

《计算理论基础》

图书基本信息

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前言

Theoretical computer science is the mathematical study of models of computation. As such, it originated in the 1930s, well before the existence of modern computers, in the work of the logicians Church, Godel, Kleene, Post, and Turing. This early work has had a profound influence on the practical and theoretical development of computer science. Not only has the Turing machine model proved basic for theory, but the work of these pioneers presaged many aspects of computational practice that are now commonplace and whose intellectual antecedents are typically unknown to users. Included among these are the existence in principle of all-purpose (or universal) digital computers, the concept of a program as a list of instructions in a formal language, the possibility of interpretive programs, the duality between software and hardware, and the representation of languages by formal structures, based on productions. While the Spotlight in computer science has tended to fall on the truly breathtaking technological advances that have been taking place, important work in the foundations of the subject has continued as well. It is our purpose in writing this book to provide an introduction to the various aspects of theoretical computer science for undergraduate and graduate students that is sufficiently comprehensive that the professional literature of treatises and research papers will become accessible to our readers.

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内容概要

本书是理论计算机科学领域的名作，是计算机科学核心主题的导论性教材。全书分为可计算性、文法与自动机、逻辑学、复杂性及语义学5个部分，分别讲述了可计算性理论、形式语言、逻辑学与自动演绎、可计算复杂性（包括NP完全问题）和编程语言的语义等主题，并展示了它们之间如何相互关联。

本书是计算机及相关专业高年级本科生和研究生的理想教学参考书，对于计算机领域的专业人士也是很好的技术参考书。

作者简介

Martin Davis, (born 1928, New York City) is an Jewish-American mathematician, known for his work on Hilbert's tenth problem (Jackson 2008, p. 560). He received his Ph.D. from Princeton University in 1950, where his adviser was Alonzo Church (Jackson 2008, p. 560). He is Professor Emeritus at New York University. He is the co-inventor of the Davis-Putnam and the DPLL algorithms. He is a co-author, with Ron Sigal and Elaine J. Weyuker, of *Computability, Complexity, and Languages, Second Edition: Fundamentals of Theoretical Computer Science*, a textbook on the theory of computability. He is also known for his model of Post-Turing machines.

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《计算理论基础》

编辑推荐

《计算理论基础可计算性复杂性和语言(英文版·第2版)》是理论计算机科学领域不朽的名作之一，它成功地将该领域所涵盖的可计算性理论、形式语言理论、复杂性理论和逻辑学这几个分散主题完美地融为一体进行阐述，展示了它们之间的内在关联，深刻地体现出理论计算机科学之美。《计算理论基础可计算性复杂性和语言(英文版·第2版)》内容严谨，可读性强，配有丰富的习题，适合作为计算机和数学专业高年级本科生及研究生相关课程的教材，对于从事理论研究和软件开发的专业技术人员也是不可多得的参考书。

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精彩短评

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- 2、去年这个时候买的，一起买了8本书。买了之后没看，先看其他的书了。结果今天一翻，这纸张，比盗版的还不如。字体很大，一页压根印不下多少。
- 3、优秀的教材，必要的修养
- 4、感觉邮电社计算机科学系列印装不如数学统计学系列，这本字很大，原版书也很少看到字这么大的，纸一般，印刷效果也中等。内容全面，数学功力不足，看着比较吃力。感觉比原来见到的几本计算理论和自动机的书籍比难一些，涵盖了逻辑和语义的部分内容。不足就是没有习题答案甚至提示，也没有参考文献（???），是不又被出版社当没用的去了！！
- 5、虽然是英文，但是读起来不费劲，也是经典著作。

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