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Logic, Programming And Prolog
What sets this book apart from others on logic programming is the breadth of its coverage. The authors have achieved a fine balance between a clear and authoritative treatment of the theory and a practical, problem-solving approach to its applications. This edition introduces major new developments in a continually evolving field and includes such topics as concurrency and equational and constraint logic programming.

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Customer Reviews

In this book the authors attempt to give a background into the foundations of logic programming and to develop programming expertise in the programming language Prolog. They do a good job, and considering the importance of logic programming in both research and industry, a perusal of this book will give the reader a good background to enter fields such as constraint logic programming or artificial intelligence. Chapter 1 is an introduction to what logic programming is all about, with its declarative nature emphasized right away. The syntax of predicate logic is introduced as a formalization of a collection of declarative statements of natural language. The semantics of the formulas in predicate logic is discussed in terms of a relation between its language and a particular (algebraic) structure. The meaning of terms including both constants and variables is done using a 'valuation'. Some elementary model theory is developed here also. In chapter 2, the authors take up logic programming by introducing the notion of ‘definite clauses’. A ‘definite program’ is then a finite set of definite clauses. Logic programming is explained as writing down a collection of logic
formulas, with the programmer attempting to describe an intended model via the use of definite clauses, or "facts" and "rules". The program can have many models, with a program being "incorrect" if and only if the intended model is not a model of the program. The authors show clearly the role of queries in establishing the truth of the intended model. They also show the existence of a model that reflects all of the information expressed in model but not any more, the famous 'Herbrand model'. Logic programs are essentially reasoning systems, and so a notion of proof is needed.

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