

The book was found

Introduction To Computing Systems: From Bits And Gates To C And Beyond, 2nd Edition



Synopsis

Introduction to computing systems: from bits & gates to c & beyond, now in its second edition, is designed to give students a better understanding of computing early in their college careers in order to give them a stronger foundation for later courses. The book is in two parts: (a) the underlying structure of a computer, and (b) programming in a high level language and programming methodology. To understand the computer, the authors introduce the lc-3 and provide the lc-3 simulator to give students hands-on access for testing what they learn. To develop their understanding of programming and programming methodology, they use the c programming language. The book takes a "motivated" bottom-up approach, where the students first get exposed to the big picture and then start at the bottom and build their knowledge bottom-up. Within each smaller unit, the same motivated bottom-up approach is followed. Every step of the way, students learn new things, building on what they already know. The authors feel that this approach encourages deeper understanding and downplays the need for memorizing. Students develop a greater breadth of understanding, since they see how the various parts of the computer fit together.

Book Information

Paperback: 656 pages

Publisher: Tata McGraw-Hill; 2nd edition (2003)

Language: English

ISBN-10: 0070595003

ISBN-13: 978-0070595002

Product Dimensions: 18.5 x 2.5 x 23.7 inches

Shipping Weight: 1.8 pounds

Average Customer Review: 4.1 out of 5 starsÂ Â See all reviewsÂ (39 customer reviews)

Best Sellers Rank: #91,351 in Books (See Top 100 in Books) #195 inÂ Books > Computers & Technology > Programming > Introductory & Beginning

Customer Reviews

This book is really good for learning the basics of how a computer functions. It takes you from the low-level Flip-Flops to explaining how a register and other small components of a computer work. Then the book shows you the basic components a computer, and then gives a full example in the LC-3. The LC-3 is complete with a architecture diagram and Assembly instructions. The book does a good job of of taking you through the LC-3 data path and showing how an instruction is implemented on the architecture. The book also does a good job of showing how the assembly

code connects to higher level languages like C++ or Java. It also gives a high-level explanation of exactly what a compiler does. Towards the end it gives some information on data structures and particularly as to how a stack would be implemented by the LC-3 in assembly. The book also explains how memory works and how input and output are handled in some computers. Some problems with the book are in the C section. This book does not give a real C tutorial, there are much better guides to C programming. It doesn't really give you any instruction as to how to program in LC-3 Assembly; however, the instructions are simple enough that you should be able to figure it out. Another potential problem is the combinational logic section. This part of the book is not really comprehensive, but teaches what you need to know so that you understand how all the low-level components work; however, if you want to design your own combinational logic, then there are other books for that. Also this book does not really go into the theory of how and why they developed the LC-3 architecture as it is. It is just an intro to get you used how a computer architecture looks and how it works.

[Download to continue reading...](#)

Introduction to Computing Systems: From Bits and Gates to C and Beyond, 2nd Edition Dependable Computing for Critical Applications 5 (Dependable Computing and Fault-Tolerant Systems) Pretty Good Bits from A Prairie Home Companion and Garrison Keillor: A Specially Priced Introduction to the World of Lake Wobegon Introduction to Evolutionary Computing (Natural Computing Series) Hard Real-Time Computing Systems: Predictable Scheduling Algorithms and Applications (Real-Time Systems Series) Kate Spade New York: Things We Love - Twenty Years of Inspiration, Intriguing Bits and Other Curiosities Old Jews Telling Jokes: 5,000 Years of Funny Bits and Not-So-Kosher Laughs Blown to Bits: How the New Economics of Information Transforms Strategy Strategic Computing: DARPA and the Quest for Machine Intelligence, 1983-1993 (History of Computing) Wireless Computing in Medicine: From Nano to Cloud with Ethical and Legal Implications (Nature-Inspired Computing Series) CUDA Programming: A Developer's Guide to Parallel Computing with GPUs (Applications of Gpu Computing) Practical Guide to Clinical Computing Systems, Second Edition: Design, Operations, and Infrastructure Soft Computing: Integrating Evolutionary, Neural, and Fuzzy Systems Object-Oriented Technology and Computing Systems Re-Engineering Fusion: Integrating le, Case, and Jad : A Handbook for Reengineering the Systems Organization (Yourdon Press Computing Series) Agile Systems with Reusable Patterns of Business Knowledge: A Component-Based Approach (Artech House Computing Library) The Practice of Computing Using Python (2nd Edition) Introduction to Information Systems (2nd Edition) Implementing Programming Languages. an Introduction to Compilers and Interpreters (Texts in

Computing) Introduction to Parallel Computing: Design and Analysis of Parallel Algorithms

[Dmca](#)