with BASIC

Living with Computers

Fourth Edition

Patrick G. McKeown

Living with Computers

with BASIC

FOURTH EDITION

Patrick G. McKeown
University of Georgia

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Address for Editorial Correspondence
The Dryden Press, 301 Commerce Street, Suite 3700, Fort Worth, TX 76102

Address for Orders
The Dryden Press, 6277 Sea Harbor Drive, Orlando, FL 32887
1-800-782-4479, or 1-800-433-0001 (in Florida)

ISBN: 0-03-096630-2

Library of Congress Catalog Card Number: 92-71695

Cover and block opener art by Gregory Arth Photographers, Hurst, TX

Credits appear on pages A-123–A-124, which constitute a continuation of the copyright page.

Printed in the United States of America

2 3 4 5 6 7 8 9 0 1 039 9 8 7 6 5 4 3 2 1

The Dryden Press
Harcourt Brace Jovanovich

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Harcourt Brace Jovanovich College Publishers

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PREFACE

Living with Computers, Fourth Edition, remains true to the goals of its popular prior editions: to make students understand that they are surrounded by smart machines—that is, by machines that are controlled by computers—and that to be successful today they must be computer literate. Integral to these goals is the concept of the computer as a mind tool to be used to solve problems and to do work. *Living with Computers,* Fourth Edition, establishes the importance of students being able to use a computer and then helps them make the transition from being computer illiterate to being computer users. In the process, students will learn what the computer *can* and *cannot* do and *how* to use computers to solve problems and accomplish tasks. Students need not be experts on the inner workings of the computer to be competent users.

Integrated Approach

A key feature of *Living with Computers* is the integration of the information presented in the text with its array of supplements. The complete package includes the textbook, software, an *Instructor's Manual,* a *Study Guide,* a Pascal supplement, a testbook, a computerized testbank, teaching transparencies, *presentation software,* and a choice of lab manuals to accompany HBJ Bridge software, educational software, and commercial software. All these components are fully integrated. For example, if word processing is being discussed in the text, all elements of the package are integrated toward the presentation of this material. First, screen shots from various word processing packages are shown in the textbook to demonstrate word processing concepts. Second, there are transparencies, transparency masters, and presentation software showing important software screens. Third, there are tutorials in the lab manuals. Fourth, the *Instructor's Manual* suggests ways in which the instructor may use the software to teach the desired concepts and provides answers to the word processing questions and exercises in the textbook. The *Study Guide* summarizes the material for the student and provides further hands-on instruction on the use of word processing. The appendix to the *Instructor's Manual* contains additional assignments incorporating new basic skills pedagogy with the text material. And finally, the testbook provides questions to help the instructor prepare examinations on the material.

The Textbook

Living with Computers, Fourth Edition, and *Living with Computers with BASIC,* Fourth Edition, serve the needs of almost any introductory course in computers.

A flexible presentation allows a chapter sequence that will fit specific needs. This freedom of choice is made possible by the division of the book into blocks of chapters, each block covering an essential facet of computing. Block One, A Brief Introduction to Computers, covers computer literacy, and each chapter in that block also serves as a lead-in to a later, more detailed block of chapters on the same subject. Block One may be used in two ways: First, since it has introductory chapters on hardware, software, computer systems, and the societal implications of computers, it may be used as a self-contained introduction to computers. Second, as soon as any chapter in Block One is covered, the class may immediately cover the corresponding detailed block of material. Once in a detailed block, students can be taught the chapters within that block in almost any order.

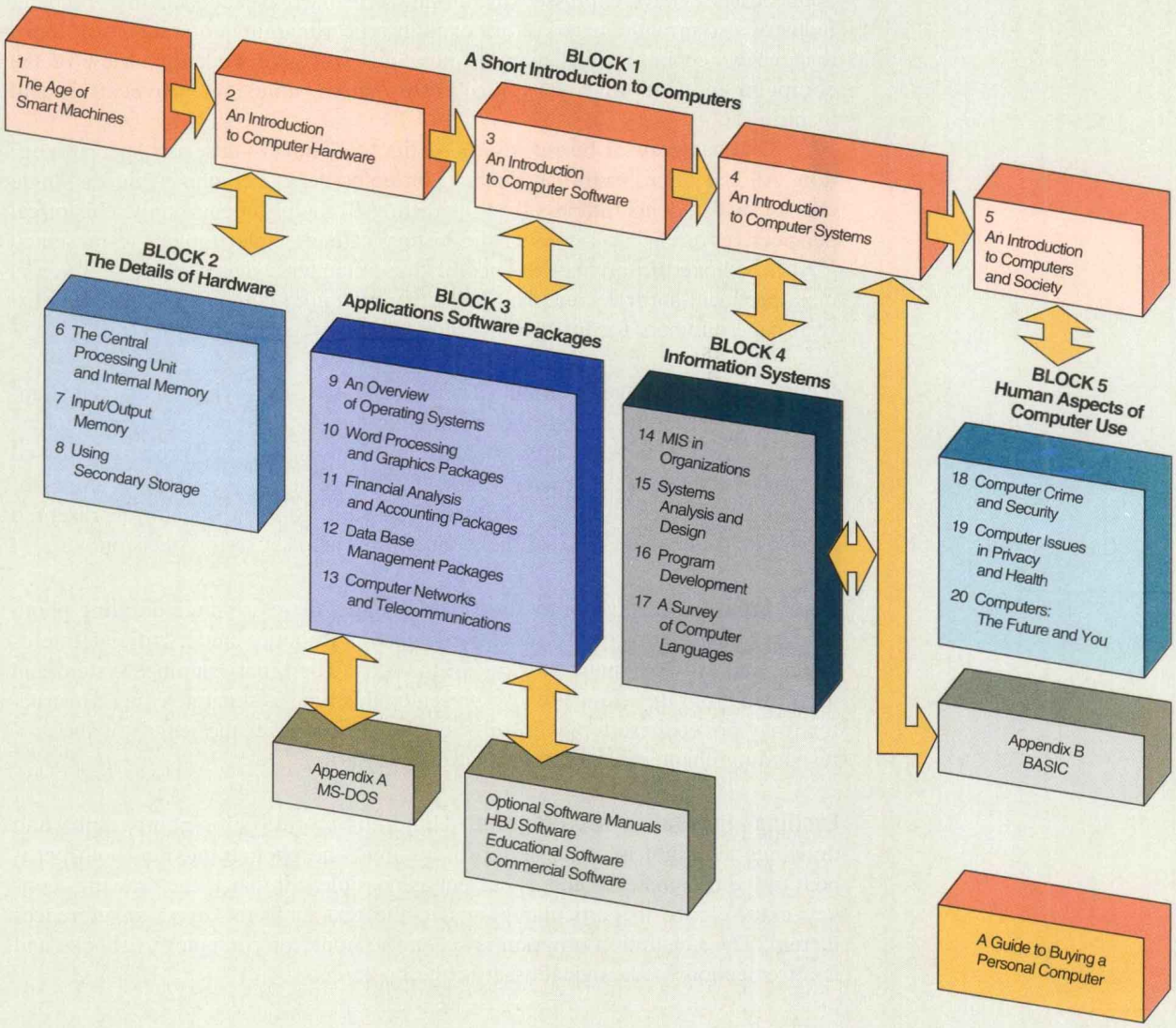
Block Two, The Details of Hardware, which includes chapters on the CPU/internal memory, input/output, and secondary storage, may be covered anytime after Chapter 2 has been read. Block Three, Applications Software Packages, contains chapters on operating systems, word processing and graphics packages (including a new section on desktop publishing), spreadsheets and accounting packages, data base management packages, and telecommunications and networks. This block especially reflects the *Living with Computers* objectives in that it provides detailed discussions of nonprogrammer use of applications software to solve problems or accomplish tasks. Block Three may be studied anytime after Chapter 3 has been covered. Block Four, Information Systems, has four chapters that discuss in detail computer-based information systems, the systems analysis and design process, and program development. An overview of the most popular computer languages is also provided here. Block Four may be covered anytime after Chapter 4 has been read. Block Five, Human Aspects of Computer Use, has chapters dealing with computer crime and security problems and with issues of privacy and health. Computer careers and the future of computers are also covered. Block Five may be considered anytime after Chapter 5 has been read.

For instructors using *Living with Computers with BASIC,* the BASIC appendix is divided into three modules—Getting Started with BASIC, Control Structures and Subroutines, and Advanced Topics in BASIC. In addition, color is extensively used to set off programs and to improve the pedagogy. Users who do not wish to teach programming may easily skip this appendix, or avoid it entirely by choosing the alternative version, titled simply *Living with Computers,* Fourth Edition. Users who do wish to teach programming can move directly to this appendix after either Chapter 4, An Introduction to Information Systems, or Chapter 16, Program Development, depending on the depth of programming to be covered. "Try It Yourself" exercises are included in the BASIC sections to allow students to check their understanding more often, and there are programming exercises at the end of each module. Solutions to both types of exercises are in the *Instructor's Manual.*

Besides this flexible approach to the presentation of material, both versions of the Fourth Edition of *Living with Computers* offer the following special features.

Integration of the Personal Computer Because of ever-increasing availability to students, the personal computer must play a large role in any introductory textbook on computers; to that end, the personal computer and personal computer software are integrated throughout the text. The block of chapters on appli-

A MODULAR INTRODUCTION TO COMPUTERS



cations software is especially oriented toward the personal computer, because of the wide availability of applications software for personal computers. Yet care is taken to emphasize the continuing importance of the large computers for all users, and every chapter contains discussions of both the mainframe and personal computer aspects of the topic under consideration.

Boxed Inserts In *Living with Computers,* Fourth Edition, each chapter begins with a carefully selected up-to-date boxed insert that exemplifies the topic to be covered in that chapter. Additionally, boxed inserts throughout each chapter highlight insights into computer use and present current real-world computer applications. Views expressed in the news media by leaders of the computer industry also provide material for boxed inserts or margin quotations. It is hoped that the boxed inserts and margin quotations will give students a view of the computer industry that is by turns informative, amusing, provocative, and inspiring.

One category of boxed inserts—Bits of History—deserves special mention. All too often, historical material on computers is combined into a single chapter that students find less than interesting. To help students enjoy a historical perspective, brief discussions of the history of the chapter topics are presented in special boxed inserts at the ends of those chapters where such discussion is most pertinent and relevant. The *Instructor's Manual* contains an annotated list with page numbers for instructors who wish to cover them as a group.

Inclusion of a PC Buyer's Guide The special Guide to Buying a Personal Computer has been updated and may be read anytime after the first three chapters. The emphasis is on the *logic* behind the decision-making process involved in buying a personal computer, rather than on reviewing specific machines or software that may soon be outdated. The step-by-step procedure presented should help the student buyer make an appropriate, satisfying decision.

Other Essays In addition to the Buyer's Guide, there are three dazzling photo essays—on Manufacturing the Microchip, on Robotics and Artificial Intelligence, and on Computers at Work in the Arts. The binary number system and top-down program design are also presented this time as separate essays. Instructors may cover these topics in this additional depth, yet the length of the corresponding chapters is not expanded unnecessarily.

Exciting, Innovative Art Program Hundreds of full-color photographs and drawings highlight material under discussion. The photographs are both pertinent to the text material and as current as possible. Similarly, the drawings convey extra clarity to particular points in the text and are keyed to references therein. The illustration program is second to none for computer textbooks and is a tremendous pedagogical asset to the book.

Chapter Components Each chapter in *Living with Computers* begins with a set of Study Objectives and ends with a Review of Key Points—useful to the instructor in preparing lectures and helpful to the student in preparing for examinations. A list of Key Terms in each chapter gathers the large number of new

words introduced. A Glossary at the end of the book defines each of these words and gives its chapter location. Finally, a set of Review Questions completes each chapter, reflecting the major points covered to help students assess their mastery of the chapter.

New to the Fourth Edition

The Fourth Edition has been updated in both its photo program and content. New photos illustrate the most recent software and hardware developments as well as new uses for computers. Boxes have been updated and new ones have been added throughout to demonstrate some of the many current uses of computers, from the Gulf War to finding missing children. Chapter content has been revised to include current topics such as multimedia, hypertext, virtual reality, touchscreens, and new Windows applications. Types of networks (LANS) are explored in further detail, new CASE software is discussed, the coverage of Object Oriented Programming has been expanded and new information on software piracy has been incorporated. Chapters on privacy and health issues and the future have been rewritten to include current concerns, as well as recent career information and predictions for the future. These and many more new topics make the Fourth Edition timely and relevant to students as they embark upon their computer literate futures.

Ancillary Components for the Instructor

The Fourth Edition of the *Living with Computers* package contains a complete set of ancillary components. This comprehensive instructional program offers everything needed to teach an introductory course on computers or information processing.

Instructor's Manual For each chapter in the textbook, the *Instructor's Manual* (by Patrick G. McKeown) has a corresponding chapter composed of the following teaching aids: a teaching objective, a set of learning objectives, a chapter outline, an annotated list of the boxed inserts, a chapter review with suggested uses of transparencies and transparency masters, a list of teaching suggestions, an annotated list of suggested readings, answers to the review questions from the end of each chapter in the textbook, and a glossary of the key terms for the chapter. Of particular interest to many instructors will be the suggested readings, which list current, pertinent titles. These readings can be very helpful for preparing lectures or developing class projects. An exciting and substantial new appendix by Harvey Kaye has been added to the *Instructor's Manual* for this edition. Based on the current learning methodology of *Integrated Skills Reinforcement,* this appendix brings an added pedagogical component to the *Living with Computers* package. The extra exercises are specifically designed to reinforce students' basic reading, writing, listening, and speaking skills while improving their retention of the text material. The material has been class tested with remarkable results. Instructions on how to use the material are provided for

use by the instructor. For the BASIC appendix in *Living with Computers with BASIC,* the *Instructor's Manual* contains solutions to the "Try It Yourself" and end-of-chapter exercises. The *Instructor's Manual* also includes abundant transparency masters.

Testbook Thoroughly revised by Lorilee Sadler of Indiana University at Bloomington, the *Testbook* for the Fourth Edition contains over 2300 questions of different types. The *Testbook* covers all of the important concepts and terminology in the textbook and can be used to prepare quizzes or examinations. It is also available in a computerized version, in both IBM and Macintosh formats.

Transparencies The *Living with Computers* package includes a boxed set of more than 100 full-color *Transparencies* to be used during lectures to demonstrate important concepts. There are also transparency masters in the *Instructor's Manual.*

Presentation Software New to the Fourth Edition is a *Presentation Software* program by Randy Goldberg of Marist College. This multimedia program, which requires MS Windows 3.x, dramatically incorporates text, photographs, lecture outlines, and graphics to provide a powerful learning environment. It will serve as a valuable tool in the lecture hall and for self-study in the computer lab. Users of Asymetrix Toolbook will find this program a creative basis upon which to build and expand their multimedia presentation.

Video Tapes An extensive library of video tapes is available free to adopters. Minimum purchase requirements apply. HBJ sales representatives have details about these tapes.

Ancillary Components for the Student

The integrated approach of *Living with Computers* is reflected in all support materials developed for students.

Computer Lab Manuals Knowledge about computers is useful; however, it is the ability to actually use the computer to solve problems and accomplish tasks that is critical to becoming computer competent. To this end, we have made available to adopters of *Living with Computers* lab manuals for teaching three types of software: full-scale commercial software, educational versions of commercial software, and HBJ's own Bridge software. The tutorials in each manual are organized into skill-building sessions that include keystroke-by-keystroke instructions, *Try-It-Yourself* exercises, and end of session exercises. Lab manuals are available separately, or packaged with the text.

Application Software Tutorials: A Computer Lab Manual Using WordPerfect 5.1, Lotus 1-2-3, dBASE III PLUS and dBASE IV introduces students to the most popular software packages. These class-tested tutorials will help students build proficiency in using the computer as a problem-solving tool.

For those instructors who wish to provide inexpensive software for every student, a *Computer Lab Manual* is available packaged with educational versions

of WordPerfect 4.2, dBASE III PLUS, and ALITE, an industry-standard spreadsheet.

Hands On: The HBJ Software lab manual introduces students to fundamental software concepts without requiring them to learn a great number of details. The manual and software effectively bridge the gap between intimidation and familiarity. Ideal for computer-aided instruction, this menu-driven program introduces students to the six most common categories of applications software.

HBJ: WRITE allows the user to create, edit, print, and save a document of up to 250 lines. HBJ: GRAPH allows the user to create, view, save, and print bar, pie, scatter, and line charts. HBJ: PLAN can handle up to 40 rows and 26 columns. The command and data entry formats conform with the industry-accepted modes. All arithmetic operations can be included in formulas and the resulting spreadsheet can be saved or printed as needed. HBJ: FILE can manage up to 100 records, each containing up to five fields. The records can be edited, sorted, searched, saved, and printed. HBJ: BUDGET enables the user to manage personal finances by setting up a budget, entering transactions, and reconciling checking accounts. HBJ: TALK is a unique program that simulates a telecommunications software package.

When packaged with the textbook, *Hands On: The HBJ Software* lab manual is provided to students for no additional charge. HBJ Bridge Software is provided free of charge as a master disk for duplication, or for a nominal charge packaged with the lab manual.

Programming For instructors who wish to teach BASIC, programming tutorials are available in *Living with Computers with BASIC.* A Pascal supplement is available as well.

Written by Margaret Anderson of the University of Georgia, *Structured Programming Using Turbo Pascal,* Second Edition, presents a short course in the use of the ever popular Turbo Pascal language. It parallels the BASIC appendix in the Fourth Edition of *Living with Computers* in terms of material covered. In addition, wherever possible, the Pascal supplement uses the same examples and exercises as are used in the BASIC appendices.

Study Guide Written by Robert D. Brown of the University of Georgia, the Fourth Edition of the *Study Guide* is organized to reflect the integrated approach of *Living with Computers.* Each chapter contains a thorough review, which summarizes key concepts and terms, and multiple-choice, true-false, matching, and short answer questions, complete with answers, which serve as an effective self-test.

The *Study Guide* also offers additional hints on BASIC programming and the use of productivity software, including several examples that clearly demonstrate an actual application of the software package.

Acknowledgments

Anyone familiar with the writing and production of a package such as this knows that it is very much the result of a team effort. For the Fourth Edition of *Living with Computers,* this team included many people who have either helped with writing the book or have worked on editorial and production aspects of its publication.

During the writing of all four editions of the textbook, I received help on numerous technical aspects of the computer from Andrew Seila of the College of Business Administration at the University of Georgia. Robert Sterns of the University of Georgia computer center also offered a wealth of historical knowledge. Robert A. Leitch of the University of South Carolina and Dennis Calbos of the Administrative Data Processing Department at the University of Georgia both greatly aided in the preparation of the systems chapters, while Robert Brown and Jennifer Teel worked very hard making sure the tutorials matched the software. I would also like to thank Charles R. McCain and Don Dershem of Mountain View College of the Dallas Community College District for their help. Charles provided many useful articles, and I benefitted greatly from my discussions with Don on the implementation of top-down design in BASIC. I am grateful for the help of each of these people. Other truly appreciated help came from Doug Hartley, University of Georgia, Athens; Colette Pirie, University of Georgia, Athens; and Cliff Ragsdale, Virginia Polytechnic Institute and State University.

As the text was being written, it was reviewed by a large number of people, including Coleman Barnett, Tarrant County Junior College Northeast; George A. Bohlen, University of Dayton; Kenlon H. Burcham, Wallace State College; Richard K. Cleek, University of Wisconsin Center—Washington County; Donald Dershem, Mountain View College of the Dallas Community College District; Richard A. Ernest, Sullivan Junior College; Ronald Flaxmeyer, University of Cincinnati; Y. H. Freedman, Mount Royal College; Robert S. Fritz, American River College; Peter Irwin, Richland College of the Dallas Community College District; Jan Karasz, Cameron University; Richard Lee Kerns, East Carolina University; Reinhard L. Knieriemen, Jr., Orange County Community College; Diane H. Krebs, Valparaiso University; Gary W. Martin, Solano Community College; Charles R. McCain, Mountain View College of the Dallas Community College District; Francisca O. Norales, Virginia State University; Debra A. Osz, Dret School; Guy Pollack, Mountain View College of the Dallas Community College District; Ajay Popat, University of Alabama, Birmingham; Nancy Schmitt-MacDonald, Barnes Business College; Al Schroeder, Richland College of the Dallas Community College District; Evan M. Thompson, California State University, Stanislaus; John Urquhart, Norfolk State University; and Louis Voit, McMurray College. I thank all of them for their careful reading of the manuscript and their thought-provoking comments. The final product reflects many of their ideas. Finally, I appreciate the work of Ashley McKeown and Ginger Brown on the *Instructor's Manual.*

During the editing and production of the book, a large number of people at Dryden/HBJ were involved and I want to name them all. I wish to express my thanks to Ruth Rominger and Sue Lister for coordinating and editing the project. Greg Meadors did an outstanding job of photo research, David A. Day executed a crisp new design and supervised the art program, Sheila Shutter han-

dled our permissions work, and Jacqui Parker supervised the production process. As always, thanks to my editor, Richard Bonacci, for his ongoing efforts in publishing my texts.

Finally, no acknowledgments would be complete without mention of my wife, Carolyn McKeown, who has constantly supported me in the project, first by helping organize the work and then by reading material and offering suggestions. She was also the author of the innovative section on the health aspects of computer use. Without her support and that of my children, Ashley and Chris, I would not have been able to complete such a project.

Patrick G. McKeown

IN APPRECIATION

Key to the development of the materials for this Fourth Edition are those who, through all four editions, have class-tested, reviewed, responded to surveys, and assisted in innumerable ways. I owe them a great debt.

Scott Ahrens
Solano Community College

Margaret S. Anderson
University of Georgia, Athens

Carol Asplund
College of Lake County

Joe Dane Autry
Collin County Community College

Tim Baird
Harding University

Beth Barks
Southern Union State Junior College

Coleman Barnett
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Edward A. Berlin
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George A. Bohlen
University of Dayton

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University of Georgia

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Pam Ogaard
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Glenn N. Thomas
Kent State University

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