USING MICROSOFT ACCESS

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Relational Queries

Creating a query can be a little different when there is more than one table involved. First of all, if you want to create a query that makes use of more than one table, it is necessary to make sure the tables have the necessary relationships created. Secondly, in your query design, you will be selecting fields from more than one table, which can sometimes be a little confusing.

In the following exercises, we will be using a database called Music Collection 2.accdb. This is similar to the one you created in the previous exercises. The only difference is that it has a lot of CD and Songs records already entered. If this database is not available, you can enter some of your own records into the one you have created, but the exercises will assume you are using records in the Music Collection 2.accdb database.

Exercise 1. Checking the Existing Records

1. Begin by opening the Music Collection 2.accdb database.
2. Open the CDS table. 8 CDs have already been entered.
3. Close the table and open the SONGS table. Songs for each of the CDs in the CDS table have already been entered.
4. Close the table.
Exercise 2. Creating a Relational Query

1. Select the Create tab on the Ribbon.
2. Click Query Design.

3. Double-click on CDS and SONGS to add them both to the Query Design window.
4. Click Close to close the Show Table dialog.
5. Resize and adjust your design window so that you have enough room to work with.

We will start by creating a query which shows all songs by a particular artist. We want the results of the query to display some fields from the SONGS table and some fields from the CDS table so we know which CD each song is found on.
6. Double click on each of the following fields to add them to the QBE (Query by Example) grid.

<table>
<thead>
<tr>
<th>Field</th>
<th>From table:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artist</td>
<td>SONGS</td>
</tr>
<tr>
<td>Song Title</td>
<td>SONGS</td>
</tr>
<tr>
<td>Genre</td>
<td>SONGS</td>
</tr>
<tr>
<td>CD Title</td>
<td>CDS</td>
</tr>
<tr>
<td>CD Type</td>
<td>CDS</td>
</tr>
<tr>
<td>Track</td>
<td>SONGS</td>
</tr>
<tr>
<td>Released</td>
<td>CDS</td>
</tr>
</tbody>
</table>

7. Under the Artist field, enter the following parameter criteria:

   like [Enter the name of an artist] & *

Your query design should look similar to the example below.

8. Click the View icon to test the query.

9. For the criteria, enter black.
In the query results, you may notice that one of the artist entries in the results is spelt differently from the others (the second one in the above example). If we hadn’t used a wildcard, we would only see entries that were exactly the same as the criteria so that one may not have appeared.

10. Correct the differently spelt entry so that it is the same as the others.
11. Click the **Save** icon to save the Query.

12. Enter *artist search* as the query name.
13. Close the query.

**Note** Query results are really just a selection of data from the tables in the database. When you edit data in a query result, it is just the same as editing the data directly in the tables.
Relational Reports

Creating a report in a relational database is much the same as creating a report from a single table database. You can create a report directly from the table(s) or you can create a report based on a query (which in many cases is based on more than one table).

Exercise 3. Creating a Multi-table Report

In the following exercise, we will create a report based on more than one table, which will list all of the songs in the database grouped by genre.

1. Select the Create tab on the Ribbon.
2. Click Report Wizard.

3. Select the following fields for the report.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>From Table:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Song Title</td>
<td>SONGS</td>
</tr>
<tr>
<td>Artist</td>
<td>SONGS</td>
</tr>
<tr>
<td>Genre</td>
<td>SONGS</td>
</tr>
<tr>
<td>CD Title</td>
<td>CDS</td>
</tr>
<tr>
<td>Released</td>
<td>CDS</td>
</tr>
</tbody>
</table>

4. Click Next to continue.
5. For the next step of the wizard, make sure view by *SONGS* is selected and click **Next** to continue.

6. In the next step, **double-click** on *Genre* in the list of fields to add that field as a grouping level. This is because we want the songs grouped by their genres.

7. Click **Next** to continue.

8. For the sorting order, choose *Song Title* and the *Artist* as shown below, then click **Next** to continue.
9. Leave the layout as **Stepped** and click **Next**.

![Report Wizard](image)

10. For the report title (and main heading) enter *Songs by Genre*. Click **Finish** when done.

```
<table>
<thead>
<tr>
<th>Genre</th>
<th>Song Title</th>
<th>Artist</th>
<th>CD Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Club</td>
<td>Alive</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>Around The World</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>Burnin'</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>Choose</td>
<td>David Guetta Feat. Ne-Yo &amp; Kell</td>
<td>One Love</td>
</tr>
<tr>
<td></td>
<td>Da Funk</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>Daftendirekt</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>Fresh</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>Funk Ad</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>Gettin' Over</td>
<td>David Guetta Feat. Chris Willis</td>
<td>One Love</td>
</tr>
<tr>
<td></td>
<td>High Fidelity</td>
<td>Daft Punk</td>
<td>Homework</td>
</tr>
<tr>
<td></td>
<td>I Gotta Feeling (FMIF Remix Edit)</td>
<td>Black Eyed Peas</td>
<td>One Love</td>
</tr>
<tr>
<td></td>
<td>I Wanna Go Crazy</td>
<td>David Guetta Feat. Will.I.Am</td>
<td>One Love</td>
</tr>
</tbody>
</table>
```

11. Close the report when finished. It will already have been saved as part of the wizard.
Exercise 4. Report Modifications

1. Right-click on the Songs by Genre report in the Navigation Pane and select Design View.

   ![Design View]

   We will put a text box in the Report Footer that will display the total number of songs listed in the report.


3. Click the Text Box icon.

4. Click in the middle of the Report Footer area to place the textbox.

   ![Textbox Placement]

   A Text Box will be created in the position you clicked on with a label to the left of it (remember to leave room for the label to the left of the textbox when you place it)

5. Click in the Label and change the text from Text13: to Total Songs.

6. Click in the Text Box (which currently shows Unbound) and enter =count([Song Title]).

7. Position the label and textbox to the right of the Report Footer area. You can drag them with the mouse as shown.

   ![Textbox Positioning]

Note Dragging on a textbox or label will have a different effect depending on where you are dragging from.
E.g.

Dragging on one of the squares around the border Re-size the textbox

Dragging on a border of the object Move the object and linked caption/textbox

Dragging the top-left corner of the object Move the object without linked caption/textbox

9. Make sure the textbox is selected and click the Align Left icon so that the resulting total will appear in the left of the textbox area.

Now we will copy this total so that a total will also appear after each genre group. First we will need to make sure there is a space to put a genre total. If you look in your report design you will see that there is a Genre Header but no Genre Footer.


11. Click the Group & Sort icon.

12. Click More to see additional options.

13. Change without a footer section to with a footer section.

14. Re-size the new Genres Footer as shown so that it is about ½cm high as shown (each square represents 1cm).

15. Select the textbox if it is not already selected. You will know it is selected when it is surrounded by selection boxes.

16. Select copy by clicking the Copy icon on the Ribbon’s Home tab (or by using another method such as the [Ctrl] [C] keyboard shortcut).

17. Click on the Genre Footer to select it.

18. Paste a copy of the selected textbox by clicking the Paste icon (or any other method such as the [Ctrl] [V] shortcut). A copy of the textbox and the linked label will both appear in the Genre Footer area. If it’s too big to fit then the footer area will expand.

We could drag the new total so that it lines up with the one in the Report Footer but you can easily be more precise using some of the built-in tools.

19. Click on the textbox in the Genre Footer.
20. Hold down [Shift] and click on the textbox in the Report Footer. Both textboxes will be selected as shown.

<table>
<thead>
<tr>
<th>Genre Footer</th>
<th>Page Footer</th>
<th>Report Footer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Songs: Count([Song Title])</td>
<td>=&quot;Page &quot; &amp; [Page] &amp; &quot; of &quot; &amp; [Pages]</td>
<td>Total Songs: Count([Song Title])</td>
</tr>
</tbody>
</table>

22. Click the Align icon and select Right. Both textboxes will now be lined up along their right edges.

23. Follow the same procedure to line up the Total Songs labels as so that the report design appears as shown.

The last thing we will do is to change the properties of the Genre Header. Some of the genres will go over more than one page. We will change the properties to make sure that the header is repeated at the top of each page in these cases.

24. Right-click on the Genre Header and select Properties.

25. Find the Repeat Section property and change it to Yes. Close the properties panel.
26. Save the changes and click the Preview icon in the bottom right corner, to view the changes.
27. Close the report when done.

Tip  Remember that whenever you are modifying properties in Access, you can press the [F1] key for a detailed explanation of any property you have selected. It’s a great way to learn about all of the different properties, many of which can be extremely useful.
Relational Forms

Creating a form that is based on more than one relational table provides an easy way to add or edit data in your database. In the example that we have been working on, when a new CD is entered into the database, the user will most likely want to enter details of songs on that CD straight away. The CD details and Song details are in separate tables but we can use a form to bring it all together in the same place.

Exercise 5. Creating a Relational Form

1. Select the Create tab from the Ribbon.
2. Click Form Wizard.
3. From the list of Tables/Queries select Table: CDS.
4. Click the >> button to select all of the fields from this table.
5. Use the Tables/Queries list again to select Table: SONGS.
6. Double-click on the following fields from the SONGS table – Song Title, Artists, Genre, Duration and Track.

The next step asks how you want to view the data in the form. The default option is a Form with a Subform. That means that the wizard will actually be creating two forms. One form will be a small form showing song details. This form will be displayed inside a larger form containing the CD details. Because of the relationship between the CDS and SONGS table, the songs subform will only show the songs for the CD that is being displayed in the main form.
7. Make sure that by **CDS** is selected and click **Next**.
8. The next step asks how you want the subform to appear while it is in the main form. Make sure **Datasheet** is selected so that the subform will appear as a table.
9. Click **Next** to continue.
10. The next step allows you to select a style for your form. Click on each of the different styles and then select one that suits you.

11. In the last step you can specify names for both the main form and the subform. Call the first form **CD Entry** and the second form **CD Entry Subform** as shown above.
12. Click **Finish** to complete the wizard. The completed forms will be automatically saved and then displayed together as a form with a subform inside.

13. Click the next record button at the bottom of the form a few times to see how the CDs display in the form. Notice the songs on each CD displayed in the subform.
14. Close the form when complete.
Exercise 6. Customising a Form

Once a form has been created it can be customised to suit your needs and tastes. What follows are a few examples of ways a form can be modified. Once you have completed this exercise, you may want to experiment with further modifications to your own form. While you are working on design changes in a form it is a good idea to save the changes periodically.

1. **Right-click** on the **CD Entry** form and select **Layout View**.

   The **Layout View** wasn’t available in older versions of Access. It allows you to modify the design of the form (previously only possible in **Design View**), while still being able to see the data displayed in the Form. This makes it a lot easier to place objects so that they look neat.

2. The **CD Entry** label next to the subform isn’t really needed and it’s taking up space that could be used for the subform itself. Click on the label so that it is selected as shown below and press the **[Delete]** key to remove it.

3. Click on the subform to select it.
4. Move your mouse over the border on the left of the subform and drag to the left so that it extends to the left edge of the main form.
5. Resize the right edge of the subform also to make it as wide as the main form.

6. Click on the **Description field**, then hold down **[Shift]** and click on the **Description label** so that they are both selected.
7. Move them to the right so that there is more room for the Cover image.
8. Resize and re-position the elements on the form so that they all look neater. Remember to resize any labels or text boxes that are too small to fit the text. Below is an example of how they could be positioned.

9. Change to **Form View** so you can see the form in use with the changes. Use the Form navigation buttons to view some of the different CDs in the form. Make sure you use the navigation buttons at the bottom of the form. The other navigation buttons directly beneath the subform are for selecting Songs within the subform.

10. The last thing we'll do is resize the columns in the subform to make them fit better. Move your mouse between the column headings and drag left or right to adjust the column width.

11. Re-size all of the columns until the form appears similar to the example shown. Save and close the form when done.