Introduction to Computing Systems: From Bits and Gates to C and Beyond

Yale N. Patt, Sanjay J. Patel

Introduction to Computing Systems: From Bits and Gates to C and Beyond

Yale N. Patt, Sanjay J. Patel

Introduction to Computing Systems: From Bits and Gates to C and Beyond Yale N. Patt, Sanjay J. Patel This book is based on the premise that starting with a high level programming language is not the best approach. The reason most students are unsuccessful using a programming language when they encounter it in their first course is because, they are forced to memorize a lot of technical details without having any idea why these details are necessary. That is, they do not understand the basic underpinnings of how a computer works. From this basic notion evolves the motivated bottom-up approach found in Patt/Patel's "Introduction To Computing Systems", now in a second edition. The text starts with the logic structures and architecture of a computer and moves up to the application software that runs on it. Every treatment that purports to start at the bottom and work up begins with some abstraction. For Patt/Patel, that abstraction is the switch level behavior of an MOS transistor. From a very short treatment of that abstraction, the book covers in turn: Logic Gates, latches, logic structures (MUX, Decoder, Adder, gated latches), finally culminating in an implementation of memory. From there, the book moves on to the Von Neumann model of execution, then a simple computer (the LC-3), machine language programming, assembly language and how an assembler works, and then assembly language programming of the LC-3. The LC-3 treatment concludes with a substantial treatment of Physical I/O, including both polling and interrupt-driven I/O, the nature of traps and subroutine calls/returns. The book then moves to the high-level language C, covering recursion, pointers, and finally elementary data structures. The book establishes a foundation that every subsequent course in the computer science or computer engineering curriculum can benefit from and build on.

From reader reviews:

Marc Gaul:

Have you spare time for just a day? What do you do when you have a lot more or little spare time? Sure, you can choose the suitable activity regarding spend your time. Any person spent their particular spare time to take a walk, shopping, or went to often the Mall. How about open or even read a book called Introduction to Computing Systems: From Bits and Gates to C and Beyond? Maybe it is to get best activity for you. You recognize beside you can spend your time using your favorite's book, you can better than before. Do you agree with it has the opinion or you have other opinion?

Gemma Jackson:

As people who live in typically the modest era should be update about what going on or info even knowledge to make these people keep up with the era that is always change and progress. Some of you maybe may update themselves by reading books. It is a good choice for yourself but the problems coming to a person is you don't know what type you should start with. This Introduction to Computing Systems: From Bits and Gates to C and Beyond is our recommendation so you keep up with the world. Why, as this book serves what you want and need in this era.

Pearl Norris:

Beside this Introduction to Computing Systems: From Bits and Gates to C and Beyond in your phone, it could give you a way to get nearer to the new knowledge or info. The information and the knowledge you are going to got here is fresh from your oven so don't always be worry if you feel like an previous people live in narrow community. It is good thing to have Introduction to Computing Systems: From Bits and Gates to C and Beyond because this book offers for you readable information. Do you oftentimes have book but you do not get what it's all about. Oh come on, that wil happen if you have this in your hand. The Enjoyable set up here cannot be questionable, like treasuring beautiful island. Techniques you still want to miss this? Find this book along with read it from currently!

Sandra Brown:

Is it anyone who having spare time subsequently spend it whole day by means of watching television programs or just resting on the bed? Do you need something new? This Introduction to Computing Systems: From Bits and Gates to C and Beyond can be the respond to, oh how comes? The new book you know. You are and so out of date, spending your spare time by reading in this completely new era is common not a geek activity. So what these publications have than the others?

Read Introduction to Computing Systems: From Bits and Gates to C and Beyond by Yale N. Patt, Sanjay J. Patel for online ebook

Introduction to Computing Systems: From Bits and Gates to C and Beyond by Yale N. Patt, Sanjay J. Patel 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 Introduction to Computing Systems: From Bits and Gates to C and Beyond by Yale N. Patt, Sanjay J. Patel books to read online.

Online Introduction to Computing Systems: From Bits and Gates to C and Beyond by Yale N. Patt, Sanjay J. Patel ebook PDF download

Introduction to Computing Systems: From Bits and Gates to C and Beyond by Yale N. Patt, Sanjay J. Patel Doc

Introduction to Computing Systems: From Bits and Gates to C and Beyond by Yale N. Patt, Sanjay J. Patel Mobipocket

Introduction to Computing Systems: From Bits and Gates to C and Beyond by Yale N. Patt, Sanjay J. Patel EPub