USING MICROCOMPUTERS

TUTORIALS FOR dBASE II®, WORDSTAR®, AND 1-2-3®

Richard W. Brightman
Jeffrey M. Dimsdale

Includes Coverage of MS-DOS®, dBASE III®, and Integrated Software

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PREFACE

Survey courses in data and information processing acquaint students with the principles and concepts of data processing techniques. Current textbooks, in addition to presenting traditional data processing material, introduce the use of modern microcomputer programs in business and professional organizations.

Because the survey or introductory course must cover so much material, it allows little time to develop operational skills using microcomputer tools typically found in the modern office. It is enough for the first course in computing to instill an appreciation for what is being done with computers in the information age. How to do it, so far as operational techniques are concerned, cannot be adequately covered.

In addition, many schools and colleges now offer computer literacy courses. These courses introduce students more specifically to the field of computing, as opposed to the broader topics of data and information processing, systems analysis, and systems design included in the introductory survey course. More often than not, computer literacy courses give students hands-on experience in using computers. There seems no better way to make one knowledgeable about computers and comfortable using them.

There arises, therefore, the need to prepare the graduate to use the microcomputer programs he or she is certain to encounter in the world of work. What are these programs? They are data base management, word processing, and worksheet analysis. These three programs represent the bulk of the application programs used today. We think of them as the cornerstone programs of the modern office.

To be sure, other application programs are important and widely used; in in particular, communications programs, accounting systems and a host of specialized programs for project control, statistical analysis and investment management. Nevertheless, the cornerstone applications programs are data base managers, worksheets and word processors. They have become the de facto fundamental tools for the competent professional.

Virtually every college graduate in management and business needs operational skills in using today's computing tools. Using Microcomputers meets this need by giving students hands-on experience with the three most popular programs today: dBASE-II, 1-2-3, and WordStar.

We have not made these choices casually. These are not just ordinary data base, spreadsheet and word processing programs. They are the most popular programs of their kind, the lingua franca of the microcomputer user. Elementary operational knowledge of them equips students to cope with virtually any data base management, spreadsheet or word processing program they will find in their working environments.

But there is more to using computers than knowing how to operate the three cornerstone application programs. To be effective, the user must know how to operate the computer hardware and the operating system used to run the application programs. These skills provide the fourth cornerstone in the student's foundation in computing.

Therefore, Using Microcomputers begins with a review of microcomputer hardware characteristics and their relevance to application programs. Next, the book presents materials about the most popular microcomputer operating system today, MS-DOS or PC-DOS. Unfortunately, few, if any, texts devote the attention to operating systems that they deserve.

Once fundamental techniques in using the operating system are mastered, students proceed to tutorials in dBASE-II, 1-2-3 and WordStar, developing skills at least one step beyond the advanced beginner. These skills will enable them to use each of these programs effectively. Students may not know all there is to know about the programs, but they'll be in an excellent position to continue learning.

In recognition that none of these programs is best used in isolation, a final chapter discusses techniques of transferring data from one program to another and reviews the advantages and disadvantages of so-called integrated systems such as Symphony, Framework, and Enable.

The chapters of the book treating dBASE-II, 1-2-3, and WordStar, except for the one on hardware, present tutorials using business applications that are easy for students to understand but which nevertheless illustrate a realistic use of the program. One tutorial example, Specialty Car Rental Agency Multinational, is carried throughout the application programs chapters. In addition, the chapters conclude with case studies illustrating entirely different applications for the programs. Chapter four, the dBASE-II chapter, also includes an appendix about dBASE-III.

Interspersed throughout each chapter are review sections and exercises that keep students focused on what they have learned and on using those skills to continue the development of the application.

Teachers using Using Microcomputers will be provided with a student data disk they can duplicate as needed for student use. The disk includes data files for WordStar and dBASE-II and templates for 1-2-3. The files and templates are used in the case studies and tutorials in the text. Adopters will also receive an instructor's data disk that includes not only the data files and templates on the student disk, but solutions to all the problems and exercises, as well.

An instructor's manual, provided to instructors who adopt the text, provides a brief lecture outline for each chapter, suggestions on the making and use of overhead transparencies from files and programs on the instructor's data disk and brief descriptions of each of the files on the instructor's and student disks.

Using Microcomputers is most effectively read at the computer. The book does not include a software package of illustrative, crippled, or hypothetical application programs. Collegiate microcomputer laboratories will have many software products, especially these three treated by this text. The instruc-

tor's manual describes procedures we have followed in using commercial software programs in our laboratories. These procedures provide students with the resources they need while at the same time protecting the copyright and licensing requirements of the software producers.

Each of the tutorials in Using Microcomputers has been tested. We have observed that students find the experiences enjoyable and productive. When students have fun learning, teaching them is fun, too. While we have made the tutorials, case problems and examples realistic, within the expected skills of college undergraduates, we have also injected elements of humor and occasional references to liberal arts topics seldom found in computing courses. One student, returning a couple of semesters after taking the course, reported that "I went on to take courses in FORTRAN and COBOL. I've learned a lot from them, but I wish they had been as much fun as your course. I learn better when I'm laughing."

ACKNOWLEDGEMENTS

As with any book of this kind, Using Microcomputers is far more than the product of its authors. To our names must be added the following people who contributed immeasurably to the book as you see it now. Any acknowledgement we make will be an inadequate thanks for their efforts but please know that we are sincerely grateful.

No project ever succeeds without the help of an editor. Ours, Christina Gallagher, was more than just that. Her role started as that of editor but soon became that of editor, advisor, and friend. Her publishing acumen and professional judgement have been of the utmost importance. We could not have begun to put Using Microcomputers together without all that she did.

Not only is publishing expertise essential in a project like this, but also we welcomed the assistance of colleagues who teach data processing throughout the country. To the men and women who took their time to read our manuscript with great care, and to work all the tutorials, and who took their time to critique our work and make it far better, we say thank you. These reviewers include Leonard Clark, Palomar College; James Jackson, Treaty Oak College; Steve Mansfield, McHenry County Community College; John W. Miller, Williamsport Area Community College; Gilbert Noble, Southwestern Iowa Community College; Robert Schieferstein, San Jacinto College; and Sharon Szabo, Schoolcraft College.

Finally, and perhaps most importantly, we say thank you to our families. They stood by us throughout the task -- when we were too busy to be with them, or too preoccupied. They put up with our messy dens, with stacks of printsouts and the continual clatter of computer printers, with extended phone calls and periods of our irritability. To them -- Alison, Harriet, Howard, Julie, Kay, Lynn, Michael, and Shannon -- we owe our deepest gratitude.

CREDITS

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BRIEF CONTENTS

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CHAPTER ONE

COMPUTERS AND THE INFORMATION AGE

THE INFORMATION REVOLUTION

We have entered the information age: a time when most of the information accumulated by mankind since the beginning of recorded history is available to anyone with the resources to tap it. Tapping it requires knowing a telephone number and having a few hundred dollars of equipment available.

Some observers have hailed the advent of the information age as a new revolution, as important, if not more so, than the agricultural and industrial revolutions. The information revolution, as it is sometimes called, is characterized by two phenomena: an explosion of information and the technical revolution that has developed modern computers and communications equipment.

THE INFORMATION EXPLOSION

Today, for the first time, we have an economy based on information. Between 6,000 and 7,000 new scientific articles are now written each day. It has been predicted that the total amount of scientific information available in the world will double every twenty months. This means that every year and a half or so, we add an amount of scientific information equal to all that mankind has stored since the beginning of time.

The explosion is not limited to scientific information. Massive collections of information, called data banks, store facts about business, bank deposits, movie reviews, criminals, legal precedents, economic statistics, and engineering data, just to name a few. These data banks are growing as fast as the scientific ones. Moreover, new data banks containing collections of information never before accumulated are being developed rapidly.

By 1985 there were nearly 2,500 data banks in operation. Physicians, for example, draw on the American Medical Association's AMA/NET which contains information, among other things, on over 1,500 drugs. Law offices -- in the past incomplete without extensive, not to mention expensive, law libraries -- now search electronic data banks such as Westlaw in St. Paul, Minnesota to find matters of law and court decisions. Some legal data banks can even provide the decision history of judges and transcripts of their written deci-