Microsoft Access 2003: Module 3

December 2006
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Objectives

At the end of this training session you will be able to:

1. Import a table from Excel;
2. Import data from a delimited text file;
3. Export an Access file to Excel;
4. Understand the purpose of Aggregate Functions;
5. Create and run a query using count;
6. Create and run a query using average;
7. Create and run a query using the parameter between.
Import a Table From Excel

A query allows for table inquiries. A query can change, delete, add, or arrange data to tables. A query aids in gathering information for forms and reports.

With a query a user asks questions and sets parameters.

In this example, we are using the AccessIII_StudentFiles folder located on your computer’s desktop and the HCC_Employees database.

1. Under the Objects bar, click on Tables and click on New on the Database window toolbar.
2. After the New Table dialog box appears, click on Import Table and click on OK.
3. Click on the down arrow to choose the file type and select the file name to import.
   e.g. Microsoft Excel and Employee_add.xls
4. Select the table to insert and click on Import.
   e.g. Employee_add

5. Select which worksheet or range to import by clicking on the Show Worksheets or Show Named Ranges radio button.
   e.g. Show Worksheets

6. Select the sheet or sheet range to import and click on Next.
   e.g. Sheet1

7. Add a check mark by clicking on the First Row Contains Column Headings and click on Next. Adding this check mark specifies that the first row contains a column heading.

8. Click on the In a New Table or In an Existing Table radio button and click on Next.
   e.g. In a New Table
9. Choose primary key setting and click on **Next**.
In this example the ID is the primary key; however, Access can choose a primary key. Also you can choose a primary key or choose not to have any primary key.

10. Type a name for the table and click on **Finish**. e.g. `tblEmployeeAddresses`
Import from a Delimited Text File

A delimited text file contains records that end in a carriage return. All fields are separated from each other by a comma, space, or special characters.

1. Click on **File>Get External Data>Import**.
2. Click on the down arrow to choose file type. Locate file to import and click on **Import**.
   
   e.g. File Type: **Text Files**  
   Location: **Desktop> AccessIII_StudentFiles**  
   File Name: **Employee_adds**

3. Choose a Delimited format and click on **Next**.
   
   e.g. **Delimited**
4. Select the delimiter type; add a checkmark to **First Row Contains Field Names** checkbox and click on **Next**.

   e.g. **Tab**

5. Select where to store the data and click on **Next**.

   e.g. **In a New Table**

6. Specify information about each of the imported fields, modify **Field Options** (as necessary), and click on **Next**. Under **Indexed** choose, index format.

   e.g. **Field Name**: ID  
   **Indexed**: Yes (No Duplicates)
7. Define the primary key and click on Next.  
   e.g. **Choose my own primary key-ID**

8. Type a name for the file and click on Finish.  
   e.g. **tblEmployee_adds**
Export an Access File to Excel

In this example, click on Tables under Objects and select the table tblEmpInfo.

1. Select the object to import.
   e.g. **tblEmpInfo**
2. From the menu bar, click on **File>Export**.
3. Click on the down arrow to choose the file type and locate the file name.
   e.g. File type: **Microsoft Excel 97-2003**
   File: **tblEmpInfo**
4. Add a checkmark to the **Save formatted** checkbox and click on **Export**.
Aggregate Functions

Aggregate functions within Access allows the user to carry out simple mathematical operations within a query. Aggregate functions (operations) include sum, average, minimum, maximum, count, standard deviation and variance. Aggregate functions can be accessed by selecting the Totals button on the query design toolbar or typing the aggregate function in Total row of the Design grid.

### Aggregate Function

<table>
<thead>
<tr>
<th>Aggregate Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum</td>
<td>Determines the sum of field values. Supports the following data types: AutoNumber, Currency, Date/Time and Number.</td>
</tr>
<tr>
<td>Avg</td>
<td>Calculates the average of field values. Supports the following data types: AutoNumber, Currency, Date/Time and Number.</td>
</tr>
<tr>
<td>Min</td>
<td>Determines the lowest field value. Supports the following data types: AutoNumber, Currency, Date/Time, Number and Text.</td>
</tr>
<tr>
<td>Max</td>
<td>Determines the highest field value. Supports the following data types: AutoNumber, Currency, Date/Time and Number.</td>
</tr>
<tr>
<td>Count</td>
<td>Determines the number of records in a field. Supports the following data types: AutoNumber, Currency, Date/Time, Memo, Number, OLE Object, Text and Yes/No.</td>
</tr>
<tr>
<td>StDev</td>
<td>Calculates the standard deviation of a field value. Supports the following data types: Currency or Number.</td>
</tr>
<tr>
<td>Var</td>
<td>Calculates the statistical variances of a field. Supports the following data type: Currency.</td>
</tr>
</tbody>
</table>
Query: Using the Aggregate Function Count

Using the aggregate function Count is useful when a simple count or tally of information is required.

Use the HCC_Employees database.

1. Under Objects bar, select Queries and double click on Create a query in Design view.
2. Select the tables and/or queries to show and click Add.
   e.g. tblEmpInfo
3. Double click on the field name from the table or query twice to appear in the Field design grid.
    e.g. **Campus**.

4. Click on the **Totals** button located on the Query Design toolbar. The Total row now appears in the design grid between Table and Sort.

5. Select the aggregate function on the second field and click on the Run button.
    e.g. **Count**.

6. Result of query using the aggregate function Count.

7. Save the query as **qryCntCampus**.

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**Activity**

Create a query for gender using the aggregate function Count. Save the query as **qryCntGender**

How many are males? How many are females?

How could using the aggregate function Count be useful to you?
Query: Using the Aggregate Function Avg

Using the aggregate function Avg (average) is useful when an average of information is required.

Use the HCC_Employees database.

In this example, we are determining the average salary by campus.

1. Under Objects bar, select Queries and double click on Create a query in Design view.

2. Select the tables and/or queries to show and click Add.
   e.g. tblEmpInfo
3. Double click on the field names from the table to appear in the Field design grid.
   e.g. Campus and Salary.

4. Click on the Totals button located on the Query Design toolbar. The Total row now appears in the design grid between Table and Sort.

5. Select the aggregate function on the second field and click on the Run button.
   e.g. Avg.

6. Result of query using the aggregate function Average.

7. Save the query as qryAvgSalaryCampus.

**Activity**

Create a query for the average salary by gender using the aggregate function Avg. Save the query as qryAvgSalaryGender.

How what is the average salary for males? What is the average salary for females?

How could using the aggregate function Avg be useful to you?
**Query: Using Parameters Between**

Creating a parameter query allows you to search for information in fields. However, for the parameters to function, you will have to enter the criteria and prompt (question) that will appear in the parameter dialog box.

Use the HCC_Employees database.

In this example, we are determining the names of the people whose start date is between 1/01/1980 and 12/31/99.

1. Under Objects bar, select **Queries** and double click on **Create a query in Design view**.
2. Select the tables and/or queries to show and click **Add**.
   
   e.g. **tblEmpInfo**
3. Double click on the field names from the table to appear in the Field design grid.
   e.g. FirstName, LastName, and StartDate.

4. Under StartDate Criteria type the following:
   Between [Beginning Start Date] And [Ending Start Date].

5. Click on the Run button and enter the following parameters Beginning Start Date: 1/01/1980 and Ending Start Date: 12/31/1999.

6. Result of query using the parameter Between.

7. Save the query as qryBtwStartDate.

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**Activity**

Create a query using parameters. The query will show the names of people, salary and campus. Save the query as qryBtwSalaryCampus.

Show how many people make between $30,000 and $40,000 and at which campus he/she works.

What are the results for each campus?