

Microsoft Access

Lesson 1: Introduction to Databases

Overview-Lesson Learning Objectives:

Lesson One introduces the concepts of database to the students using Microsoft Access software. Students will be exposed to a computerized database such as Access and its functions. Also, the advantages of relational databases will be discussed. The basic database terminology such as file, records, fields; data types, etc. will be introduced. Access 2002 window elements will be identified. The students will explore the Access 2002 and learn the following skills:

- Starting Access
- Access Screen
- Opening an existing database
- Database Objects
- Navigating in datasheet
- Data Types
- Table Design View
- Formatting a Datasheet
- Creating a drop-down list
- Entering Records
- Editing Records
- Understand shared fields
- Using Help feature

Teaching Tips and Strategies:

You may want to cover some basic disk formatting command and the importance of saving the document frequently. You may want to cover how folders operate in Windows to first time users. If your institution lab uses CD-RW, then you may want to show the students how to use the CD-RW the first time.

Basic Database Concepts: (AC 1.1)

You may want to introduce the students to the database concepts by giving them an index card and making the students write their name, address and phone numbers. You may then explain that each individual index card is a record and when collected together makes it a file. Each record consists of fields such as last name, first name, street address, etc. Explaining non-computerized database concepts first, will allow the students to comprehend the Access 2002 materials faster.

Relational database concepts allow the data to be organized in tables that are related or linked to one another through a common field.

Opening an Existing Database: (AC 1.2)

Some labs may install all Microsoft applications under the sub-menu Microsoft Applications, so you may have to click on that option before the Microsoft Access button appears. Using the Start menu will work on any computer no matter what settings or installation methods have been employed.

Caution: If you are new to the lab setting, please consult your institution IT department for the correct method of launching the application. Some institutions launch the application from the institutions network servers. Always be prepared before class to make sure that the application is loaded correctly.

Access Window Elements: (AC 1.3)

Once you launch the Access software, it opens the Access application window. The components of the screen are as follows:

Title Bar: It shows the name of the application (Microsoft Access). On the far left corner there is the control menu icon. On the far right of the Title Bar you will find three buttons. The last button (X) will close the document, the middle button will either maximize the window or restore it to its original window position and the leftmost button will minimize the document and will be displayed on the Status Bar.

Menu Bar: It displays the titles of the seven menus containing Access commands on the second row of the Access window screen. Since XP, means Experience, the menu bar is dynamic in nature. The default setting does not show all the sub-menus listing. As one starts to use different menu listings, Access remembers it and personalizes the menu listing based on the usage of different listings.

Note: Some institutions resets to the default settings when you reboot the computers in the lab settings. So, it is easy to teach the students to use the menu option and pick the command from the menu listings.

Database Toolbar: The database toolbar contains buttons that are shortcuts to several common commands and is displayed on the third row (left side) of the Access window screen.

Task Pane: It is a new feature in Access 2002 (XP). It occupies the right hand side of the Access window. The task pane will have different features depending on the actions you are performing. For example: Initially, when you are creating a database, the Task Pane will contains tasks that will make it easy to create database such as opening exiting files and ready-made templates. Caution: If the Task Pane does not show on the default setting, then you can view it, by clicking the Task Pane command from the View menu.

Database Window: It is the area to the left of the Task Pane where different Access windows are displayed. It has its own title bar, Control menu icon and sizing buttons.

Object bar: The object bar lists the seven types of database objects. See table 1-1.

Status Bar: It is displayed at the bottom of the Access Window screen and provides feedback about your current activity.

Navigating in Datasheet View: (AC 1.4)

In Datasheet view mode, the data is displayed in a spreadsheet format – rows and columns. Rows are considered to be records and columns are considered to be fields of a database. Figure 1-2 displays the navigation icons.

Working in Table Design View: (AC 1.6)

The Design View allows you to enter field properties while creating or modifying database tables. Field name and data types are two properties that are required to define a field.

A field name should be descriptive in nature and should reflect the data in that field. Access allows a field name to be of 64 characters long.

Data Types defines the type of data that the field will contain. Table 1-3 describes the available data types in Access. Text is the default data type.

Formatting a Datasheet: (AC 1.8)

You can enhance the appearance of a datasheet before print as a report. You can format the table using different font styles, colors, etc. The formatting commands are similar to the Word formatting commands.

Creating a Drop-Down List: (AC 1.10)

Using the Lookup Wizard as a data type, you can create a drop-down value list for any field. The drop-down list can be created, if the value list is small and thus can eliminate data entry error by the user. The drop-down list allows the user to select from one of the predefined value list, rather than typing the data.

Entering Records in a Datasheet: (AC 1.12)

Depending on the field properties, you will enter the data that matches the field data type. For example, if the field data type is numeric, then you can only enter numeric values in that field. You may want to explain the students about data type mismatch errors.

Editing Records in Datasheet: (AC 1.14)**Understanding Shared Fields: (AC 1.16)**

Shared fields are fields that are common to more than one table in a database. This will allow the tables to be linked through this common or shared field.

Getting Help and Exiting Access: (AC 1.18)

Microsoft Office comes with an Office Assistant Help feature to assist you in solving the problems you might have. For example, you would like to know about field properties. Then you would simply type field properties in the text box of the Office Assistant Help and you will get help regarding that topic

So, instead of the paper-based manual, the manual is online in an interactive format that understands simple English question structure.

The Access help offers a lot of assisting to both the first time and experienced users. If the Office Assistant is turned off, then the Access Help is organized in a nice Table of Contents.

With the Help, one can search for specific words or phrases from a list of keywords in the Index or from the Contents tab. Also, if you are linked to the Internet, there is help available through the Web Pages.

Lecture Notes

Introduction to Databases

Manual Databases

Electronic Databases

Database Terminology

Field

Record

File

Starting Access

Start Menu

The Access Screen (Figure 1-1)

Title Bar

Menu Bar

Toolbars

Database

Formatting (Datasheet)

Database Window

Status Bar

Task Pane

Database Objects (Table 1-1)

Navigating in Datasheet View

Figure 1-2

Table 1-2

Working in Table Design View

Field Properties

Data Types (Table 1-3)

Table Design View Window (Figure 1-3)

Formatting a Datasheet

Formatting Toolbar

Datasheet Formatting dialog box (Figure 1-4)

- Formatted Datasheet (Figure 1-5)
- Creating a Drop-Down List
 - Lookup Wizard
 - Value List (Figure 1-6)
 - Lookup Field Properties (Figure 1-7)
- Entering Records in a Datasheet
 - New Record button
 - Figure 1-8
- Editing Records in a Datasheet
 - [Backspace] Key
 - [Delete] Key
 - Undo button
 - Delete Record button
 - Editing Records (Figure 1-9)
- Understanding Shared Fields
 - Unique Field
 - Subdatasheets (Figure 1-11)
 - Relationships (Figure 1-12)
 - One-to-Many
- Getting Help and Exiting Access
 - Office Assistant
 - Help Window (Figure 1-14)
 - Figure 1-15

Text Solutions

A. Identify Key features

1. Open button (AC 1.3)
2. Delete Record Button (AC 1.7)
3. Database Window Control Menu Icon (AC 1.3)
4. Database Window Toolbar (AC 1.3)
5. Object Bar (AC 1.3)
6. Ask a Question Box (AC 1.18)
7. Database Window Sizing Button (AC 1.3)
8. Formatting (Datasheet) Toolbar (AC 1.3)
9. Task Pane (AC 1.3)

B. Select the best Answer

10. d (AC 1.4)
11. i (AC 1.5)
12. g (AC 1.4)
13. h (AC 1.20)
14. j (AC 1.7)
15. b (AC 1.7)
16. a (AC 1.6)
17. f (AC 1.7)
18. c (AC 1.5)
19. e (AC 1.20)

C. Complete the Statement

- 20. a (AC 1.4)
- 21. d (AC 1.7)
- 22. c (AC 1.12)
- 23. b (AC 1.7)
- 24. c (AC 1.1)
- 25. c (AC 1.12)
- 26. b (AC 1.4)
- 27. c (AC 1.1)