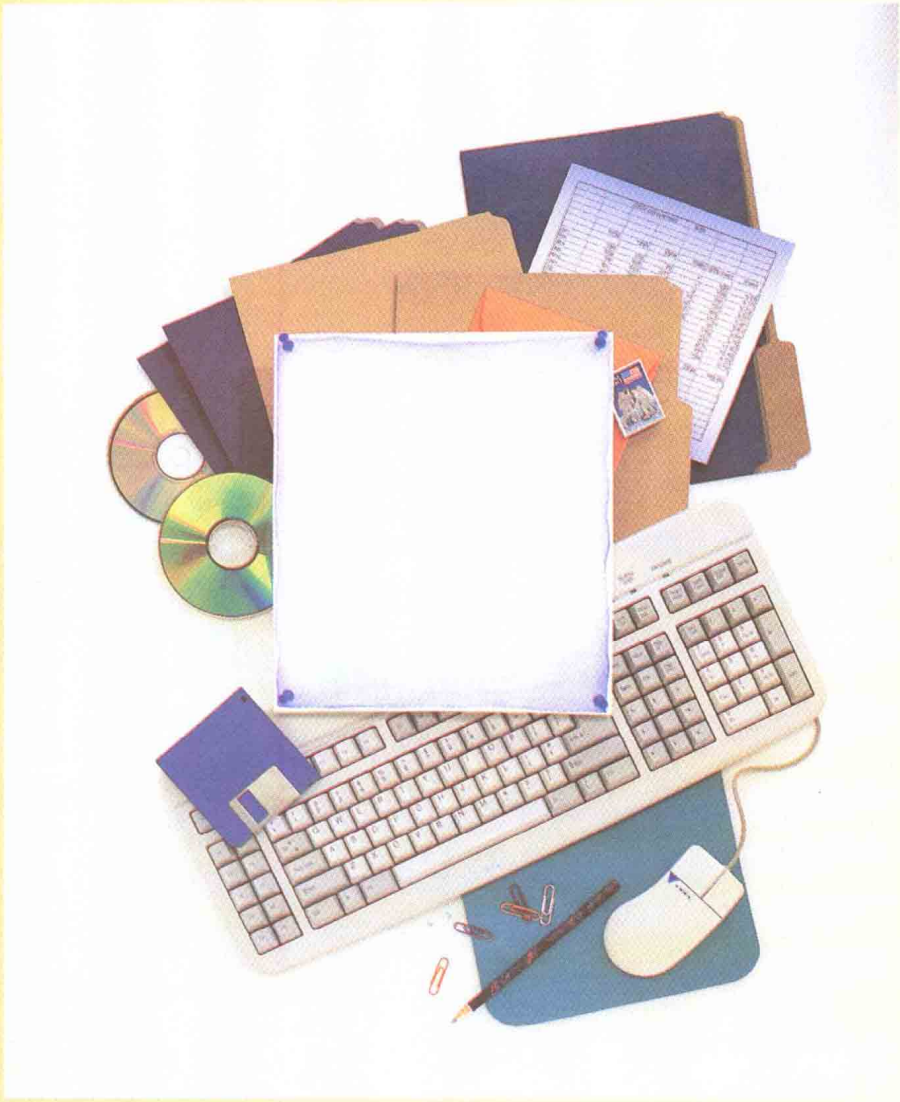
MICROSOFT® ACCESS 7.0 for WINDOWS® 95

Hutchinson / Coulthard

ADVANTAGE SERIES *for* COMPUTER EDUCATION

Irwin McGraw-Hill

Microsoft® Access 7.0 for Windows® 95



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USING THIS GUIDE

Welcome to the Irwin Advantage Series! This tutorial is one in a series of learning guides that lead you through the most popular microcomputer software programs available. The following features are incorporated into each session of our guides to ensure that your learning experience is as productive and enjoyable as possible:

- Each session begins with a real-world ***case scenario*** that introduces you to a fictitious person or company and describes the immediate problem or opportunity. During the session, you obtain the knowledge and skills necessary to define and solve the problem or take advantage of the opportunity. At the end of the session, you are invited to solve problems directly related to the case scenario.
- ***Concepts, skills, and procedures*** are grouped into session topics and are presented in a logical and structured manner.
- ***In Addition boxes*** are placed strategically throughout the guide to provide information about topics related to the current discussion, but beyond the scope of the text.
- Commands and procedures are introduced using ***hands-on examples in a step-by-step format,*** and students are encouraged to perform the steps along with the guide.
- Each session concludes with ***short answer questions and hands-on exercises.*** These exercises are integrated with the session's objectives; they were not added as an afterthought. The exercises are comprehensive and meaningful, and they provide students with an opportunity to practice the session material. For maximum benefit, students should complete all the exercises at the end of each session.
- For each of the learning guides, an instructor's resource kit is available with suggested answers to the questions, exercises, and case problems appearing at the end of each session. In addition, the resource kit provides a test bank of additional questions and exercises.

The exercises and examples in this guide use several standard conventions to indicate menu options, keystroke combinations, and command instructions.

MENU INSTRUCTIONS

In Windows 95, all Menu bar options and pull-down menu commands have an underlined or highlighted letter in each option. When you need to execute a command from the Menu bar—the row of menu choices across the top of the screen—the tutorial's instruction line separates the Menu bar option from the command with a comma. Notice also that the word "CHOOSE" is always used for menu commands. For example, the command for quitting Windows is shown as:

CHOOSE: File, Exit

This instruction tells you to choose the File option on the Menu bar and then to choose the Exit command from the File pull-down menu. The actual steps for choosing a menu command are discussed later in this guide.

KEYSTROKES AND KEYSTROKE COMBINATIONS

When two keys must be pressed together, the tutorial's instruction line shows the keys joined with a plus (+) sign. For example, you can execute a Copy command in Windows by holding down CTRL and then pressing the letter **C**.

The instruction for this type of keystroke combination follows:

PRESS: CTRL +**C**

COMMAND INSTRUCTIONS

This guide indicates with a color type data that you are required to type in yourself. For example:

TYPE: **Income Statement**

When you are required to enter unique information, such as the current date or your name, the instruction appears in *italics*. The following instruction directs you to type *your name* in place of the actual words "your name."

TYPE: ***your name***

ADVANTAGE DISKETTE

The Advantage Diskette provided with this guide or by your instructor contains the files that you use in each session and in the hands-on exercises. ***This diskette is extremely important to your success with the guide.*** If you are using this guide in a self-study program, we suggest that you make a copy of the Advantage Diskette. When the guide asks you to insert the Advantage Diskette, you insert and work with the copied diskette instead. By following this procedure, you will be able to work through the guide again at a later date using a fresh copy of the Advantage Diskette. If you want to copy the contents of the Advantage Diskette to a permanent storage device, such as a network drive, ensure that the storage device allows for Windows' long filenames.

SAVING YOUR WORK

Important! Access database files consume a large amount of disk space. Assuming that you will perform each exercise in this student learning guide, you will not have enough space on the Advantage Diskette to create, edit, and store your work. You will need to create a folder on your computer's hard disk

and then copy the database files used in a particular session from the Advantage Diskette to this folder. When you are finished working with the computer. make sure that you copy your database files from the hard disk to a data diskette. For more information on copying files, refer to the Windows 95 Help system.

ACKNOWLEDGMENTS

This series of learning guides is the direct result of the teamwork and heart of many people. We sincerely thank the reviewers, instructors, and students who have shared their comments and suggestions with us over the past few years. We do read them! With their valuable feedback, our guides have evolved into the product you see before you. We also appreciate the efforts of the instructors and students from the Vernon Continuing Education division of Okanagan University College who classroom tested our guides to ensure accuracy, relevancy, and completeness.

We also give many thanks to Tom Casson from Richard D. Irwin for his skillful management of this text. Special recognition goes to Stacey Sawyer for her original design work on the series! Finally, to the many others who weren't directly involved in this project but who have stood by us the whole way, we appreciate your patience, support, and understanding.

WRITE TO US

We welcome your response to this book, for we are trying to make it as useful a learning tool as possible. Write to us in care of Thomas Casson, Publisher, Richard D. Irwin, 1333 Burr Ridge Parkway, Burr Ridge, IL 60521. Thank you.

Sarah E. Hutchinson

Glen J. Coulthard

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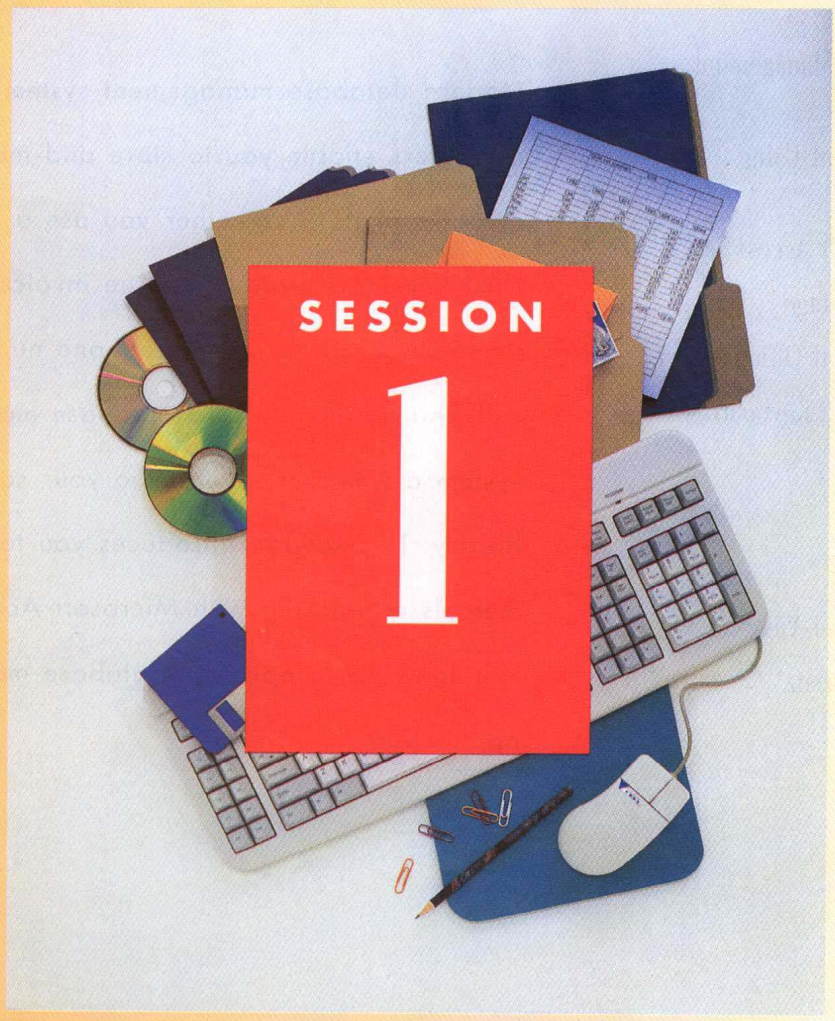
Fundamentals



SESSION OUTLINE

INTRODUCTION

Modern database management systems for microcomputers enable you to store and manage large amounts of data. Whether you use a computer to track inventory products, issue invoices, manage personnel records, or store phone numbers, you will find a computerized database management system a welcome addition to your software library. This session introduces you to the fundamentals of working with Microsoft Access for Windows 95, a powerful database management application.

CASE PROBLEMS SPRINGS COLLEGE, CO

Isabel Oller has been looking for a job in the Colorado Springs area for over eighteen months. And until today, she had been contemplating a move to another city in order to find steady employment. One of her prospects, the Springs College Seminar Services (SCSS), just called to inform Isabel that she made the short-list for a secretarial position and that they would be making a final decision in the next few days. In the past two weeks, Isabel has interviewed with three different people in the SCSS department. She really likes the people at Springs College and is genuinely excited by the idea of working for such a respected institution. The SCSS offers one- to four-day courses, covering a broad range of topics, for business executives and the general public.

After an anxious day and a half, Isabel receives a call from Max Weingold, the director of SCSS, offering her the position. He asks her to arrive at work at 8:00 A.M. sharp on the following Monday for an orientation and to complete the necessary paperwork. He finishes the conversation with a hearty "Welcome aboard!"

From the interviews, Isabel knows that she is expected to answer phones, write and edit letters, and organize meetings for the department. However, her first meeting with Max enlightens her about some additional expectations: "Now this may come as a surprise, Isabel, but you will be using Microsoft Access to store basic information on our instructors and students. We've given your phone number to all the instructors, in case they have a problem or need to modify the database for any reason. You will mostly use the database to look up student phone numbers to inform them when a seminar is canceled." Isabel is understandably concerned—although an experienced Windows user, she has never heard of Microsoft Access and doesn't know the first thing about managing a database!

In this session, you and Isabel learn about databases, the different components and features of Microsoft Access, how to display and edit the information stored in a database, and how to use the Microsoft Access Help system.

WHAT IS A DATABASE MANAGEMENT SYSTEM?

Picture a sales office with a row of filing cabinets that cover an entire wall—and you're responsible for managing them! Each cabinet stores multiple folders containing customer-related information, organized in alphabetical order by surname. Because everything is perfectly organized, you can always find a customer's folder in a matter of seconds.

It's now Friday afternoon and your supervisor has just asked you to retrieve the folders for all of your Boston customers. Furthermore, she wants you to produce a list of those customers who haven't made a purchase in over six months. Your alphabetical filing scheme is not going to help you now! In fact, manual filing systems have many limitations that you are probably becoming quite aware of. What you really need is a microcomputer database management system! A **database management system (DBMS)** is a software tool that lets you create, maintain, and summarize an information database.

Although this is not a course in database theory, you should be familiar with the concepts and features of a DBMS. To illustrate these concepts, we will use the analogy of an address or phone book. Make sure that you are comfortable with the following terms:

- *Database:* A **database** is a collection of related information. For example, a phone book is a database of names, addresses, and phone numbers. Although the term database is often used to refer to data files, in Microsoft Access a database is a collection of *objects*—data tables, queries, reports, forms, and other objects. In Access, an **object** is something that you can select, modify, and use as a single entity.

  In Access, all the tables in a database, as well as its associated objects, are stored in a single disk file. When you open an Access database, you're not only opening the data tables, you are also making available all the objects that will help you to retrieve and display information stored in the tables.

- *Table:* A **table** is an Access object that is used to collect data relating to a particular subject. In Access, tables are organized into columns and rows. For example, all of the entries in your phone book would be stored in a single table in a database.

- *Record:* A **record** is an individual entry in a table. For example, each person's information (for example, name, address, and phone number) would be stored in a single record in the phone book table. A single record of data represents a horizontal row in a table.

- *Field:* A **field** is a piece of information in a record. For example, you can divide a person's record in the phone book table into fields for last name, first name, address, city, and phone number. Each record in a table is composed of fields. A field is a vertical column in a table.

DATABASE MANAGEMENT USING MICROSOFT ACCESS

A Microsoft Access database employs tables as the primary element for storing and manipulating information. Each table in a database has an associated family of objects, including queries, forms, reports, macros, and modules. The capacity limitations in Access are hardly worth mentioning. Suffice it to say that

any one of your databases can store millions of records and consume up to 1 gigabyte (billion bytes) of space on a disk.

TABLES

You use tables to collect and store information in an Access database. Each table stores data related to a particular subject. If you build a single database that contains several tables, you will likely want to share information amongst them. To do so requires carefully planning the structure and design of your database.

As we described earlier, a table is organized into rows and columns like a spreadsheet. Each row in a table represents an individual record, while each column represents a field or category of information. The following is an example of a very small table that stores information for an address book:

First Name	Last Name	Address	City	State
Eric	Abrahamson	130 Flay Street, #301	San Francisco	CA
Brian	Andrews	132 Blue Street	San Francisco	CA
Lawrence	Alexander	198 Broad Street, #1001	San Francisco	CA
Kirk	Andrews	226 Valley Street	San Francisco	CA
Mark	Anderson	1459 River Drive	Houston	TX
Victoria	Bowman	20 Spruce Avenue	San Mateo	CA
Arthur	Mikowski	12 Elm Circle	Sacramento	CA

QUERIES

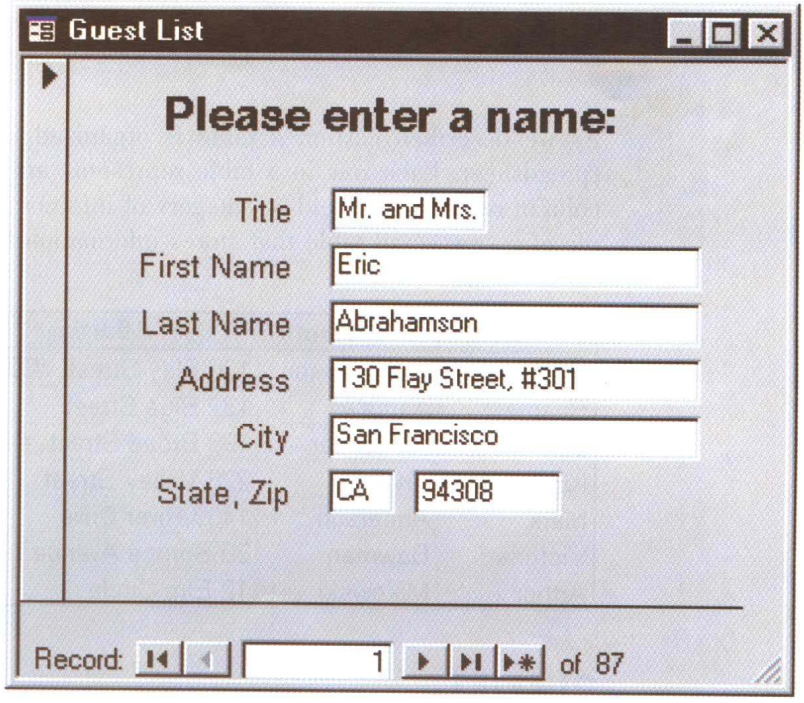
A **query** is a question you ask of your database. For example, when using a database that stores customer data, you might query the database for a list of those individuals who are over the age of 30 and who live in Chicago. The answer, usually a list of records matching the query parameters, is sometimes called a **dynaset.** Actually, the data may be drawn from more than one table in the database and displayed in a single dynaset that can be later used to produce a printed report.

FORMS

When you view the contents of a table, Access typically displays the records in a grid-like layout. This mode works well if you want to view many records at once. However, you can customize the way the data is displayed or printed using forms and reports.

A **form** lets you view one record at a time on the screen and customize the display of that record. For example, you can apply formatting enhancements to emphasize important data and display error messages when incorrect data is entered. Figure 1.1 provides an example of a form.

FIGURE 1.1 A SAMPLE FORM



The different elements on a form are called **controls.** Using a control, you can display data from a field, the result of a calculation, text for a title or message, a graph, or other object. Controls are also used in reports.

REPORTS

Reports are used to present, summarize, and print table data. Using a report, you can calculate totals, subtotals, and grand totals across a set of records and tables. Figure 1.2 shows a report preview that is sorted into alphabetical order by the Surname field and excludes the Address field.

FIGURE 1.2 A SAMPLE REPORT

Guest List

Title	*First Name*	*Last Name*	*Address*	*City*	*State*	*Zip*
Mr. and Mrs.	Eric	Abrahamson	130 Flay Street, #301	San Francisco	CA	94308
Mr.	Brian	Andrews	132 Blue Street	San Francisco	CA	94109
Mr. and Mrs.	Lawrence	Alexander	198 Broad Street, #1001	San Francisco	CA	94109
Mr.	Kirk	Andrews	226 Valley Street	San Francisco	CA	94121
Mr. and Mrs.	Mark	Anderson	1459 River Drive	Houston	TX	77079
Ms.	Victoria	Bowman	20 Spruce Avenue	San Mateo	CA	94010

MACROS AND MODULES

Using an Access **macro** object, you can automate frequently performed procedures. For example, you may want to include a command button on a form that performs a particular function, such as printing an invoice statement for the currently displayed customer. For even more control, you can create a code module using Visual Basic for Applications. For example, you can write a module that imports an Excel worksheet into a single table, separates it into related tables, and then summarizes the information in a printed report.

FEATURES OF MICROSOFT ACCESS 7.0

At the time of this writing, the latest release of Microsoft Access is version 7.0 for Windows 95. To ensure its competitiveness in the marketplace, Microsoft introduced several significant new features. This section highlights only a few of these features and enhancements.

- Access 7.0 introduces the new Database Wizard for creating database applications. By simply double-clicking an icon using the mouse, you can create fully functional databases for Contact Management, Inventory Control, Music Collections, and Recipes.
- Access 7.0 lets you access context-sensitive commands on shortcut menus by pointing at an item with the mouse pointer and clicking the right mouse button. You no longer have to search for commands in the Menu bar or on the toolbar.
- Access 7.0 provides toolbar buttons for single-step mouse access to common menu commands. You can display, hide, and customize toolbars as required.

- Access 7.0 provides a new wizard that simplifies the process of importing and exporting data. You can easily convert data from other database software programs, spreadsheets, or text-based applications into Microsoft Access.
- Some other notable wizards include the Simple Query Wizard and the Form and Report Wizards. These wizards help you to locate and present information with a minimum of effort. Once created, you can easily edit and enhance these objects.
- Access 7.0 incorporates the standard Windows 95 dialog box enhancements for opening, saving, and managing your databases. In addition, the Access 7.0 Database Window provides exceptional drag and drop capabilities consistent with the Windows 95 desktop and other Microsoft Office applications.

If you are new to database management software, you may not understand all of the terms used in the above discussion. Don't despair—you'll definitely understand the importance and utility of these features by the end of this guide.

THE WINDOWS ADVANTAGE

As of this writing, the most recent version of Microsoft Windows is Windows 95. A microcomputer operating system, Windows 95 is the successor to MS-DOS and Windows 3.1. Microsoft focused its development efforts for Windows 95 on three main usability areas: making it easier to learn, making it easier to understand, and making it faster and more responsive. Windows 95 provides a standardized interface for all programs, whether they are word processing, spreadsheet, or database applications. As a result, you can use the knowledge acquired from one Windows product in working with other Windows products.

Some advantages of using Windows 95 include these factors:

- *The ability to run more than one application at a time.*
  Windows 95 is a **multitasking** environment whereby more than one application or program may be running at the same time. For example, multitasking allows you to simultaneously receive an electronic mail message, sort data in an Access table, and print a report.
- *The ability to copy and move information among applications.*
  Windows 95 provides a program called Clipboard that lets you copy and move information within an application or among applications. For example, it's easy to copy a table from an Excel spreadsheet to the Clipboard and then paste that table into an Access database.
- *The ability to link or embed objects from one application into another.*
  Many Windows 95 applications have the ability to integrate applications using a feature called OLE (pronounced Olé) or Object Linking and