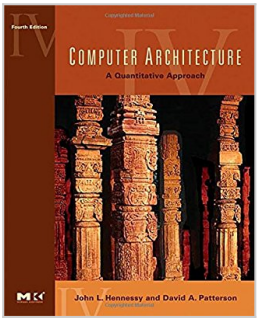

Computer Architecture: A Quantitative Approach, 4th Edition

By John L. Hennessy, David A. Patterson

Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson

The era of seemingly unlimited growth in processor performance is over: single chip architectures can no longer overcome the performance limitations imposed by the power they consume and the heat they generate. Today, Intel and other semiconductor firms are abandoning the single fast processor model in favor of multi-core microprocessors--chips that combine two or more processors in a single package. In the fourth edition of *Computer Architecture*, the authors focus on this historic shift, increasing their coverage of multiprocessors and exploring the most effective ways of achieving parallelism as the key to unlocking the power of multiple processor architectures. Additionally, the new edition has expanded and updated coverage of design topics beyond processor performance, including power, reliability, availability, and dependability.

- Increased coverage on achieving parallelism with multiprocessors.
- Case studies of latest technology from industry including the Sun Niagara Multiprocessor, AMD Opteron, and Pentium 4.
- Three review appendices, included in the printed volume, review the basic and intermediate principles the main text relies upon.

Computer Architecture: A Quantitative Approach, 4th Edition

By John L. Hennessy, David A. Patterson

Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson

The era of seemingly unlimited growth in processor performance is over: single chip architectures can no longer overcome the performance limitations imposed by the power they consume and the heat they generate. Today, Intel and other semiconductor firms are abandoning the single fast processor model in favor of multi-core microprocessors--chips that combine two or more processors in a single package. In the fourth edition of *Computer Architecture*, the authors focus on this historic shift, increasing their coverage of multiprocessors and exploring the most effective ways of achieving parallelism as the key to unlocking the power of multiple processor architectures. Additionally, the new edition has expanded and updated coverage of design topics beyond processor performance, including power, reliability, availability, and dependability.

- Increased coverage on achieving parallelism with multiprocessors.
- Case studies of latest technology from industry including the Sun Niagara Multiprocessor, AMD Opteron, and Pentium 4.
- Three review appendices, included in the printed volume, review the basic and intermediate principles the main text relies upon.

Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson Bibliography

- Sales Rank: #466286 in Books
- Published on: 2006-09-27
- Original language: English
- Number of items: 1
- Dimensions: 1.07" h x 7.34" w x 9.26" l, 2.64 pounds
- Binding: Paperback
- 704 pages

Editorial Review

Review
“If Neil Armstrong offers to give you a tour of the lunar module, or Tiger Woods asks you to go play golf with him, you should do it. When Hennessy and Patterson offer to lead you on a tour of where computer architecture is going, they call it Computer Architecture: A Quantitative Approach, 4th Edition. You need one. Tours leave on the hour.”
? Robert Colwell, Intel lead designer

“The book has been updated so it covers the latest computer architectures like the 64-bit AMD Opteron as well as those from Sun, Intel and other major vendors ... I highly recommend this book for those learning about computer architecture or those wanting to understand architectures that differ from those they are currently using. It does an excellent job of
covering most of the major architectural approaches employed today.”
? William Wong, Electronic Design, November 2006

“Computer hardware is entering into a new era, what with multicore processing, virtualization and other enhancements … Computer Architecture covers these topics and updates the insightful work in the earlier editions that laid out the full range of metrics needed for evaluating processor performance.”
? Joab Jackson, GCN, November 20, 2006

About the Author
John L. Hennessy is a Professor of Electrical Engineering and Computer Science at Stanford University, where he has been a member of the faculty since 1977 and was, from 2000 to 2016, its tenth President. Prof. Hennessy is a Fellow of the IEEE and ACM; a member of the National Academy of Engineering, the National Academy of Science, and the American Philosophical Society; and a Fellow of the American Academy of Arts and Sciences. Among his many awards are the 2001 Eckert-Mauchly Award for his contributions to RISC technology, the 2001 Seymour Cray Computer Engineering Award, and the 2000 John von Neumann Award, which he shared with David Patterson. He has also received seven honorary doctorates.

David A. Patterson is the Pardee Chair of Computer Science, Emeritus at the University of California Berkeley. His teaching has been honored by the Distinguished Teaching Award from the University of California, the Karlstrom Award from ACM, and the Mulligan Education Medal and Undergraduate Teaching Award from IEEE. Patterson received the IEEE Technical Achievement Award and the ACM Eckert-Mauchly Award for contributions to RISC, and he shared the IEEE Johnson Information Storage Award for contributions to RAID. He also shared the IEEE John von Neumann Medal and the C & C Prize with John Hennessy. Like his co-author, Patterson is a Fellow of the American Academy of Arts and Sciences, the Computer History Museum, ACM, and IEEE, and he was elected to the National Academy of Engineering, the National Academy of Sciences, and the Silicon Valley Engineering Hall of Fame. He served on the Information Technology Advisory Committee to the U.S. President, as chair of the CS division in the Berkeley EECS department, as chair of the Computing Research Association, and as President of ACM. This record led to Distinguished Service Awards from ACM, CRA, and SIGARCH.

Users Review

From reader reviews:

Donald Rose:

What do you think of book? It is just for students since they're still students or the item for all people in the world, the actual best subject for that? Simply you can be answered for that problem above. Every person has diverse personality and hobby per other. Don't to be compelled someone or something that they don't desire do that. You must know how great and important the book Computer Architecture: A Quantitative Approach, 4th Edition. All type of book is it possible to see on many methods. You can look for the internet resources or other social media.

Jerry Linton:

As people who live in typically the modest era should be up-date about what going on or facts even knowledge to make these keep up with the era that is certainly always change and advance. Some of you maybe can update themselves by examining books. It is a good choice for you but the problems coming to anyone is you don't know what type you should start with. This Computer Architecture: A Quantitative Approach, 4th Edition is our recommendation so you keep up with the world. Why, since this book serves what you want and wish in this era.

Joel Kiser:

Reading a book being new life style in this 12 months; every people loves to examine a book. When you read a book you can get a large amount of benefit. When you read textbooks, you can improve your knowledge, due to the fact book has a lot of information upon it. The information that you will get depend on what kinds of book that you have read. If you would like get information about your research, you can read education books, but if you act like you want to entertain yourself look for a fiction books, these us novel, comics, as well as soon. The Computer Architecture: A Quantitative Approach, 4th Edition provide you with new experience in examining a book.

Caroline Edwards:

As a student exactly feel bored to be able to reading. If their teacher questioned them to go to the library in order to make summary for some guide, they are complained. Just minor students that has reading's heart or real their passion. They just do what the instructor want, like asked to the library. They go to right now there but nothing reading really. Any students feel that reading is not important, boring in addition to can't see colorful photos on there. Yeah, it is for being complicated. Book is very important for you. As we know that on this era, many ways to get whatever we really wish for. Likewise word says, many ways to reach Chinese's country. So , this Computer Architecture: A Quantitative Approach, 4th Edition can make you truly feel more interested to read.

Read Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson for online ebook

Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson books to read online.

Online Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson ebook PDF download

Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson Doc

Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson Mobipocket

Computer Architecture: A Quantitative Approach, 4th Edition By John L. Hennessy, David A. Patterson EPub