Access 2016 Module 10

Creating Advanced Queries

Module Objectives

- Query for top values
- Create a parameter query
- Modify query properties
- Create a Make Table query
- Create an Append query
- Create a Delete query
- Create an Update query
- Specify join properties
- Find unmatched records

Query for Top Values

- Top Values feature
  - Specify a number or percentage of sorted records that you want to display in the query's datasheet
  - Records must be sorted in either ascending or descending order
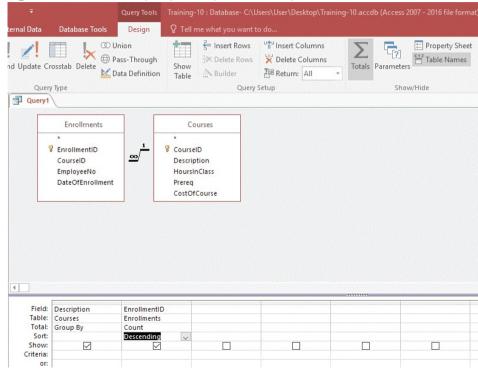
- Top Values options

action	displays
Click 5, 25, or 100 in the Top Values list	Top 5, 25, or 100 records
Enter a number, such as 10, in the Top Values box	Top 10, or whatever value is entered, records
Click 5% or 25% in the Top Values list	Top 5 percent or 25 percent of records
Enter a percentage, such as 10%, in the Top Values text box	Top 10 percent, or whatever percentage is entered, of records
Click All	All records

Designing a summary query for top values

- **Parameter query**
  - Displays a dialog box
    - Enter criteria within [square brackets]; appears as a prompt
    - Selects records based on user entry for field criteria
  - Can provide the data for a form or report
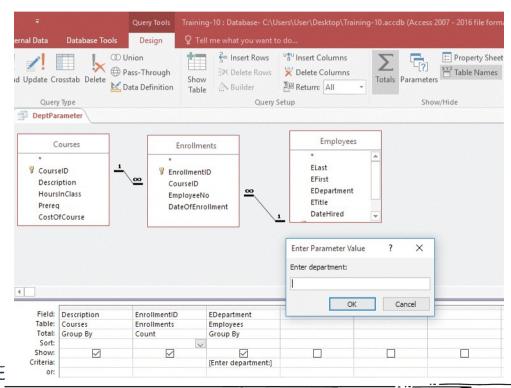 - Examples of parameter criteria

field data type	parameter criteria	description
Date/Time	>=[Enter start date:]	Searches for dates on or after the entered date
Date/Time	>=[Enter start date:] and <=[Enter end date:]	Prompts you for two date entries and searches for dates on or after the first date and on or before the second date
Short Text	Like [Enter the first character of the last name:] & "*"	Searches for any name that begins with the entered character
Short Text	Like "*" & [Enter any character(s) to search by:] & "*"	Searches for words that contain the entered characters anywhere in the field

Using parameter criteria for the EDepartment field

Modify Query Properties (Slide 1 of 3)

- **Properties**
  - define the appearance and behavior of items in the database, e.g., objects, fields, sections, and controls
  - Query properties include
    - Recordset Type (determines if records in a query result are locked)
      - Snapshot (locks)
      - Dynaset (default, allows updates)
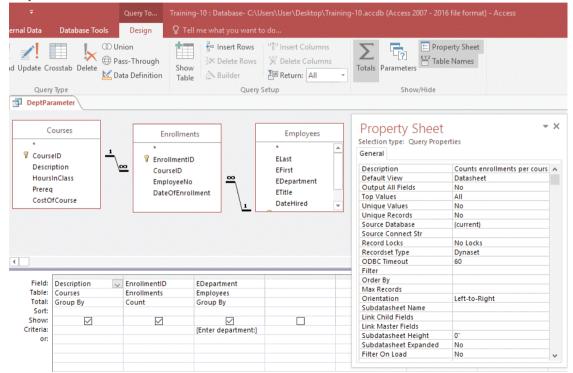
- **Field properties**
  - describe a field
    - Caption (changes a field name)
  - Change in either Table Design View or Query Design View

Modify Query Properties (Slide 2 of 3)

Query Property Sheet

- Creating an Alias
  - Alias property
    - renames a field list in Query Design View
    - Doesn't change actual name of underlying object
  - Right-click the field list in Query Design View, click Properties on the shortcut menu, and then modify the Alias property
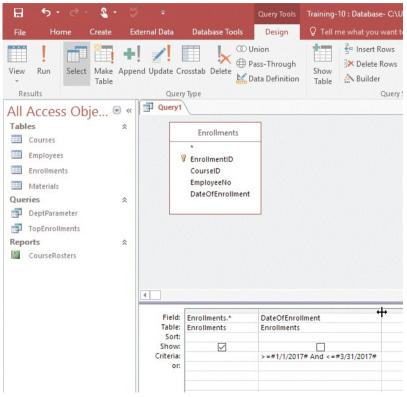
Create a Make Table Query (Slide 1 of 3)

- **Action query**
  - changes all of the selected records when it is run

- Four types of action queries
  - Delete
  - Update
  - Append
  - Make Table

- **Make Table** query
  - creates a new table of data for the selected datasheet

Creating a Make Table query

- Action queries

action query	query icon	description	example
Delete		Deletes a group of records from one or more tables	Remove products that are discontinued or for which there are no orders
Update		Makes global changes to a group of records in one or more tables	Raise prices by 10 percent for all products
Append		Adds a group of records from one or more tables to the end of another table	Append the employee address table from one division of the company to the address table from another division of the company
Make Table		Creates a new table from data in one or more tables	Export records to another Access database or make a backup copy of a table

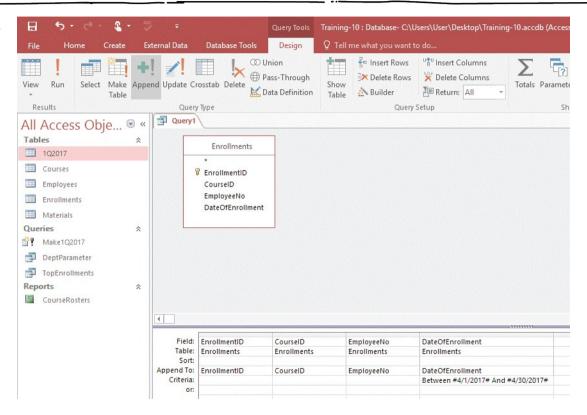# Create an Append Query (Slide 1 of 2)

- Append query
  - adds selected records to an existing table (target table)

- Append query
  - works like an export feature
    - Copies the records from one location and pastes a duplicate set to the target table, which can be in the current database or in any other Access database

- 1900 versus 2000 dates
  - How two-digit dates are handled in Access
    - 00 through 29: years 2000 through 2029
    - 30 through 99: years 1930 through 1999

Creating an Append query

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- **Delete query**
  - Deletes a group of records from one or more tables
  - Deletes entire records, not just selected fields within records
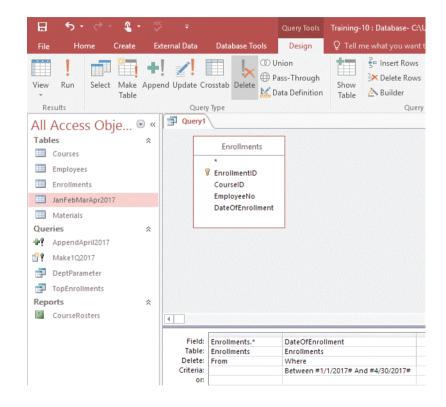 - Cannot reverse the action

Creating a Delete query

- **Update query**
  - Updates the values in a field
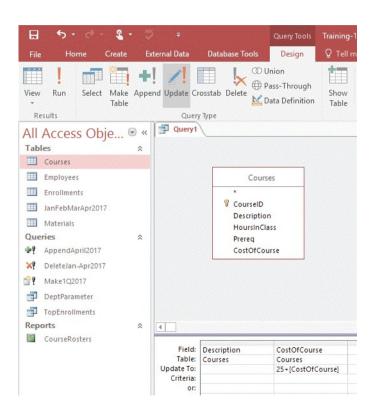
- **Hidden property**
  - Use to keep an action query in the Navigation Pane but hide it
  - To restore hidden property
    - Right-click a blank spot in Navigation Pane, choose Navigation Options
    - In Navigation Options dialog box, check Show Hidden Objects check box, click OK

Create an Update Query (Slide 2 of 2)

Setting up an Update query

Specify Join Properties

- **Join lines**
  - Link fields with the same name and data type
  - Automatically created in Query Design View if no relationships established in the Relationships window
- Edit table relationships for a query in Query Design View
  - Double-click the join line to open the Join Properties dialog box
- **Left join**
  - All records in the one table even if there are no matching records in the many table
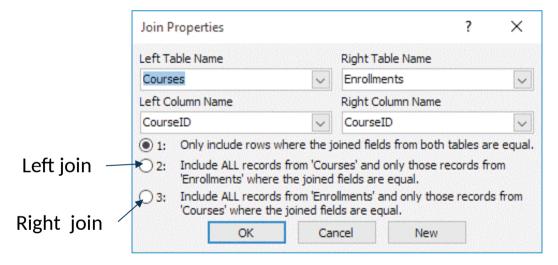- **Right join**
  - All records in the many table even if there are no matching records in the one table

Join Properties dialog box

Left join

Right join

Specify Join Properties (Slide 3 of 3)

- **Null**
  - A field value that does not exist because it has never been entered

- **Zero-length string**
  - Deliberate entry that contains no characters

- Null and zero-length string values, criterion for queries
  - Zero-length string values
    - Enter two quotation marks ("")
  - Null values
    - Enter "Is Null"
  - Value other than a null value
    - Enter "Is Not Null"

- **Find Unmatched Query Wizard**
  - Creates an outer join between the tables in the query
  - Selects all records in one table even if there is no match in the other table

- **Find Duplicates Query Wizard**
  - Find duplicate values in a field
  - Can assist in finding and correcting potential data entry errors

Using the Find Unmatched Query Wizard

- Reviewing referential integrity
  - Established in the Relationships window
  - Applies a set of rules to the relationship
    - ensures that no orphaned records currently exist, are added to, or are created in the database
  - Orphan record: "many" table's foreign key field entry doesn't have a matching entry in the "one" table's primary key field
  - "One" table (parent records)
  - "Many" table (child records)
  - Delete query
    - not allowed to create orphans