

RELEASE 2.4

USED

THE STUDENT EDITION OF **LOTUS 1.2.3**



USED

TIMOTHY J. O'LEARY
LINDA I. O'LEARY

ADDISON-WESLEY • BENJAMIN / CUMMINGS

1731
045

THE STUDENT EDITION OF

LOTUS

123



RELEASE 2.4

TIMOTHY J. O'LEARY

ARIZONA STATE UNIVERSITY

LINDA I. O'LEARY

ADDISON-WESLEY PUBLISHING COMPANY, INC.

THE BENJAMIN/CUMMINGS PUBLISHING COMPANY, INC.

Reading, Massachusetts ■ Redwood City, California ■ New York
Don Mills, Ontario ■ Wokingham, England ■ Amsterdam ■ Bonn
Sydney ■ Singapore ■ Tokyo ■ Madrid ■ San Juan ■ Milan ■ Paris

Sponsoring editor: *Michelle Baxter*

Assistant editor: *Kathy Galinac*

Developmental editor: *Rachel Bunin*

Production editor: *Adam Ray*

Copyeditor: *Robert Fiske*

Proofreader: *Holly McLean-Aldis*

Interior design: *Seventeenth Street Studios*

Cover design: *Ark Stein*

Art direction: *Yvo Riezebos Design*

Technical advisor: *Ari Davidow*

Copyright © 1994 by The Benjamin/Cummings Publishing Company, Inc.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Additional copyright and trademark information can be found at the end of the book. Printed in the United States of America. Published simultaneously in Canada.

ISBN 0-8053-1329-X

5 6 7 8 9 10-CRW-98 97 96 95

The Benjamin/Cummings Publishing Company, Inc.

390 Bridge Parkway
Redwood City, California 94065

THE STUDENT EDITION OF

~~LOTUS 123~~

RELEASE 2.4

LIMITED WARRANTY

Addison-Wesley Publishing Company, Inc. and The Benjamin/Cummings Publishing Company, Inc. ("Addison-Wesley • Benjamin/Cummings") warrant that the enclosed Student Edition ("the program") will substantially conform to the published specifications and to the documentation during the period of 90 days from the date of original purchase, provided that it is used on the computer hardware and with the operating system for which it was designed. Addison-Wesley • Benjamin/Cummings also warrants that the magnetic media on which the program is distributed and the documentation are free from defects in materials and workmanship during the period of 90 days from the date of original purchase. Addison-Wesley • Benjamin/Cummings will replace defective media or documentation or correct substantial program errors at no charge provided you return the item with dated proof of purchase to Addison-Wesley • Benjamin/Cummings within 90 days of the date of original purchase. If Addison-Wesley • Benjamin/Cummings is unable to replace defective media or documentation or correct substantial program errors, your license fee will be refunded. These are your sole remedies for any breach of warranty.

Except as specifically provided above, Addison-Wesley • Benjamin/Cummings makes no warranty or representation, either express or implied, with respect to this program, documentation or media, including their quality, performance, merchantability or fitness for a particular purpose. Lotus makes no warranty or representation, either express or implied, with respect to this program, documentation or media, including their quality, performance, merchantability or fitness for a particular purpose.

Because programs are inherently complex and may not be completely free of errors, you are advised to verify your work. In no event will Addison-Wesley • Benjamin/Cummings or Lotus be liable for direct, indirect, cover, special, incidental or consequential damages arising out of the use of or inability to use the program, documentation or media, even if advised of the possibility of such damages. In no case shall the liability of Addison-Wesley • Benjamin/Cummings exceed the amount of the license fee and in no case shall Lotus have any liability.

The warranty and remedies set forth above are exclusive and in lieu of all others, oral or written, express or implied. No Publisher dealer, distributor, agent or employee is authorized to make any modification or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or limitation of liability for incidental or consequential damages, so these limitations may not apply to you.

U.S. GOVERNMENT RESTRICTED RIGHTS

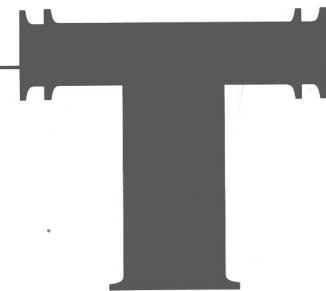
The enclosed software and documentation are provided with RESTRICTED AND LIMITED RIGHTS. Use duplication, or disclosure by the Government is subject to restriction as set forth in FAR § 52.227-14 (June 1987) Alternate III(g)(3) (June 1987), FAR § 52.227-19 (June 1987), or DFARS § 52.227-7013 (c)(1)(ii) (June 1988) as applicable. Contractor/Manufacturer is Addison-Wesley • Benjamin/Cummings Publishing Company, Inc., Information Systems & Software, 390 Bridge Parkway, Redwood City, California 94065.

GENERAL

Addison-Wesley • Benjamin/Cummings and Lotus retain all rights not expressly granted. Nothing in this License Agreement constitutes a waiver of Addison-Wesley • Benjamin/Cummings' or Lotus' rights under the U.S. Copyright laws or any other federal or state law.

To obtain performance of this warranty, return the item with dated proof of purchase within 90 days of the purchase date to: The Benjamin/Cummings Publishing Company, Inc., Information Systems & Software, 390 Bridge Parkway, Redwood City, California 94065.

PREFACE



he Student Edition of Lotus 1-2-3, Release 2.4 is an important revision of the existing edition, which teaches basic 1-2-3 concepts using a clear, and easy-to-follow numbered-step keystroke approach. With fully integrated Wysiwyg and SmartIcon instructions, the revision features new cases for each lab, concept and command summaries for each lab, and completely revised and expanded exercise sets that are organized by level of difficulty.

This text is written for students who have little or no experience with computers or with Lotus 1-2-3. The cases that are integrated throughout the labs are general interest cases, designed to appeal to students from a variety of disciplines and to demonstrate the broad base of uses for 1-2-3.

KEY FEATURES AND ORGANIZATION

GETTING STARTED SECTION

The text begins with a Getting Started section that provides students with the basic information they need to install, start, run, and end Lotus 1-2-3. It is written in an easy-to-follow step-by-step format and assumes no prior computer experience on the part of the students. This section also contains information about the rest of the text, including the typographical conventions of the Lab Activities, assumptions about hardware usage, and an on-line overview to introduce students to the features and power of 1-2-3.

LAB ACTIVITIES

After the Getting Started section, there are ten lab activities, each designed to teach students the basics of Lotus 1-2-3. Each lab takes about 45 minutes to complete, although this may vary somewhat from lab to lab, student to student, and instructor to instructor. The lab pedagogy includes the following:

Case-Based Approach Students learn 1-2-3 commands as they develop the spreadsheet that is described in the case study that begins each lab. The subject of these case studies include basic cash flow analysis for a small travel agency, financial planning for a gourmet food chain, market analysis for a cable television company, and simple inventory analysis for an art dealer. The topics for the cases are designed to appeal to students from a variety of majors.

Step-by-Step Labs Each lab leads students step-by-step through the keystrokes required to develop the spreadsheet presented in the case study. Wysiwyg and SmartIcon instructions are integrated fully, presenting the most up-to-date methodologies for using 1-2-3. The presentation is clear, goal-directed, easy-to-follow, and concise, with an emphasis on 1-2-3 skills and commands.

Integrated Pedagogical Devices Key terms appear in boldface throughout the text, and each lab includes a complete glossary for all key terms. Each lab has both a concept and a command summary to synthesize the skills taught in the labs.

Extensive Exercises The exercise sets throughout the text include a variety of off-line and on-line exercises and case problems. For off-line practice and review, the text provides both multiple choice and matching exercises, while for on-line practice, each exercise set includes several case problems. For each lab there is a set of structured step-by-step cases as well as a set of unstructured problem-solving cases. The step-by-step cases provide students with specific instructions for working through the problems, to reinforce 1-2-3 skills. The problem-solving cases are open-ended and require students to synthesize the Lotus 1-2-3 skills they have learned.

Reference The text concludes with a comprehensive Lotus 1-2-3, Release 2.4 Command Reference. This contains descriptions of the 1-2-3 commands, menus, and functions and includes all of the Release 2.4 capabilities. Capabilities not included in the student software are marked with an asterisk (*).

WHAT'S NEW IN THIS EDITION?

The Student Edition of Lotus 1-2-3, Release 2.4 has been revised thoroughly in response to user feedback. Key revisions include the following:

- Fully integrated Wysiwyg and SmartIcon instructions
- New case studies which explore the broad-based uses of 1-2-3
- Revised and expanded problem sets
- Concept and command summaries
- Comprehensive glossaries defining all key terms
- New conceptual material on graphing that explains when different types of graphs should be used and why

HOW TO USE THIS BOOK

IF STUDENTS ARE INSTALLING THEIR OWN SOFTWARE:

Students who have purchased this text with the Lotus 1-2-3, Release 2.4 Educational Software Series software and are installing it themselves should read through each chapter of the Getting Started section and carefully follow the installation instructions included there.

IF STUDENTS ARE USING PREINSTALLED SOFTWARE:

Students who are using this text with software that has been installed for them already can skip Chapter 2 of the Getting Started section. However, they should read all the other Getting Started chapters carefully.

FLEXIBILITY OF LABS:

The labs have been designed in a modular fashion, to allow instructors the greatest flexibility in course development. After students have mastered the basic spreadsheet commands in Labs 1 and 2, they may proceed directly to the graphics, database, macro, or enhanced spreadsheet labs. The numerous alternative paths that are available are detailed in the Instructor's Manual.

Students completing all ten labs will be able to organize and analyze information in a spreadsheet effectively and efficiently. In addition, they will be able to create and use macros, design and build customized menus, and organize and develop 1-2-3 databases.

ABOUT THE LOTUS 1-2-3, RELEASE 2.4 SOFTWARE

This text is available with or without the Lotus 1-2-3, Release 2.4 Educational Software Series software. The software is a full-sized spreadsheet (256 columns by 8192 rows) and is fully-functional Lotus 1-2-3 software. The Wysiwyg, SmartIcon, and Macro Library Manager add-ins are included. Deleted are the following add-ins: Backsolver, Translate, Access, View, and Auditor. You can obtain this software on both 3 1/2" or 5 1/4" diskettes.

Templates for Lotus 1-2-3, Release 2.4 are packaged with the software.

THE SUPPLEMENTS

**INSTRUCTOR MANUAL WITH
TRANSPARENCY MASTERS**

Prepared by Jim Forkner, Jr. at Penn State University, the 200 plus pages include for each lab:

- Key concepts
- Schedule and pace
- Procedural recommendations
- Expanding the materials
- Summary
- Answers to practice problems
- Additional questions and problems
- Case study assignments with sample solutions

TEST BANK

Prepared by Joyce Farrell at McHenry County Community College, the 600 plus questions include for each lab:

- Multiple-choice
- True/false
- Short answer

This test bank can also be ordered from The Benjamin/Cummings Publishing Company as a computer-generated testing program. Please contact your sales representative for details.

DATA DISK

This contains all of the worksheets needed to complete the lab activities. It is required to use this book and is available on both 3 1/2" and 5 1/4" disks.

REVIEWERS OF THIS EDITION

The following academic reviewers contributed greatly to the project, and we wish to thank them for their many creative and useful suggestions during the writing of this text.

Robert B. Andrews

Hagerstown Junior College

Fredia Dillard

Samford University

Joyce M. Farrell

McHenry County College

Jim Forkner, Jr.

Pennsylvania State University

Cheryl L. Rumler

Monroe County Community College

Diane Taylor

National Education Center

Richard Yankosky

Frederick Community College

ACKNOWLEDGMENTS

The development of *The Student Edition of Lotus 1-2-3, Release 2.4* has required a team effort from many individuals, and we would like to thank all those who have contributed to it. Through their combined efforts, we have built upon and improved the previous student editions of Lotus 1-2-3.

We are particularly grateful for the efforts of two people who worked very closely with us on this project. Colleen Hayes, an instructor at Mesa Community College, has provided invaluable input and support. Her energy, enthusiasm, and insightful suggestions helped focus on meeting the needs of both instructors and students. Rachel Bunin, the Project Manager and Developmental Editor, kept the project on track during difficult times. Her good humor, persistence, organization, and editorial skills have made working with her a pleasure.

We are grateful for the contributions of many people at Addison-Wesley and The Benjamin/Cummings Publishing Company. In particular, we thank Jim Behnke, Corporate Vice President and Director of the Higher Education

Publishing Group and Sally Elliott, President of The Benjamin/Cummings Publishing Company for their continued interest and support for this project. Without their efforts, we could not have completed this revision.

In addition, we are appreciative of all the efforts of the Benjamin/Cummings staff and others who worked on this book: Barbara Piercecchi, Vice President and Editorial Director; Michelle Baxter, Senior Acquisitions Editor; Kathy Galinac, Assistant Editor; and Adam Ray, Production Editor.

Our thanks go especially to Alan Minard at Lotus Development Corporation, without whom this project would not be possible. His work with the programmers and staff who provide us with technical expertise and who create the software for this package is the foundation for this publishing program that makes Lotus 1-2-3 software available to all educators and students.

Timothy J. O'Leary and Linda I. O'Leary
December 1993



CONTENTS

I GETTING STARTED

1. BEFORE YOU BEGIN GS-3
2. INSTALLING LOTUS 1-2-3,
RELEASE 2.4 SOFTWARE GS-9
3. STARTING AND QUITTING
A 1-2-3 SESSION GS-31
4. USING WYSIWYG AND
THE SMARTICON ADD-IN GS-36
5. AN OVERVIEW OF 1-2-3 GS-39

II LAB ACTIVITIES

LAB 1 CREATING A WORKSHEET 3

CASE: PREPARING A CASH FLOW ANALYSIS NANCY'S TRAVEL AGENCY

- Case study 4
- Designing Worksheets 6
- Exploring 1-2-3's Worksheet 7
- Examining the Keyboard 9
- Moving Around the Worksheet Area 11
- Using the SmartIcon Palette 16
- Using the Function Keys 19
- Entering Labels 21
- Editing Entries 23
- Changing Label Alignment 25
- Examining 1-2-3's Menu 27
- Getting Help 28
- Selecting Commands 30
- Entering Values 33
- Entering Formulas 35
- Changing Values 37
- Aligning Text 38

VI CONTENTS

Saving the Worksheet	40
Erasing the Worksheet	42
Displaying a File List	43
Printing a Worksheet	44
Quitting 1-2-3	47
Summary	48
Glossary of Key Terms	49
Review Exercises	51
Cases	53



LAB 2 ENHANCING A WORKSHEET 57

CASE: PREPARING A CASH FLOW ANALYSIS NANCY'S TRAVEL AGENCY

Case Study	58
Changing Column Width	59
Changing Global Column Widths	64
Changing a Range of Column Widths	66
Copying Entries	69
Replicating Cell Contents	71
Pointing a Formula	72
Copying a Formula	73
Using Multiplication and Percents	74
Understanding @Functions	76
Using the @SUM Function	77
Erasing a Range	80
Using the Worksheet	81
Inserting and Deleting Columns	82
Inserting and Deleting Rows	83
Enhancing the Worksheet	84
Moving Worksheet Data	86
Adding Underlines	87
Saving and Replacing a File	88
Printing an Enhanced Worksheet	89
Exiting 1-2-3	91
Summary	92
Glossary of Key Terms	93
Review Exercises	93
Cases	95

LAB 3 USING WORKSHEETS 99**CASE: PREPARING A WORKSHEET
WALKER'S GOURMET SANDWICHES**

Case Study	100
Displaying the File Name	102
Locating a Circular Reference	103
Hiding and Unhiding Columns	107
Linking Files	108
Using @Functions: @SUM, @MIN, @MAX, @AVG	111
Naming a Range	113
Setting Cell Formats	117
Using Absolute Cell References	122
Performing What-if Analysis	126
Enhancing the Worksheet	127
Printing the Worksheet	127
Creating a Backup File	129
Summary	130
Glossary of Key Terms	131
Review Exercises	131
Cases	133



LAB 4 MANAGING A LARGE WORKSHEET 137**CASE: PREPARING A WORKSHEET
WALKER'S GOURMET SANDWICHES**

Case Study	138
Freezing Titles	140
Creating and Scrolling Windows	145
Extracting and Combining Files	148
Using What-if Analysis	151
Preparing a Memo	155
Entering the Date	156
Justifying Text	157
Enhancing the Worksheet	159
Printing Using Wysiwyg	160
Using Passwords to Restrict Access to Files	161
Summary	164
Glossary of Key Terms	165
Review Exercises	165
Cases	167

LAB 5 CREATING AND PRINTING A LINE GRAPH 171**CASE: MARKET/SUBSCRIBER ANALYSIS
ULTRA VISION CABLE COMPANY**

Case Study	172
Centering Text in a Range	174
Setting Row Heights	175
Selecting the Type of Graph	177
Defining X-axis Labels	179
Defining Data Ranges	180
Adding Titles	182
Naming a Graph	184
Using the Group Command	185
Editing Graph Titles	187
Creating and Editing Legends	188
Displaying Data Labels	190
Displaying Grid Lines	192
Viewing Named Graphs	193
Adding a Graph to a Worksheet	193
Saving the Worksheet	195
Printing the Worksheet	196
Summary	196
Glossary of Key Terms	197
Review Exercises	198
Cases	199



LAB 6 CREATING AND PRINTING GRAPHS 203**CASE: MARKET/SUBSCRIBER ANALYSIS
ULTRA VISION CABLE COMPANY**

Case Study	204
Changing the Graph Type	205
Creating a Bar Graph	206
Saving Graphs for Printing	207
Creating a Stacked Bar Graph	208
Adding 3-Dimensions	209
Adding Grid Lines	210
Changing Orientation	211
Creating a Pie Chart	212
Shading the Pie Chart	214
Creating an Exploded Pie Chart	216
Creating a Mixed Graph	218
Recalling Previously Named Graphs	219
Adding Text	220
Adding Arrows	222
Using What-if Graphing	224
Printing Graphs	225

Using PrintGraph	226
Summary	229
Glossary of Key Terms	230
Review Exercises	231
Cases	232

LAB 7 CREATING A DATABASE 237

CASE: INVENTORY MANAGEMENT ORTEGA'S FINE PRINTS

Case Study	238
Creating a Database	239
Modifying a Database	244
Sorting a Database	245
Finding Records in a Database	250
Using Search and Find	258
Using Search and Replace	259
Summary	262
Glossary of Key Terms	262
Review Exercises	263
Cases	266



LAB 8 USING A DATABASE 271

CASE: INVENTORY MANAGEMENT ORTEGA'S FINE PRINTS

Case Study	272
Changing Database Structure	272
Using @VLOOKUP	274
Using @IF	278
Using @DAVG, @DMIN, @DMAX, @DCOUNT	280
Using the Data Query Extract Command	284
Summary	288
Glossary of Key Terms	288
Review Exercises	289
Cases	291

LAB 9 CREATING AND USING MACROS 295

CASE: DAILY SALES REPORT SNACKS UNLIMITED

Case Study	296
Introducing Macros	297
Creating Macros	300

X CONTENTS

Executing Macros 302
Debugging Macros 303
Creating Interactive Macros 304
Modifying Macros 308
Using LEARN Mode 310
Using STEP Mode 314
Using a Repetition Factor 316
Completing the Macro 316
Summary 320
Glossary of Key Terms 320
Review Exercises 321
Cases 322



LAB 10 ADVANCED MACROS 325

**CASE: DAILY SALES REPORT
SNACKS UNLIMITED**

Case Study 326
Using Subroutines 327
Building a Custom Menu 330
Creating a Print Macro 334
Using the Quit Macro Command 335
Creating a Looping Menu 336
Using FRAME and PANEL Commands 337
Protecting Cells 339
Creating User Defined SmartIcons 340
Creating an Auto-executing Macro 341
Summary 342
Glossary of Key Terms 343
Review Exercises 344
Cases 345

III REFERENCE

1. BASIC SKILLS R-3
2. COMMANDS R-25
3. MACROS R-89
4. @FUNCTIONS R-111
5. TRANSLATE UTILITY R-131
6. 1-2-3 ADD-IN UTILITIES R-135

**APPENDIX A R-147
PRINTERS AND THEIR
COMPATIBLE EMULATIONS**

**APPENDIX B R-149
NEW RELEASE 2.4
SOFTWARE FEATURES**

GLOSSARY OF KEY TERMS R-151

GLOSSARY OF SMARTICONS R-157

INDEX R-161