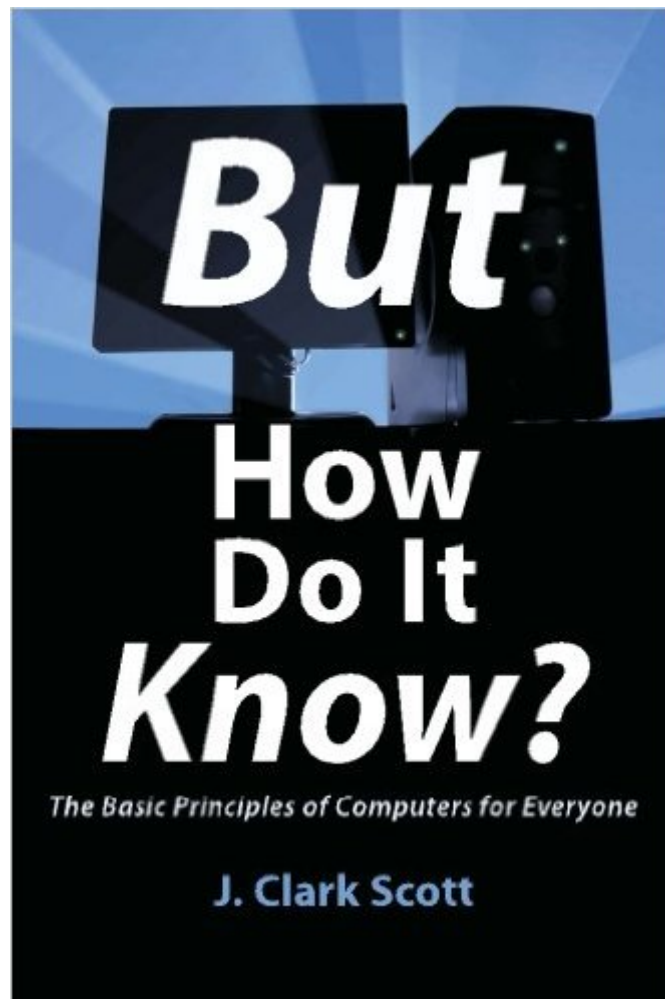# But How Do It Know? - The Basic Principles Of Computers For Everyone

## Synopsis

Finally, this brand new book exposes the secrets of computers for everyone to see. Its humorous title begins with the punch line of a classic joke about someone who is baffled by technology. It was written by a 40-year computer veteran who wants to take the mystery out of computers and allow everyone to gain a true understanding of exactly what computers are, and also what they are not. Years of writing, diagramming, piloting and editing have culminated in one easy to read volume that contains all of the basic principles of computers written so that everyone can understand them. There used to be only two types of book that delved into the insides of computers. The simple ones point out the major parts and describe their functions in broad general terms. Computer Science textbooks eventually tell the whole story, but along the way, they include every detail that an engineer could conceivably ever need to know. Like Baby Bear's porridge, But How Do It Know? is just right, but it is much more than just a happy medium. For the first time, this book thoroughly demonstrates each of the basic principles that have been used in every computer ever built, while at the same time showing the integral role that codes play in everything that computers are able to do. It cuts through all of the electronics and mathematics, and gets right to practical matters. Here is a simple part, see what it does. Connect a few of these together and you get a new part that does another simple thing. After just a few iterations of connecting up simple parts - voilÃ ! - it's a computer. And it is much simpler than anyone ever imagined. But How Do It Know? really explains how computers work. They are far simpler than anyone has ever permitted you to believe. It contains everything you need to know, and nothing you don't need to know. No technical background of any kind is required. The basic principles of computers have not changed one iota since they were invented in the mid 20th century. "Since the day I learned how computers work, it always felt like I knew a giant secret, but couldn't tell anyone," says the author. Now he's taken the time to explain it in such a manner that anyone can have that same moment of enlightenment and thereafter see computers in an entirely new light.

## Book Information

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## Customer Reviews

I have been a software developer and software architect for over 40 years, starting at a time when you worked "so close to the computer" that you naturally knew how they worked. Over the years, I have seen that knowledge more and more absent from each new generation of developers that came along that I have led and mentored. It seems that the fundamentals simply aren't taught any more.My standard approach has been to give informal seminars to my developers to get them this vital information. But I have been looking far and wide for a book that describes exactly how a computer operates that could be understood by anyone. After all this time, I finally found it. (As Archimedes would have said, "Eureka!")This book builds up gradually from first principles until without realizing it, the reader suddenly finds he or she knows all about how computers work.Mr. Scott defines every technical word the first time he uses it so you are never left wondering what it all means. Nothing I have seen even comes close to this book. It must have taken a lot of painstaking effort to work out and refine how to present every detail in a way that would not lose anybody along the way, no matter what their level of knowledge at the beginning.Once the first copy arrived and I went through it in detail, I realized that this was what I had been looking for to provide the fundamentals that junior developers needed but had never been taught. So I bought 20 more copies and made the book the first step in the required curriculum to train my whole company -- but not just the "computer guys", everyone who uses a computer for any purpose.The beauty is that this is not just a book for people who want to be or become computer professionals, it is a great textbook for all ages -- schools, homeschooling, college and anyone who is just curious about how computers work.The book is so well written. It is informal, easy to understand and definitely complete.There is a lady in my company who works with computers but had know idea how they really work. With the book, there was no stopping her. I found a simple, free computer program on the web (called LogicSim) that allowed her to actually build circuits (by drag-and-drop) and then click switches and see the results. She can easily apply what she learns right there and is very excited about what she has learned and how simple it all is. She has a new-found confidence in her work that is observable.

Many others have expressed how easy it is to read and understand.If you want to drive a car effectively, it is a pretty good idea to know the basics of how a car works. In the same way, having the knowledge you get from this book helps you with everything you do with computers.In my opinion, Mr. Scott's book should be the standard first textbook on computers for everyone from now on ... at least until such time as some brand new technology arrives that completely changes the way our computers are built and work, which probably won't be in the foreseeable future.

I thought that only an engineer could understand computers, but this book lays out their principles so simply that even I was able to get it.I have been struggling with my computer for years, I thought I must be some kind of dummy, but now I can see who the real idiot is - it's the computer!This book is so well written, and the chapters are just the right-sized baby steps, that before I knew it, I had understood every part inside of a computer. There is only one extremely simple part that everything is made out of - who knew! Now words like RAM, ALU and CPU make total sense to me.I would recommend this book to anyone who thinks that it would take years to learn about computers. I especially recommend this book to my grand-children, who are going to be working with computers one way or another for the rest of their lives. Knowing these basics could be one of the foundations of their future success.

I have always been intimidated by computers. They seem ridiculously complex and overwhelming to understand. I wasn't happy having this feeling about something I used every day so I decided to try to learn a little more about them. I didn't realize it at the time, but computers are evidently very difficult to explain. Part of the reason for this I think is that there are so many areas of specialization in computers that no one seems able or willing to sit down and try to give a beginner a good overview of the subject that is simple yet detailed enough to allow them to walk away feeling like they learned what they wanted to know.I think that may be why Mr Scott wrote this book. He genuinely wants you to understand how a computer works. He evidently spent a LOT of time designing the computer in this book. It is a fully functional computer and, from other research I have done, it actually works a lot like the computers we use every day. That is rare to find. There are many books out there that talk about the grand theories of computing but never get down into the hardware and what the wires and transistors are actually doing to make things work. Other books will try to build a very very basic computer with you but since it is just a teaching tool, you learn a lot of concepts about computing that don't really work well in reality. This book is the happy medium between the two, not too technical to be overwhelming and not so basic that its unhelpful.If you are

looking for a book that will help you understand how your computer works, this is it. There is no other book that I have found that can explain this subject in such a way that you walk away feeling like you finally have clarity on a subject that has been so fuzzy for so long. Its a good feeling, and I highly recommend this book to you if you are looking for that kind of clarity about computers as well.

I started using computers when I was hired by a major oil company in 1965. I worked as a research engineer in their Dallas lab. Since then I have used many mainframes and PCs. I had a basic understanding of the way the computers worked but until I read this book I did not really know, or worry about, how simple binary devices could be combined to do such complex operations.I strongly recommend this book by J. Clark Scott for anyone who would like to understand how computers can do so many things. Scott's approach is ideal for everyone.Glenn D. Roe, PhD

I've been trying to get through this book. It's very wordy. Even simple concepts often get several paragraphs. I most certainly should not have gotten the kindle version. It's extremely hard to see the diagrams that way. By the way. His processor is used in a YouTube video that explains the working of a computer far more quickly. However, if you have no idea how the actual gates work and you want to know, then this book is a better choice since it explains the gates in excruciating detail.

But How Do It Know? - The Basic Principles of Computers for Everyone But My Family Would Never Eat Vegan!: 125 Recipes to Win Everyone Over_Picky kids will try it, hungry adults won't miss meat, and holiday traditions can live on! (But I Could Never Go Vegan!) Great Big World of Computers - History and Evolution : 5th Grade Science Series: Fifth Grade Book History Of Computers for Kids (Children's Computer Hardware Books) Don't Know Much About History, Anniversary Edition: Everything You Need to Know About American History but Never Learned (Don't Know Much About Series) The Driving Book: Everything New Drivers Need to Know but Don't Know to Ask Get to Know Your Gut: Everything You Wanted to Know about Burping, Bloating, Candida, Constipation, Food Allergies, Farting, and Poo but Were Afraid to Ask Don't Know Much about the Universe: Everything You Need to Know about the Cosmos but Never Learned Hacking: How to Hack Computers, Basic Security and Penetration Testing John for Everyone, Part 1: Chapters 1-10 (The New Testament for Everyone) Paul for Everyone: Romans, Part One (For Everyone) New Testament For Everyone Set, 18 Volumes (The New Testament for Everyone) Revelation for Everyone (The New Testament for Everyone) Early Christian Letters for Everyone (The New Testament for Everyone) Mark for Everyone (The New Testament for Everyone) Paul for

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