olive Oil	$21.35
Northwind Traders Boysenberry	$25.00
Northwind Traders Dried Pears	$30.00
Northwind Traders Curry Sauce	$40.00
Northwind Traders Walnuts	$23.25
Northwind Traders Fruit Cocktail	$39.00
Northwind Traders Marmalade	$81.00
Northwind Traders Scones	$10.00
Northwind Traders Beer	$14.00
Northwind Traders Crab Meat	$18.40
Northwind Traders Coffee	$46.00

Steps To Create an Append Query

1. Click the QUERY DESIGN icon (located in the OTHER group of the CREATE ribbon). The QUERY DESIGN window then opens along with the SHOW TABLE dialog form.
2. The next step is to add **tblMoreNames** to the QUERY DESIGN window. Do this by clicking ADD in the SHOW TABLE dialog form. Notice it is the table containing the *data to behappended* that we have selected.
3. Click the APPEND icon from the QUERY TYPE group of the DESIGN ribbon. As you do this, you will see the APPEND dialog box open.
4. You are now asked to select the name of the original table to which the new data is to be appended. So select **tblContacts** from the drop down list.
5. You are also asked whether this table is stored in the current database or in an external database. In this exercise both tables are stored in the current database. This is the default button displayed in the option group, so there should not be any need to change it.
6. Click OK to close the dialog box.
7. Next we are going to select the fields from **tblMoreNames** to be appended. To do this drag and drop the **Initials** and **LastName** fields from the table (in the top half of the window) down onto the design grid.
8. Next we are going to tell Access which fields the data from **Initials** and **Lastname** will be appended *to*. To do this go down to the

APPEND TO row of the design grid (see figure 3 below), and]select **FirstName** in the **Initials** column, and **Surname** in the **LastName** Column.

Field:	Initials	LastName
Table:	tblMoreNames	tblMoreNames
Sort:		
Append To:	FirstName	Surname
Criteria:		
or:		

Figure 2: The Query Design Grid.

9. We could add query criteria at this stage, but this particular exercise does not require any. If we did, however, this is added in the CRITERIA row just like it is with a select query.
10. If you want to view the data that is going to be appended, click the VIEW icon from the RESULTS group of the DESIGN ribbon. It is especially important to do this if any if any criteria is applied in step 9 above.
11. Once you are satisfied the correct data is going to be appended, click the RUN icon, again from the RESULTS group of the DESIGN ribbon.
12. A dialog box opens informing us that 10 rows are going to be appended, and asking us to confirm that we want to go ahead with this operation. Click YES to complete.

To see the result of our Append Query, re-open tbl Contacts.

tblContacts

ID	FirstName	Surname
1	John	Jones
2	Tracey	Smith
3	Anne	McNeil
5	Gillian	Carpenter
6	Karen	Rogers
7	Amy	Sanders
8	Kevin	White
10	Mary	Brown
11	Andrew	Smith
12	James	Francis
13	Karen	Jones
15	Jenny	Smith
21	E	Jones
22	J	Smith
23	F	Walpole
24	K	Trelawny
25	D	Richardson
26	K	Brown
27	N	Robins
28	E	Bradshaw
29	I	Hope
30	N	Timson

Steps to Create Delete Query

1. Open the Employees table.

   It should open and look like this:

Employees

Employee ID	First Name	Last Name	Add New Field
1	Tom	Gumman	
2	Tina	Gumman	
3	Jeff	Tracy	
4	Norman	McDonald	
5	Stephanie	Belmont	
(New)			

   Note that Tom Gumman and Tina Gumman are currently employees.

2. Close the table.

3. Click the Create tab.

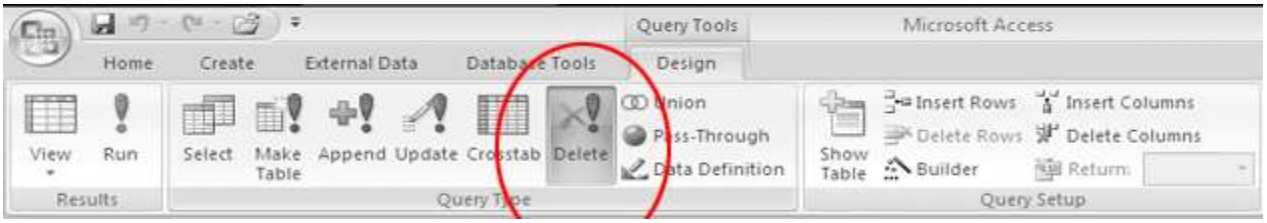
   In the Ribbon, click Query Design.

4. When the Show Table window appears, click Employees.

   Then click the Add button.

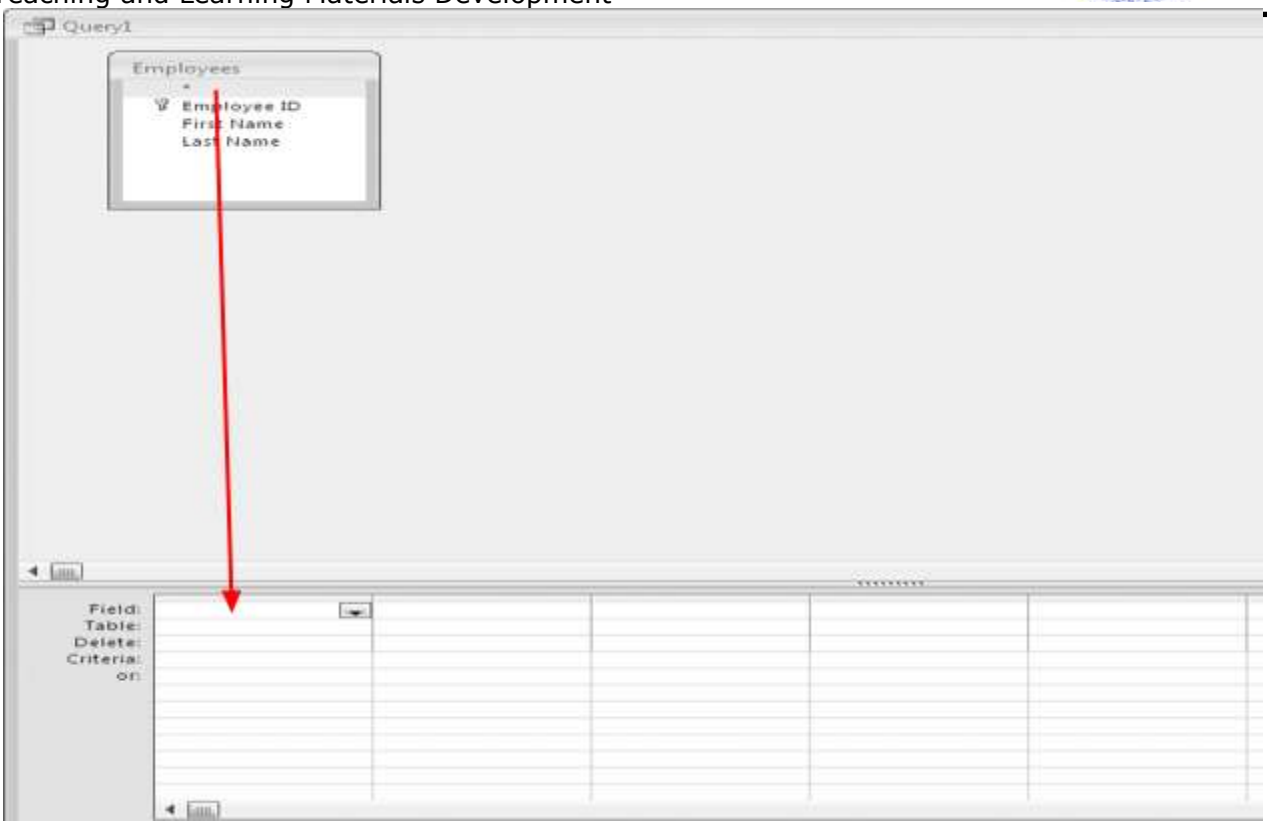
5. Click the Close button.

6. In the Ribbon, click Delete.



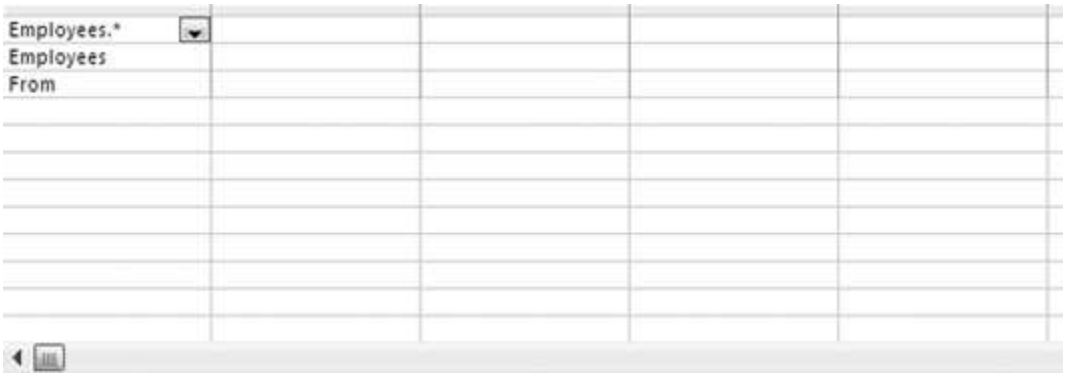
To Add fields

1. In the field list of the Employees table, click-and-drag the * field to the first column of the design grid.

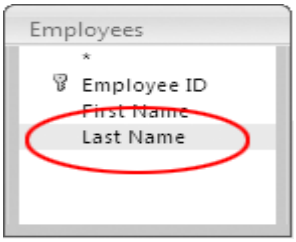


2. Release the mouse button.

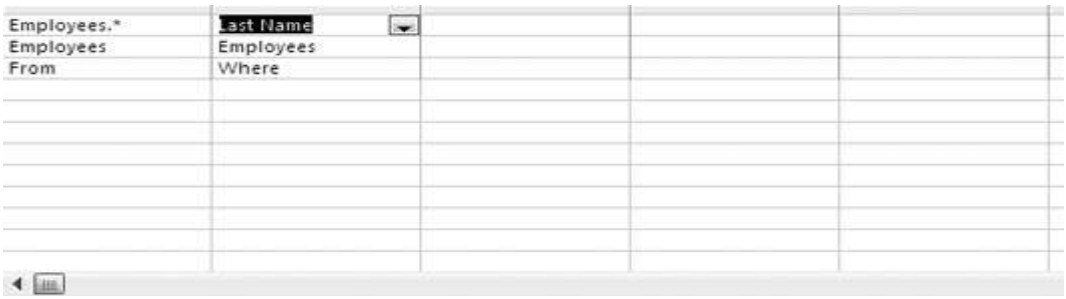
   The query design grid should look like this:



3. In the field list of the Employees table, double-click the Last Name field.



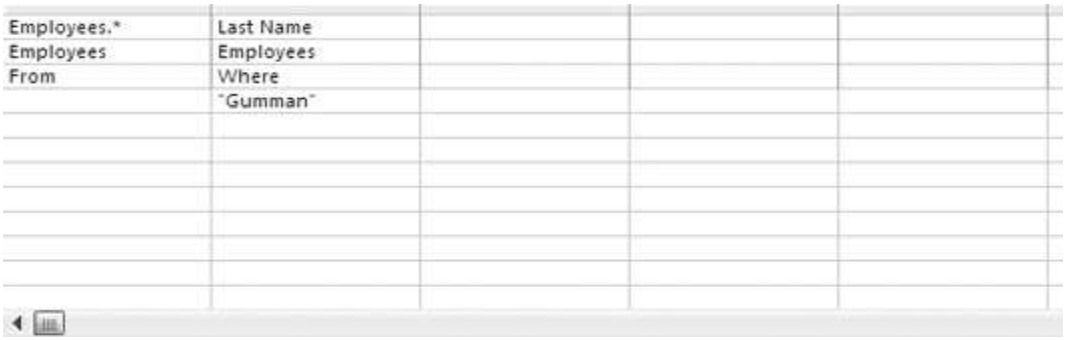
The query design grid should now look like this:



To Add criteria

1. In the Last Name column of the design grid, click in the Criteria row.

2. Type:Gumman then press the ENTER key. It should look like this:



3. In the Ribbon, click Run.

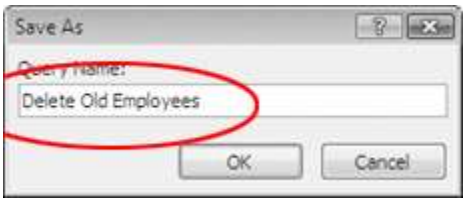
   When the alert window appears, click the Yes button.
   TIP: *Be careful when designing Delete queries. Once a record is deleted, the deletion cannot be undone.*
   You may want to run the query as a regular query first, to verify it's choosing the correct records, and then switch the type to a Delete query.

   4. On the Title Bar, click the icon.

5. When the Save As window appears, type:

Delete Old Employees

in the Query Name box.



6. Click the OK button.

7. Close the query window.

To Verify The results

1. Open the Employees table.It should look like this:

Note that Tom Gumman and Tina Gumman are no longer listed as employees.

2. Exit Microsoft Access.

Example 2

Stage 1 - Creating the initial Select Query

1. Select the CREATE TAB of the Access Ribbon.

2. Click the QUERY DESIGN icon. It is located in the OTHER group of the CREATE ribbon.
3. Select tblContacts from the SHOW TABLE dialogue box.
4. Drag the asterix (*) from tblContacts down to the first column of the DESIGN GRID. This is a way of getting the query results to display all fields from the table without having to select each one individually.
5. Then Drag the Company field from tblContacts down to the second column of the grid. We have added this field separately because we are going to enter a criteria in this column.
6. Click on the CRITERIA row of the Company column, and add the criteria: "Company 5"

The Select Query has now been created. It should look like this:

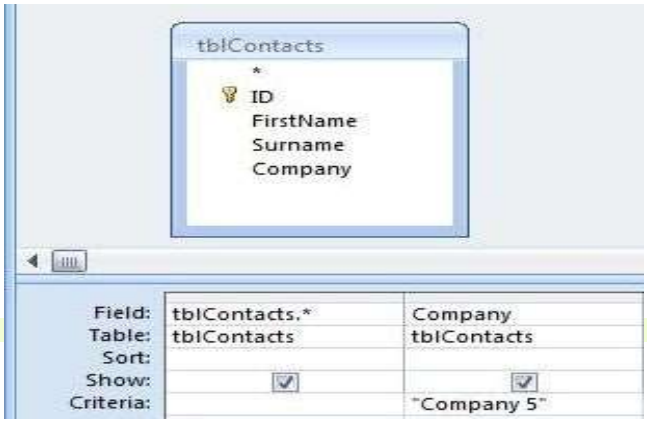


Figure 2: The Select Query created in the first stage of the *Delete Query*.

It is advisable to run the query at this point and check the results are correct. They should look like this:

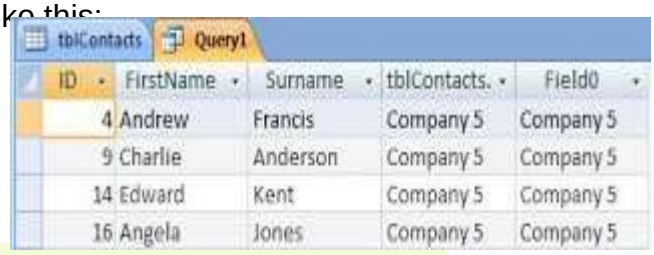


Figure 2: The results from the Select Query.

As you can see, our select query has found four records from tblContacts matching the criteria of Company 5". Since this is the correct result for the dataset we are working with, we can move onto the second stage of the process: converting the *Select Query* to a *Delete Query*.

Stage 2 - Converting the Initial Select Query to a Delete Query

1. If you look at the QUERY TYPE group of the DESIGN ribbon, you will notice that the SELECT QUERY icon is highlighted orange. We need to change this to DELETE QUERY. To do this just click the DELETE QUERY icon further along the group.

Figure 3: The QUERY TYPE group of the DESIGN ribbon.
The DELETE QUERY icon is highlighted orange.

2. After clicking the DELETE icon, you will notice that the row of SHOW tick boxes disappears from the DESIGN GRID, along with the row for SORT. A new row entitled DELETE has taken their place. Access has filled in the values of FROM and WHERE in the first and second columns respectively. These are SQL Keywords: the FROM keyword indicates the first column contains fields *from* tblContacts, and WHERE indicates the Company column contains a criteria against the data stored in this field.

Figure 4: The QUERY DESIGN GRID for our DELETE Query. Notice the new row for DELETE containing the SQL FROM and WHERE Keywords.

3. Click RUN from the QUERY RESULTS group.
4. Click YES when prompted whether we want to delete the number of rows matching our query criteria. This will be four rows for the dataset we have been working with.

We can now go back and open the tblContacts table. As you can see from Figure 5 below, all Company 5 contacts have been removed by our DELETE QUERY.

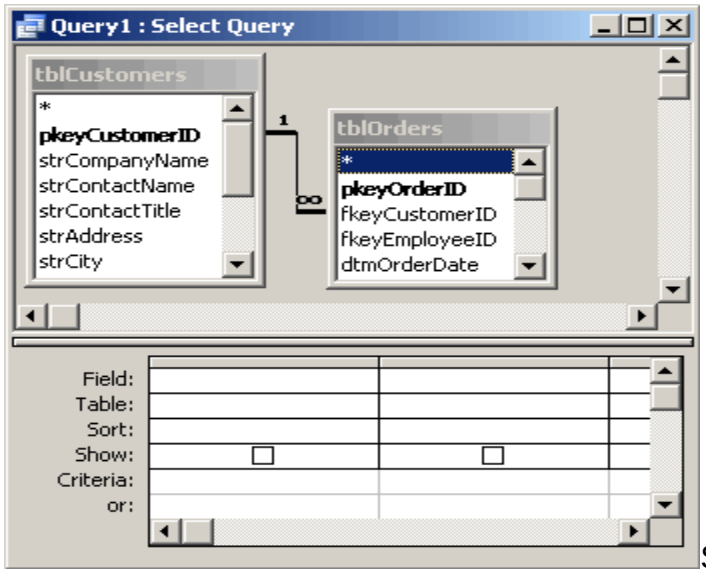
Query1 tblContacts

ID	FirstName	Surname	Company
1	John	Jones	Company 2
2	Tracey	Smith	Company 3
3	Anne	McNeil	Company 4
5	Gillian	Carpenter	Company 1
6	Karen	Rogers	Company 2
7	Amy	Sanders	Company 3
8	Kevin	White	Company 4
10	Mary	Brown	Company 1
11	Andrew	Smith	Company 2
12	James	Francis	Company 3
13	Karen	Jones	Company 4
15	Jenny	Smith	Company 1

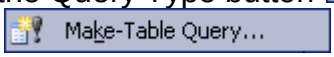
Steps to Create Make table Query

Using our scenario, we will create a make-table query for all customers from the specified area that have ordered products in the past 12 months. We will need to perform the following steps to create the query:

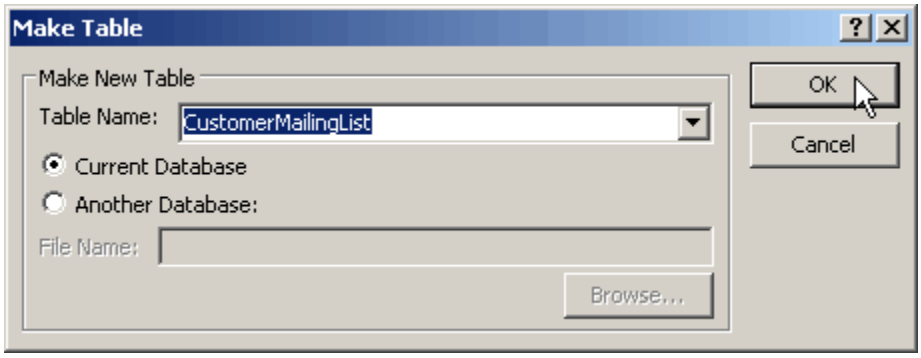
1. Create a new query, by using the Customers and Orders tables.



Steps to

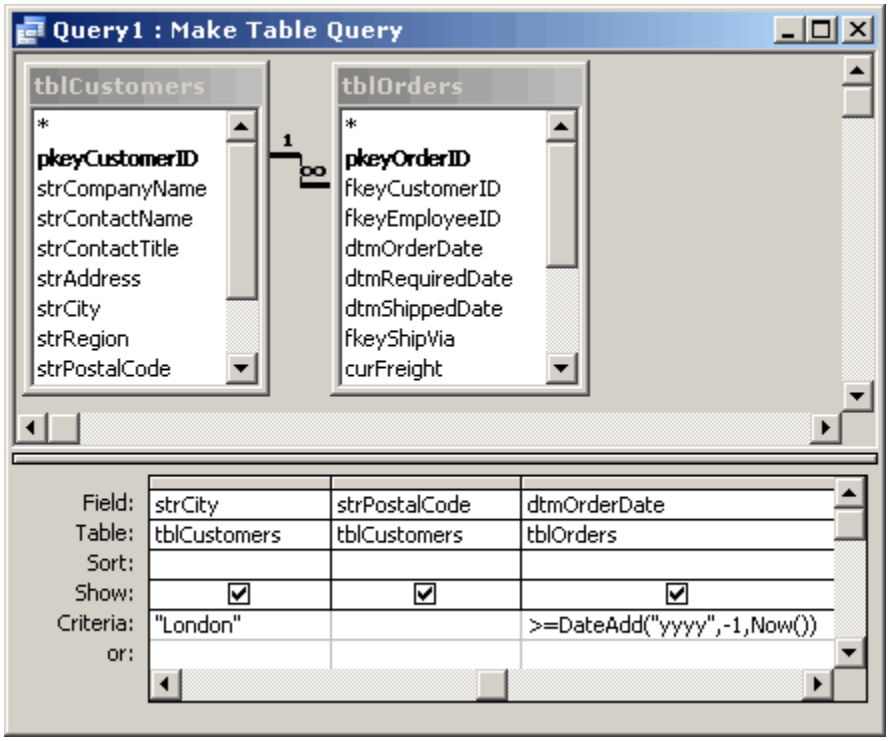
2. From the Query Type button  on the toolbar, select Make Table 

   The Make Table dialog box appears, where you should enter the name for the new table. Here we can also select whether we want to create the new table in the current database or in another database. Ensure that the current database is selected and click OK.

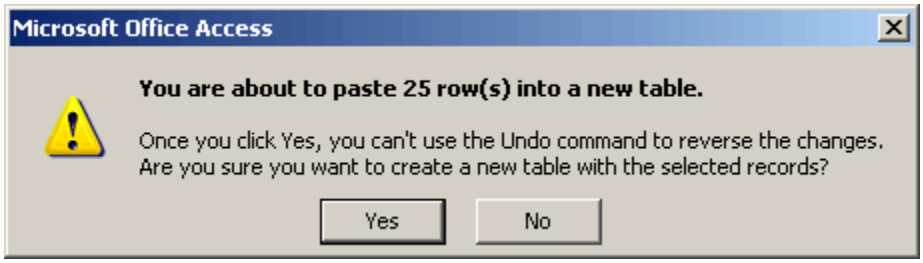


3. Select the mailing information fields, in our case CustomerTitle, CustomerName, Address, City, Postcode from the Customers table, and OrderDate from the Orders table.
4. Specify the chosen City criteria in the City field and add the criteria required in the OrderDate field to only show records from the last 12 months - using the DateAdd function: >=DateAdd("yyyy",-1,Now())

   The query design should appear like the example below:

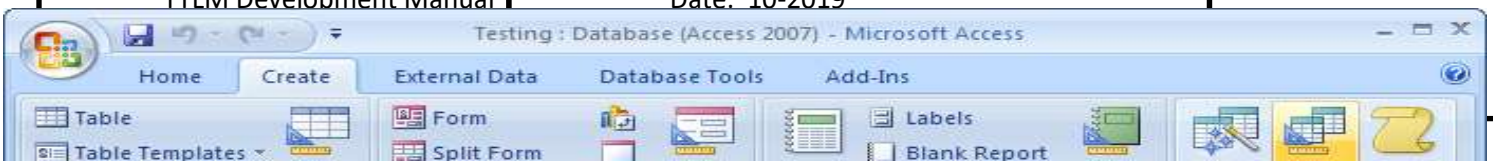


5. To check that the results are returned that we expect, click on the datasheet button on the toolbar. Once you have verified this, switch back to query design view.
6. In query design, deselect the Show: property for the OrderDate field, as we do not need this to be visible in our new table.
7. Click on the Run button on the toolbar. Microsoft Access now displays a message to indicate how many records will be copied to the new table.



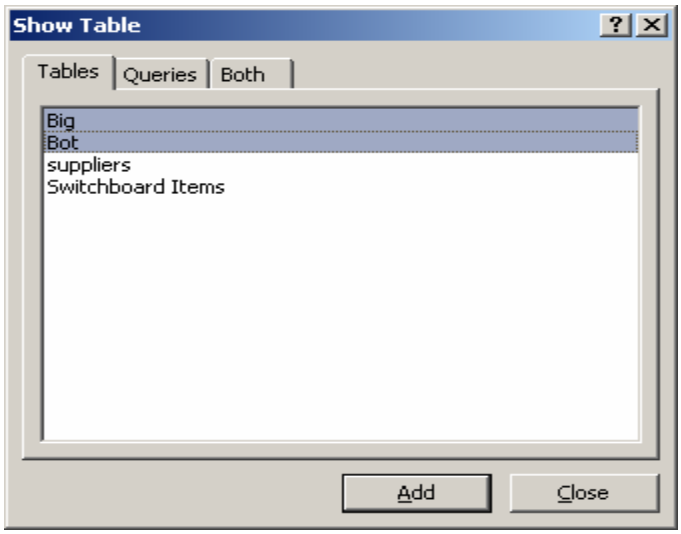
8. Click Yes to complete the query, and create the new table.

Using an Update Query Example 1

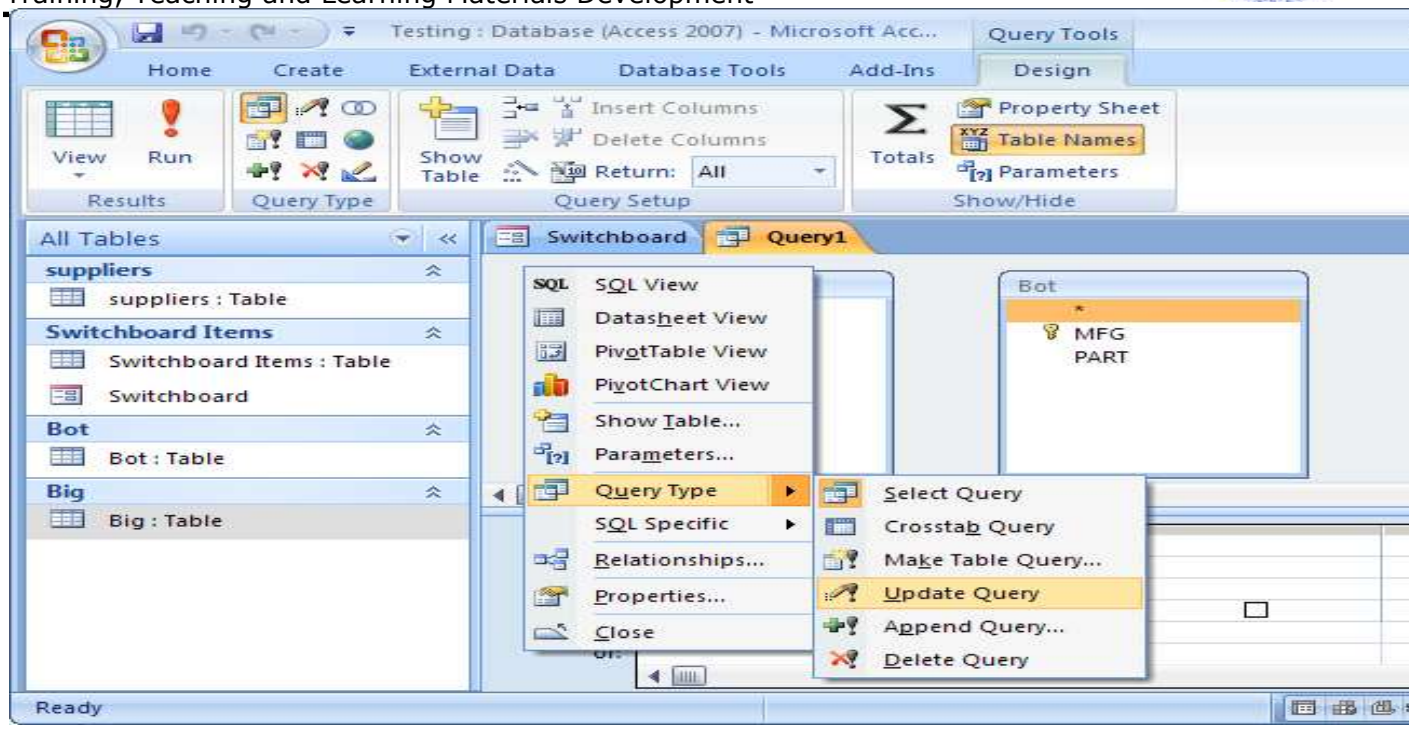


1. When the Show Table window appears, select the tables that you wish to use in the query
2. Click on the Add button. When you have finished adding your tables
3. Click on the Close button.

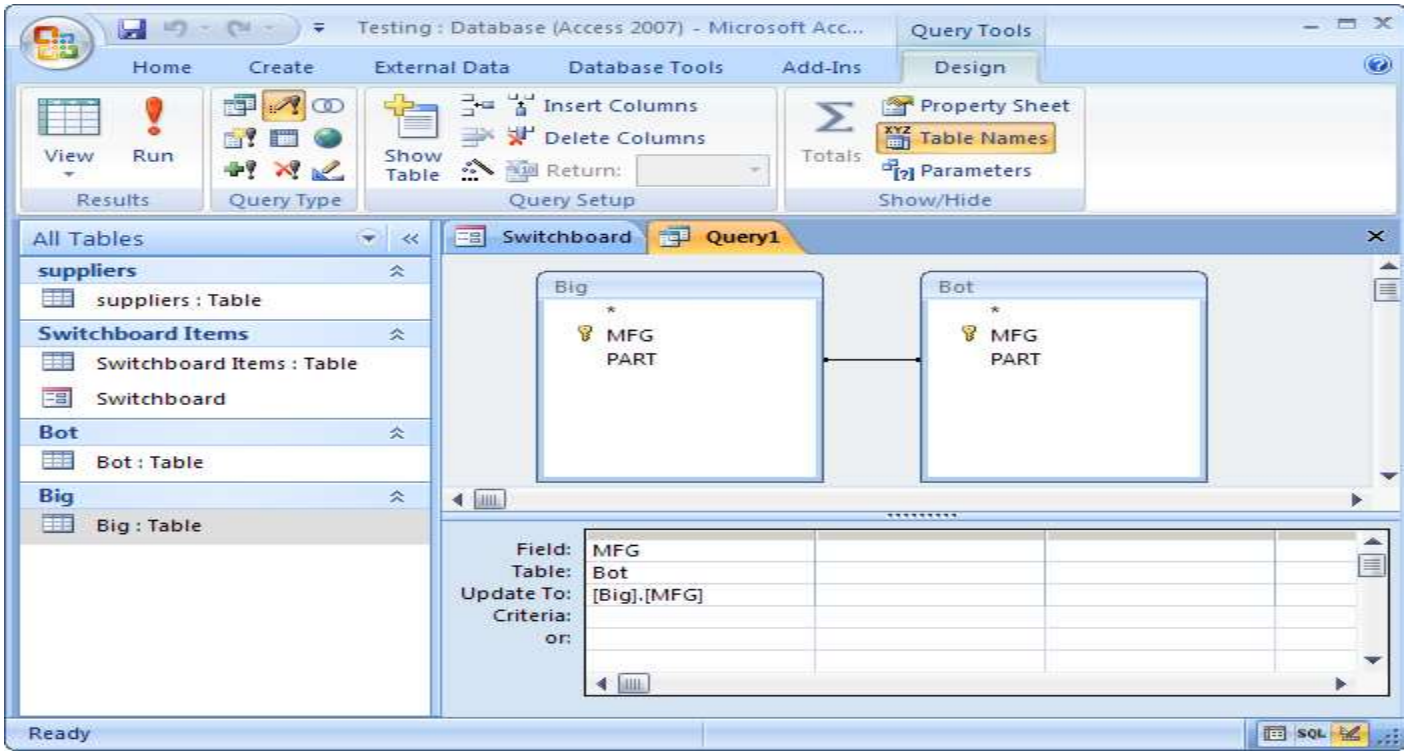
In this example, we've selected the Big and Bot tables. You can select multiple tables by holding down the Ctrl key while selecting the table names.



4. Next, right-click somewhere next to the tables (but not on a table) in the query editor,
5. select Query Type > Update Query from the popup menu.



6. Next, build the query like the one below:



This query will update the MFG field in the Bot table with the value in the MFG field in the Big table when the PART values match.

The SQL for this query is as follows:

```
UPDATE Big INNER JOIN Bot ON Big.PART = Bot.PART

SET Bot.MFG = [Big].[MFG];
```

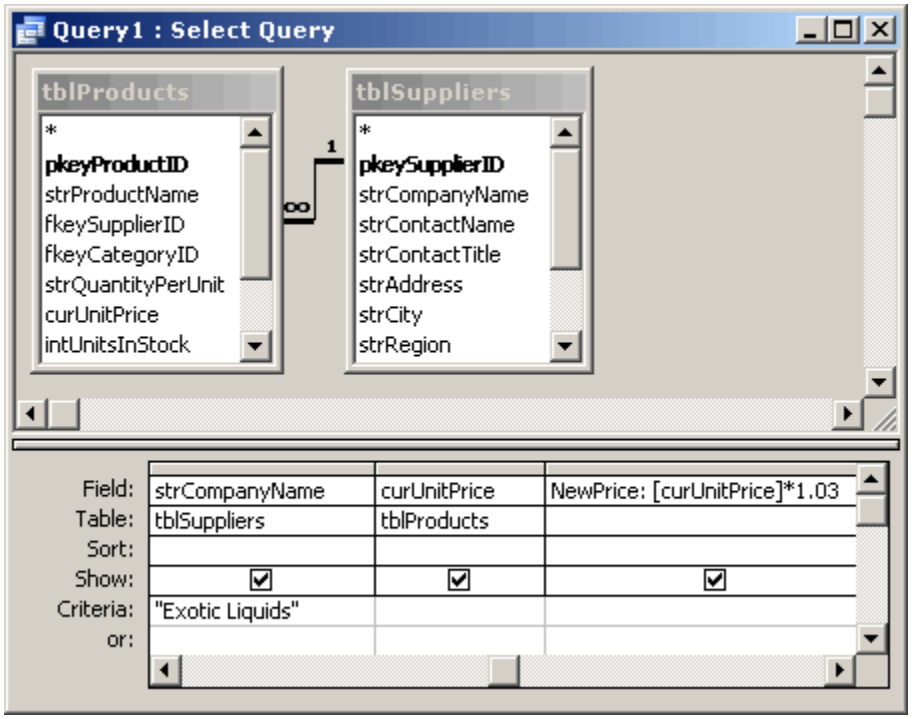
Example 2

Here are the steps that we follow to produce the required outcome:

1. Create a new query using the Products table and the Suppliers table. Include the fields that you are going to use to update the data (ProductID, ProductName and UnitPrice from the Products table, and CompanyName from the Suppliers table)

   We have also included criteria in the CompanyName field to limit the results to only those of the Supplier that we are updating the records for.

   Also, in the image below, you will see that we have included an additional field, just to test our expression. This will give us a value for the 3% increase, just to check that the results will be returned correctly. This field will be removed before we run the update, but we will use the expression later.



   Creating a SELECT query, that will later be changed to the UPDATE Query

2. To check what results this will produce, run the query by clicking on the datasheet  button

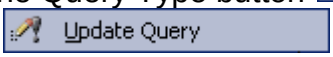
Query1 : Select Query

Product ID	Product Name	Company Name	Unit Price	NewPrice
1	Chai	Exotic Liquids	£18.00	£18.54
2	Chang	Exotic Liquids	£19.00	£19.57
3	Aniseed Syrup	Exotic Liquids	£10.00	£10.30
utoNumber)				

Record: 1 of 3

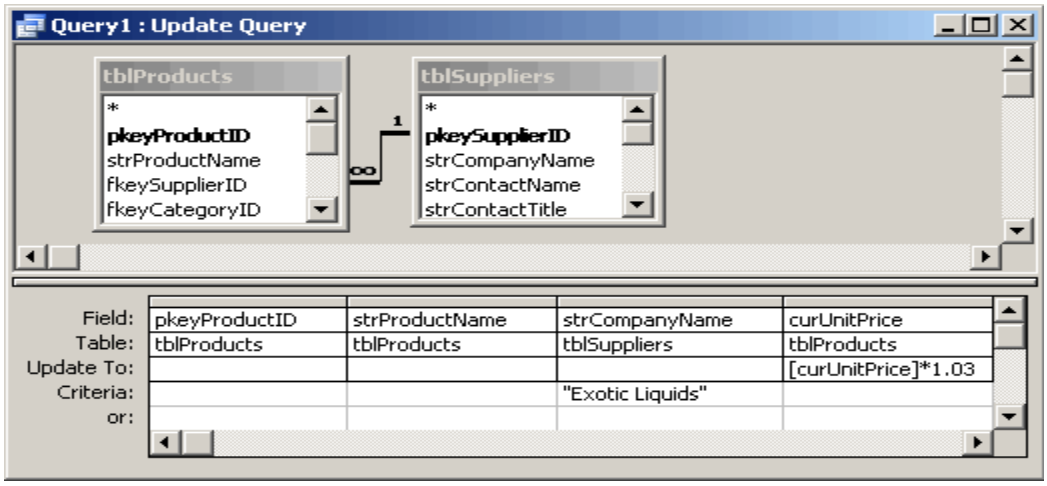
Checking the results before running the Update Query

3. When we are happy with the resulting data, we can switch back to design view to convert the query to an Update query.

From the Query Type button on the toolbar, select Update Query 

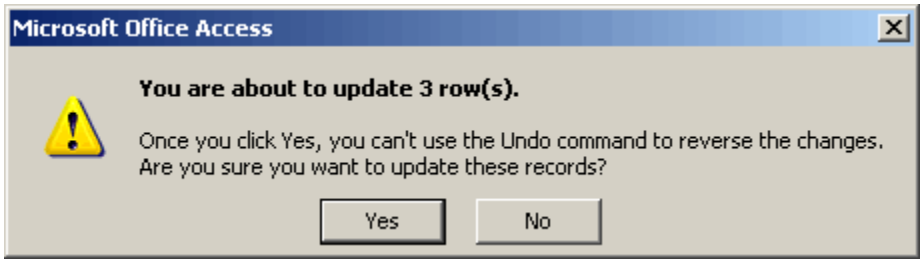
In the curUnitPrice column, in the Update To cell, type in the expression[curUnitPrice]*1.03 and press enter. This expression will update the original Unit Price by 3 Percent.

The query design should now look like:



The Update Query design

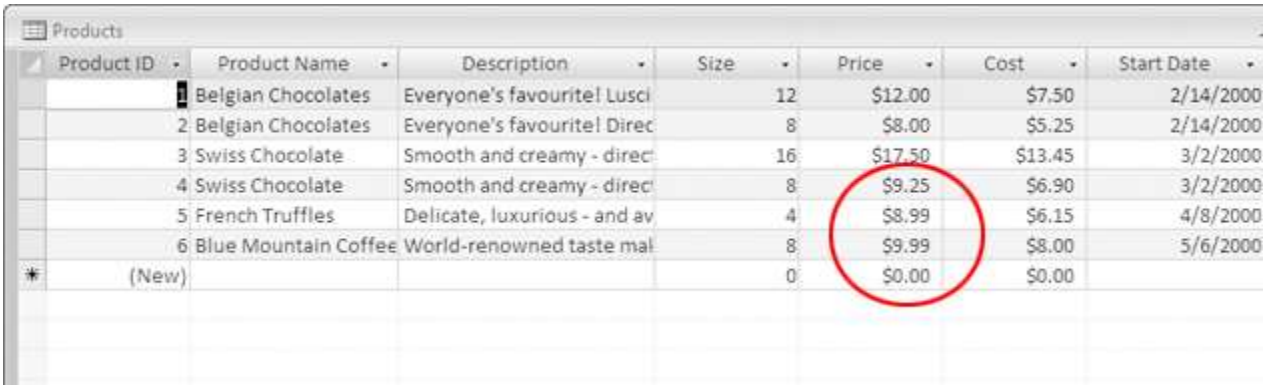
4. We now need to Run this query, using the Run button to update the data in our Products table that meets the criteria that is applied. The warning dialog box indicates the number of records that will be update, click Yes to accept this:



Example 3

1. Open the Products table.

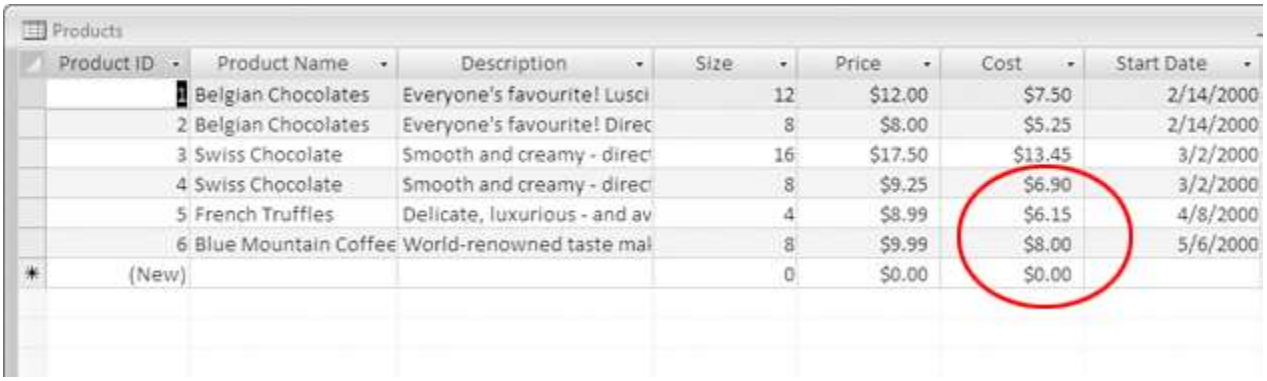
2. Note the price (to customers) of French Truffles ($8.99) and Blue Mountain Coffee ($9.99).



Products

Product ID	Product Name	Description	Size	Price	Cost	Start Date
1	Belgian Chocolates	Everyone's favourite! Lusci	12	$12.00	$7.50	2/14/2000
2	Belgian Chocolates	Everyone's favourite! Direc	8	$8.00	$5.25	2/14/2000
3	Swiss Chocolate	Smooth and creamy - direct	16	$17.50	$13.45	3/2/2000
4	Swiss Chocolate	Smooth and creamy - direct	8	$9.25	$6.90	3/2/2000
5	French Truffles	Delicate, luxurious - and av	4	$8.99	$6.15	4/8/2000
6	Blue Mountain Coffee	World-renowned taste mal	8	$9.99	$8.00	5/6/2000
(New)			0	$0.00	$0.00	

3. Note the cost (to the store) of French Truffles ($6.15) and Blue Mountain Coffee ($8.00).



Products

Product ID	Product Name	Description	Size	Price	Cost	Start Date
1	Belgian Chocolates	Everyone's favourite! Lusci	12	$12.00	$7.50	2/14/2000
2	Belgian Chocolates	Everyone's favourite! Direc	8	$8.00	$5.25	2/14/2000
3	Swiss Chocolate	Smooth and creamy - direct	16	$17.50	$13.45	3/2/2000
4	Swiss Chocolate	Smooth and creamy - direct	8	$9.25	$6.90	3/2/2000
5	French Truffles	Delicate, luxurious - and av	4	$8.99	$6.15	4/8/2000
6	Blue Mountain Coffee	World-renowned taste mal	8	$9.99	$8.00	5/6/2000
(New)			0	$0.00	$0.00	

4. Close the Products table.

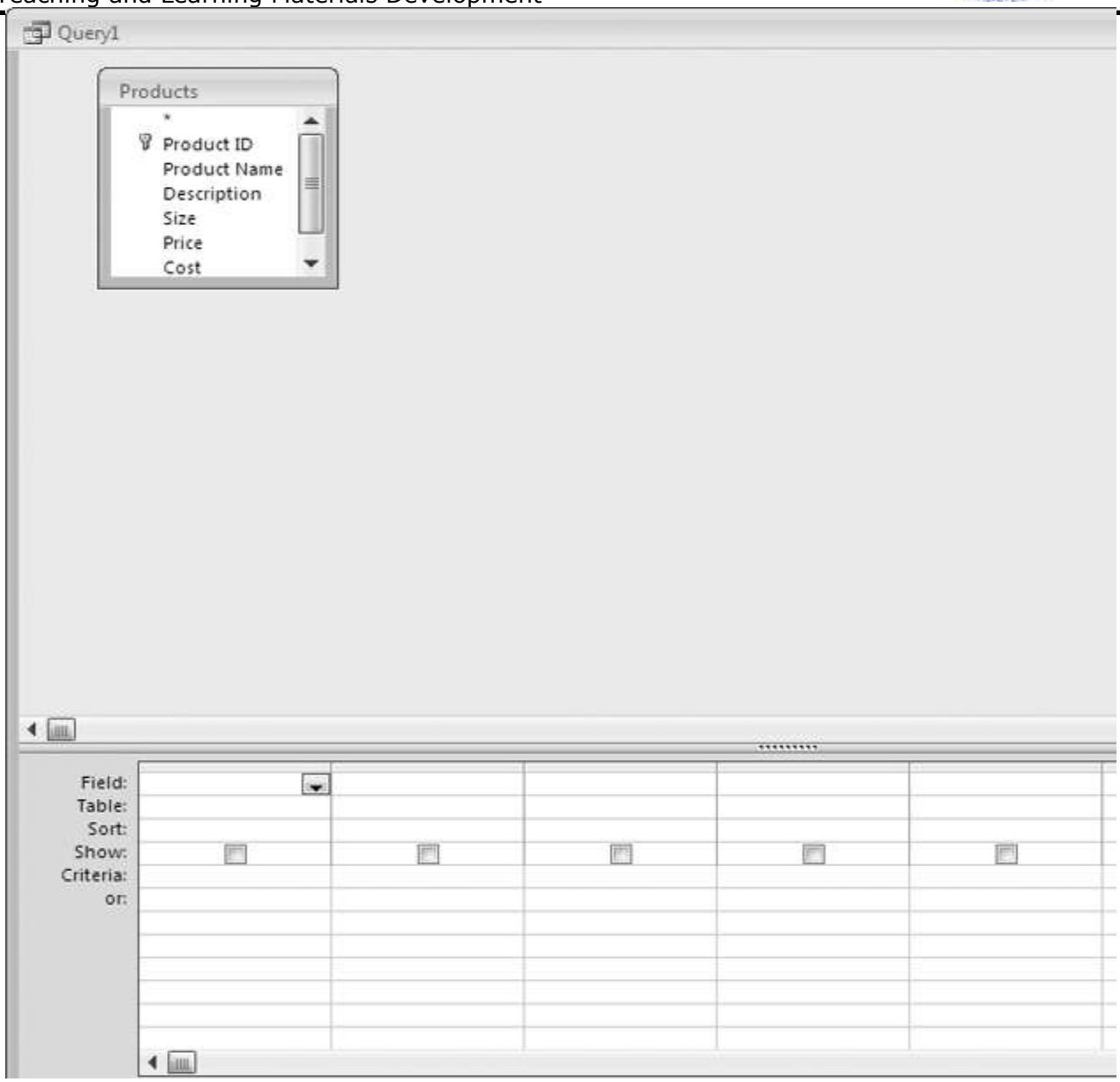
5. Make sure the Create tab is selected.

   In the Ribbon, click Query Design.

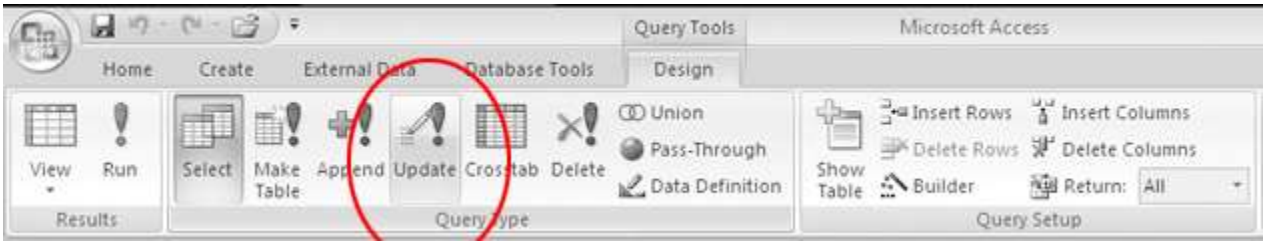
   6. When the Show Table window appears, click Products.

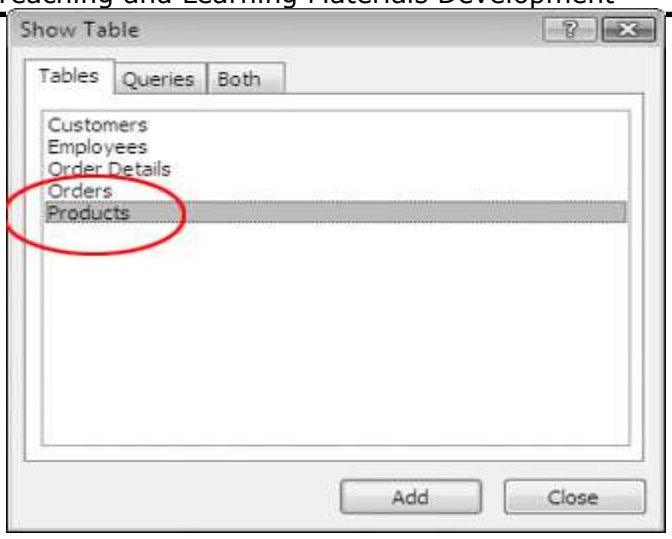
7. Click the Close button.

   The query window should look like this:



8. In the Ribbon, click Update.

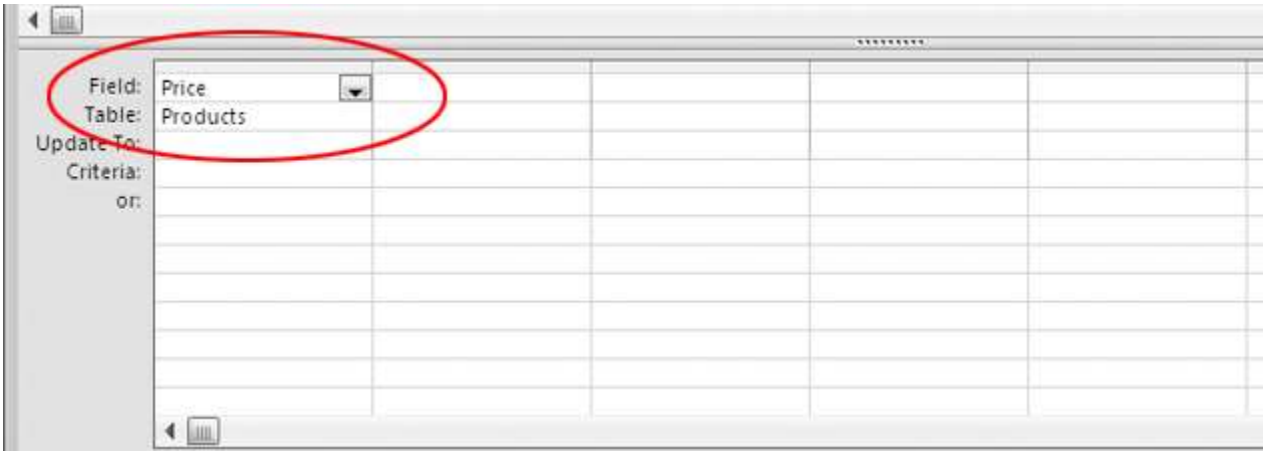




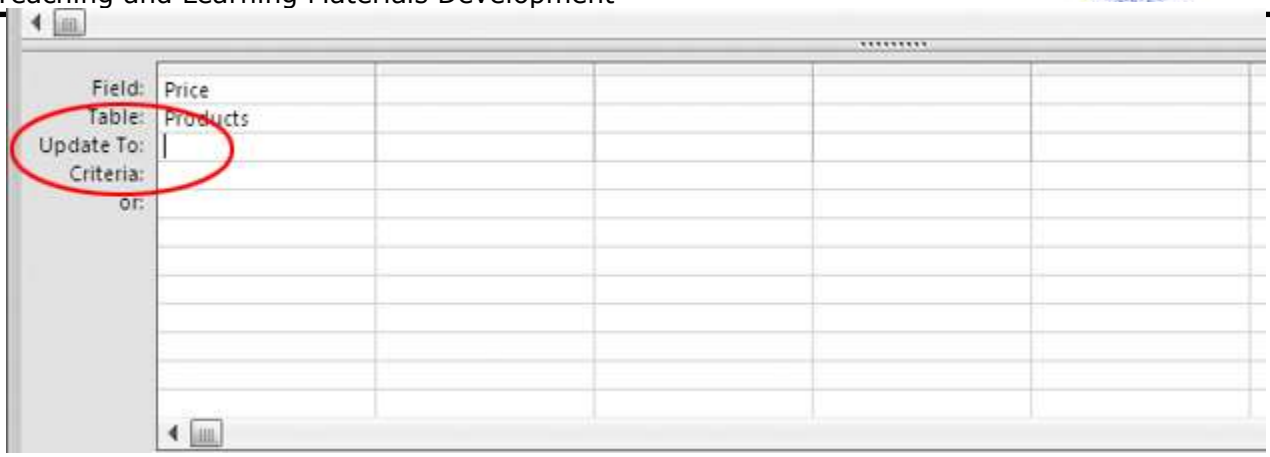
Then click the Add button.

10. In the field list of the Products table, scroll down and double-click the Price field.

The query design grid should now look like this:

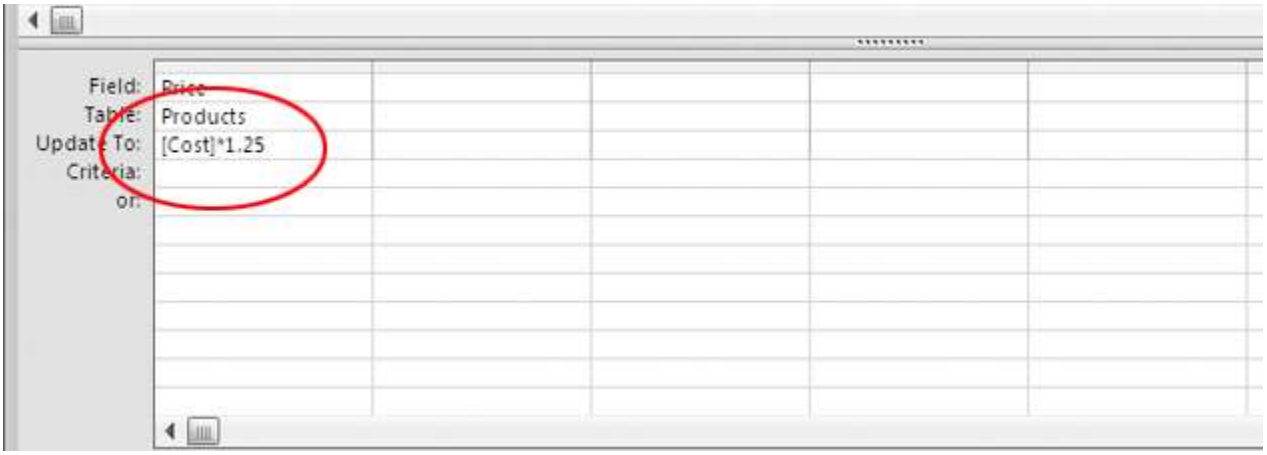


11. In the Price column, click in the Update To row.



12. Type:

[Cost]*1.25



Then press the ENTER Key.
TIP: *Make sure that you've enabled all content in the database. To do that, click the* Options... *button if the Security Warning bar is showing.*
This will raise prices for all products by 25%.

TIP: *The square brackets [ ] tell Access that Cost is a field.*

13. In the Ribbon, click Run.

14. In the Title Bar, click the icon.

15. When the Save As window appears, type:

Update Product Prices
in the Query Name box.

Then click the OK button.

16. Close the query window.

To Verify results

1. Open the Products table. It should look like this:

Products

Product ID	Product Name	Description	Size	Price	Cost	Start Date
1	Belgian Chocolates	Everyone's favourite! Lusci	12	$9.38	$7.50	2/14/2000
2	Belgian Chocolates	Everyone's favourite! Direc	8	$6.56	$5.25	2/14/2000
3	Swiss Chocolate	Smooth and creamy - direc	16	$16.81	$13.45	3/2/2000
4	Swiss Chocolate	Smooth and creamy - direc	8	$8.63	$6.90	3/2/2000
5	French Truffles	Delicate, luxurious - and av	4	$7.69	$6.15	4/8/2000
6	Blue Mountain Coffee	World-renowned taste mal	8	$10.00	$8.00	5/6/2000
(New)			0	$0.00	$0.00	

Note the updated price of French Truffles ($7.69) and Blue Mountain Coffee ($10.00).

2. Close the Products table.

Parametric Query

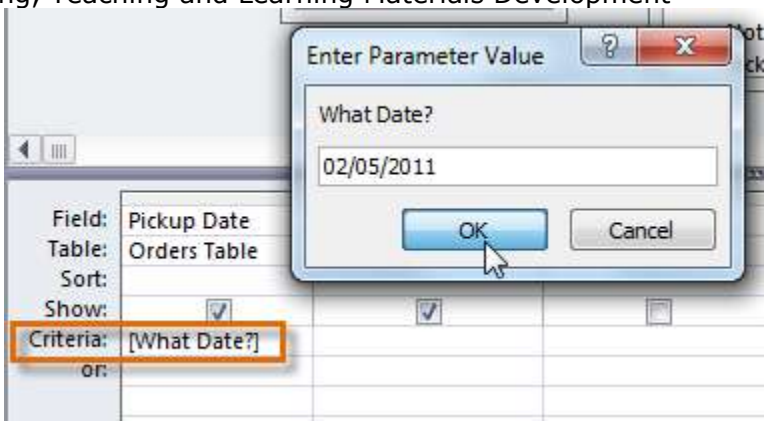
Example 1

1. View the query in design view
2. In the criteria cell for the appropriate field(s), type in the desired expression within the square brackets([ ])

   For example, using a parameter to query for date valWhen the query is run, Microsoft Access displays this text to prompt the user for the criteria. The text of the prompt must be different from the field name, although it can include the field name.
3. Run the parameter query
4. When you are prompted to enter a parameter value, enter the value of the data that you want to view and click OK.:

Steps To create and run a parameter query:

1. Create a query as you normally would, modifying the table joins if necessary, selecting the fields to include in your query, and adding any nonvariable criteria to the appropriate fields in the Criteria: row.
2. Locate the field or fields where you would like the variable criteria to appear, and place your cursor in theCriteria: row.
3. Type the phrase you would like to appear in the prompt that will pop up every time you run your query. Make sure to enclose the phrase in brackets [ ]. For example, in our parameter query that searches for orders placed on a certain date, we might type our criteria like this: [What date?].
4. On the Query Design tab, click the Run command to run your query. A dialog box will appear with the prompt you specified. Enter your search term, then click OK to view your query results.



To run an existing parameter query, simply open it.

LAP Test	Creating Database Queries

Name: _____ Date: _____

Time started: _____ Time finished: _____

- Tsak1. Perform the following by using a navigation button
    - Go to the first record
    - Go to the previous record
    - **Current Record** box
    - Go to the next record
    - Go to the last record
    - Open a new (blank) record
- Task.2 Create Query
    - ✓ Create query using query button
    - ✓ Create query using query wizard

Create the following types of queries

- ✓ Create Select Query
- ✓ Create Action Query
- ✓ Create Append Query
- ✓ Create Update Query
- ✓ Create Make table Query
- ✓ Create Delete Query