MICROSOFT® ACCESS® 2.0

FOR WINDOWS®

Hutchinson / Coulthard

ADVANTAGE SERIES *for* COMPUTER EDUCATION

Irwin McGraw-Hill

Microsoft® Access 2.0 For Windows®

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THE ADVANTAGE SERIES FOR COMPUTER EDUCATION

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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 their 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, 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 command from the Windows Menu bar by holding down ALT and then pressing the key with the underlined or highlighted letter of the desired command.

To illustrate this type of keystroke combination, the following statement shows how to access the File menu option:

PRESS: ALT+f

In this instruction, you press the ALT key first and then hold it down while you press `f`. Once both keys have been pressed, they are then immediately released.

COMMAND INSTRUCTIONS

This guide indicates with a special typeface 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*

Instructions that use general directions rather than a specific option or command name appear italicized in the regular typeface.

SELECT: *a different pattern for the chart*

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 using the DOS DISKCOPY command. 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. For more information on using the DISKCOPY command, please refer to your DOS manual.

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 Vernon's 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 and Kim Meriwether from Richard D. Irwin for their skillful coordination and production of this text. You and your respective teams were a pleasure to work with. Special recognition goes to Stacey Sawyer for her original design work on the series and for being just so talented! 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 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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SESSION OUTLINE

INTRODUCTION

Modern database management systems for microcomputers enable you to store and manage large amounts of data. Whether your computer is used 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, a powerful database management application.

CASE STUDY **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 to 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 to some additional expectations: "Now this may come as a surprise, Isabel, but you will be in charge of the Microsoft Access database used to store instructor and student phone numbers. 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 primarily use the database to look up a student's phone number 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 of Microsoft Access, how to display and edit the information stored in a database, and use the Access Help facility.

WHAT IS A DATABASE MANAGEMENT SYSTEM?

Picture an office with a row of file cabinets that extends as far as you can see—and you're responsible for them! Each filing cabinet has multiple folders containing customer-related information, organized in alphabetical order by surname. Everything is perfectly organized and you know exactly where to look to find information on each customer. But what if you need to pull out all folders that contain information on customers who live in Boston? Or produce a list of all customers who haven't purchased anything in the past six months? Your alphabetical organization scheme is no longer useful. Your manual filing system has many limitations

of which you are becoming quite aware. You need a microcomputer database management system! A **database management system (DBMS)** is a software tool that facilitates creating and maintaining an information database and producing reports from it. The term **database** describes a collection of data stored for a variety of business purposes.

As with any software package, you must be familiar with the concepts and features of a DBMS before you can use it productively. In defining these concepts, we will use the analogy of a phone book. Make sure that you are comfortable with the following terms:

- *Database*: 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 a data file, in Microsoft Access a database includes a collection of *objects*—data tables, queries, reports, forms, and other objects. In Access, an **object** is something that you can select and manipulate as a unit.

  In Access, all the tables in a database, as well as its associated objects, are stored in a single file that has the extension of MDB. When you open an Access database, you're not only opening the data table, you're also making available all the objects that will help you to use the information stored in the data table. We describe Access objects in more detail shortly.

- *Table:* A Microsoft Access object that is used to collect data relating to a particular subject. In Access, **tables** are organized into columns and rows. For example, phone book data would be stored in a table. We describe tables in more detail shortly.

- *Record:* An individual entry in a table. For example, each person's name, address, and phone number are a single record in a phone book. A **record** of data represents a horizontal row in a table.

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

INTRODUCING MICROSOFT ACCESS

A Microsoft Access database employs tables as the primary element for storing and manipulating information. Each table has an associated family of objects, including queries, forms, reports, macros, and modules. An Access database can be up to 1 gigabyte (billion bytes) in size.

TABLES

A table is used to collect data on a particular subject. You can use many tables in a database, each used to store data on a different subject. If you need a database that contains many tables and you want to share information amongst the tables, make sure that you plan the database design carefully. These databases are often called *relational databases.*

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 phone information:

Firstname	Middle Initial	Lastname	Address	Phone
Arthur	K.	Sotak	1217 Carlisle Road	221-8888
Evelyn	P.	Chabot	2613 Henderson Hiway	221-5000
Karen		Shepherd	3107 Peachtree Drive	205-2111
Michael	W.	Antonucci	4901 101st Place SW	222-1000
Rod	J.	Bannister	7279 Ridge Drive	221-2441

QUERIES

A **query** is a question you ask of your database and the result of a query is a **dynaset.** For example, when using a database that stores customer data, you might query the database for a list of those individuals who live in Chicago. The resulting list of records, representing those individuals who live in Chicago, is the dynaset. The data that answers the query, or question, can be drawn from more than one table.

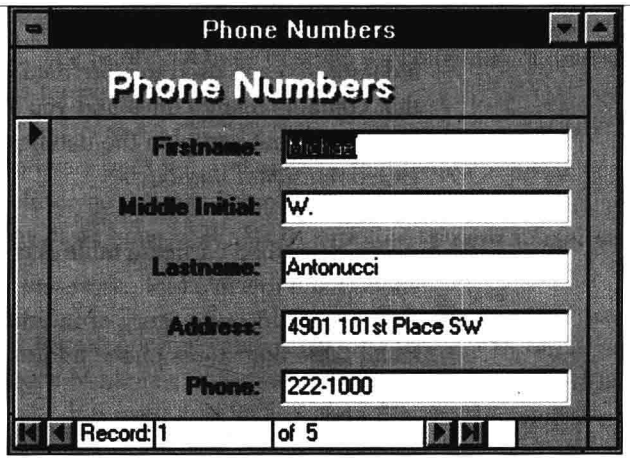
FORMS

When you view the contents of a database, Access displays records in a table layout. This mode is fine if you want to view many records at once. To customize the way the data is displayed or presented, you can create forms and reports.

A **form** enables you to view one record at a time on the screen and to customize the display of that record. For example, you can include a list of values from which to choose, use colors to emphasize important data, and display error messages when incorrect data is entered. Figure 1.1 provides an example of a form that you might use with a phone database.

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.

FIGURE 1.1 A SAMPLE FORM



REPORTS

Reports are used to present table data in a polished format on the printed page. With a report you can include totals, subtotals, and grand totals across a set of records and tables. Like forms, controls are used to represent the different elements in a report. Figure 1.2 shows a report that is sorted into alphabetical order by the Lastname field and excludes the Address field.

FIGURE 1.2 A SAMPLE REPORT

Phone Numbers

25-Jun-95

Firstname	Middle Initial	Lastname	Phone
Michael	W.	Antonucci	222-1000
Rod	J.	Bannister	221-2441
Evelyn	P.	Chabot	221-5000
Karen		Shepherd	205-2111
Arthur	K.	Sotak	221-8888

MACROS

Using a **macro**, you can automate frequently performed procedures. For example, when you open a database, you might also want Access to open a form. Or you may want to include a command button on a form that performs a particular function, such as printing a dynaset.

MODULES

Macros and other objects provide you with a lot of control over your interaction with a database. For even more control, you use **Access Basic**, the programming tool that is part of the Access package. A **module** is an object that contains Access Basic programming instructions, or procedures. You can create a module that will, for example, print a dynaset over and over until a condition you set is true. In this introductory learning guide, you will not learn to create modules, but it is important that you know this powerful capability exists.

THE WINDOWS ADVANTAGE

Microsoft Access is one of the best-selling database software programs ever developed for the Windows environment. With tens of millions of copies sold in the last few years, Windows is fast becoming the environment of choice for many personal computer users worldwide. This section explains some of the benefits of working in the Windows environment.

Microsoft Windows is a software package that works with DOS to provide a **graphical user interface** (GUI) for programs. A graphical interface makes using computers easier and more intuitive for most people. With Windows, you use a pointing device called a **mouse** to select **icons** (pictures that represent programs or functions).

Some other advantages of working in the Windows environment include:

- *Windows programs are easy to learn and easy to use.*
  Windows 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.

- *The ability to run more than one application at a time.*
  Windows is a **multitasking** environment whereby more than one applica-

tion or program may be running at the same time. For example, multitasking allows you to simultaneously receive an electronic mail message, calculate a spreadsheet, and print a report.

- *The ability to exchange information among applications.*
  Windows 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 an Access data table to the Clipboard and then paste that table into a Word document.

- *The ability to display on the screen what you will get from the printer.*
  This feature is called **WYSIWYG** ("What You See Is What You Get"); it allows different fonts, borders, and graphics to be displayed on the screen at all times.

WORKING WITH ACCESS

Microsoft Access 2.0 is a complex yet easy-to-learn program. As you proceed through this guide, you will find that there are often three methods for performing the same command or procedure in Access:

- Menu — Select a command or procedure from the Menu bar.
- Mouse — Point to and click a toolbar button.
- Keyboard — Press a keyboard shortcut (usually CTRL + *a letter*).

Although this guide concentrates on the quickest and easiest methods, we recommend that you try the others and decide which you prefer. *Don't memorize all of the methods and information in this guide! Be selective.*

HOW THE MOUSE IS USED

The mouse is an essential tool for working with Microsoft Access. Regardless of whether your mouse has two or three buttons, you use the left or primary mouse button for selecting text and menu commands and the right or secondary mouse button for displaying shortcut menus.

The most common mouse actions used in Access are:

- Point — Slide the mouse on your desk to position the tip of the mouse pointer over the desired object on the screen.