

Intermediate Microsoft Access 2002

Instructor - Mr. Curt Minich

Running More Advanced Queries

- 1/ Open up the "My Business Database" database file that was provided by the instructor.
- 2/ Click the Queries tab and double click the "Create new query in Design view" entry.
- 3/ Add the Customers table to your query and close the Show Table window.
- 4/ Double click the field names for First Name and then Last Name.
- 5/ Type S* in the Criteria area under Last Name and execute the query by clicking the red exclamation mark. All of the customers with a last name starting with S appear in the query! The * acts as a wildcard operator that stands in for 0 or more letters.
- 6/ Click the View/Design view menu command to switch back to the Design View of the query. Notice that Access turned your S* into Like "S*". The S* was easier to type but you could have typed it out as Like "S*". By the way Like is a SQL command. SQL (Structured Query Language) is a powerful, heavy-duty database programming language.
- 7/ Type Ja* in the Criteria area under First Name. Can you predict what the results of running the query will show now?
- 8/ Run the query and then click View/Design view to return to design view.
- 9/ Type J?ne in the Criteria area under First Name replacing the entry that was found there and run the query. The ? operator is another wildcard operator that is used as a fill in for exactly one character. You would run a query like this if you were unsure of whether her name was Jane, June or some other variation of that word with any second letter.
- 10/ Delete the Criteria entry under First Name but type W* in the Or area under Last Name. Run the query and then click View/Design view to return to design view. This query causes Access to look up all customers whose last names start with the letter S or the letter W.
- 11/ Delete all of the Criteria entries and double click the Outstanding Balance field to bring it into the query.
- 12/ Type >=20 in the Criteria area under the Outstanding Balance field but uncheck the Show checkbox. Run the query. This causes all of the customers who have an outstanding balance that is greater than or equal to \$20 to appear in the query but it does not show the actual amount of money that is outstanding. Perhaps you want to print this list but you don't want anyone to see the actual amounts of money.
- 13/ Delete the criteria under Outstanding Balance. Click your mouse in the Sort area under First Name and choose the option Ascending. Click your mouse in the Sort area under Last Name and also choose the option Ascending. Run the query. Can you explain the results?
- 14/ The query sorted customers by first name and then it broke any ties by sorting against last names after that. You probably would prefer Last Name to be used as the main sort field and then use First Name. Return to the design view. Highlight the Last Name column. Carefully position your mouse just above the phrase Last Name and click and drag the mouse to the left to position that column to the left of the First Name column. Run the query to see a better sorted query. This list could be printed of course.

Introduction to SQL & another Query

- 1/ Click the View/SQL View menu command. Don't be scared. This is the equivalent SQL programming command that would produce the same query that we have been working on in design view. Advanced database programmers prefer typing the SQL and then executing the query. SQL is a standard database programming language that works consistently in different programs (e.g. FileMaker Pro, Access, Paradox, etc.) and even on different platforms (e.g. Windows, Macintosh, Unix, Linux, etc.) Click the View/Design View menu command to return to design view.
- 2/ Highlight the Outstanding Balance column and press the delete key on the keyboard. This removes that field from your query. This action does not delete the Outstanding Balance field from the Customers table itself.
- 3/ Click the View/Properties menu command. Change the entry for Unique Values from No to Yes. Click the x in the upper right corner of the Design Properties window to close it. Run the query and inspect the results. How many Bob Williams' appear in the query results? Return to the design view.
- 4/ Click the File/Close menu command and save the query as **Sorted Customers with No Duplicates Query**

Using Computed Fields in a Query

- 1/ Click the Queries tab and double click the "Create new Query in Design view" entry.
- 2/ Add both the Transactions table and the Customers table to the query and close the Show Tables window.
- 3/ Double click the Last Name, First Name, Purchase Amount, and Amount Paid fields in that order to add them into the query.
- 4/ Type **Credit: [Purchase Amount]-[Amount Paid]** in the Field entry area of the fifth (blank) column. Run the query and interpret the results. Remember you could print this query.
- 5/ Close and save this query as **Computed Credit Query**.

Using a Query to Determine an Average

- 1/ Create a new query and bring the Transactions table into the query.
- 2/ Double click the Zip Code and the Purchase Amount fields.
- 3/ Right click anywhere in the white area at the bottom of the window and click the Totals command on the shortcut menu.
- 4/ Make sure that Group By is entered in the Total area under zip code.
- 5/ Change the Group By entry under the Purchase Amount field to Avg and run the query. This creates a breakdown of average purchase amount by zip code! Save and close the query using the name **Average Transaction by Zip Code Query**

Fixing the Structure of a Database Table

- 1/ Open up the Transactions table in design view.
- 2/ Click your mouse in the Zip Code field row to select it.

- 3/ Change the Field Size in the lower area of your window from 50 to 10. This allows for 10 characters to be stored in a zip code entry (e.g. 19610-1234).
- 4/ Type ="19610" in the area next to Default Value. This will cause 19610 to be entered as a zip code by default.
- 5/ Change the No in the Required area to Yes. This will not allow anyone (including yourself) add a transaction record without entering something for zip code!
- 6/ Type Like "19*" Or Like "18*" into the Validation Rule area. This will force zip codes to begin with 19 or 18.
- 7/ Click the View/Datasheet View menu command. If you are asked to save any changes click Yes. You may also be warned about losing data. Try to type a new record with a zip code that is longer than 10 characters.
- 8/ Single click the gray area to the left of this new transaction record and click the Delete key on your keyboard to delete this record. Click Yes to confirm that you do wish to delete the record.
- 9/ Try to type a record with a zip code that begins with anything other than 19 or 18. You will have to enter a valid zip code before moving your mouse anywhere!!!! Delete this new record as well. You may be warned about referential integrity of your database.
- 10/ Save and close your Transactions table.

Obtaining Access Templates from Microsoft's Web Site

- 1/ Visit <http://office.microsoft.com/templates>
- 2/ Type the word "Access" in the white search box in the upper right corner and click the Go button.
- 3/ Click the icon to the left of any interesting databases and follow the directions to download the template file to your hard drive.
- 4/ Double click the icon to uncompress (aka unzip) the downloaded file. If you have trouble ask for help from someone who knows how to use the free program WinZip to uncompress files.
- 5/ Right click on the downloaded file and click Properties on your shortcut menu. Uncheck the Read Only box.
- 6/ Double click the file to open it in Access.

Designing Tables

- 1/ Choose the appropriate fields. Add an extra field such as "ID Number" that can serve as a primary key field and use AutoNumber as the Data Type.
- 2/ Do not use symbols or digits in the names of fields.
- 3/ Use the Data Type Number but change the Field Size entry to Single or Double if you need to store decimal numbers (e.g. 12.3). If you need to store amounts of money you should use the Currency Data Type.
- 4/ Do not add every piece of information to a table. Rather create another table that "cross references" your original table by having one or more field names that are the same.
- 5/ One and only one field should be a primary key field in each table. Choose this field wisely. You are not allowed to have duplicates in the primary key field.