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Computers are ubiquitous, yet many of their invisible counterparts quietly collect and share personal data. Companies and advertisers exploit this information. Understanding the Digital World explains how computer hardware, software, networks, and systems operate, including programming, the Internet, and web operations. Topics include the construction of computers, computation methods, and the impact on security, privacy, property, and social issues. The book also covers fundamental ideas from computer science and limitations of computers. With numerous illustrations, notes for further exploration, and a glossary, it is an essential resource for those seeking to comprehend computers and communications. This guide offers a precise explanation of how computers influence daily life, in a manner accessible to all. Brian Wilson Kernighan's expertise as a computer scientist, professor at Princeton University, and author of technical books shines through in this introductory text. He effectively explains complex concepts, making the digital world understandable for those new to technology. Brian W. Kernighan is an expert puternic in ceea ce priveste lumea digitală, având o înțelegere profundă a subiectului și abilitatea de a împărtăși ideile sale într-un mod clar și ușor de înțeles. Cartea sa oferă o introducere detaliată la modul în care funcționează computerele, internetul și celelalte probleme pe care le pun, dar și explicații cu privire la vulnerabilitățile lor și riscurile pe care le prezintă. Oamenii de zi cu zi sunt afectați puternic de tehnologia, însă multe dintre noi nu știm cum funcționează. Cum se face ca putem trimite mesaje sau face phone-calls la persoane care se aflau mii de kilometri departe în doar secunde? Sau cum putem proteja datele noastre contra hackerilor care le scoate din online cu ușurință? Cartea oferă soluții pentru aceste întrebări fără să intre prea adânc în detaliile tehnice. Nu toți dintre noi vrem să fim ingineri computere, însă avem nevoie de o înțelegere de bază a modului în care funcționează gadget-ul nostru. Această carte oferă un rezumat excelent al hardware-ului computer, software-ului și a rețelelor. Oferta explicațiilor simplificate despre cum funcționează diferite componente și este înrădită cu povestiri despre istoria tehnologiei calculatorului, figuri cheie în domeniu și procese juridice notabile. Cartea deschide și tema protejării proprietății intelectuale, a protecției vieții private și strategiilor de apărare contra agenților malevoli. De asemenea oferă o perspectivă interesantă despre practicile adoptate de autor pentru a se proteja el însuși, cum ar fi dezactivarea majorității cookie-urilor, blocarea JavaScript în browser și utilizarea unui program de text pentru citirea emailurilor. I recall reading an article that pointed out an interesting phenomenon. If our kids asked us simple questions like "why is the sky blue?" or "how do leaves change colour?", most of us would be able to provide a decent explanation or at least have an idea where to start looking for the answer. However, if they were to ask more complex questions like "how does a smartphone work?" or "what exactly is cloud computing", many of us would probably struggle to give a clear response. This lack of understanding is especially puzzling given that we frequently use terms like "surfing the web" and "Photoshopping an image" without really knowing how these processes function. Hence, I turned to Brian Kernighan's book, Understanding the Digital World. As someone who isn't particularly tech-savvy, I've often regretted not taking more courses in computer science during college. This book has helped bridge that knowledge gap by breaking down complex technical concepts into manageable and easily understandable components. The book starts by laying out the foundational principles of digital technology. Kernighan covers several key topics, beginning with how computers represent information digitally using binary code (1s and 0s) to store a wide range of data types, from text to images and sound. He then delves into the architecture of digital computers, explaining that they consist of basic components such as processors for calculations, RAM for active storage, hard disk drives for long-term storage, and other peripherals connected via an internal network known as the "bus". Kernighan also clarifies the distinction between software and programming. He defines software as sequences of instructions that instruct a computer to perform specific tasks, contrasting this with algorithms, which are abstract blueprints for computational processes but not directly executable by computers themselves. Furthermore, he introduces the concept of two major types of software: operating systems that manage hardware resources and enable other programs to run, and applications, which are these programs performing various functions such as email, web browsing, music, and video playback. The most intriguing part of the book for me was Kernighan's discussion on the universal digital network, or the Internet. He explains how computers interconnect and facilitate rapid communication across vast distances, touching upon key policy issues like net neutrality, security, and privacy in this interconnected world. The book provides an approachable introduction to computer science and technology, aiming to bridge the gap for those without a technical background. A summary at the end of each chapter and section offers reinforcement of concepts covered beforehand, allowing readers to build upon previously introduced ideas. This book provides a comprehensive overview of computer hardware, software, networks, and systems, making it an excellent introduction for those new to the field. Written by Brian Kernighan, the author's clear and concise writing style makes complex technical topics accessible to readers without prior knowledge. The book offers insights into how computers collect, share, and sometimes leak personal data, highlighting the importance of understanding computer science and its implications on our daily lives.