Common LISP. The Language. Second Edition
**Synopsis**

The defacto standard - a must-have for all LISP programmers. In this greatly expanded edition of the defacto standard, you’ll learn about the nearly 200 changes already made since original publication - and find out about gray areas likely to be revised later. Written by the Vice- Chairman of X3J13 (the ANSI committee responsible for the standardization of Common Lisp) and co-developer of the language itself, the new edition contains the entire text of the first edition plus six completely new chapters. They cover: - CLOS, the Common Lisp Object System, with new features to support function overloading and object-oriented programming, plus complete technical specifications * Loops, a powerful control structure for multiple variables * Conditions, a generalization of the error signaling mechanism * Series and generators * Plus other subjects not part of the ANSI standards but of interest to professional programmers. Throughout, you’ll find fresh examples, additional clarifications, warnings, and tips - all presented with the author’s customary vigor and wit.

**Book Information**

Paperback: 1029 pages
Publisher: Digital Press; 2nd Updated edition (June 15, 1990)
Language: English
ISBN-10: 1555580416
Product Dimensions: 9.3 x 6.5 x 1.9 inches
Shipping Weight: 3.4 pounds
Average Customer Review: 4.1 out of 5 stars Â· See all reviews (18 customer reviews)
Best Sellers Rank: #744,981 in Books (See Top 100 in Books) #38 in Books > Computers & Technology > Programming > Languages & Tools > Lisp #965 in Books > Textbooks > Computer Science > Software Design & Engineering #2036 in Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Software Development

**Customer Reviews**

"Common Lisp, The Language" (or CLTL) is an industrial-strength language reference for a somewhat esoteric computer language (in the view of most programmers today), so this tome is definitely not for the novice, nor for the faint of heart. However, if you are a true devotee of Common Lisp, then it is hard to imagine how you can escape this most sacred of texts. I own two dog-eared and heavily marked-up copies of the book, from which I have gotten my money’s worth many times
over. For years one or the other of these copies has been a permanent fixture on my desk, beside my keyboard. It is an invaluable reference for serious Common Lisp programmers. However, as a previous reviewer pointed out, CLTL is strictly a reference, not a text. If you attempt to use it as an introductory text, you will hate both the book and the language, which will be your loss. To learn the language, I would recommend either "Lisp", by Winston and Horn, or "ANSI Common Lisp", by Paul Graham. After perhaps several years of serious Lisp programming, you will most likely find yourself studying the pages of CLTL, at which point you will appreciate what Guy Steele has succeeded in accomplishing in this slender volume of 1029 pages. Common Lisp is an enormous language, with over 800 built-in functions, many of which have complicated semantics and dozens of keywords that alter those semantics. Considering the daunting task of documenting this language, Steele deserves a medal. (In fact, the book has received various awards.) Common Lisp was an integral part of several classes that I taught at Caltech for many years; I had students write compilers, interpreters, theorem provers, symbolic manipulators, numerical solvers, graph algorithms, etc.

This book is an excellent reference book on Common Lisp and will serve the experienced Lisp programmer well in that regard. The author has meticulously documented the features of Common Lisp and its relation with other Lisp dialects, such as MacLisp. Readers who know Lisp only marginally can also benefit from the book, for example computer scientists or logicians with a background in lambda calculus, or programmers with a background in functional or logical programming. Users of Mathematica, Reduce, or Maple could also use the book profitably, as it gives insight on the origin of some of the function calls and syntax in these high-level symbolic programming languages. The size of the book prohibits a per-chapter review, but some highlights of the book include the discussion on data types and scoping in the first two chapters. The author summarizes effectively the kinds of scope in Common Lisp. The program structure in Lisp, namely the organization of a program as a function call or a form is outlined in detail. It is this program structure I believe that gives Lisp its power and makes it a more natural language in which to program, at least from a purely mathematical standpoint. The author stresses that function application is the primary method for generating Lisp programs. In addition, the author shows in detail how a function in Lisp can compute several objects and return them; and here again, the approach taken by Lisp is much cleaner from a mathematical perspective than the one taken by other programming languages. A very good overview of how Common Lisp represents numbers is also given in the book. The discussion is supplemented with a treatment of complex functions and many graphs are given illustrating their behavior, the graphs being generated by PostScript code by
Common Lisp code.

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