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Clocksin,W.F. and Mellish, C.S., "Programming in PROLOG", Springer-Verlag, 1981 PROLOG (PRO-gramming in LOGic) is a relatively new computer language developed in the early 70's. It is conceptually based on Horn Clause predicate logic and is a powerful tool for symbolic computation. Applications include: relational datbases, mathematical logic, natural language understanding and artificial intelligence research. Considerable interest was generated in the language when the Japanese chose PROLOG as a base language for their Fifth-Generation project. PROLOG, or some derivative of it, will become a major pro-gramming language in the future. This text is one of the first practical guides to learning PROLOG pro-gramming. Emphasis is placed on a hands on, example oriented, tutorial style of learning. While the latter chapters are sophisticated enough to appeal to advanced PROLOG programmers, the first chapters supply enough information and background to allow even non-programmers to begin. The first three chapters introduce basic PROLOG concepts of facts, rules, variables and relationships. Structures, trees and lists are defined. Excellent, in depth examples, are used to demonstrate how PROLOG actually works. Chapter 4 is devoted to in-depth examination of searching and backtracking, vital PROLOG concepts. Backtracking modification through the use of cut "!" and fail are shown. Chapters 5 and 6 discuss various built in predi-cates which expand PROLOG from purely logic programming into a real world environment. File I/O, ter-minal I/O, predicates to handle general structures, arithmetic operations, etc... are explained. Chapter 8 examines debugging techniques, a problem which is almost never addressed in reference manuals or in research papers. Chapter 7 is devoted to advanced PROLOG program examples, chapter 9 to analysing nat-ural language and chapter 11 to possible projects. This text is rounded out by a chapter on predicate logic and a number of appendices on various PROLOG implementations. Unfortunately PROLOG is a rapidly evolving language. The options and syntax of the "core" language presented may bear little resemblance to many of the newer implementations. Even so, this text remains one of the few excellent guides to learning PROLOG programming.