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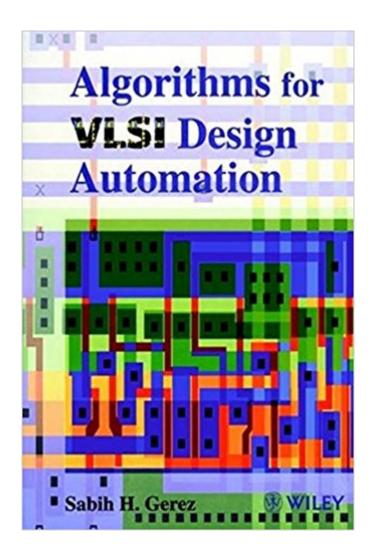
Algorithms For VLSI Design Automation

Synopsis

Modern microprocessors such as Intel's Pentium chip typically contain millions of transitors. Known generically as Very Large-Scale Integrated (VLSI) systems, the chips have a scale and complexity that has necessitated the development of CAD tools to automate their design. This book focuses on the algorithms which are the building blocks of the design automation software which generates the layout of VLSI circuits. One of the first books on the subject, this guide covers all stages of design.

Book Information

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Customer Reviews

Very large scale integrated (VLSI) circuits nowadays contain many millions of components, and cannot be designed without the aid of design automation tools. This book provides an insight into the algorithms used inside these computer-aided design (CAD) tools, and will be a good starting point for designers who want to specialize in building CAD tools themselves. Highlights of the book include: * Special attention to background knowledge from mathematics and computer science: graph theory, complexity of algorithms, and general-purpose methods for combinatorial optimization * About 50 algorithms (from graph theory, layout design, simulation, logic synthesis and high-level synthesis) presented in depth by means of pseudo-code and step-by-step examples It will be an ideal text for students in Computer Science or Electronic Engineering taking VLSI design automation courses, and for chip designers or programmers in industry developing CAD tools.

The author, Sabih Gerez, has based the book on a course given to his students at the University of

Twente, Enschede, in the Netherlands. As an assistant professor at the Department of Electrical Engineering, he teaches courses on circuit theory and VLSI design. His research focuses on VLSI design automation, especially high-level synthesis. Dr Gerez holds an M.Sc. degree (with honors) in Electrical Engineering and a Ph.D. degree in Applied Sciences, both from the University of Twente.

Good

A good place to review electronic design automation fundamentals. Real interesting thing to see in this book is how modeling aspect changes given the steps in the VLSI flow. THE ONLY BOOK, I KNOW ON THIS TOPIC.

This is a good book for anyone interested in learning about VLSI-related algorithms. I found the explanations easy to understand and have been able to successfully apply the algorithms in other domains.

Algorithms for VLSI Design Automation Algorithms for VLSI Physical Design Automation VLSI DESIGN SIMPLE AND LUCID EXPLANATION: vlsi design for students VLSI Physical Design Automation: Theory and Practice Practical Problems in VLSI Physical Design Automation Home Automation - A Smart Home Guide: The Beginnerâ ™s Manual Including Google Home, Echo Dot and Alexa. Easy Instructions, Directions and Commands ... and Home Automation Guide Series Book 1) Circuits, Interconnections, and Packaging for Vlsi (Addison-Wesley VLSI systems series) Logic Minimization Algorithms for VLSI Synthesis (The Springer International Series in Engineering and Computer Science) Algorithms, Complexity Analysis and VLSI Architectures for MPEG-4 Motion Estimation Evolutionary Algorithms in Theory and Practice: Evolution Strategies, Evolutionary Programming, Genetic Algorithms Practical Algorithms in Pediatric Nephrology: (Practical Algorithms in Pediatrics. Series Editor: Z. Hochberg) Practical Algorithms in Pediatric Gastroenterology: (Practical Algorithms in Pediatrics. Series Editor: Z. Hochberg) Practical Algorithms in Pediatric Endocrinology: (Practical Algorithms in Pediatrics. Series Editor: Z. Hochberg) Bundle of Algorithms in C++, Parts 1-5: Fundamentals, Data Structures, Sorting, Searching, and Graph Algorithms (3rd Edition) (Pts. 1-5) Practical Algorithms in Pediatric Hematology and Oncology: (Practical Algorithms in Pediatrics. Series Editor: Z. Hochberg) Modern VLSI Design: IP-Based Design (4th Edition) Substation Automation Systems: Design and Implementation Graphic Design Success: Over 100 Tips for Beginners in Graphic Design: Graphic

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