Access Tutorial 3

Maintaining and Querying a Database

Microsoft® Office 2010

Objectives

• Find, modify, and delete records in a table
• Learn how to use the Query window in Design view
• Create, run, and save queries
• Update data using a query datasheet
• Create a query based on multiple tables
• Sort data in a query
• Filter data in a query

Objectives

• Specify an exact match condition in a query
• Change the font size and alternate row color in a datasheet
• Use a comparison operator in a query to match a range of values
• Use the And and Or logical operators in queries
• Create and format a calculated field in a query
• Perform calculations in a query using aggregate functions and record group calculations
• Change the display of database objects in the Navigation Pane

Updating a Database

• Updating, or maintaining, a database is the process of adding, modifying, and deleting records in database tables to keep them current and accurate
  – Navigation mode
  – Editing mode

Finding Data in a Table

• The Find command allows you to search a table or query datasheet, or a form, to locate a specific field value or part of a field value
Deleting a Record

- With the table open in Datasheet view, click the row selector for the record you want to delete
- In the Records group on the Home tab, click the Delete button (or right-click the row selector for the record, and then click Delete Record on the shortcut menu)
- In the dialog box asking you to confirm the deletion, click the Yes button

Introduction to Queries

- Access provides powerful query capabilities that allow you to do the following:
  - Display selected fields and records from a table
  - Sort records
  - Perform calculations
  - Generate data for forms, reports, and other queries
  - Update data in the tables in a database
  - Find and display data from two or more tables
- A Query Wizard prompts you for information by asking a series of questions and then creates the appropriate query based on your answers

Updating Data Using a Query

- You can update the data in a table using a query datasheet
- After updating the query, close the table
Creating a Multitable Query

- A multitable query is a query based on more than one table
- If you want to create a query that retrieves data from multiple tables, the tables must have a common field

Sorting Data in a Query

- **Sorting** is the process of rearranging records in a specified order or sequence
- To sort records, you must select the **sort field**, which is the field used to determine the order of records in the datasheet

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Ascending Sort Results</th>
<th>Descending Sort Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Least to greatest date</td>
<td>Greatest to least date</td>
</tr>
<tr>
<td>Number</td>
<td>Least to greatest value</td>
<td>Greatest to least value</td>
</tr>
<tr>
<td>Text</td>
<td>Least to greatest value</td>
<td>Greatest to least value</td>
</tr>
<tr>
<td>Currency</td>
<td>Least to greatest value</td>
<td>Greatest to least value</td>
</tr>
<tr>
<td>Yes/No</td>
<td>Yes listed first</td>
<td>No listed first</td>
</tr>
<tr>
<td>Empties</td>
<td>Empty entries first</td>
<td>Non-empty entries first</td>
</tr>
</tbody>
</table>

Using an AutoFilter to Sort Data

- The **AutoFilter** feature enables you to quickly sort and display field values in various ways
- Clicking the arrow in a column heading displays the AutoFilter menu

Sorting a Query Datasheet

- In the query datasheet, click the arrow on the column heading for the field you want to sort
- In the menu that opens, click Sort A to Z for an ascending sort, or click Sort Z to A for a descending sort
- or
- In the query datasheet, select the column or adjacent columns on which you want to sort
- In the Sort & Filter group on the Home tab, click the Ascending button or the Descending button
- or
- In Design view, position the fields serving as sort fields from left to right
- Click the right side of the Sort box for the field you want to sort, and then click Ascending or Descending for the sort order

Using Filter By Selection

- A **filter** is a set of restrictions you place on the records in an open datasheet or form to **temporarily** isolate a subset of the records
- In the datasheet or form, select part of the field value that will be the basis for the filter; or, if the filter will be based on the entire field value, click anywhere within the field value
- In the Sort & Filter group on the Home tab, click the Selection button, and then click the type of filter you want to apply
Using Filter By Selection

Selection Criteria in Queries

Defining Record Selection Criteria for Queries
• Just as you can display selected fields from a database in a query datasheet, you can display selected records
• To tell Access which records you want to select, you must specify a condition as part of the query
• A condition usually includes a comparison operator

Specifying an Exact Match
• With an exact match, the value in the specified field must match the condition exactly in order for the record to be included in the query results

Changing a Datasheet’s Appearance
• You can change the characteristics of a datasheet, including the font type and size of text in the datasheet, to improve its appearance or readability
• A theme is a predefined set of formats including colors, fonts, and other effects that enhance an object’s appearance and usability
Defining Multiple Selection Criteria for Queries

- Multiple conditions require you to use **logical operators** to combine two or more conditions
  - Use the **And logical operator** when you want a record selected only if two or more conditions are met
  - Use the **Or logical operator** when you place conditions in different Criteria rows

Creating a Calculated Field

- In addition to using queries to retrieve, sort, and filter data in a database, you can use a query to perform calculations
- To perform a calculation, you define an **expression** containing a combination of database fields, constants, and operators
  - **Expression Builder** is an Access tool that makes it easy for you to create an expression
- Open the query in Design view
- In the design grid, click the Field box in which you want to create an expression
- In the Query Setup group on the Design tab, click the Builder button
- Use the expression elements and common operators to build the expression, or type the expression directly in the expression box
- Click the OK button
Formatting a Calculated Field

- You can specify a particular format for a calculated field, just as you can for any field, by modifying its properties.

Using Aggregate Functions

- **Aggregate functions** perform arithmetic operations on selected records in a database.
- If you want to quickly perform a calculation using an aggregate function in a table or query datasheet, you can use the Totals button in the Records group on the Home tab.

Creating Queries with Aggregate Functions

- Aggregate functions operate on the records that meet a query's selection criteria.

Using Record Group Calculations

- The **Group By operator** divides the selected records into groups based on the values in the specified field.

Working with the Navigation Pane

- The Navigation Pane is the main area for working with the objects in a database.
- The Navigation Pane divides database objects into categories, and each category contains groups:
  - **Object Type**
  - **All Access Objects**