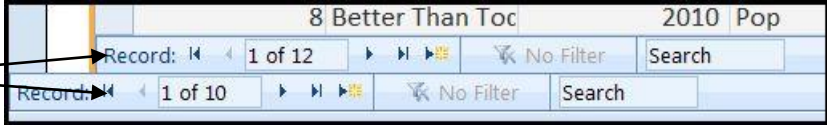# Microsoft Access II

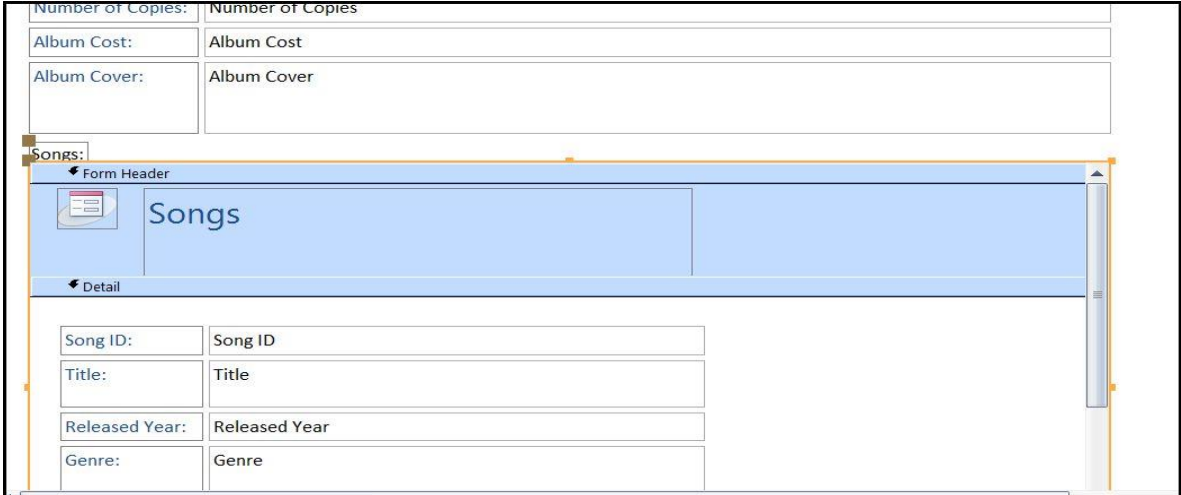**1.) Opening a Saved Database**
- Open the **Music** database saved on your computer's hard drive. *I added more songs and records to the Songs and Artist tables.
- **Click the Options** button next to the Security Warning.
- Select **Enable this Content**.
- **Click OK. *The Security Alert box enables Access to provide higher security when opening a database. The database will open in the backdrop view in quarantine until you enable the content.

**2.) Creating Sub Forms (Forms Continued)**
- Click on the **Album Table** in the Navigation Pane.
- Click the **Create Tab -> Form** command button.
- The Form "**Album 1**" will appear. This form is split into two parts because we have the relationship between the Song Table and the Album Table. In other words, we have the album form with the songs table attached. *You may also notice that only songs attached to a particular album is displayed on the form. For example, the Aphrodite record will display only songs from that album.
- You may also notice that there are two record navigation task bars.
- It is extremely important to recognize the difference between the two navigation task bars. One is navigate through the album records the other is to navigate through song records. *As you search through albums, you may notice that only songs belonging to a particular album will appear in the form.
- Click the **Save Diskette** in the Quick Access Toolbar. Save the Form as **Album w/ Songs.**
- Go to the **Design View.**
- Click inside the **Table.Songs** box (at the bottom of the form) and hit the **Delete Key** on your keyboard.
- The **Table.Songs** box will disappear.
- Now, drag and drop the **Songs Form** below the Album Cover field. You may want to move the Songs Form to a position that lines up with the Album fields. Click on the Songs Form and orange box will appear around it. Simply click on the orange line and drag and drop the form to line up with the Album fields.
- Now go back to the **Form View.**
- We just replaced the Songs Table with the Songs Field!

*Design View with Songs Table below Album fields*

**3.) Customizing Forms with AutoFormat, Logos, Editing Options**

- You may change the look of the Album w/ Songs form by clicking **View -> Layout View.**
- In the **Format Tab -> AutoFormat Group** there are several formats in the gallery. Simply mouse over each gallery to preview the new design.
- For this class, let's select the **Flow** gallery. The **Album** form will change design. *We will discuss changing the sub form later in this lesson!
- **Save your changes here!** (Click the save diskette in the Quick Access Toolbar)
- **Logos:**
- To add a custom logo, go to the **Design View.**
- **Click** the Logo icon on the form.
- **Click** the **Logo Command** button in the **Design Tab.**
- Find the logo provided in the class in the documents folder. **Musiclogo.jpg**
- **Click on the logo and click Open to attach the icon.**
- You may resize the logo by grabbing the fill handles and stretching the picture. (This is covered in-depth in the Word and Excel classes).
- **Save your changes here!**
- **Sub Forms:**
- Change the view to the **Design View.**
- Click on the **Songs Sub Form ->** in the **Design Tab** -> **Tools Group** -> Click the **Subform in New Window** command button.
- **Add the same logo icon** and change the AutoFormat to **Flow** in the **Arrange Tab.**
- **Save your form and close the Songs Table.**
- The **Songs** sub form should now match the **Album Form. Go back to Form View.**
- **Editing:**
- With the Album w/ Songs form open, return to the **Design View.**
- In the Form Header, you can change the title simply by clicking into the header. Change the "Album" text to **Complete Album. *** Notice ONLY the form title changes, not the entire form!
- In the **Album Title** field, on the form the right column box, change the album title to **Bold** and a size **20** font.
- Change the font style to **Cooper Black.**
- **Save the form** and return to the **Form View.**
- Return to the **Design View. *** Both the Songs and Album Form have an Album ID field. This is repeative data that is not needed.
- Left click on the field title: **Album ID.**
- This will highlight the entire field. **Hit the Delete Key** on the keyboard and the field will disappear.
- **Save the form and return to the Form View.**

**4.) Buttons and Printing**

- **Buttons:**
- You may add buttons to forms that allow easy navigation between forms and/or easier data entry.
- In the **Album w/Songs** form, go back to the **Design View.**

- In the **Design Tab -> Controls Group** there is a Button Command.
- Click the **Button Command** button.
- You will have to draw a button on the form. **Draw a button to the right of the Album Title field.**
- The **Command Button Wizard** dialogue box will appear.
- In the **Categories** box, select **Record Navigation.**
- In the **Actions** box, select **Find Record -> Click Next.**
- Select the **Text** button and type "Find Record" **-> Click Next**
- In the meaningful name box, name the button "Find Record."
- **Click Finish**
- The **Find Record** button will appear on the form.
- **Go back to Form View.**
- Click the **Find Record** button in the Form View.
- Change the "Find What" field to **Brave**
- In the Look In field, change it to "**Album w/ Songs.**" **-> Click Find Next.**
- The album **Brave** should appear in the form. **-> Click the Cancel Button.**
- **Printing:**
- There are two ways to print forms.
- **1.** You may click the Office Button -> Print -> Print Preview to view the form on how it will look like when it prints. Now, if you are happy with the form simply click print!
- **2.** You may create a print button right on the form.
- **Go Back to the Design View.**
- Click the **Button Command** in the Design Tab in the Ribbon.
- Draw a button below the "Find Record" button on the form.
- In the **Command Button Wizard** dialogue box -> Under Categories, change to **Form Operations.**
- In the **Actions** box, change this to **Print Current Form -> Click Next.**
- **Click the Next button again!** *This will place the printer icon on the button.
- Change the meaningful name box to **"Print" -> Click Finish**
- **Go back to the Form View.**
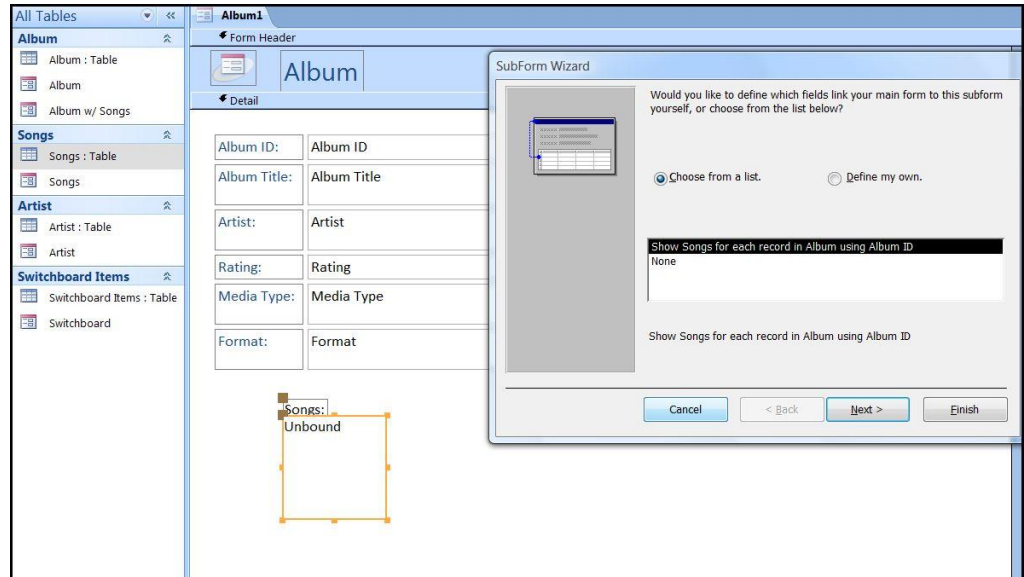- Click the Printer Button -> The Print dialogue box will appear ready for you to print!
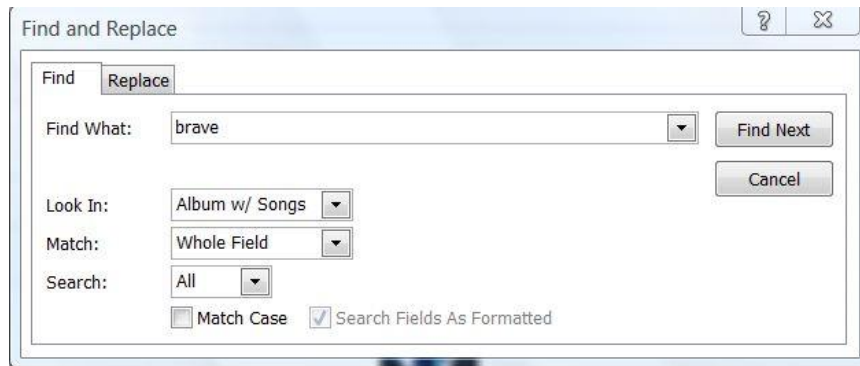
**5.) Split Forms**
- So far we have created forms from the form wizard and sub-forms. However, what if we want a form of our album plus a list of the songs on that particular album. We will need to create a split form/table.
- Click on the **Album Table** in the Navigation Pane. **Make sure all tables and forms are closed!**
- Click the **Create Tab -> Split Form** command button.
- The Album form and Album table will appear. However, this is not what we want. We need the **Album Form** with the **Songs Table**.
- Go to the **Design View.**
- **Drag** the **Footer** bar down to open up room under the "Format" field. You will now have enough room to drag the Songs Table from the Navigation Pane to the form.

- **Drag the Songs Table from the Navigation Pane and drop it below the format field in the form.**
- The **SubForm Wizard** dialogue box will appear.
- Select the option: **"Chose from a list"**
- Highlight the option: **"Show Songs for each record in Album using Album ID"**
- Click **Next.**
- Name the new form **"Album Songs"**
- Click **Finish.**
- Now you may want to resize the Album Songs form to match the Album form!
- Go back to the **Form View.**
- The **Album Songs** table will appear behind the original split form. (Rather the Album Songs table will appear behind the Album table.)
- Grab and drag the blue Album Table view bar and drag it to the bottom of the form.
- Navigate through Album Form and notice that each album has only their songs attached to their forms! In other words, we just created a form for each album and each album has their songs attached to their form.
- **SAVE HERE! Name the form "Complete Album"**
  *Complete Album will appear under the album section in the Navigation Pane
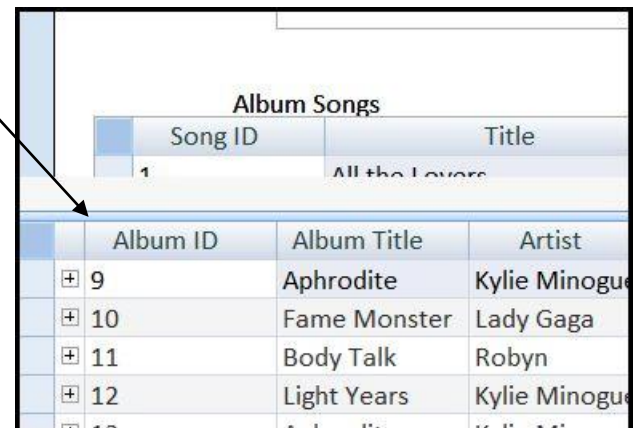
**6.) Queries**
- **Queries** are like asking the database a question. You can combine information from multiple tables in a relational database to get information you need. Such as, filtering the database to list all the digital music with songs and artist information. In order to create a query, you need to think about the situation and criteria to set the query. For example, I want to create a query that will show all my digital songs in a datasheet.
- **Close all forms and tables.**
- **Create Tab -> Query Design** Command Button.
- The **Query Design and the Show Table** Dialogue Box will appear.
- In the **Show Table** box, this is where we need to select the tables in which have the fields that we want in the query.
- Double left click on **Album.**

- Double left click on **Songs.**
- In the **Show Table** box, click **Close.**
- The Album and Songs relationship will appear in the Query box.
- In the **Album, double left click on the "Artist" field.** This will place the Artist field in the first column below.
- In the **Songs, double left click on the "Title" field.**
- In the **Album, double left click on the "Format" field.** *The Format field is my criteria field. I want to display all my digital songs in one datasheet.*
- In the Format column, deselect the check mark in the "Show" field. *Since we are going to display all our digital songs, we really do not need the word digital to display. We already know that these songs are in the digital format. Taking the check mark out of the Format column will hide the word digital in our query!*
- In the **Format Column**, click in the **Criteria Field. *This is where we will set the query criteria to search ONLY digital songs.***
- Click on the **Expression Builder** command button in the **Design Tab -> Query Setup** Group. 
- In the **Expression Builder**, double click the **Tables Folder.**
- We know that the Format field is in the Album Table so double click on the **Album Folder.**
- In the second box in the **Expression Builder**, double click the word "**Format**." The code appears in the top box of the Expression Builder.
- **Click the Equal Symbol button in the Expression Builder.**
- Type **Digital -> Click the OK Button in the Expression Builder.**
- The Format Code will appear in the Format Column on the bottom of the Query Design.
- **Click inside the "Or" field to display the whole code.**
- **Click the Run Command Button on the Ribbon -> Design Tab.**
- A list of all your Digital Song Titles and Artists will display in the Datasheet View!
- **SAVE THE Query. Click the Save diskette in the Quick Access Toolbar.** Name the Query **"Digital Songs."** The query will appear in both the Album and Songs area in the Navigation Pane because the query uses fields from both tables.

**7.) Simple Queries with the Query Wizard**
- The Query Wizard allows you to create four different types of queries. **1.** The Simple Query Wizard allows you to select fields from all related tables and place all that information in one place. **2.** The Crosstab Query allows you to create a query where selected fields are column and row headers like a spreadsheet. In other words, in Excel the ABC and 123 headers are your selected fields. **3.** Duplicate Query allows you to find duplicate records within a table. **4.** Unmatched Query allows you to find orphan records.
- In this exercise, we are going to create a simple query.
- **Close all tables, forms, and queries.**
- **Go to the Create Tab -> Query Wizard** Command Button.
- The **New Query** dialogue box will appear.
- Highlight **Simple Query Wizard** and click **OK.**
- In the **Simple Query Wizard** dialogue box, we get to select when fields from different tables and queries we want to add to this particular query.
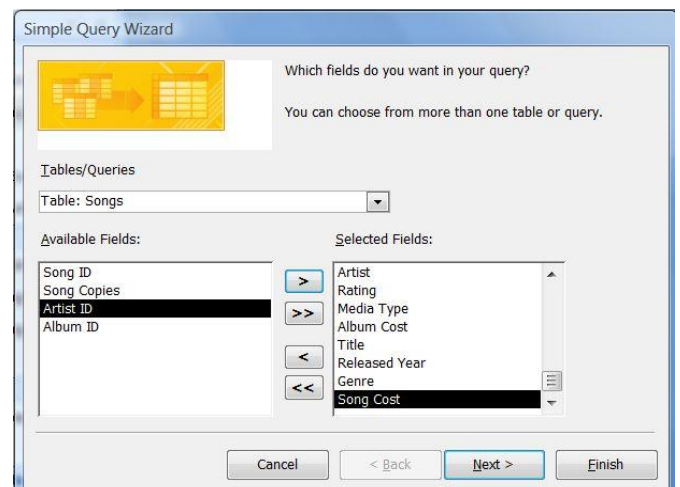
- In the **Tables/Queries** box, change this to **Table: Album.**
- **Move** Album Title, Artist, Rating, Media Type and Album Cost over to the **Selected Fields** box.
- In the **Tables/Queries** box, change this to **Table: Songs.**
- **Move** Title, Released Year, Genre, Song Cost over to the **Selected Fields** box.
- Click **Next.**
- Make sure the **Detail (shows every field of every record)** is selected.
- Click **Next.**
- Name this Query, "**Album & Songs"**
- Click **Finish.**
- This is a very quick way to add fields from different tables all into one datasheet! Remember that the Album & Songs query is now pinned to the Album and Songs area in the Navigation Pane.

**8.) Modifying a Query Design**
- **What if you wanted the song cost and rating fields added to the Digital Songs query?**
- Open the **Digital Songs** Query and go to the **Design View.**
- Double left click on the **Rating Field** in the Album table.
- Double left click on the **Song Cost** in the Songs table.
- They will both appear after the **Format Column** at the bottom of the screen.
- Left click just above the word "Rating" to highlight the entire column.
- Left click and hold down the left mouse button. You can now drag the column between the Title and Format field! Drop (or let go of the mouse) there!

| eld: | Artist | Title | [Album]![Format] | Rating | Song Cost |
|------|--------|-------|------------------|--------|-----------|
| ble: | Album | Songs | | Album | Songs |
| ort: | | | | | |
| ow: | ☑ | ☑ | ☐ | ☑ | ☑ |
| eria: | | | "Digital" | | |
| or: | | | | | |

- Repeat the same steps for the **Song Cost** field.
- Now that we have the rating field in our query, we can now sort the entire query by rating!

| Rating |
|--------|
| Album |
| ☑ |

- Click inside the Rating column, Sort Field. A drop down button will appear.
- Click the drop down button and select **Ascending.**
- **Save your query here!**
- **Go back to the Datasheet View.**
- **We should now have each song arranged by rating. Also the Rating and Song Cost fields should be in our query.**
- What if you wanted to add up the total amount of money it will cost to buy each song one more time? In other words, if we were to add up the Song Cost, how much would that be for just the digital music?
- While in the **Datasheet View** -> Click the **Total Command Button** in the Home Tab.
- Click inside the blank cell (all the way to the bottom) in the Total field.
- A drop down button will appear. Select **SUM**.
- If you do not want the Total, click the **Total** command button in the Home Tab to turn it off.

- **Save your query again, here!**

| Total | | ▼ | $47.69 |
|---|---|---|---|

- If you wanted to further modify a table. You may add more criteria in the rating field. Notice the OR field? In the Format OR field type "Physical." -> Run the query by pressing the Run command button in the Design Tab. Now we have a list of all our Physical and Digital songs! {This really is a list of all our songs, but think of the possibilities if you need to filter a field with more than one criteria.}

| Field: | Artist | Title | Rating | Song Cost | [Album]![Format] |
|---|---|---|---|---|---|
| Table: | Album | Songs | Album | Songs | |
| Sort: | | | Ascending | | |
| Show: | ✓ | ✓ | ✓ | ✓ | ☐ |
| Criteria: | | | | | "Digital" |
| or: | | | | | "Physical" |

## 9.) Parameter Queries

- Parameter queries are essentially filtered queries. You give specific parameters to a query. In this lesson we are going to set two types of parameters. The first parameter we will sort songs between dates. So if we need songs between 1980 -1999. The second parameter we will sort albums and songs by genre by having a prompt ask us what genre we are looking for. As a result, you no longer need to create several queries for each parameter that will fill up the navigation pane.
- **Close all forms, tables and queries.**
- Go to the **Create Tab -> Query Design** Command Button.
- In this first situation, we just want a query to prompt us for song dates. **Double Click the Songs Table** in the Show Table dialogue box.
- Since we are sorting by song date, we do not need any other table. **Click Close** to close the Show Table box.
- **Double click the Title field.**
- **Double click the Released Year field. Remove the Show check mark in the Released Year column.**
- Now we have to manually tell Access the criteria. We want songs from and to a specific date.
- In the **Released Year, Criteria Field** type: **>[Enter Start Year] And <[Enter End Year]**
- **Click the Run Command Button** in the Design Tab to see the prompts.
- Enter **1980** in the Enter Start Year prompt. Click **Ok.**
- Enter **1999** in the Enter End Year prompt. Click **Ok.**
- You should get a list of songs released between the years of 1980 and 1999 in the datasheet view.

| Field: | Title | Released Year |
|---|---|---|
| Table: | Songs | Songs |
| Sort: | | |
| Show: | ✓ | ☐ |
| Criteria: | | >[Enter Start Year] And <[Enter End Year] |
| or: | | |

- **SAVE THE QUERY HERE!** Click the Save diskette in the Quick Access Toolbar and name the Query: **Songs by Year.**

- <span style="color:red">Now every time you need a collection of songs by year you just need to enter the "to" and "from" dates in this query. You **DO NOT** need to create separate queries for each decade or single years.  This parameter query will do that all for you.</span>
- Close the **Songs by Year** query.
- You may create queries that only have one parameter. For example, what if we want just a list of all our dance songs? We will create a parameter query for this.
- Go to the **Create Tab -> Query Design** Command Button.
- **Double Click the Songs Table** in the Show Table dialogue box.
- **Double Click the Album Table** to add it to the query.
- **Click Close** to close out the Show Table dialogue box.
- **Double Click** Album Title and Artist in the **Album Table** to add these fields to the query.
- **Double Click** Title and Genre in the **Songs Table** to add these fields to the query.
- In the **Genre Column, Criteria Field** type: **[Enter Genre]**
- **Press the Run Command Button** in the Design Tab on the Ribbon.
- In the **Enter Parameter Value** dialogue box, type **Dance.**
- **Click OK.**
- In the Datasheet View, we now get a list of all our Dance Music!
- **SAVE THE QUERY HERE!** Name the Query: **Query by Genre.**
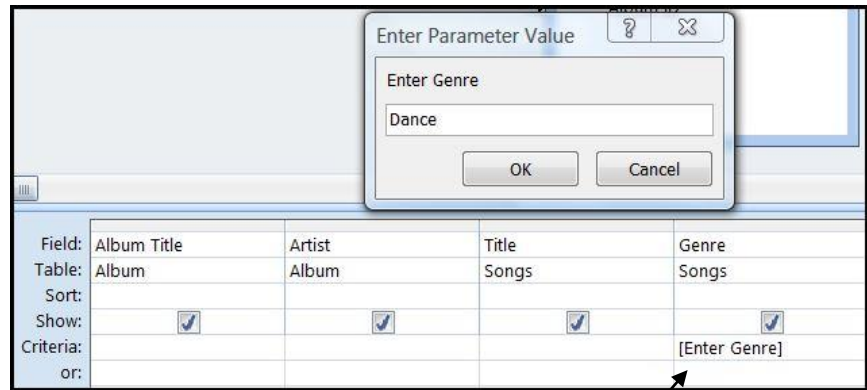
## 10.) Reports
- Reports are a collection of information from the database displayed in a nice way that is easy to print!
- **Click on the Artist Table** in the Navigation Pane. We are going to create an artist report.
- Go to the **Create Tab -> Report Command Button.**
- A simple report in the Layout View will appear.
- In the **Home Tab -> View -> Print Preview View** this is how the report will print out.
- You can add modifications to this report to make it a look more pleasing. **Close Print Preview.**
- In the **Home Tab -> View -> Layout View** you will see the report snap to the grid.
- In the **Format Tab -> AutoFormat Group,** change the AutoFormat to **Civic.**
- In the **Format Tab** -> Click the **Logo** command button.
- Attach the **musiclogo.jpg** picture.
- Double click on the report title "Album". You can now rename the report. Type **Artist List.**
- **Click on the last name Minogue.** All other names in the last name column will highlight. Change the font size to 20 and font style to Consolas. *Do the same for the first name. Notice all names will resize and restyle.
- **Bold** all names by clicking on a name in the first and last name columns and pressing the bold command button in the Format Tab or pressing CNTRL+B on your keyboard.
- To remove a field in the report: Go to the **Design View.**
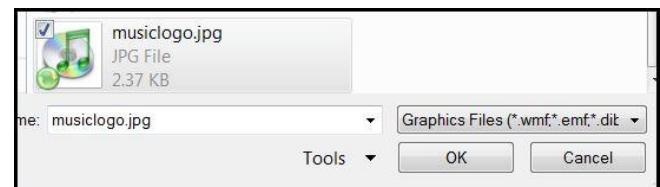
- This report has a counter that adds the number of artists.
- Click inside the "Count" box and press the **Delete Key on your keyboard.** Make sure only the "=Count" is surrounded with the orange box.
- **Go back to Print Preview.** These are your changes.
- **Close Print Preview.**
- **SAVE THIS Report!** Click on the diskette in the Quick Access Toolbar. Rename this report **Artist List.**
- The report will appear in the Artist area in the Navigation Pane.

**11.) Report Wizard**
- The Report Wizard is a simple way to create modified reports. In this situation, we are going to create an album list with the album title, artist, rating, album cost and cover image.
- **Close all reports, queries, tables and forms.**
- Click on the **Album Table** in the Navigation Pane to highlight it.
- Go to the **Create Tab -> Report Wizard.**
- The **Report Wizard** dialogue box will appear. In the **Tables/Queries** selection box, make sure **Table: Album** is selected.
- Move **Album Title, Artist, Rating, Album Cost and Album Cover** over to the Selected Fields box.
- Click **Next.**
- Do you want to add any grouping levels? Yes, let's sort this form by **Artist.** Select the Artist option -> click the right pointing arrow. It looks like this: **>**
- Click the **Grouping Options** button on the bottom of the Report Wizard box.
- The **Grouping Intervals** box will appear. In the **Grouping Intervals** drop down box, change Normal to **2 Initial Letters.** *This will sort our report by the Artist's first two initials.
- Click **Ok.**
- Back in the Report Wizard box, click **Next.**
- Now let's sort this report even further. Change **1. Artist and 2. Album Title** to sort by artist then by the artist's album titles.
- Click **Next.**
- We will keep the Layout to **Stepped. Click Finish.**
- The report will appear in the **Print Preview** view.
- **Close Print Preview and go to the Layout View.**
- Now in Layout View, we can modify the report like in the previous lesson.
- In the **Format Tab -> AutoFormat Group,** change the format to **Verve.**
- Double click on the title "Album" and change it to **Album Report.**
- Click on any of the artist's name (like Kelis). You can resize the width of the columns by clicking on the orange lines and dragging it in or out with your mouse.
- Change the **font size** to 20.
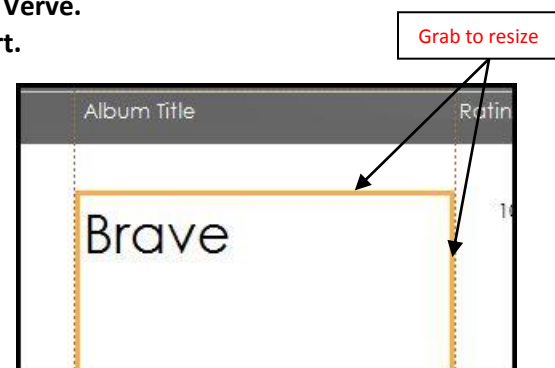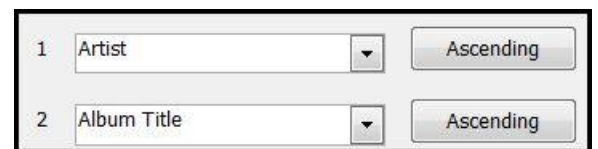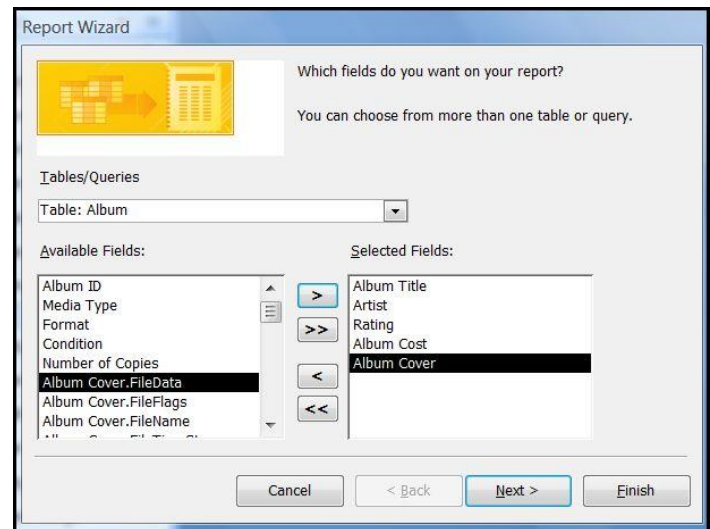
- In the **Gridlines Group**, click the **Gridlines command button** and select **Vertical.**
- Click on any dollar amounts on the report. Like $7.99. In the **Grouping & Totals** group in the Ribbon, click the **Totals** command button, and select **Sum. *** If the totals are adding in unusual places, you may need to delete the **=Sum([Album Cost)]** from the **Design View** in the **Artist Footer** field.  This will add up the cost of the albums at the bottom of the report.
- Go back to **Print Preview.**
- **SAVE your report here. Name the report "Album Report." *** If you wanted to further format and modify your report you can use the **Property Sheet.** If Album Report is still open. Go to the **Layout View -> Arrange Tab** on the Ribbon. In the Tools group there is a command button called **Property Sheet.** Click on the Property Sheet button; it will appear on the right side of the report like a task pane. Depending on what you have selected on your report that will appear in the Selection type box in the property sheet. This is where you can manually change properties in any field on a report.

**12.) Reports from Scratch, Printing, Exporting to PDF**
- So far we have only created reports that contain fields from one table. Now let's create a report that will contain fields from two tables. You can do this type of report from the Report Wizard. However, let's create a report from scratch. In this situation, let's create a "Songs Report" that has song title and cost. Also, let's add album title, artist and cover art.
- **Close all tables, forms, queries and reports.**
- Click on the **Songs Table** to highlight the table. Do not open the table.
- Go to the **Create Tab -> Reports Group -> Blank Report.**
- The **Field List** pane will open on the right side of the screen.
- Double Click on Album to open the fields.
- Drag and drop **Album Title** onto the blank report.
- Drag and drop **Artist** onto the blank report.
- Double Click on Songs to open the songs fields.
- Drag and drop **Title** onto the blank report next to the Artist field.
- Drag and drop **Song Cost** onto the blank report.
- Go back to the Album field list and drag and drop the **Album Cover** field. It should look like this:
- In the **Format Tab** in the Ribbon, click on the **Add Existing Field** button to close the fields pane. *If you needed to add more fields from this point on, you simply click the Add Existing Field button to open the field pane. Then drag and drop the field you want to add onto the report just like we did in this exercise with the Album Title, Artist, Title and Song Cost fields.
- In the **Format Tab** -> AutoFormat: change to Metro.
- In the **Format Tab -> Controls Group -> Logo.** Use musiclogo.jpg that is saved in your documents folder in this class.
- In the **Format Tab -> Controls Group -> Title.** You can now type in a title for the form. The title will be **Songs Report.**
- In the **Format Tab -> Controls Group -> Page Numbers.** In the Format section of the Page Numbers box select **Page N of M**  and Alignment **Right. Click OK.**
- In the **Format Tab -> Controls Group -> Date and Time.** The **Date and Time** dialogue box will appear. **Click OK.**

- You can also total up the cost of the songs. Click on one of the dollar amounts on the report. This will highlight the entire Song Cost field. In the **Format Tab -> Grouping & Totals group -> Select Sum.** The total amount will appear at the bottom of the report.
- You can group and sort the report by any field as well. Just like the way we sorted reports with the Report Wizard. In the **Format Tab -> Grouping & Totals group -> Press the Group & Sort Button.** This will bring up the Group and Sort buttons at the bottom of the report.
- Click on the **Add a group** button.
- Click the **Select Field** button and select **Album Title.** This will group all our songs by album!
- Click any of the dollar amounts in the report. This will highlight the Song Cost field. **Go back to the Total button in the Format tab -> Select Sum** (Again). This will sum the totals for each album as well as give a grand total in the bottom of the report.
- In the **Group, Sort, and Total** task bar at the bottom of the report, click **Add a sort.**
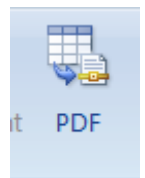- **Select Title.** The report will now group by album and sort by song title. *Now may be a good time to adjust the column width for each field. There is a lot of room on the page to increase the size of the cover art and shrink the song cost column.
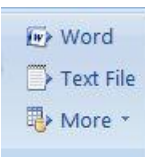- Go to the **Print Preview View.**
- If you wanted to print this report, simply click the **Print** command button in the Print Preview screen. *The Print Preview screen provides many different options, such as page orientation and setting margins, to print better reports if necessary.
- In the **Print Preview** screen, you can also publish this report as a PDF. Click on the **PDF** command button in the Print Preview Tab. The **Publish as PDF** dialogue box will appear. This is where you want the document to be saved. In this class, save to the **Documents Folder. Click Publish** when you are finished. The report will open up, ready for you to view!
- Close the **Export – PDF** dialogue box. Also, **Close the PDF** document that popped up on the screen. *Next to the PDF command button there are three different buttons that say Word, Text File and More. Choosing one of these buttons will allow you to export your report directly to Word, Notepad, an XML file and many other formats. Exporting a report to Word will save the document as a Rich Text File (.rtf). Try exporting a report to Word after class. Click the Word button in the Print Preview tab -> you will get an Export –RTF File dialogue box, just name the file and click the Browse button to give it a place to save on your computer -> Select "Open the destination file after the export…" -> Click OK.
- **Go back to the Layout View.**
- **SAVE and name this report "Songs Report." *You may notice that the Songs Report shows up in both the Album and Songs area in the Navigation Pane. This is because we used fields from both tables!

**13.) Macros**
- Macros are different in Access than they are in Word and Excel. In Word and Excel you use macros to record keystrokes or automate tasks. These are helpful if you repeat tasks all the time. However in

Access, macros allow you automate tasks as actions. In this situation, we can design a button [with a macro] that will open the Album Report on the Album w/ Songs form. Even as you enter data into the form, the report will automatically update.

- **Close all reports, forms, tables, and queries.**
- Go to the **Create Tab -> Other Group -> Macro.** Click the Macro drop down arrow.
- **Select Macro.**
- The Macro table appears. In the **Action** column drop down button, select **Open Report.** The code for opening a report will appear in the Arguments. Leave that alone for now.
- In the **Comment** box type: **Open the Album Report.**
- At the bottom of the Macro screen, click on the **Report Name field -> select Album Report.**
- Change **View** to **Print Preview.** *This will open the report in print preview.
- **SAVE the macro.** Click the diskette in the Quick Access toolbar. Save the Query as **"Launch Album Report"**

| Report Name | Album Report |
| --- | --- |
| View | Print Preview |

- Click the **Run** button in the Design Tab to make sure the query is working properly. The Album report should open in Print Preview view. If it opened in Print Preview **-> Close Print Preview.**
- **Close the Launch Album Report Macro.** (Right click on the "Launch Album Report" tab and select **Close.**)
- **Open** the **Album w/ Songs** form. (Double click on the form in the Navigation Pane.)
- **Go to the Design View.**
- In the **Design Tab -> Controls Group -> Click the Button** Command.
- Draw a button under the Print button or any blank space on the form. The **Command Button Wizard** dialogue box will appear.
- Under **Categories** select **Miscellaneous.**
- Under **Actions** select **Run Macro.**
- **Click Next ->** Highlight **Launch Album Report -> Click Next.**
- Select **Text.** Type "**Launch Album Report**" in the text box.  **Click OK.**
- In the meaningful name box type: **Launch Album Report.**
- Click **Finish.**
- The button should appear on the form.
- Go to the **Form View.**
- Click on the **Launch Album Report** button. The Album Report should open in Print Preview.
- Click the **Close Print Preview** button. This should take you back to the Album Form.

**14.) Automation Macros**
- Notice that every time we enter MP3 in the Media Type field in the Album w/ Songs form the Format is Digital. Let's automate this.
- With the **Album w/ Songs** form open, go the **Design View.**
- Click in your **Media Type** field. This will highlight the entire field.
- In the **Design Tab -> Tools Group -> Click the Property Sheet** command button to open the Property Sheet. *All the properties should appear for the Media Type field.
- In the Property Sheet, click on the **Event Tab.**
- Click inside the **On Exit** field.
- Click on the **…** button.

| On Enter | |
| --- | --- |
| On Exit | |
| On Undo | |

- In the **Choose Builder** box, highlight **Macro Builder -> Click OK.**
- In the **Design Tab**, click on the **Conditions** button to open that column.
- In the **Design Tab**, click on the **Show All Actions** button so all actions will appear in the Actions drop down menu in the Action column.
- In the first row of the macro, in the comment field type: "Automates Format column when digital is typed." **Click on second row field in the Condition column.**
- **Click in the second row -> Condition field.**
- Type : **[Media Type] in ("MP3")** in the condition field. *If you do not know the code yet from previous exercises, you can use the Expression Builder in the Design Tab -> Tools Group.
- In the **Action** column, select **SetValue.** When you choose SetValue, the Item and Expression fields open at the bottom of the Macro screen. **\*This will set the value of the Format field if MP3 is typed.**

| Item | [Format] |
|------|----------|
| Expression | "Digital" |

- In the **item** field, type: **[Format]**
- In the **Expression** field, type: **"Digital"**
- Click inside the third field in the Condition column. Under the [Media Type]… text.
- Type **…** in the field.
- In the **Action** filed, select the **GoToControl** option.
- In the **Control Name** field at the bottom of the macro screen type in: **[Condition]** *What we are doing here is telling Access to automatically type in "Digital" in the Format field when MP3 is in Media Type. But we are also telling Access to automatically go to the Condition field if MP3 is in the Media Type field.

| Control Name | [Condition] |
|--------------|-------------|

- **SAVE the query here!** Click the Save diskette in the Quick Access Toolbar.
- Click the **Close** button in the Design Tab. This will take you back to the Design View, Album w/ Songs form.
- **Go Back to the Form View.** Let's test the macro.
- **Go to a blank for to enter data.** Click on the right pointing arrow with a gold star button in the task bar at the bottom of the form.
- In the blank new form **->** in the **Media Type** field, type MP3 -> Press the **Tab** key on your keyboard. Digital should auto fill in the format field and you should be taken to the Condition field ready to enter data in this field. *Close the form. You may need to force the form because we enforced integrity last class. Right click on the form tab and select close. A warning will appear, tell it yes you want to close.

**Album w/ Songs : Media Type : On Exit**

| Condition | Action | Arguments | Comment |
|-----------|--------|-----------|---------|
| | | | Automates Format to Digital if Media Type is MP3 |
| [Media Type] In ("MP3") | SetValue | [Format], "Digital" | |
| ... | GoToControl | [Condition] | |

**15.) Auto Exec Macro**
- This macro will open the database directly to the switchboard. So when you need to turn the database over to data entry people, they do not have to see the queries, tables, and macros.

- **Close all tables, forms, queries, reports, and forms.**
- Go to the **Create Tab -> Macro Button -> Select Macro.**
- Click in the **Action** column -> Click the drop down button that appears just to the right of the column -> select **Open Form.**
- At the bottom of the Query screen, click inside the **Form Name** box, and select **Switchboard.**
- **Save the Query** by clicking on the diskette in the Quick Access Toolbar.
- Name the macro **AutoExec**. *If you do not name the macro AutoExec it will not work.
- Click **Ok** to save the macro. This macro will appear at the bottom of the Navigation Pane.
- **Close the Macro and Minimize the Navigation Pane.** *Click the double arrow pointing to the right at the top of the navigation pane to close it. They look like this: **<<**
- **Exit the entire database!** (Remember where you saved it! In this class I put the database in the documents folder.)
- **Open the database.** (In this class, double left click the Music.accdb database in the documents folder.)
- **You should be taken directly to the Switchboard. *** As you probably can tell, this is REALLY helpful when you turn your database over to the data entry people. They do not have to see or accidently change any tables or queries. They just click on the forms or actions you placed in the switchboard!
- If you want the see the tables, forms, queries, reports and such; just click on the text **Navigation Pane** on the left side of the screen. The Navigation Pane will open up, ready for you to make more changes to the database.

**16.) Exporting to Microsoft Excel**
- As mentioned before, you can export reports to PDF or Microsoft Word. However, you can also export tables and queries to Microsoft Excel.
- **Open the Album Table.**
- In the **External Data Tab** -> **Export Group -> Select the Excel** command button.
- Click the **Browse** button to select where you want to save the Excel file. In this class, save the file to the Documents folder.
- If you wanted to change the file to a different version of Excel, click the **File Format** drop down button and change that there. In this class, let's leave it alone.
- Click inside the empty box next to **Export data with formatting and layout.** This will insert a check mark.
- Click inside the empty box next to **Open the destination file after the export operation is complete.**
- In the **Export – Excel Spreadsheet** click **Ok.**
- The Excel Spreadsheet will automatically open up. Now you are able to work with the table in Excel!
- At the bottom of the screen the **Access Window** should be flashing. Click on the **Access Window** at the bottom of the screen.
- Click **Close.** This will close the Export – Excel Spreadsheet box. *Before you click the Close button, there is a selection option to save your export. If you click inside the empty box then close the Export – Excel Spreadsheet, you save your export! If you look in the External Data Tab -> Export Group, there is a command button **"Saved Exports."** This is where the saved export will be placed. Now you can go back to this export every time you need it; instead of having to export the table to Excel manually.
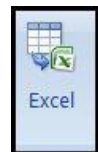
- *You are able to export tables and queries to Word, publish as PDF, etc. However, if you click on the More command button in the External Data Tab -> Export Group, at the bottom is the choice "**Merge it with Microsoft Office Word**." This option will allow to mail merge your data in a table using MS Word. If your table had personal contacts such as first names, address, etc, you can easily mail merge your list with MS Word to create envelopes, letters, etc. We teach mail merge in the Word and Publisher classes at Ela.

**17.) Importing an Excel file to Access**
- You can import data from an Excel file directly to a table in Access! This is really handy when you created a lot of data that becomes really massive or repetitive in Excel so now you need to convert it over to Access.
- **Close all macros, queries, forms, tables, and reports.**
- Click on the **External Data Tab -> Import Group -> Excel** command button. *Make sure it is the Excel command button in the Import Group, not the Excel button in the Export group!
- Click on the **Browse** button to find the spreadsheet. *I saved a spreadsheet in your Documents folder on the computer. "**Music.xls**"
- Make sure the **Import the source data into a new table in the current database** is selected! *With the "Append a copy of the records to the table" will allow you to add records from Excel directly onto a table already created in Access. The records in Excel will just add to the bottom of the table in Access.
- Click **Ok.**
- In the next screen, make sure **First Row Contains Column Headings** is checked.
- Click **Next.**
- In the Field Options Group:
  **1.) Field Name : Music ID /**
  **Data Type: Integer /**
  **Indexed: Yes (No**
  **Duplicates)** *With the no
  duplicates selected we are
  setting this field up as the primary key.

  Field Options

  | | | | |
  |---|---|---|---|
  | Field Name: | Music ID | Data Type: | Integer |
  | Indexed: | Yes (No Duplicates) | ☐ Do not import field (Skip) | |

- Click on **Number of Artist** -> Change **Data Type: Integer**. *This is because we only have numbers in our field.
- Click **Next.**
- Select **Choose my own primary key.** Make sure **Music ID** is selected in the drop down menu.
- Click **Next.**
- In the **Import to Table:** type **Music.**
- Click **Finish.**
- Click **Close.** *If you would have selected the **Save Import Steps** field, then this import will be saved!
- The **Music Table** should appear at the bottom of the Navigation Pane.
- **Double Click** on the **Music Table** to view the table.

**18.) Pivot Charts**
- At this point in the class we should all be familiar with creating charts whether they are created in Excel or going to the Design View in Access and selecting the Chart command button in the Design Tab on the Ribbon with forms. Just like in Excel, in Access we can create pivot charts (and tables)! You may have noticed that when you edit a table or query -> select the View

command button in the Ribbon -> There are two pivot options. One is a pivot table and the other a pivot chart. These pivot features allow you work with your data in very meaningful ways. However, in this class we are going to create a pivot chart by opening a form.

- Open the **Album form** from the Navigation Pane.
- Go to the **Create Tab -> Forms Group -> Pivot Table** command button.
- A blank pivot chart will open up.
- If the **Chart List** did not pop up when you pressed the pivot chart button, double click the **Field List** command button in the **Design Tab.**
- Now we need to think how we want to filer the information. In this instance, let's filter by album counting each album formats by cost. Let's also show the artist name at the bottom of the chart! This is to tell us which format and artist is more expensive when we buy our music.
- In the **Chart Field List Menu** drag and drop **Album Title** to the top "Drop Data Field Here" We do this because we are filtering by album.
- Drag and Drop the **Format** from the **Chart Filed List Menu** and drop it in the "Drop Data Fields Here" box on top of the chart. We so this because we are counting by album format.
- Drag and Drop the **Album Cost** to the "Drop Series Fields Here" box that is on the right side of the chart.
- Drag and Drop the **Artist** to the "Drop Category Fields Here" box at the bottom of the chart.
- Mouse over any of the graph lines to view each album count by cost.
- You can further filter you data by clicking on the drop down buttons next to Album Title and/or Album Cost to get at specific data.
- **SAVE you chart.** Click on the diskette in the Quick Access Toolbar. Name the chart: **Album Chart.**
- **By Artist: Artist on top; Count of Cost; side series Rating; bottom Album Title.**