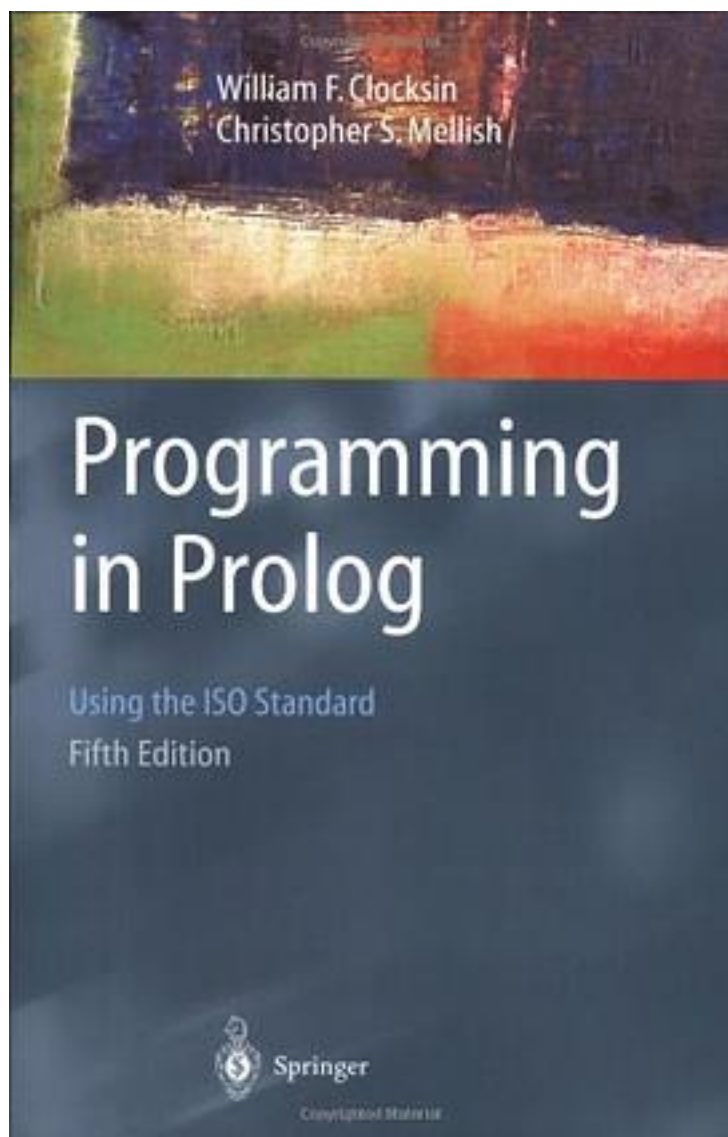# Programming in Prolog

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Originally published in 1981, this was the first textbook on programming in the Prolog language and is still the definitive introductory text on Prolog. Though many Prolog textbooks have been published since, this one has withstood the test of time because of its comprehensiveness, tutorial approach, and emphasis on general programming applications.

Prolog has continued to attract a great deal of interest in the computer science community, and has turned out to be a basis for an important new generation of programming languages and systems for Artificial Intelligence. Since the previous edition of Programming in Prolog, the language has been standardised by the International Organization for Standardization (ISO) and this book has been updated accordingly. The authors have also introduced some new material, clarified some explanations, corrected a number of minor errors, and removed appendices about Prolog systems that are now obsolete.

作者介绍:

interests. Examples include list processing, set operations, symbolic differentiation and simplification of formula.- 7.1 A Sorted Tree Dictionary.- 7.2 Searching a Maze.- 7.3 The Towers of Hanoi.- 7.4 Parts Inventory.- 7.5 List Processing.- 7.6 Representing andManipulating Sets.- 7.7 Sorting.- 7.8 Using the Database.- 7.8.1 Random.- 7.8.2 Gensym.- 7.8.3 Findall.- 7.9 SearchingGraphs.- 7.10 Sift the Two's and Sift the Three's.- 7.11 Symbolic Differentiation.- 7.12 Mapping Structures and Transforming Trees.- 7.13 Manipulating Programs.- 7.14 Bibliographic Notes.- 8 Debugging Prolog Programs.- By this point, the reader will be able to write reasonable programs, and so the problem of debugging will be relevant. Flow of control model, hints about common bugs, techniques of debugging..- 8.1 Laying out Programs.- 8.2 Common Errors.- 8.3 The Tracing Model.- 8.4 Tracing and Spy Points.- 8.4.1 Examining the Goal.- 8.4.2 Examining the Ancestors.- 8.4.3 Altering the Degree of Tracing.- 8.4.4 Altering the Satisfaction of the Goal.- 8.4.5 Other Options.- 8.4.6 Summary.- 8.5 Fixing Bugs.- 9 Using Prolog Grammar Rules.- Applications of existing techniques. Using Grammar Rules. Examining the design decisions for some aspects of analysing natural language with Grammar Rules.- 9.1 The Parsing Problem.- 9.2 Representing the Parsing Problemin Prolog.- 9.3 The Grammar Rule Notation.- 9.4 Adding ExtraArguments.- 9.5 Adding Extra Tests.- 9.6 Summary.- 9.7 Translating Language into Logic.- 9.8 More General Use of Grammar Rules.- 10 The Relation of Prolog to Logic.- Predicate Calculus, clausal form, resolution theorem proving, logic programming.- 10.1 Brief Introduction to Predicate Calculus.- 10.2 Clausal Form.- 10.3 A Notation for Clauses.- 10.4 Resolution and Proving Theorems.- 10.5 Horn Clauses.- 10.6 Prolog.- 10.7 Prolog and Logic Programming.- 11 Projects in Prolog.- A selection of suggested exercises, projects and problems.- 11.1 Easier Projects.- 11.2 Advanced Projects.- A Answers to Selected Exercises.- B Clausal Form Program Listings.- C Writing Portable Standard Prolog Programs.- The Prolog standard, writing portable programs and dealing with different Prolog implementations.- C.1 Standard Prolog for Portability.- C.2 Different Prolog Implementations.- C.3 Issues to LookOut For.- C.4 Definitions of some Standard Predicates.- C.4.1 Character Processing.- C.4.2 Directives.- C.4.3 Stream Input/Output.- C.4.4 Miscellaneous.- D CodetoSupport DCGs.- D.1 DCG Support Code.

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