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I. INTRODUCTION

Microsoft Access 2003 is a relational database management system for storing, manipulating and reporting information entered by the user. Microsoft Access stores the information contained in a database in rows and columns. Each row is called a record. Each column is representative of a field. Within a record there can be one or more fields. For example, the information contained in a record could be:

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP</th>
<th>PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Adams</td>
<td>2 Terrace St</td>
<td>White Plains</td>
<td>NY</td>
<td>10882</td>
<td>422-4578</td>
</tr>
</tbody>
</table>

The example above contains six fields: Name, Address, City, State, Zip and Phone.

II. GETTING STARTED

A. The Mouse Pointer

The mouse is used to perform many functions. The mouse pointer allows a user to move the cursor and select menu options. At times, the mouse pointer is displayed as an arrow or insertion bar.

<table>
<thead>
<tr>
<th>Mouse Activity</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>click</td>
<td>Press and release the left mouse button.</td>
</tr>
<tr>
<td>double-click</td>
<td>Click the left mouse button twice in rapid succession.</td>
</tr>
<tr>
<td>click and drag</td>
<td>Press and hold the left mouse button and move to a specified location, and then release it. Click and drag is one method to select (highlight) text, and then apply an attribute to that text.</td>
</tr>
<tr>
<td>point</td>
<td>Position the mouse pointer on a given item.</td>
</tr>
</tbody>
</table>

B. Screen Menus and Options

1. Windows Control Buttons

Windows Control Buttons are the Minimize Button, Restore Button, and the Close Button. The Minimize and Restore buttons are used for sizing the document window. Click the Minimize Button and the document window minimizes in size and displays as an icon bar. Click the Restore Button on the icon bar and the window restores to its original size. Minimize and Restore buttons are positioned in all dialog boxes (windows). The Close button is also contained in open dialog boxes. Click this area to close the dialog box.
2. Menu Bar

The Menu Bar is located beneath the Title Bar. Click any Menu Bar item to display a list of options. Options followed by three dots indicate there is a corresponding dialog box with additional options.

3. Toolbars

The Standard Toolbar is located beneath the Menu Bar and displays icons of frequently used editing features. The Formatting Toolbar is located beneath the Standard Toolbar and displays icons of frequently used formatting commands. When pointing to a Standard or Formatting Toolbar Button, the button name displays in a small box known as a Tool Tip.

C. Using Help

The online help system provides information and instructions on Access features and commands.

1. Invoking Help:

- click Help from Menu Bar

Available Help options are:

<table>
<thead>
<tr>
<th>Option</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Office Access Help</td>
<td>Displays an index of help topics.</td>
</tr>
<tr>
<td>Hide Office Assistant</td>
<td>Hides or shows the office assistant.</td>
</tr>
<tr>
<td>Microsoft Office Online</td>
<td>Connects to Microsoft Office website.</td>
</tr>
<tr>
<td>Access Developer Resources</td>
<td>Connects to Microsoft Office Access website.</td>
</tr>
<tr>
<td>Contact Us</td>
<td>Allows user to obtain contact information.</td>
</tr>
<tr>
<td>Sample Databases</td>
<td>Additional sample databases included in Access.</td>
</tr>
<tr>
<td>Check for Updates</td>
<td>Links to Microsoft Office to update software.</td>
</tr>
<tr>
<td>Detect and Repair</td>
<td>Automatically repairs office programs.</td>
</tr>
<tr>
<td>Activate Product</td>
<td>Shows or hides database objects.</td>
</tr>
<tr>
<td>Customer Feedback Options</td>
<td>Allows user to give feedback.</td>
</tr>
<tr>
<td>About Microsoft Access</td>
<td>Contains information about the current version.</td>
</tr>
</tbody>
</table>
• click **Microsoft Office Access Help**

A task pane appears allowing the user to type in a question.

![Microsoft Office Access Help](image)

• type *question* and click

• select the topic closest to the question

Where *question* is the topic information being searched.

2. **Exiting Help:**

In the *Microsoft Access Help* dialog box:

• click "X"

3. **Office Assistant**

The Office Assistant is an animated character that appears on the screen to offer help. Type in a question and click the Search Button. The Office Assistant responds with a list of options. If a "lightbulb" displays beside the Office Assistant, click to view a tip about the current action.

To invoke Office Assistant:

• click **Help** and select **Show the Office Assistant**

To exit:

• right-click

• click **Hide**
III. WORKING IN MICROSOFT ACCESS

A. Opening Access

- click Start
- click All Programs and select Microsoft Office
- select Microsoft Office Access 2003

The database types located in the New File panel are:

<table>
<thead>
<tr>
<th>Database Types</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank Database</td>
<td>This function allows the user to create and design a new database without the step-by-step aid of a wizard function.</td>
</tr>
<tr>
<td>Blank Data Access Page</td>
<td>Creates a data access page, or opens a page in Design view or Page view.</td>
</tr>
<tr>
<td>Project (Existing Data)</td>
<td>Creates or opens an access project.</td>
</tr>
<tr>
<td>Project (New Data)</td>
<td>Creates a Microsoft Access project and connects it to a Microsoft SQL server database.</td>
</tr>
<tr>
<td>From Existing File</td>
<td>Opens an existing Microsoft Access file.</td>
</tr>
</tbody>
</table>

2. Creating a Database

From New File task pane:

- click Blank Database

To select the appropriate drive and/or directory in order to save database:

- click in Save in
- select drive (e.g., 3½ Floppy (A:))
- type databasename in file name
Where *databasename* is the name selected for the database.

- click **Create**

### 3. Database Objects

Microsoft Access contains seven types of database objects:

<table>
<thead>
<tr>
<th>Object</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables</td>
<td>Stores data.</td>
</tr>
<tr>
<td>Queries</td>
<td>Gathers data from one or more tables. It is viewed/edited in a form or report.</td>
</tr>
<tr>
<td>Forms</td>
<td>Displays data from tables or queries to view, edit, or enter data.</td>
</tr>
<tr>
<td>Reports</td>
<td>Summarizes and presents data from tables and queries to print it or analyze it.</td>
</tr>
<tr>
<td>Pages</td>
<td>A data access page is a special type of web page designed for viewing and working with data from an internet or intranet.</td>
</tr>
<tr>
<td>Macros</td>
<td>Automates database by performing actions that specify without programming.</td>
</tr>
<tr>
<td>Modules</td>
<td>Stores access basic code to customize, enhance and extend the database.</td>
</tr>
</tbody>
</table>

### B. Creating and Using Tables

#### 1. Creating Tables Using Table Wizard

To create a table:

- click **Tables** and select **New**
- click **Table Wizard**
- click **OK**

#### 2. Modifying a Table Design

When using the Wizard to create a table, it is possible to select pre-set templates or samples for the table design. It is also possible to include in the table, sample fields suggested by the Wizard. Modifying a table design allows the adding, deleting, and renaming of fields. Modifying a table design also allows the setting of fields or table properties that limit the kinds of data that can be stored in the table. Indexes are created to speed up data searches.
Working in Microsoft Access

a. Adding Sample Fields

To add a sample field:

- select a **Sample Table**
- click \( \rightarrow \) to select a **Sample Field**
  - or-
- click \( \rightarrow \rightarrow \) to select all **Sample Fields**

*Note: The sample fields are linked to the sample tables, selecting a table will determine what choices will appear as sample fields.*

b. Renaming a Field

To rename a field:

- click a field name to be changed under **Fields in my new table**
- click **Rename Field**

The **Rename field** dialog box prompts the user to enter in a new field name for the entry.

- type **newfieldname**
- click **OK**

Where **newfieldname** is the new name of the field.

c. Removing a Field Name

To remove a field name:

- select a **field name**
- click \( < \)
- click **Next** when finished with making changes to table design
d. Naming the Table

• type a **tablename**

Where **tablename** is the name given to the table.

• click **Yes** to select primary key and select **Next**

The following screen displays.

The following three options are available:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modify the table design</td>
<td>Allows changes to be made to the field names, field size, etc.</td>
</tr>
<tr>
<td>Enter data directly into the table</td>
<td>Allows changes to be made to the information in each field.</td>
</tr>
<tr>
<td>Enter data into the table using a form</td>
<td>Allows changes to be made to the information in each field through the use of a wizard.</td>
</tr>
</tbody>
</table>

• select **Enter data directly into the table**

• click **Finish** to allow Wizard to import and create table

**Note:** By selecting a primary key, Access creates an index that allows more expedient searches. A primary key will prevent any duplications or null values from being entered.

3. Inputting Records

a. Entering Data

• click once in a **Field**

• type **text**

Where **text** is the information for the specific field.
Example:

b. Saving Changes to the Table

• click

c. Closing a Table

• click inside the table

C. Creating Queries

A query is a question represented in a way that Access can understand. Access manipulates data to meet the users individual needs for the query.

In the database dialog box:

• click Queries
• click New

1. Creating a Query Using Query Wizard

There are five query types.

<table>
<thead>
<tr>
<th>Query Type</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design View</td>
<td>Creates a new query without using the wizard.</td>
</tr>
<tr>
<td>Simple Query Wizard</td>
<td>Creates a query from fields that are picked.</td>
</tr>
<tr>
<td>Crosstab Query Wizard</td>
<td>Creates a query to display in a spreadsheet-like format.</td>
</tr>
<tr>
<td>Find Duplicate Query Wizard</td>
<td>This Wizard creates a query that finds records with duplicate field values in a single table or query.</td>
</tr>
<tr>
<td>Find Unmatched Query Wizard</td>
<td>This Wizard creates a query that finds records (rows) in one table that have no related records in another table.</td>
</tr>
</tbody>
</table>
2. Adding Fields to a Query

- select **Simple Query Wizard**
- click **OK**

The *Simple Query Wizard* dialog box appears.

![Simple Query Wizard dialog box](image)

Under Table/Queries:

- select a **Table**
- click ![Available Fields button](image) to select **Available Fields**
- click **Next**

3. Modifying the Query Design

Modifying the query design allows the user to change the criteria of the query. Changing the criteria allows the user to query specific information.

![Simple Query Wizard dialog box](image)

- type **queryname**
- select **Modify the query design**
- click **Finish**

Where **queryname** is the name given to the query.
The design view appears.

There are four main functions of modifying a query design.

<table>
<thead>
<tr>
<th>Query Design Function</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sort</td>
<td>Use to indicate the type of sort for the active query or filter. Ascending (0-9, A - Z), Descending (9-0, Z – A), or not sorted. To sort on a field, select a sort cell, and then select the type of sort.</td>
</tr>
<tr>
<td>Show</td>
<td>Displays or hides a column in the results of the active query or filter. If a column is hidden, it can still be used to specify a criteria.</td>
</tr>
<tr>
<td>Criteria</td>
<td>Defines one or more set of limiting conditions that obtains a specific set of records in the query or filter results.</td>
</tr>
<tr>
<td>Or</td>
<td>Allows the user to keep adding alternate values or expressions.</td>
</tr>
</tbody>
</table>

To sort:

- select a field to sort
- click Sort field
- click ▼ and select Sort Type (Ascending or Descending)

In another field:

- click the cell next to Criteria
- type criteria

Where criteria is the limiting condition for this field.

- click the cell next to Or
- type alternative criteria

Where alternative criteria is an alternative limiting condition for the field.
4. Running a Query

After modifying the query design, run the query in order to obtain a specified criteria result.

To run a query:

- click Query
- select Run
- or-
- select

5. Editing a Query

In Microsoft Access, Expressions are frequently used. An Expression is any combination of operators, constants, literal values, functions, and names of fields (columns), controls, and properties that evaluates to a single value. Expressions can be used as settings for many properties and action arguments; to define calculated controls in forms, reports, and data access pages; to set criteria.

Two common Access wildcard expressions are:

<table>
<thead>
<tr>
<th>Expression</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asterisk (*)</td>
<td>Any collection of characters. The query results include fields that are added to the table or query after creation and exclude deleted fields.</td>
</tr>
<tr>
<td>Question Mark (?)</td>
<td>Represents any individual character.</td>
</tr>
</tbody>
</table>

To edit a query:

- click
- select a Field and delete current criteria
- type a letter or word followed by *

Where letter or word is replaced with new criteria.

- click

6. Closing and Saving Changes to a Query

- click to save
- click to close
D. Creating Forms

To see a single record at a time, but not all the fields in that record, use Form View. The main purposes of a form in a database are to view, edit, and enter new data.

1. Using the Form Wizard

To use Form view, a form must be created first.

From the Database dialog box:

- click **Forms**
- click **New**

The New Form dialog box appears.

Microsoft Access 2003 offers different ways to create a form:

<table>
<thead>
<tr>
<th>Form Type</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design View</td>
<td>Creates a new form without using the wizard.</td>
</tr>
<tr>
<td>Form Wizard</td>
<td>Uses the Wizard to create a form based on fields selected.</td>
</tr>
<tr>
<td>AutoForm: Columnar</td>
<td>Uses the Wizard to automatically create a columnar form.</td>
</tr>
<tr>
<td>AutoForm: Tabular</td>
<td>Uses the Wizard to automatically create a tabular form.</td>
</tr>
<tr>
<td>AutoForm: Datasheet</td>
<td>Uses the Wizard to automatically create a datasheet form.</td>
</tr>
<tr>
<td>AutoForm: PivotTable</td>
<td>PivotTables are tools for working with data in a three-dimensional manner.</td>
</tr>
<tr>
<td>AutoForm: PivotChart</td>
<td>PivotCharts are dynamic structures created for the purpose of displaying and manipulating Microsoft Access data, using MS Excel.</td>
</tr>
</tbody>
</table>
Working in Microsoft Access

Chart Wizard | Starting with a table, query, form or report, the wizard helps the user select the columns in their data and assign their role in the chart.

PivotTable Wizard | Uses the Wizard to allow users to work with data in a three dimensional manner.

2. Adding Fields to Form

- select **Form Wizard**
- select a **Table** or **Query** and click **OK**
- click ![>](chart) to select available fields
- click **Next**

**a. Selecting a Layout**

- select a **Layout**
- click **Next**

![Form Wizard Image]

**b. Selecting a Style**

From the **Style Option** list:

- select a **Style**
- click **Next**

![Form Wizard Image]
Working in Microsoft Access

- type *formname*

Where *formname* is the name given to the form.

There are two form view options. The first gives the option to **Open the form to view or enter information**. By selecting this option, the user is able to change information in each of the fields. The second one allows the user to **Modify the form’s design**. By selecting this option, the user is able to change the names of the fields, the field size, backgrounds, etc.

- choose a view option
- click **Finish**

Note: The following image appears only if ‘Open the form to view or enter information’ is selected.

The form appears.

![Mailing List Form](image)

E. Creating Reports

A report in Microsoft Access displays data in a table or query in a professional-looking way to view or print.


From the *Database* dialog box:

- select ![Reports](image)
- click ![New](image)
- select **Report Wizard**
- choose a **Table** or **Query**
- click **OK**

a. Selecting Fields for the report

- click ![to select available fields](image)
- click **Next**
The *Report Wizard* dialog box appears.

b. **Adding Grouping Levels to the report**

Grouping Levels allow a user to decide how to group the data. It gives the user the opportunity to display the fields in different orders. By grouping the data, the user is telling Access which fields to display, as well as how to summarize the data.

Adding grouping levels:

- select *Grouping Level*
- click

  Note: If FirstName is selected, the priority up arrow will move the FirstName to a higher level, while bumping the LastName to a lower level.

- click *Next*

c. **Creating a Sort Order for records**

Sorting allows a user to place data in a specific order in the report. To sort records, next to 1:

- select field to sort by
- select *Ascending* or *Descending*
- click *Next*

d. **Selecting a Layout for the report**

Selecting different layouts and orientations will change the way a user is able to view the fields.
e. Selecting a Style for the Report

Style allows the user to select a design for a report.

The Select Style dialog box appears.

In the final dialog box, enter a name for the report.

- type `reportname`

Where `reportname` is the name given to the report.

There are radio buttons with options to either **Preview the report** or **Modify the report’s design**.

- select an option
- click **Finish**

Note: The following image appears only if ‘Preview the report’ is selected
Working in Microsoft Access

The report appears.

f. **Printing the Report**
   
   - click **File** and select **Print**
   - click **OK**

IV. CLOSING AND EXITING MICROSOFT ACCESS

A. **Closing Microsoft Access**
   
   - click **File**
   - click **Close**
   - if prompted to save changes click **Yes**

B. **Exiting Microsoft Access**
   
   - click **File**
   - click **Exit**