Microsoft Access

Queries

In this lesson you will learn how to:

- *Perform Select Queries*
- *Work on Query Grid*
- *Use Operators*
- *Use Wildcards*
- *Use the Expression Builder*
- *Perform Cross tab Queries*
- *Perform Find Duplicates Query*

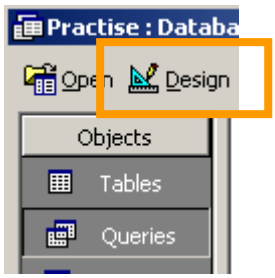
Print out this lesson, practising the techniques on your own PC as we work through the lesson.

Open up a new Access 2000 Database and name it Practise, we will use this database for the whole lesson. You can easily delete it when you are finished with the lesson, by going to my documents in your files, and finding the practise database, right clicking on it and chose delete.

Select Query

We will start with the Select Query.

Type the following information, into your database. Use the Design View.



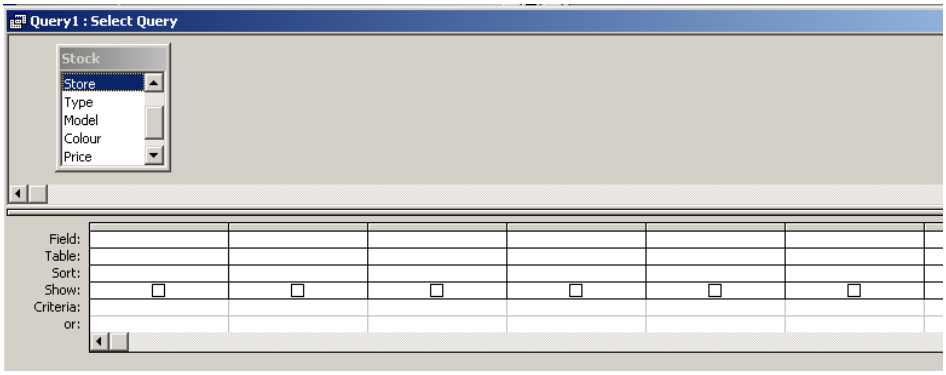
Stock : Table

Store	Type	Model	Colour	Price	No in Stock
Milton Keynes	Racer	Spirit20	Blue	£359.99	10
Milton Keynes	Racer	Speedy18	Green	£359.99	2
Milton Keynes	Tricycle	Pixie5	Yellow	£60.50	6
Milton Keynes	Racer	Spirit18	Red	£279.99	10
Olney	Tandem	Twin20	Red	£399.00	1
Olney	Mountain	Ropughtrack1	Blue	£89.99	5
Olney	Mountain	Roughtrack6	Silver	£129.99	6
Olney	Tricycle	Pixie5	Yellow	£60.50	8
Olney	Tricycle	Pixie10	Red	£65.99	6
Newport Pagne	Racer	Speedy18	Silver	£339.99	4
Newport Pagne	Mountain	Roughtrack1	Blue	£89.99	14
Newport Pagne	Racer	Spirit18	Bronze	£279.99	2
Newport Pagne	Tricyle	Pixie5	Yellow	£60.50	2
Cranfield	Mountain	roughtrack6	Green	£129.99	6
Cranfield	Racer	Spirit20	Black	£359.99	5
				£0.00	0

Go to the Database Menu after you have saved your table and named it Stock.

Create a new query, do not use the wizard but chose the design view to create it.

The query Grid is the place where you ask Access 2000 to filter the data.



Query Grid

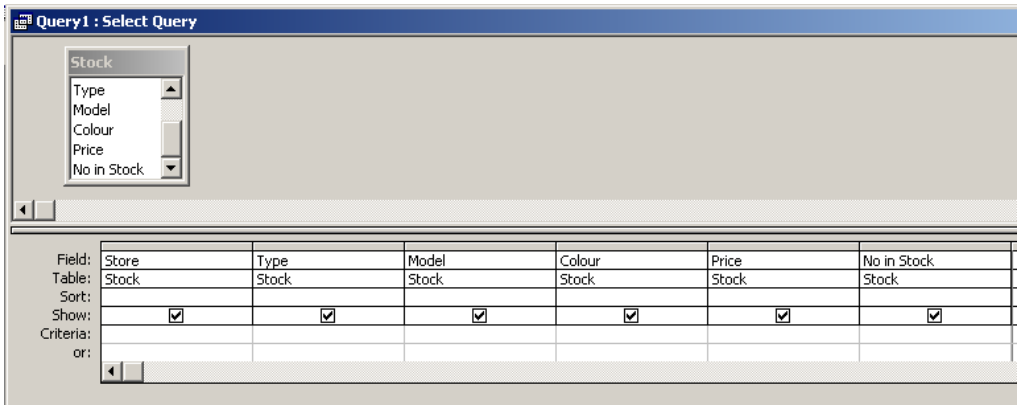
On the Query grid I have added the Stock Table, Access 2000 prompts you to insert a table before the grid is opened.

Along the left hand side of the grid are Field, Table, Sort, show, Criteria, and Or.

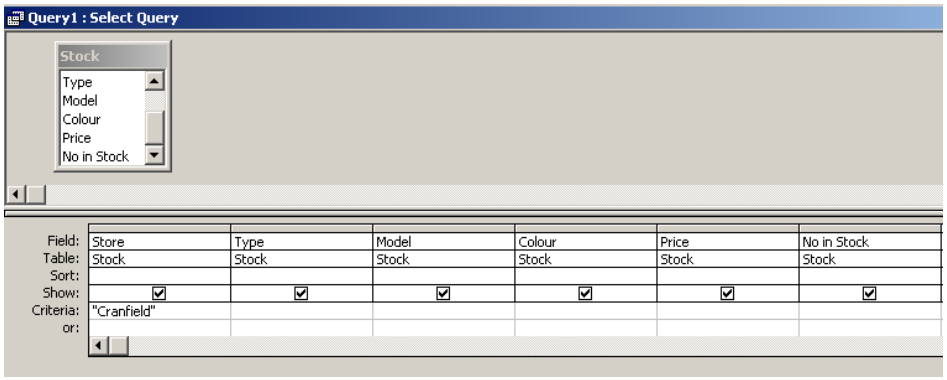
Field -- the field in the table.
Table -- the table that you are querying in this case Stock
Sort -- where the data is sorted into Ascending or Descending order
Show -- where you can choose to display or not display a field
Criteria -- This is where you enter information to get results from the query.
Last ‘or’ -- you can chose to add information here, when you want to get more results.

You will notice a drop down box will appear in the first 3 fields of the Query Grid.

Enter the following information to your grid. You can do this by clicking and dragging the field from the Table Box onto the Query Grid. Or you can type the fields in. By doing this you can also change the columns order if you want to.



The first filter on this query is to find all of the bikes in the Cranfield Store. Enter Cranfield in the Criteria box. On the Store column.



To view the results click on the Datasheet View in the left hand corner of your screen.

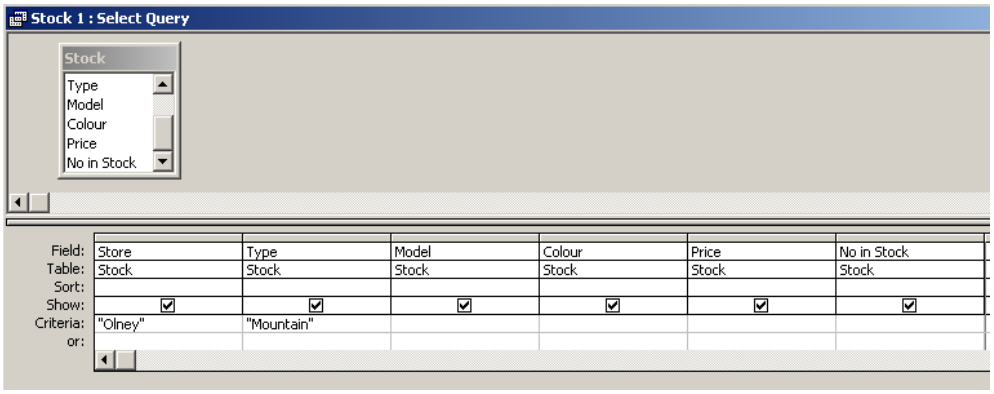
Access 2000 will then go to the Query Table to show you the results. You should have 2 records. If you do not check you have entered in the correct information on the database table. Then run your query again.

Delete Cranfield and search for all Mountain Bikes (there should be 4). Note you will need to go to the 'Type' column.

Search for all Silver bikes (there should be 2). Colour column
You can use upper or lower case text for your criteria.

Now search for all Mountain bikes in the Olney Store, remember to delete the previous criteria. You will need to enter criteria in two columns. 'Type' and 'Store'

After you have entered the text. Go to Datasheet view to check the table. (There should be 2 records).



Try the following:
Find all records for Yellow Pixie5
Find all Records for Racers in Milton Keynes.

Operators

Now we will learn about “Operators”, you can ask Access 2000 to check table on “Operators”. See the Table below for a list of “Operators”.

Arithmetic Operators		Comparison Operators		Logical Operators	
+	Add	<	Less than	And	And
-	Subtract	<=	Less than or Equal to		Or Inclusive or
*	Multiply	>	Greater than	Xor	Exclusive or
/	Divide	>=	Greater than or equal to	Not	Not Equivalent
		=	Equal to	Eqv	Equivalent
		<>	Not Equal	Imp	Implication

There are quite a few to remember but you should remember them, they will give you a good start on your queries.

Note: You do not use the £ sign in Criteria’s.

Search the records for records that have a value of more than £80.00
To do this click in the Criteria row under the Price field and type >80
Go to Datasheet view to see the results, you should have 11 records.

Find all the records that have 8 or less bikes in Stock use the criteria <=
Find all Mountain Bikes that cost more than £90.

Wildcards

As well as the Operators Access 2000 uses Wildcards see the table below for all of the Wildcards.

For example instead of typing in Newport Pagnell we could have typed in N* the asterisk is a Wildcard and when used in this context would ask the database to search all stores beginning with an N.

Have a go at the following:

Using a Wildcard, search for all the Milton Keynes Stores.

Using a Wildcard, search for all bikes beginning with the letter S.

You can also use a question mark as an Wildcard character.

The following examples show the use of Wildcard characters in various types of expression.

Entered Expression	Meaning	Examples
a?	Any two letter word beginning with the letter a	am, an, as, at
???d	Any four letter word ending with d	find, hand, land
Sm?th	Any five letter word beginning with Sm and ending with th	Smith or Smyth
Fie*	Any word starting with the Letters fie	field, fiend, fierce, fiery
*ght	Any word ending with ght	light, eight, fight, light
*/5/99	All dates in May 1999	1/5/99
a	Any word with the letter a in it	Brian, Mary, star, yard

Try the following:

Search for all bikes beginning with the letter t.

Search for all colours of bikes that end with the letter e.

Search for all the stores containing the letter i.

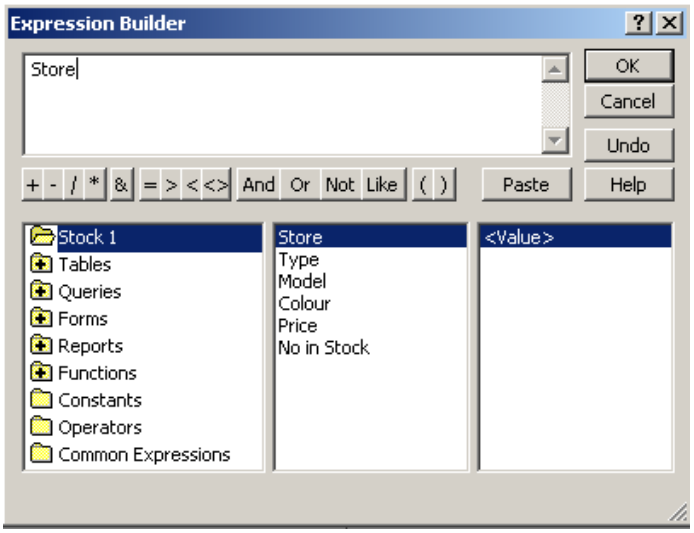
Expression Builder

A way of performing calculations is to use the **Expression Builder**. As an example to find the total value of the bikes in stock do the following.

Click on the next empty field in the Query Grid.

Click on the Expression Builder Tool button 

The menu box opens up and it may look a little daunting at first, but if you look at it methodically it will make sense. Note: You must be in Design View to see the Expressions Builder Tool button.

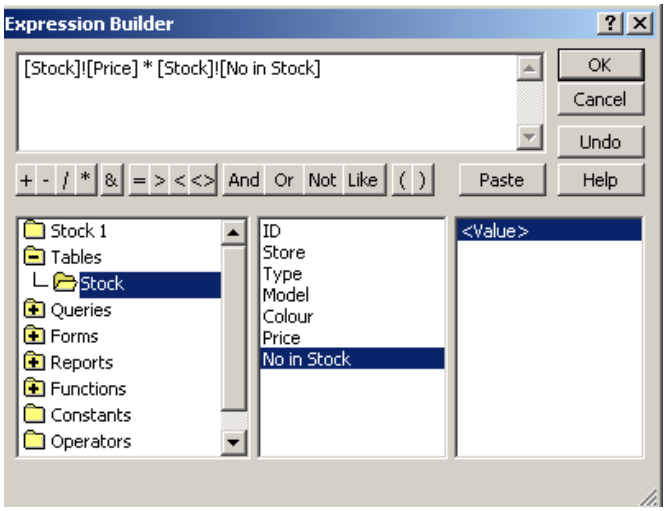


In the first box, you can see your Table: Store. At the bottom of this you can see the Operators.

In the first column, double click on tables you will see Stock, double click on Stock. That is the table we will perform a calculation on.

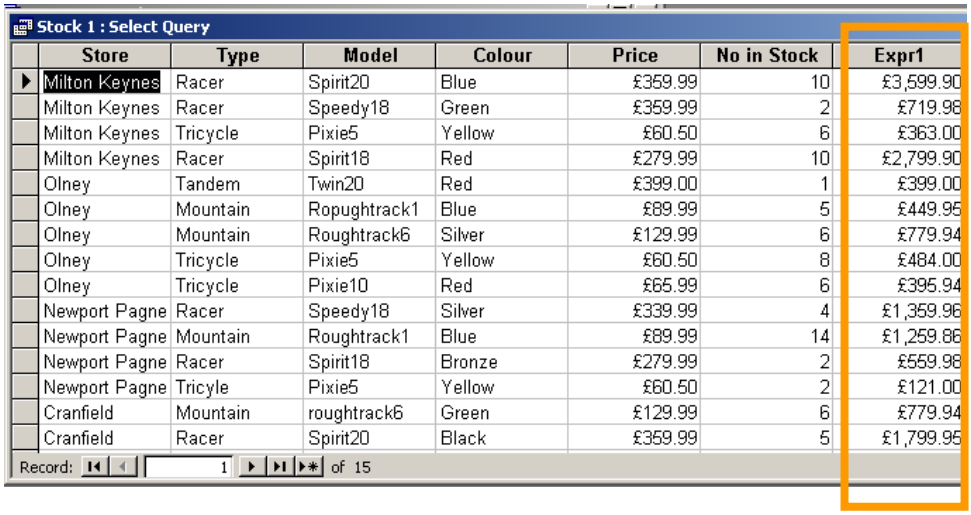
The Fields of the table will appear in the middle column.

Double click on Price. Click on the * sign
Double click on the No. in Stock



At the top of this window, you can see the Expression is now built. Click on OK
Go to Datasheet View.

You will see the Fieldnames displayed and the Expression you have just created.



Stock 1 : Select Query

Store	Type	Model	Colour	Price	No in Stock	Expr1
Milton Keynes	Racer	Spirit20	Blue	£359.99	10	£3,599.90
Milton Keynes	Racer	Speedy18	Green	£359.99	2	£719.98
Milton Keynes	Tricycle	Pixie5	Yellow	£60.50	6	£363.00
Milton Keynes	Racer	Spirit18	Red	£279.99	10	£2,799.90
Olney	Tandem	Twin20	Red	£399.00	1	£399.00
Olney	Mountain	Ropughtrack1	Blue	£89.99	5	£449.95
Olney	Mountain	Roughtrack6	Silver	£129.99	6	£779.94
Olney	Tricycle	Pixie5	Yellow	£60.50	8	£484.00
Olney	Tricycle	Pixie10	Red	£65.99	6	£395.94
Newport Pagne	Racer	Speedy18	Silver	£339.99	4	£1,359.96
Newport Pagne	Mountain	Roughtrack1	Blue	£89.99	14	£1,259.86
Newport Pagne	Racer	Spirit18	Bronze	£279.99	2	£559.98
Newport Pagne	Tricyle	Pixie5	Yellow	£60.50	2	£121.00
Cranfield	Mountain	roughtrack6	Green	£129.99	6	£779.94
Cranfield	Racer	Spirit20	Black	£359.99	5	£1,799.95

Record: 1 of 15

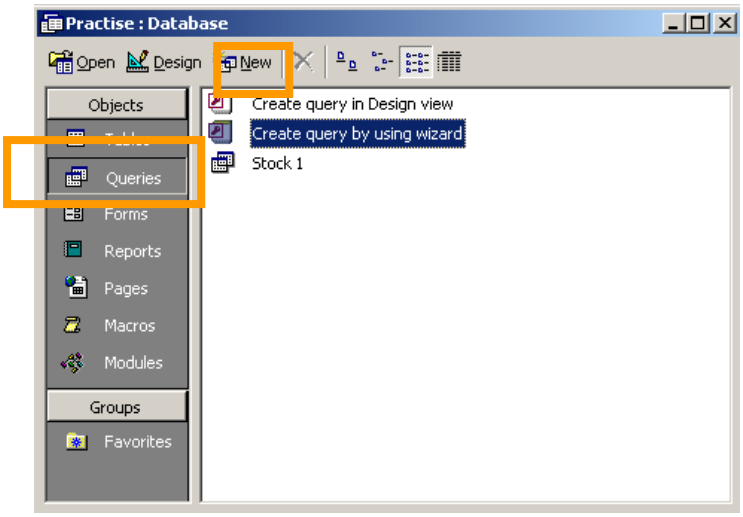
To change the field name Expr1 go back to Design View and delete the Expression but **do not delete the colon** as that will disrupt the query. Name it Total : See the result in Datasheet View. Delete this query and try again.

Cross Tab Query

The next type of query we will look at is called the Cross tab Query. These are used to present data with rows and headings, just like a Spreadsheet. They can be used to summarise large amounts of data in a more readable form.

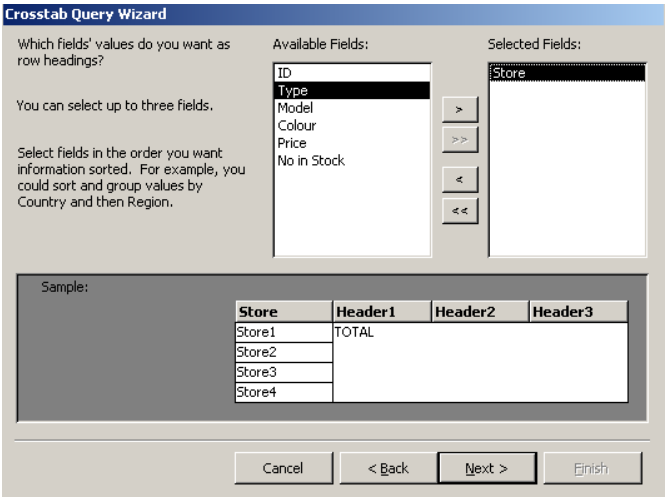
This time we will use the wizard to create the query.

Ensure that the query tab is depressed and click on create query by using the wizard.



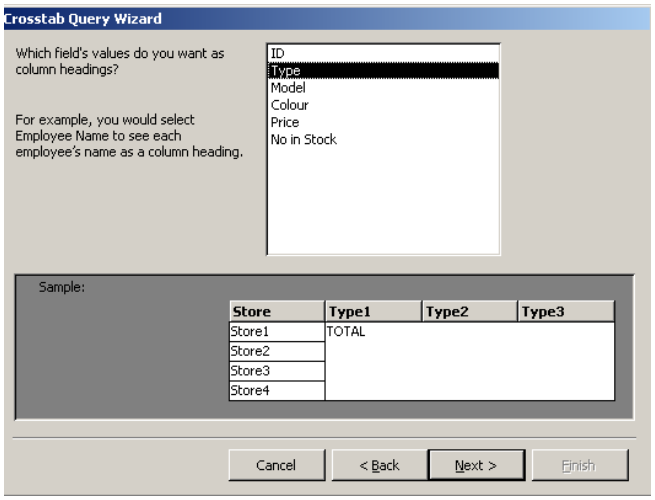
Click on New/Create Query by using design wizard. Choose cross tab query.

The first prompt asks us where the table is as we have only one table 'Stock' will show up so click on next.



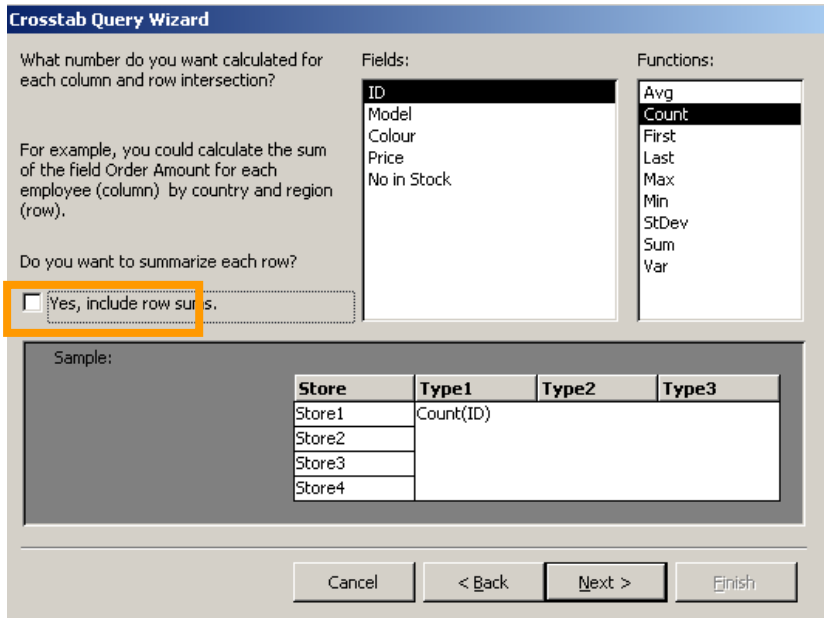
Double click on Store and Access 2000 sorts all the Stores for you and gives them a number. Click on next.

The next part of the Wizard asks what columns headings are required. Click on 'Type' once and then click on next.

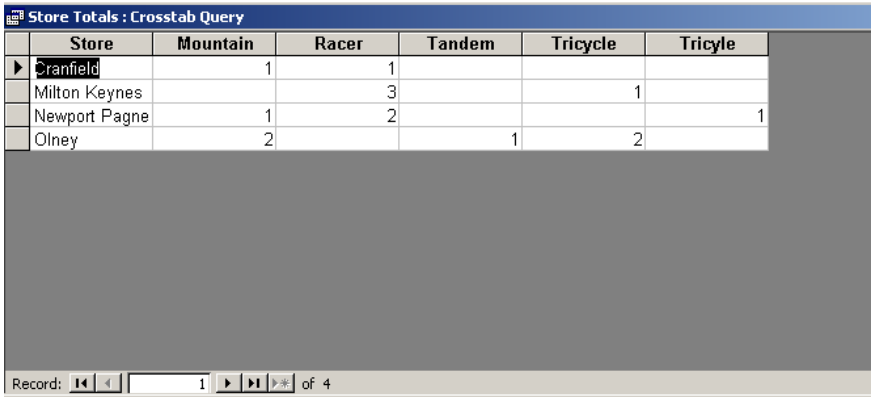


The next prompt is asking which calculation do we want to perform.

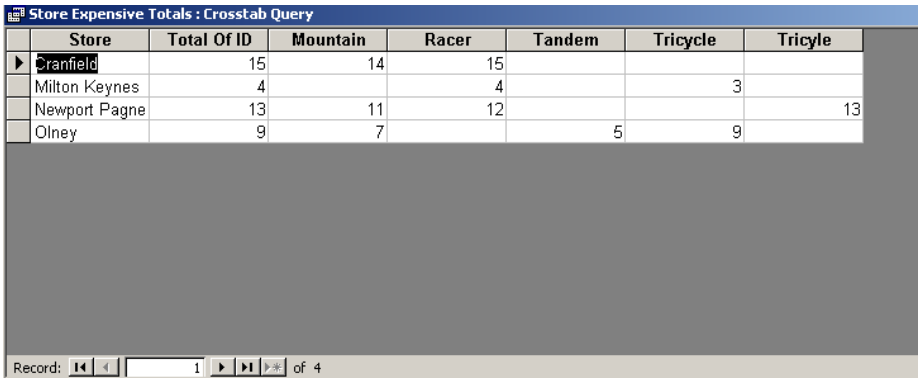
Click on count. But un-tick row sums as we do not want to include them.



Click on next, the wizard gives the table a name, delete that and enter Store Totals as the name.



Now create a Crosstab query showing the most expensive types for each store. For example **Store** would be the row heading. **Type** would be the column heading, and **Max** of the price. (row sums are not required, so remove the tick).

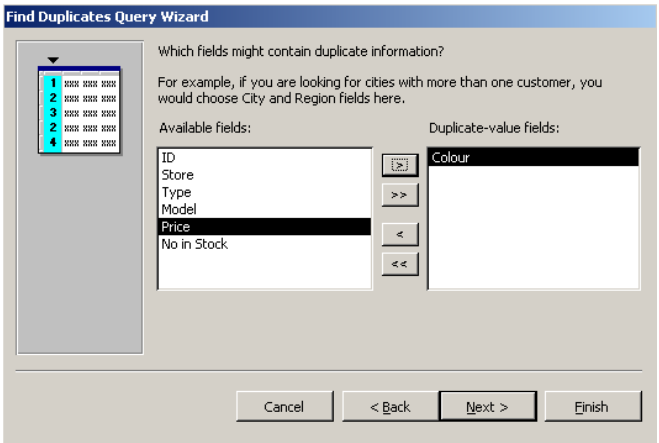


Find Duplicates Query

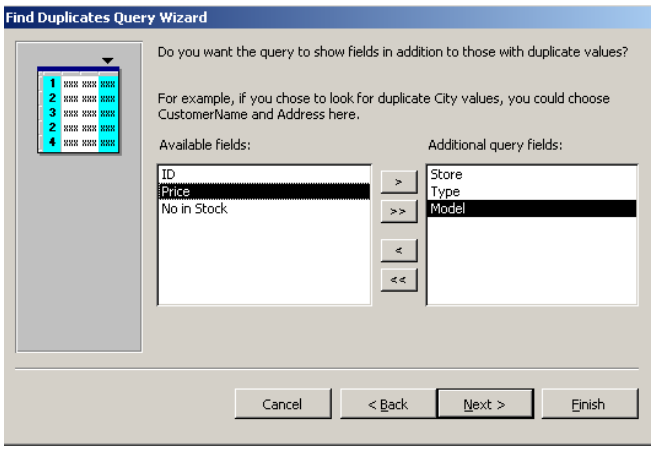
The next query we will try is the Find Duplicates Query. Using the Wizard in the main database wizard click on new and then Find Duplicates Query. Click OK.

Ensure that the Stock table is selected and click on next.

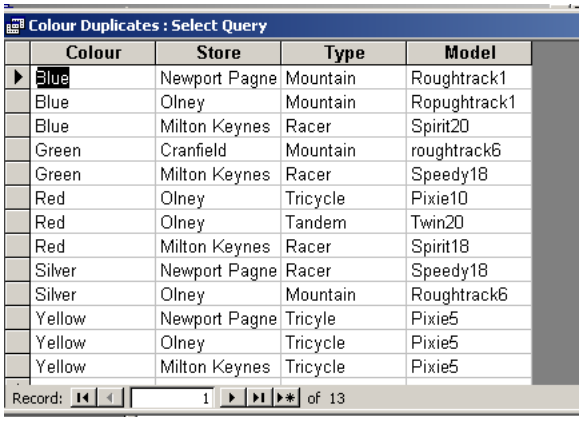
The next part asks which fields may contain duplicate information. We want to ask where colour duplicates occur, so click on Colour and then the > sign to shift the field across. Click on next.



We want to show the Store, Type and Model for these coloured duplicates, so select Store, Type and Model.
Click on Next.



Name it colour Duplicates and click on finish.



Try the following:

Find all duplicates of Types of bike and display the Store and Price fields.

Find all duplicates of Models of bike and display the Store, Colour and Price fields.