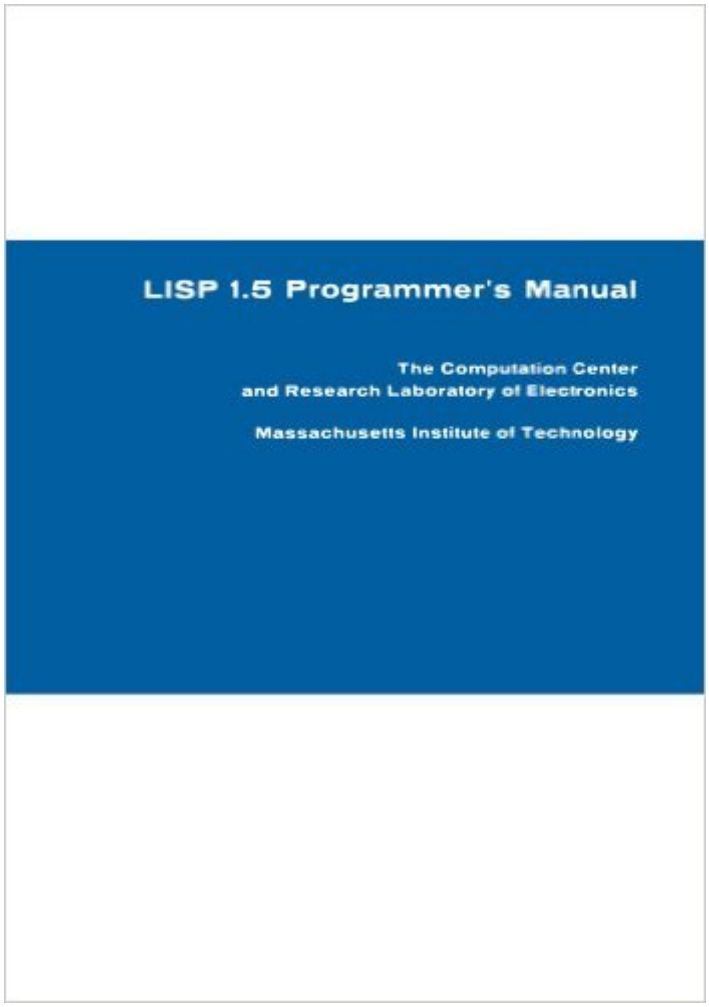
LISP 1.5 Programmer's Manual



Synopsis

The LISP language is designed primarily for symbolic data processing used for symbolic calculations in differential and integral calculus, electrical circuit theory, mathematical logic, game playing, and other fields of artificial intelligence.The manual describes LISP, a formal mathematical language. LISP differs from most programming languages in three important ways. The first way is in the nature of the data. In the LISP language, all data are in the form of symbolic expressions usually referred to as S-expressions, of indefinite length, and which have a branching tree-type of structure, so that significant subexpressions can be readily isolated. In the LISP system, the bulk of the available memory is used for storing S-expressions in the form of list structures. The second distinction is that the LISP language is the source language itself which specifies in what way the S-expressions are to be processed. Third, LISP can interpret and execute programs written in the form of S-expressions. Thus, like machine language, and unlike most other high level languages, it can be used to generate programs for further executions.

Book Information

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Customer Reviews

The LISP programming language was invented by John McCarthy in the late 1950s when he was co-director of the MIT artificial intelligence group. Unlike all other programming languages, LISP is also a simple elegant mathematical formalism which could be called a generalized arithmetic. LISP is also unique in that the language and the data are a single unified formalism. To see how far LISP

has gone since then, one should read Common LISP: the Language, by Guy Steele. (There are also several excellent tutorial type books.)I was an undergraduate student at that time, and as member of the group wrote the LISP 1.5 Programmer's Manual which was later published as a book by the MIT Press. Today, it is of interest as a historical document only. (The book lists the members of the group at that time, and states that the manual was written by M. Levin)

This book is not just of historical interest. Much has changed since 1962 but not that much. This book is THE reference for implementing dynamically scoped Lisps.

A great read about LISP. Short, concise, and clear - this book made me appreciate LISP on a whole new level.

I now understand why this book is revered, even though I know lisp for years (and even though I've read SICP)