

Microsoft Access – Part II (Tables & Queries)

ShortCourse Handout

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Introduction

Access - Part II (Tables and Queries) is a non-credit, 2-hour course designed as an introductory course to Microsoft Access Tables and Queries.

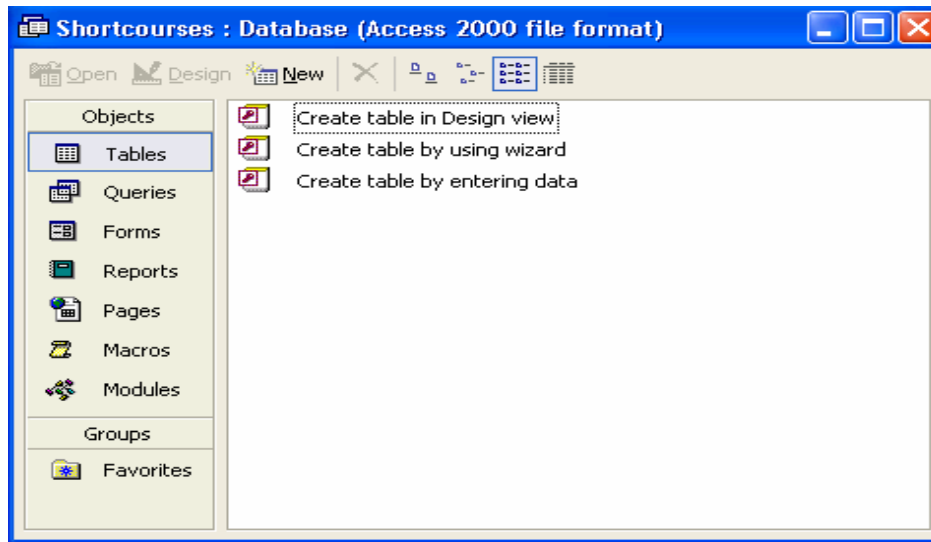
Course Objectives

After completing this shortcourse, you should be able to:

- Create tables in Design View;
- Create tables by using a wizard;
- Create tables by entering data;
- Import tables from Microsoft Excel application program;
- Differentiate between Design and Datasheet view of a table;
- Create Relationships;
- Format tables;
- Set Field properties;
- Find information in tables and database;
- Create Queries;
- Recognize logical operators; and
- Specify criteria in a query.

Tables are building blocks of Access databases. There are different ways of creating tables using Microsoft Access:

- Create table in Design View;
- Create table by using a wizard;
- Create table by entering data; or
- Using the New Button on database window (this gives you more options).



Creating Tables

- Choose your option.
- Design your table.
- Save your table.
- Enter your data into the table in datasheet view.

Linking, Importing, Exporting Tables: What is the Difference?

- **Link** lets you directly access data in another computer database. Any changes you make via Access will affect the original database as well as the Access database.
- **Import** lets you make a separate copy of data from other programs or file formats and store it in an Access table. Changes you make via Access will not affect the original data.
- **Export** lets you copy data from an Access table to some other program or file format, such as MS Word or Excel. Exported data is not linked to your data.

Linking data enables you to read and, in most cases, update data in the external data source. The external data source's format is not altered so that you can continue to use the file with the program that originally created it, but you can add, delete, or edit its data by using Microsoft Access as well (you can alter the original file).

Design View

- Field Properties – a characteristic of an object, such as its name, size, or color
- Field names (used to view and modify data)
- Descriptions (provides a line of help when working with the actual table)
- Datasheet View
- Bottom toolbar for navigation
- next / previous
- first / last
- new record

All Microsoft Access objects have properties that you can set to determine how the object appears or works. For example, one field property is called the Format property. This property tells Microsoft Access which format to use when displaying data from the field.

New Records

- Click in the last cell of the first column (in Datasheet view).
- Use the New Record button at the bottom of the window.
- Records > Data Entry

To Edit Records

- Edit in Datasheet view – use standard toolbar buttons. No need to highlight anything to edit.
- To move to the next or previous field, press TAB or SHIFT + TAB keys (to go back).
- Select entire records by clicking on the gray tile to the left of the record.
- To select the current field or remove the selection from the current field, press F2.
- To undo changes to the current field or record, press the Esc key.
- Deleted records are NON-RETRIEVABLE. You can not undo deletion inside an Access table.

Format

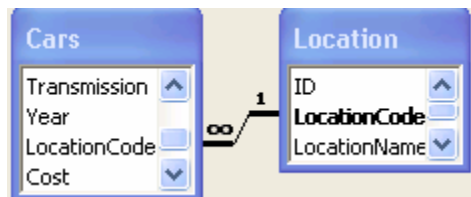
- Font > gridline color, > background color,
- Datasheet,
- Border and line style.

Modifying Tables

- Not a good idea. Difficult to go through database. Think as much ahead as you can.
- Make backup copy of a database.
- Never type information twice (no duplicates).

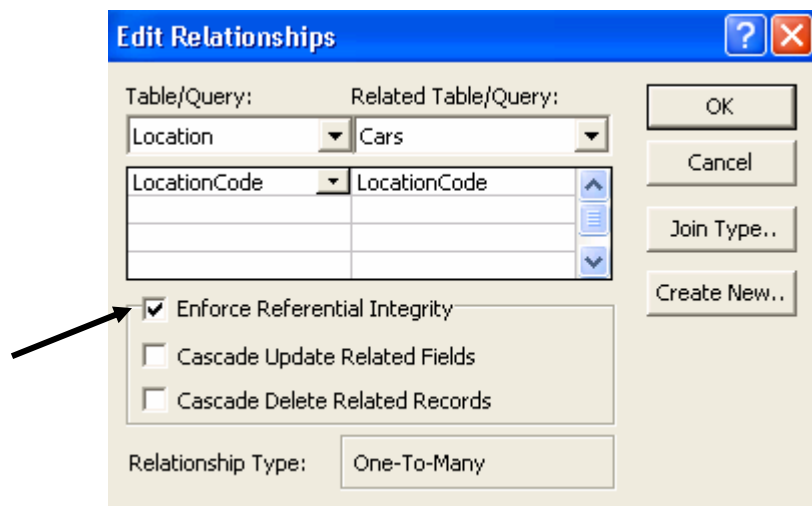
Creating Relationships

- From Tools click Relationships.
- Click on the field in the primary table, and drag to the corresponding secondary table. The Edit Relationships window appears.
- Click on the Create button.



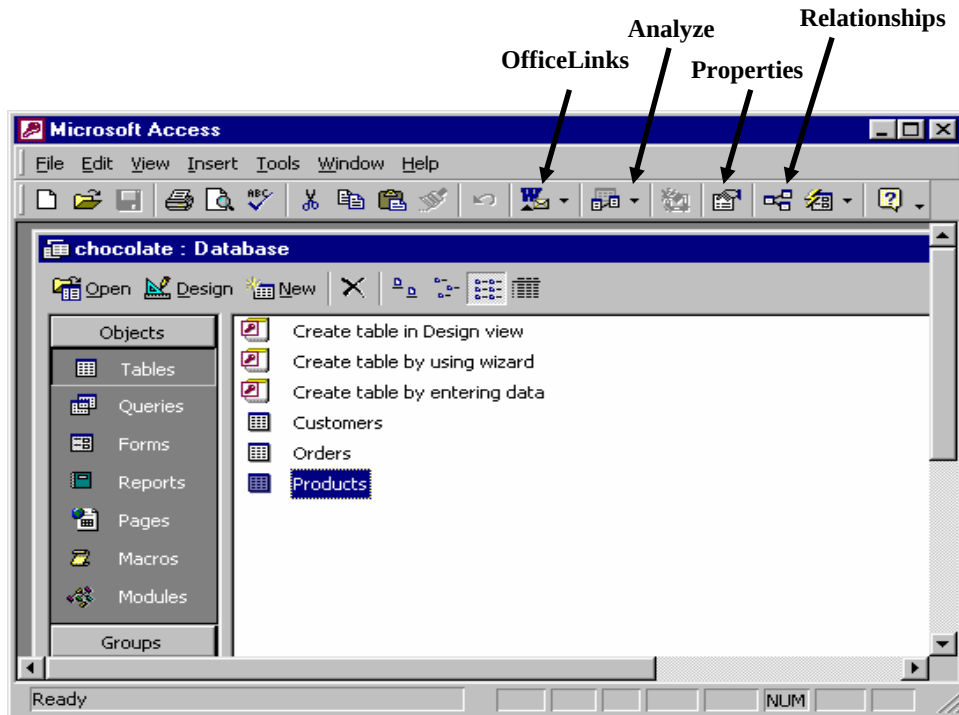
Referential Integrity

Referential integrity is a system of rules that Microsoft Access uses to make sure that the relationships between records in related tables are valid and that you don't accidentally delete or change related data.



Print Relationship

- On database window click Relationships.
- From the File menu > select Print Relationship.



Documenting Your Tables and Databases

- From the Standard Toolbar Click Tools > Analyze > Documenter,
- Or select File > Database properties,

Filtering

- Use Filter to get a subset of records sharing a common attribute.
- From the **Records** menu > Apply filter using Advanced Filter/Sort.

Filter by Selection

- Select the data field in the table that contains the information (e.g. all the people who live in New York).
- Click on one cell.
- Click Filter by selection button (funnel-shaped button).
- You'll see a table containing records of your interest.
- Remove the filter so that Access can search the entire database for the next search.

Filter by Form

- Click on the Filter by form button.
- Click the field that contains the first selection.
- Click the arrow that appears to the right of that field; then select the next selection.
- Click the OR button at the bottom of the screen.
- Click Filter button > Apply Filter.
- Click Records menu (on the standard toolbar).
- Remove Filter/Sort.

Query

A query is a question you ask about data in your database. It is a way of searching for data in your database. If you can get an answer to your question from one table, use filtering. If you need to look up several tables, then use a Query. Queries help you select information from tables or other queries. A query can be thought of as a request of the database, the response to which is a new table. Select Query is the most common type of query.

Creating Queries in Design View

- Under the Query Tab, click “New” button.
- Select Design View.
- Specify the table each field belongs to.
- Add fields from tables by double-clicking fields.
- Specify the Criteria (tell Access what information you want it to search for).
- Click the RUN button from the standard toolbar.

Logical Operators Used in Criteria

- = (Equal/Same)
- < (Less than/lower)
- > (Greater than/Higher)
- <= (Less than or equal to)
- >= (Greater than or equal to)
- <> (Not equal to)
- And

- Or
- Like

Finding Records in a Table

If you are not sure of all the characters in your search string, you can use the wildcard character instead. Wildcard symbols are codes used to allow you to make complex searches for information.

- * Any group of characters in this position. Example: B*ge finds Baggage, Barge, etc.
- ? Any single character in this position. Example: J?ne will find June and Jane
- # Any single digit in this position. Example: 199# will find all years between 1990 and 2000
- [] Square brackets for inclusions. Example: Jo[ha]n finds John and Joan (includes any of the letters h & a)
- [!] Square bracket and exclamation marks for exclusion. Example : Min[!t] finds Mine, & Mind but excludes mint
- Or Use the criteria in design view of the query.

Finding Specific Values in a Table (Examples):

- Fr* = Fred, Frank, Francis, France, French
- J?ne = June, Jane
- 199# =1991, 1992, 1993, 1994,.....1999
- Jo[ha] = John, Joan
- Min[!t] = Mine, Mind, Mink, but not Mint

Table Analyzer Wizard

Split a table into related tables using the Table Analyzer Wizard. If your Microsoft Access database has a table that contains duplicate information in one or more fields, you can use the Table Analyzer Wizard to split the data into related tables so that you can store data more efficiently. This process is called *normalization*.

On the Tools menu, point to Analyze; and then click Table. Follow the instructions in the steps of the Table Analyzer Wizard. You can either specify the tables that you want the wizard to create or have the wizard normalize your table for you.

Where to Get Help

If you need help with your project, you may contact Help Central Office at 742-HELP.

If you need help from your instructor, you may e-mail heide.mansouri@ttu.edu.

Exercise

Customers Table

CustomerID	LastName	FirstName	Street	City	State	PhoneNumber
6	Hanson	Rita	304 King Ave	New York	NY	(212) 555-3944
2	Smith	Frank	99 Prairie Ave	Denver	CO	(613) 555-7264
8	Grant	Jim	89 Rain Way	Portland	OR	(513) 555-7209
9	Hanson	Mary	306 King Ave	Denver	NY	(212) 555-7890
1	Smith	Jim	156 Slide Rd.	New York	NY	(212) 555-7788

Orders Table

OrderID	CustomerID	OrderDate	Account#	Gift
101	1	1/2/2000	1667	yes
102	6	2/3/2000	2675	yes
103	6	2/6/2000	1971	no

Products Table

ProductID	OrderID	UnitPrice	Unit in Stock
201	101	\$12.95	125
202	102	\$17.95	57
203	103	\$9.25	29

Data Types to be used

Fiel Name	Data Type
ID (primary key)	Number
OrderDate	Date/Time
Account#	Number
Gift	Yes/No
UnitPrice	Currency

Please e-mail your comments or suggestions to: heide.mansouri@ttu.edu