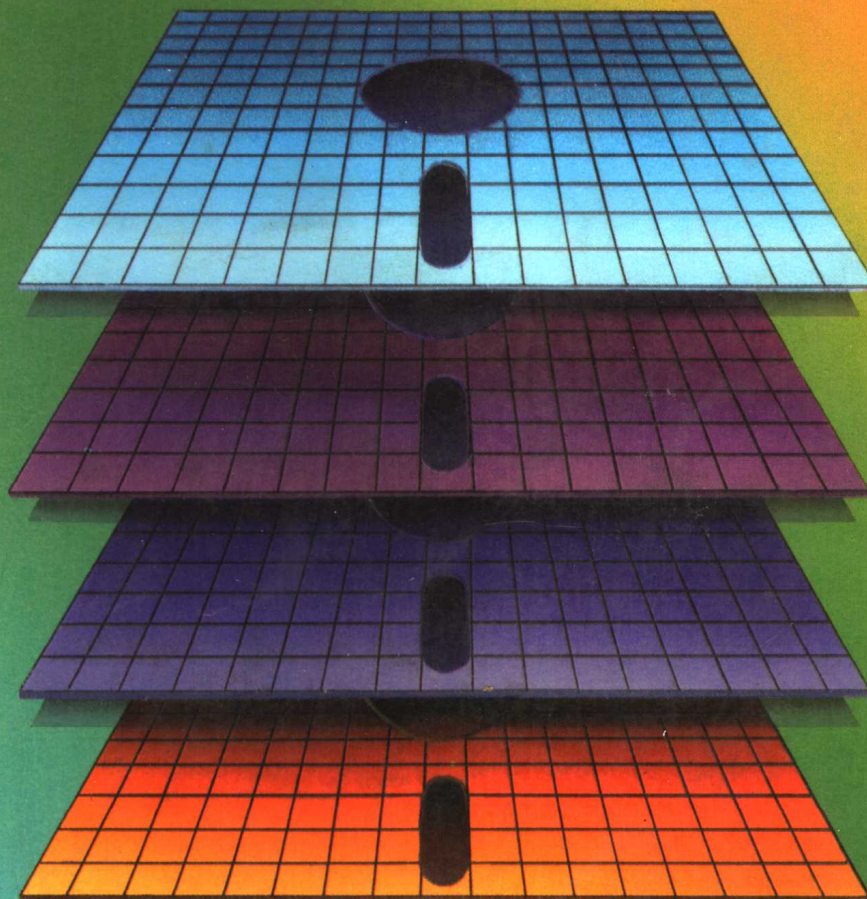


# FOUR SOFTWARE TOOLS

# *Plus*

## APPLICATIONS AND CONCEPTS

TIM DUFFY



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**FOUR**  
**SOFTWARE**  
**TOOLS**  
**PLUS**

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## PREFACE

Almost as soon as the original *Four Software Tools* was introduced to the marketplace, I received requests from instructors and users of the text to include computer concepts and literacy topics. The majority of these individuals emphasized that the "hands-on" flavor of the text should be maintained but that important subjects related to all classes of computer systems should also be included in the book. *Four Software Tools Plus: Applications and Concepts* is a response to those requests. The goal of this book is to introduce students to the wide range of computers found in the business world, to develop hands-on skills with several important software packages, and to present important concepts related to computers.

The first chapter provides an overview of the different types of computers, a brief history of computing, an introduction to the way computers process data, and an introduction to data storage techniques. Chapters 2 and 3 introduce students to the basic hardware and software that is typically found in a business computer environment.

Part Two contains the hands-on chapters: advanced DOS topics, word processing, spreadsheets, and data base management. Each of the hands-on subjects (with the exception of advanced DOS) is divided into introductory, intermediate, and advanced coverage. Because this text is not meant to replace the original *Four Software Tools* text in its entirety, a number of advanced topics not relevant to software novices have been omitted. Since this text has a new goal, Chapter 12 now defines the term *data base*, emphasizes the advantages of data base management, and describes the role of data base management in an organization, the management of the data base, and the organization of the data base itself. Again, Chapter 12 emphasizes all classes of data base management systems, while the hands-on chapters, Chapters 13–15, emphasize the role of microcomputer-based DBMSs.

The two chapters on graphics, Chapters 16 and 17, are included to introduce students to the uses of graphics in the business world and also to give students some first-hand experience using Lotus 1-2-3 to generate graphs of their own. Presentation graphics packages, paint/editor packages, and CAD/CAM applications are also described.

Chapter 18, Telecommunications, was included because of the impact that the interconnection of computers is having on today's society. Students are introduced to elementary telecommunications terminology relevant to microcomputers as well as to larger computers. Various methods that can be used to connect computers to networks are also described. Finally, the local area network, the vehicle most frequently used for connecting multiple microcomputers, is covered.

Chapter 19, Integrated Software Systems, features the Works package by Microsoft to illustrate how data can be created in one software application and then used in that application or passed to another application for use. While it is not necessary for students to have access to the Works package, students who do have access to it can follow along with the discussion.

All students taking introductory computer courses need at least a brief introduction to the topic of management information systems and system analysis. It is this area of the organizational use of computer technology that has impacted all sizes of organizations by providing timely information needed by managers to make decisions and solve problems. The goal of Chapter 20 is to

give students the flavor of management information systems as well as to walk them through the steps involved in selecting and developing new hardware/software systems for solving organizational problems.

In an era of much abuse of individuals' rights to data privacy as well as the wanton destruction of data via software viruses, a chapter on computer ethics, social issues, and computer security is a necessity. Problem areas discussed in Chapter 21 include software piracy, viruses, privacy, health concerns, and computer security.

No computer textbook would be complete without a discussion of the important area of desktop publishing. This productivity tool is having an enormous impact on all aspects of society because it allows the quick generation of typeset-quality text. The hardware and software requirements of desktop publishing are covered in Chapter 22, along with a discussion of the PageMaker desktop publishing package produced by Adobe Systems Incorporated.

Chapter 23 contains a brief introduction to the area of artificial intelligence and a look at trends in computer technology that will continue to have an impact on our daily lives.

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### **Objectives of the Textbook**

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The primary goal of most introductory computer courses is to bring students to the point where they feel comfortable using the computer to solve problems. The objective of this text is thus to teach students both computer concepts and to solve realistic problems using the most readily available "off-the-shelf" general applications software. The book does not go into extreme detail about each package but rather provides a general introduction that will familiarize students with the commonly used aspects of each general applications package.

The general applications software packages covered in this textbook are WordPerfect 4.2 and 5.0 (word processing), Lotus 1-2-3 Release 2.01 (spreadsheets), and dBASE III Plus (data base management). Coverage of the IBM Personal Computer Disk Operating System (PC DOS) is also included. After completing this textbook, students will have the conceptual and hands-on microcomputer skills necessary to solve numerous problems using these software packages.

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### **Applications Software**

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Three packages have emerged as de facto standards in each of the general applications software areas just discussed. WordPerfect, developed by the WordPerfect Corporation, is now the best-selling word processing package for business use. dBASE III Plus, developed by Ashton-Tate, is typically used as the data base management standard. Lotus 1-2-3 is still without doubt the standard against which all other spreadsheet packages are measured. In spite of the many clones that have entered the marketplace, Lotus 1-2-3 remains the best-selling spreadsheet package for business. Many employers now expect their newly hired college graduates to have at least a working knowledge of this important business tool.

One problem that faces educators today is how to acquire inexpensive, well-written software that represents programs students will be expected to use in the business world. Two of the companies just mentioned (WordPerfect and Ashton-Tate) have entered into an agreement with Wadsworth Publishing Company to solve this problem of acquiring quality software by making available through Wadsworth educational versions of their software packages for use in the classroom.

Coverage of WordPerfect in this book did prove to be a challenge, however. WordPerfect Corporation is now supporting only the Release 4.2 educational version of its software, and the company has no plans to provide an

educational version of Release 5.0. The fact that some schools will use only the educational version, while other schools will prefer to use the most recent version, WordPerfect 5.0, creates the problem of which version to cover. We solved this problem by describing Release 4.2 in the main text and noting in the margin those features that change in Release 5.0. Appendix C then covers the new material in WordPerfect 5.0.

Providing spreadsheet software for a book that covers Lotus 1-2-3 is also not without problems. The full Lotus 1-2-3 package retails for \$495, a price unaffordable for most students. While the student version costs less than \$50, its files can be read only by that student version. To solve this problem and make inexpensive spreadsheet software available to students, the VP-Planner Plus software package is provided by the publisher to adopters of the text. VP-Planner Plus, distributed by Paperback Software, is a 1-2-3 Release 2.01 work-alike. This means that most of the topics and assignments covered in the text can be done with VP-Planner Plus. Any incompatibilities are discussed in Appendix A. Please note that VP-Planner Plus has been included with students in mind. We believe that students will greatly appreciate the ability to do about 98 percent of the assignments on a computer outside the official computer lab without a large outlay of cash for spreadsheet software.

Note that Appendix A contains specific information for students about characteristics of educational software that differ from the complete packages. For example, the instructional version of dBASE III Plus limits file size to 31 records.

## **Hardware Rationale**

The introduction of the IBM Personal Computer revolutionized the world of third-party applications software for microcomputers. The IBM PC included much more memory than previous microcomputers and was therefore capable of running programs that could more effectively address much larger problems. This is especially true in the area of spreadsheets. Many existing packages were rewritten to take advantage of the additional memory available on the IBM PC. The IBM has so changed the microcomputer world that it has emerged as a de facto standard by which other microcomputers are judged.

## **Hardware Requirements**

An IBM PC or compatible computer with two disk drives and 256K of RAM memory (320K if WordPerfect 5.0 is used) is required. You will also need a color monitor/graphics adapter board to properly display the 1-2-3 graphics on the screen. A printer (with graphics capabilities if you wish to print 1-2-3 graphs) is also required for printing documents, reports, graphs, and worksheets.

The hard (fixed) disk is a piece of equipment that has resulted in many changes in the way computer concepts are covered in the classroom. During the last few years the prices of hard disk technology have plummeted. Because hard disk technology is now affordable for most colleges and universities, such hard disk topics as directories as well as instructions for running software from a fixed disk are covered in this text.

## **Structure of the Text**



*Four Software Tools Plus* works best in a hands-on environment—that is, the step-by-step exercises in the text make most sense when an individual is sitting at a computer so that he or she can immediately see the results of his or her actions. A symbol like the one in the margin indicates hands-on material.

Each of the software packages described previously is covered in enough detail to satisfy the requirements of a computer novice. However, the text assumes that each package has already been configured for use by the student.

If a package has not been configured for a specific machine, please refer to the documentation for that package.

The software packages can be covered in any order. However, you are encouraged to cover at least the first three chapters before going on to one of the specific packages.

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### **Learning Aids and Sample Files**

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Exercises are provided at the end of each chapter to give students quick feedback on their progress. In addition to the written exercises, hands-on computer exercises are included at the end of appropriate chapters to provide feedback through challenging applications of material covered in the chapter. A number of sample diskette files—including sample worksheets, text files, and data base files—have been provided for use with text lessons and exercises.

Appendix A, Instructions for Using Educational Versions of Software, and Appendix C, WordPerfect 5.0, have already been mentioned. Appendix B presents command summaries for WordPerfect 4.2 and 5.0 and for dBASE III Plus, as well as graphic depictions of the various menus used by Lotus 1-2-3 and a summary of commonly used 1-2-3 functions. Appendix D offers an introduction to the BASIC programming language using Microsoft's BASICA. Appendix E discusses the subject of buying a microcomputer.

An extensive Glossary of computer terms used in the text appears after the appendices (defined terms appear in boldface type where they are defined in the text), and keyboard templates for each of the software tools (WordPerfect 4.2 and 5.0, Lotus 1-2-3, and dBASE III Plus) appear at the end of the book.

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### **In-depth Projects**

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The appropriate chapters of the book contain in-depth projects using WordPerfect and Lotus 1-2-3. These projects pull together key aspects of the various software packages, with an emphasis on interpackage communication. Please note, though, that the WordPerfect projects require the full version of the software.

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### **CAI Study Guide**

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*Assistant Instructor: CAI Study Guide for Four Software Tools Plus*, prepared by Wayne E. Thomsen, uses both text-based and computer-assisted techniques to help students review material covered in the textbook. Text and graphic material on the disk allows students to review the concepts and techniques and then tests students' knowledge of the topics covered in each chapter. We believe that the use of CAI materials will make the learning task more enjoyable for students enrolled in their first computer course.

This concept of student support via computer-assisted instruction techniques is an important example of using computers to teach computer concepts in a structured educational environment. Only a text with such support can claim to be a state-of-the-art instructional package.

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### **Teaching Aids**

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An Instructor's Manual is provided without charge to each adopter of the text. The manual contains a lecture outline and transparency masters for each chapter. A disk containing all of the finished worksheets at the end of each spreadsheet chapter is also included. As a bonus, the disk also contains a Lotus 1-2-3 GRADBOOK template instructors can use for tracking students' grades. The GRADBOOK template, which is completely macro-driven, makes the tedious process of tracking grades much easier.

A computerized test generator is also available to adopters of *Four Software Tools Plus*. The test generator, which includes true-false, multiple-choice, fill-in-the-blank, and short-answer test questions, makes the process of creating

tests easy. Contact your Wadsworth representative or call Sales Service at (415) 595-2350 for a copy.

## **Acknowledgments**

When I first started writing the original textbook, *Four Software Tools*, I did not realize what a tremendous effort such an endeavor entailed. I soon learned that a multitude of people are needed to make a textbook a success. These individuals include family, friends, colleagues, and many people in the publishing business. I am deeply indebted to my wife, Wendy, who initially encouraged me to start on the first version of this text. Without her encouragement, the original text might never have been finished.

I would also like to thank the reviewers of this manuscript: Linda Bowen, Western Illinois University; David Burgett, McLennan Community College; Ron Goodman, Quincy Junior College; Donald L. Hall, Manatee Community College; Peter Irwin, Richland College; Tomislav Mandakovic, Florida International University; Mike Michaelson, Palomar College; Jeff Mock, Diablo Valley College; Leonard Presby, William Paterson State College; Jan Truscott, San Joaquin Delta College; David Van Over, University of Georgia; and Mary Allyn Webster, University of Florida.

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The efforts of the individuals at Wadsworth Publishing Company must also be acknowledged because they are responsible for turning a dog-eared manuscript into professional final copy. Frank Ruggirello, senior computer science editor, is without equal in the publishing business. Frank is always a joy to talk with or to visit. His judicious use of Giants game tickets, great restaurants, excellent brown sauce, and peaceful drives along the ocean will always be remembered with fondness. Sandra Craig did a phenomenal job of completing this project. There were times when it appeared to be an impossible task to get the book finished, but her expert management of the project brought it to a successful conclusion.

A frequently overlooked ingredient in the success of a textbook is the sales staff of a publishing company. Without their marketing efforts, any text, no matter how good, would fail. There is no doubt in my mind that the Wadsworth corporation has one of the finest, most professional staffs in the country. The efforts of individuals like Ragu Raghavan, Peggy Hopp, and Gerry Levine, along with many others, will always be greatly appreciated. I also consider many of these people friends.

Finally, I would like to dedicate this book to my wife, Wendy, and our son, Michael. These are the two most important people in my life. Michael, especially, made this project a challenge. His efforts to get Dad to play chase—which included pressing the Reset button of Dad's computer and grabbing Daddy's diskettes and running merrily down the hallway—all made this project more interesting.



MEMO

TO: Users of the Limited-Use version of WordPerfect 4.2  
FROM: WordPerfect Corporation  
RE: The limitations of Limited-Use WordPerfect 4.2  
DATE: June 30, 1987

The Limited-Use introductory version of WordPerfect 4.2 (L-WP) is intended to allow one to learn the features of WordPerfect 4.2; however, the L-WP is not intended to allow one to print usable academic or professional documents.<sup>1</sup>

Certain limitations (*which should not deter learning WordPerfect through the L-WP*) have been encrypted into L-WP to guard against productive use, and are as follows:

- I. One may work with as large a document on screen as desired, but one may only save to disk a data file no larger than 50,000k (appx. 25-30 regular pages).
  1. A data file created with the L-WP cannot be imported into regular WordPerfect, nor can a file created in regular WordPerfect be imported into L-WP.
- II. Data files of any size may be printed through parallel printer port "1" without defining a printer, but font changes and extended ASCII characters are not allowed. Also, "\*WPC" will be printed after each paragraph.
- III. One will be able to learn all the functions of WordPerfect 4.2's speller and thesaurus by calling up the "readme.wp" file and following the step-by-step directions; however, one cannot use the L-WP speller and thesaurus with any of one's own documents because there are only a limited number of words in the L-WP speller and thesaurus. (The regular speller has 115,000 words, and the regular thesaurus has approximately 150,000 words.)
- IV. The help file of L-WP allows the user to retrieve the function-key template, but similar to the speller and the thesaurus described above, space will not allow the full help files on the L-WP disk.

L-WP is designed to be used for introductory, word processing courses, and thus far has been well received in these types of environments. Notwithstanding the broad abilities provided in the L-WP, presumably the L-WP will not satisfactorily substitute for regular WordPerfect 4.2, and therefore the full feature version may be obtained directly from WordPerfect Corporation at a 75% educational discount.

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<sup>1</sup>"\*WPC" will be automatically printed after each paragraph of text to discourage academic or professional use of the L-WP. See paragraph II above.

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