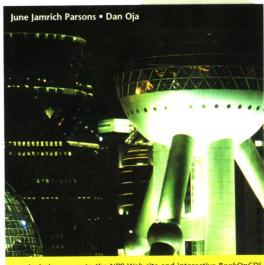
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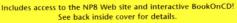
(英文版·第8版)

THOMSON OURSE TECHNOLOG NEW PERSPECTIVES

Computer Concepts

8th Edition









June Jamrich Parsons Dan Oia



经 典 原 版 书 库

计算机文化导论

(英文版·第8版)

New Perspectives on Computer Concepts

Brief

工家工业学院图书馆 藏书章

(美) June Jamrich Parsons 著 Dan Oja

机械工业出版社 China Machine Press June Jamrich Parsons and Dan Oja: New Perspectives on Computer Concepts: Brief, Eighth Edition (ISBN 0-619-26762-3).

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本书版权登记号: 图字: 01-2005-4498

图书在版编目(CIP)数据

计算机文化导论(英文版·第8版)/(美)帕森斯(Parsons, J. J.)等著. -北京: 机械工业出版社,2006.1

(经典原版书库)

书名原文: New Perspectives on Computer Concepts: Brief, Eighth Edition ISBN 7-111-17511-5

I. 计… II. 帕… II. 电子计算机-英文 IV. TP3

中国版本图书馆CIP数据核字(2005)第117125号

机械工业出版社(北京市西城区百万庄大街22号 邮政编码 100037)

责任编辑: 迟振春

北京京北制版厂印刷·新华书店北京发行所发行

2006年1月第1版第1次印刷

718mm×1020mm 1/16·19.25印张

印数: 0001-3000册

定价: 35.00元(附光盘)

凡购本书,如有倒页、脱页、缺页,由本社发行部调换

本社购书热线: (010) 68326294

出版者的话

文艺复兴以降,源远流长的科学精神和逐步形成的学术规范,使西方国家在自然科学的各个领域取得了垄断性的优势;也正是这样的传统,使美国在信息技术发展的六十多年间名家辈出、独领风骚。在商业化的进程中,美国的产业界与教育界越来越紧密地结合,计算机学科中的许多泰山北斗同时身处科研和教学的最前线,由此而产生的经典科学著作,不仅擘划了研究的范畴,还揭橥了学术的源变,既遵循学术规范,又自有学者个性,其价值并不会因年月的流逝而减退。

近年,在全球信息化大潮的推动下,我国的计算机产业发展迅猛,对专业人才的需求日益迫切。这对计算机教育界和出版界都既是机遇,也是挑战;而专业教材的建设在教育战略上显得举足轻重。在我国信息技术发展时间较短、从业人员较少的现状下,美国等发达国家在其计算机科学发展的几十年间积淀的经典教材仍有许多值得借鉴之处。因此,引进一批国外优秀计算机教材将对我国计算机教育事业的发展起积极的推动作用,也是与世界接轨、建设真正的世界一流大学的必由之路。

机械工业出版社华章图文信息有限公司较早意识到"出版要为教育服务"。自1998年开始,华章公司就将工作重点放在了遴选、移译国外优秀教材上。经过几年的不懈努力,我们与Prentice Hall,Addison-Wesley,McGraw-Hill,Morgan Kaufmann等世界著名出版公司建立了良好的合作关系,从它们现有的数百种教材中甄选出Tanenbaum,Stroustrup,Kernighan,Jim Gray等大师名家的一批经典作品,以"计算机科学丛书"为总称出版,供读者学习、研究及庋藏。大理石纹理的封面,也正体现了这套丛书的品位和格调。

"计算机科学丛书"的出版工作得到了国内外学者的鼎力襄助,国内的专家不仅提供了中肯的选题指导,还不辞劳苦地担任了翻译和审校的工作;而原书的作者也相当关注其作品在中国的传播,有的还专程为其书的中译本作序。迄今,"计算机科学丛书"已经出版了近百个品种,这些书籍在读者中树立了良好的口碑,并被许多高校采用为正式教材和参考书籍,为进一步推广与发展打下了坚实的基础。

随着学科建设的初步完善和教材改革的逐渐深化,教育界对国外计算机教材的需求和应用都步入一个新的阶段。为此,华章公司将加大引进教材的力度,在"华章教育"的总规划之下出版三个系列的计算机教材:除"计算机科学丛书"之外,对影印版的教材,则单独开辟出"经典原版书库";同时,引进全美通行的教学辅导书"Schaum's Outlines"系列组成"全美经典学习指导系列"。为了保证这三套丛书的权威性,同时也为了更好地为学校和老师们服务,华章公司聘请了中国科学院、北京大学、清华大

学、国防科技大学、复旦大学、上海交通大学、南京大学、浙江大学、中国科技大学、哈尔滨工业大学、西安交通大学、中国人民大学、北京航空航天大学、北京邮电大学、中山大学、解放军理工大学、郑州大学、湖北工学院、中国国家信息安全测评认证中心等国内重点大学和科研机构在计算机的各个领域的著名学者组成"专家指导委员会",为我们提供选题意见和出版监督。

这三套丛书是响应教育部提出的使用外版教材的号召,为国内高校的计算机及相关专业的教学度身订造的。其中许多教材均已为M. I. T., Stanford, U.C. Berkeley, C. M. U. 等世界名牌大学所采用。不仅涵盖了程序设计、数据结构、操作系统、计算机体系结构、数据库、编译原理、软件工程、图形学、通信与网络、离散数学等国内大学计算机专业普遍开设的核心课程,而且各具特色——有的出自语言设计者之手、有的历经三十年而不衰、有的已被全世界的几百所高校采用。在这些圆熟通博的名师大作的指引之下,读者必将在计算机科学的宫殿中由登堂而入室。

权威的作者、经典的教材、一流的译者、严格的审校、精细的编辑,这些因素使我们的图书有了质量的保证,但我们的目标是尽善尽美,而反馈的意见正是我们达到这一终极目标的重要帮助。教材的出版只是我们的后续服务的起点。华章公司欢迎老师和读者对我们的工作提出建议或给予指正,我们的联系方法如下:

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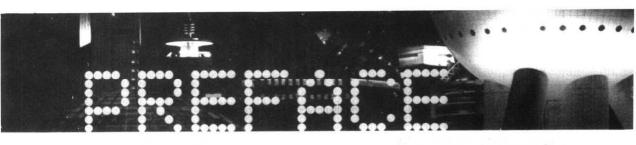
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NEW PERSPECTIVES ON COMPUTER CONCEPTS 8TH EDITION

Whether you're a complete novice or computer-savvy, New Perspectives on Computer Concepts 8th Edition offers an engaging hands-on approach to computers backed by innovative learning technology. The 8th Edition incorporates invaluable feedback from the New Perspectives on Computer Concepts Advisory Committee, made up of over twenty instructors, to ensure that this book contains the most current information and resources for learning about computers.

THE NP8 LEARNING SYSTEM

You have purchased more than just a book. New Perspectives on Computer Concepts 8th Edition includes a printed book, an integrated Web site, and an interactive BookOnCD designed to be used together to provide a cutting-edge learning experience.

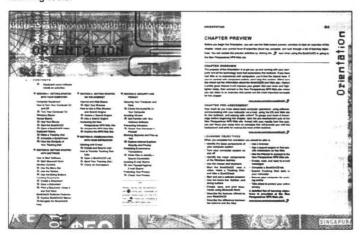
Want to study smarter? The NP8 Web site offers tools to help you understand the material from all angles and to thoroughly prepare you for exams. Want to see the concepts in the book in action? The BookOnCD brings concepts to life by directly linking to videos and animations.

Throughout this book you'll see CD * and Web Activities * icons. These tell you that there's more to explore beyond the surface of your textbook.

NP8 BOOK FEATURES

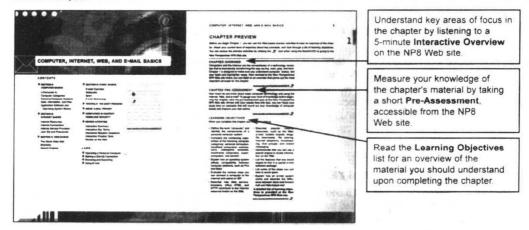
ORIENTATION CHAPTER

If you have little or no experience with computers, this chapter will put you at ease with the essential computer concepts you need to get up and running quickly. Even if you already know how to use computers, the Orientation offers helpful tips about how to most effectively use NP8's technology-based learning tools.



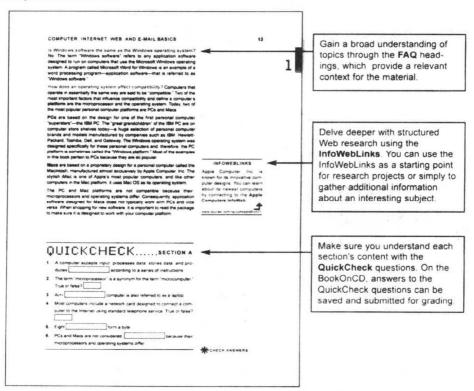
CHAPTER OPENER

The Chapter Openers serve as guides to everything you'll learn and do in each chapter.



CHAPTER FEATURES

Chapter features, such as FAQs, InfoWebLinks, and QuickChecks, help you understand concepts, put information in context, and explore topics beyond those presented in the text.



TECHTALK

Each chapter includes a **TechTalk** section that presents challenging technical information in a easy-to-understand way. TechTalk helps you delve deeper into the mechanics of how computers and computer technologies work.

ISSUE

Controversy and technology seem to go hand and hand. It's no longer enough to study what computers are, but rather how they shape our world. Each chapter explores a contemporary **Issue** and gives you the opportunity to express your opinion through What Do You Think questions.

COMPUTERS IN CONTEXT

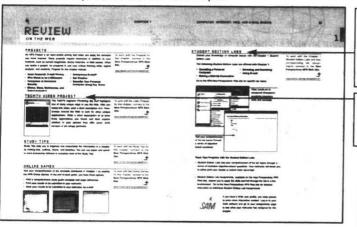
So you're not a computer major? There are still a number of ways technology will affect you in your future career. In the **Computers in Context** section, you'll discover how technology plays a role in careers such as film-making, architecture, banking, and fashion.

REVIEW ACTIVITIES

Prove your mastery of the concepts in each chapter with the **Review Activities**, which are printed in the book and also accessible in an interactive format on the BookOnCD. The Review Activities include the Interactive Summary, Interactive Situation Questions, Interactive Key Terms, and Interactive Practice Tests. When you work on the Review Activities using the BookOnCD, you can save and submit your scores to your instructor. The Interactive Practice Tests are also available through the NP8 Web site.

REVIEW ON THE WEB

Take your knowledge of the concepts one step further with the **Review on the Web** activities available on the New Perspectives NP8 Web site. These activities, which include **Projects**, **Study Tips**, and **Online Games**, reinforce the concepts that you have learned in the chapter.



TECHBUZZ

Some new technologies make a lasting impact, while others are just a flash in the pan. The new magazine-like **TechBuzz** section at the end of the book helps you follow tech trends, cutting-edge products, and emerging technologies.







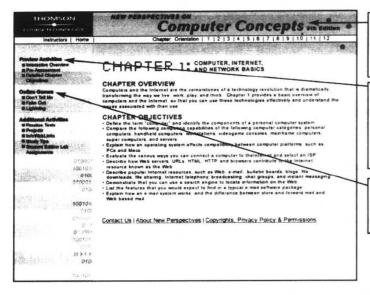
Student Edition Labs help you review and extend your knowledge through observations, hands-on simulations, and challenging objective-based questions.

TechTV Video Projects feature TechTV news clips that explore technology-related issues and trends



NP8 WEB SITE

Use Course Technology's centralized login page, CoursePort, to gain access to the NP8 Web site. Web Activity icons _____ in each chapter direct you to the NP8 Web site, which offers a wealth of online resources and study tools.



Use the NP8 Web site to access valuable resources, including the InfoWebLinks, TechTV Library, Study Tips, and Student Edition Labs.

Tailor your study plans for the chapter by using the **Chapter Preview Activities**. Listen to an interactive overview, take a pre-assessment quiz, and read through the detailed chapter objectives.

Test your comprehension with the **Online Games**, which challenge you with different interactive scenarios.

AUDIO INTERACTIVE OVERVIEW

Get your book and highlighter ready, and listen to a 5-minute Interactive Overview, which points out key concepts and topics in each chapter.

PRE-ASSESSMENT QUESTIONS

Use the **Pre-Assessment** to gauge your level of knowledge of the concepts in each chapter. Upon completing the Pre-Assessment, you can view and print a study guide that helps focus your study time in your weakest areas of knowledge.

ONLINE GAMES

The **Online Games** give you a rewarding interactive way to reinforce concepts taught in each chapter. Each game offers a printable study guide that points you back to specific pages in the text for review. You can also save your results from the Online Games and submit them electronically to your instructor for grading.



INTERACTIVE PRACTICE TESTS

Interactive Practice Tests, also available on the BookOnCD, consist of 10 multiple-choice, true/false, and fill-in-the-blank questions chosen at random from a large test bank. Each test offers a printable study guide with page references. Your test scores can be saved and submitted to your instructor electronically.

TECHTV VIDEO CLIPS LIBRARY

Ever wondered what it is like to program your own video game? What are the social implications of a digital system that tracks patrons at a neighborhood bar? Stay on top of emerging technologies and technology-related issues with our library of **TechTV Video Clips**. TechTV Video Projects, included in every chapter, challenge you to further investigate the issues and topics raised in the video clips.



PROJECTS

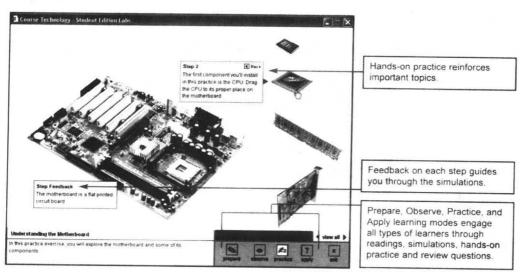
Work with the NP8 **Projects** to apply the concepts you have learned from reading and lab activities. NP8 Projects are open-ended assignments that require you to research topics, apply critical-thinking skills, and produce reports, summaries, graphics, or other creative deliverables.

STUDY TIPS

Study Tips help you organize and consolidate the information in a chapter by making lists, outlines, charts, and sketches.

STUDENT EDITION LABS

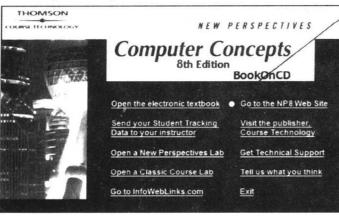
You can master hundreds of computer concepts including input and output devices, file management and desktop applications, computer privacy, virus protection, and much more using the **Student Edition Labs**. The interactive Student Edition Labs help you learn through dynamic observation, step-by-step practice, and challenging review questions. Student Edition Lab Assignments challenge you to apply the skills learned in the labs to realistic case problems.



NP8 BOOKONCD

The interactive BookOnCD includes the entire contents of the printed book and brings the concepts to life with the following interactive features:

- Interactive Review Activities test your understanding of the concepts presented in each chapter.
- Interactive QuickCheck questions check your comprehension of each section.
- Videos, animations and screentours throughout each chapter bring the figures to life.
- New Perspectives Labs give you hands-on experience applying concepts and using software.



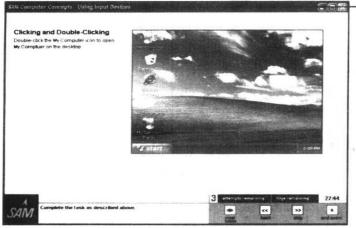


You can save or print your results from the BookOnCD Interactive Review Activities, QuickCheck questions, and New Perspectives Labs to submit to your instructor.

SAM COMPUTER CONCEPTS

If your instructor has chosen to use SAM Training and Assessment Software in your course, you will have access to interactive training simulations that reinforce the lessons presented in this text, as well as realistic hands-on exams.





Hands-on tasks allow you to demonstrate your understanding of important computer concepts and applications.

NP8 INSTRUCTOR RESOURCES

New Perspectives instructional resources and technology provide instructors with a wide range of tools that enhance teaching and learning. These tools can be accessed from the Instructor Resources CD or at www.course.com.

INSTRUCTOR'S MANUAL: HELP IS ONLY A FEW KEYSTROKES AWAY

An enhanced Instructor's Manual offers an outline for each chapter, plus instructional suggestions and teaching tips, including how to effectively use and integrate the Web site content, CD content, and labs.



EXAMVIEW: OUR POWERFUL TESTING SOFTWARE PACKAGE With ExamView, instructors can generate printed tests, create LAN-based tests, or test over the Internet.

COURSE PRESENTER

Instructors can deliver engaging and visually impressive lectures for each chapter with the professionally-designed Course Presenter. The Course Presenter is a PowerPoint presentation that is multimedia-enhanced with screentours, animations, and videos.

INSTRUCTOR'S EDITION

The Instructor's Edition content explains in depth the New Perspectives Computer Concepts pedagogy and technology resources. It also provides suggestions on how to use New Perspectives on Computer Concepts technology in the classroom.

BLACKBOARD AND WEBCT CONTENT

Course Technology offers a full range of content for use with BlackBoard and WebCT to simplify the use of New Perspectives in distance education settings.

FROM THE AUTHORS

Technology continues to move forward at a rapid pace. To help instructors and students stay in step with the march of technology, we produced this media-rich and Web-enhanced 8th Edition of New Perspectives on Computer Concepts. An expanded Orientation section at the beginning of the book now includes a hands-on introduction to computer security and privacy—essential information for both beginning students and those who are computer savvy. A new TechBuzz section at the end of the book gets students thinking about technology trends and the potential of new products to become the next "killer apps" or "tech turkeys."

We retained the same basic organization for Chapters 1 through 4 and updated their content to reflect current developments. Based on feedback from students, instructors, and reviewers, we focused on making technology concepts even more understandable by streamlining explanations and honing figures for the clearest presentation possible. We logged countless hours of research to bring you the most up-to-date information about new products and trends in computers, software, and the Internet. Please make sure to check the InfoWebLinks for important updates on post-publication events.

Many of today's students have substantially more practical experience with computers than their counterparts of 10 years ago, and yet other students enter college with inadequate technology preparation. The goal of New Perspectives on Computer Concepts is to bring every student up to speed with computer basics, and then go beyond basic computer literacy to provide students with technical information that every college-educated person would be expected to know. Whether you are an instructor or a student, we hope that you enjoy the learning experience provided by our text-based and technology-based materials.

ACKNOWLEDGEMENTS

The book would not exist-and certainly wouldn't arrive on schedule-were it not for the efforts of our media, editorial, and production teams. We thank Amanda Young Shelton and Emilie Perreault for tireless work on every detail of the project; Rachel Goldberg for her leadership for the entire New Perspectives series; Jennifer Goguen for managing production; Fatima Lockhart, Donna Mulder, Tensi Parsons, Keefe Crowley, Greg Manis, Joe Bush, and Eric Murphy for creating videos, screentours, interactive tests, photos, illustrations, and animations; Rebekah Tidwell for her work on the Pre-Assessments; Dave Nuscher for his work on updating the Online Games; Chris Robbert for his clear narrations; Sue Oja, Debora Elam, Deana Martinson, Karen Kangas, Jaclyn Kangas, and Kevin Lappi for checking and double-checking the alpha and beta CDs; Lisa Lord for her insightful developmental edit; Robin K. Flynn for making sure that every comma is in the right place; Keefe Crowley for designing and maintaining our InfoWebLinks site; artist Steve Deschene for a stunning interior design; and Christina Micek for her photo research. We want to thank you all!

-June Parsons and Dan Oja

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We would also like to thank the reviewers from the recent past editions who helped provide valuable feedback that is still an influence on the 8th Edition:

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CHAPTER PREVIEW

Before you begin the Orientation, you can use the Web-based preview activities to hear an overview of the chapter, check your current level of expertise about key concepts, and look through a list of learning objectives. You can access the preview activities by clicking the ___ icon when using the BookOnCD or going to the New Perspectives NP8 Web site.

CHAPTER OVERVIEW

The purpose of this Orientation is to get you up and running with your computer and all the technology tools that accompany this textbook. If you have had little or no experience with computers, you'll find the basics here. If you've worked with computers before, don't skip this section. Make sure you check out the information about the BookOnCD and Web site-there's a pretty good chance it will improve your grade! Get your book and highlighter ready, then connect to the New Perspectives NP8 Web site where you can listen to an overview that points out the most important concepts for this chapter.

www.course.com/np/concepts8/ch00

CHAPTER PRE-ASSESSMENT

How much do you know about basic computer operations, using software, communicating with your instructor via e-mail, using the CD and Web site for this textbook, and staying safe online? To gauge your level of knowledge before beginning the chapter, take the pre-assessment guiz at the New Perspectives NP8 Web site. Armed with your results from this guiz, you can focus your study time on concepts that will provide you with the background and skills for making the most of this textbook.



LEARNING OBJECTIVES

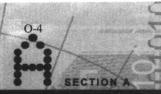
When you complete this orientation you should be able to:

- · Identify the basic components of your computer system
- · Turn your computer system on and off
- · Identify the major components of the Windows desktop
- Use the mouse and keyboard
- · Start the BookOnCD, view a video, make a Tracking Disk, and take a QuickCheck
- · Start and exit a software program
- · Use the menu bar, toolbar, and sizing buttons
- · Create, save, and print documents using Microsoft Word
- · Describe the features offered by your BookOnCD
- · Describe the difference between the Internet and the Web

- · Use a browser
- · Use a search engine to find specific information on the Web
- · Use the Internet to connect to the New Perspectives NP8 Web site
- · Create, read, and reply to e-mail messages
- · Complete a BookOnCD lab
- · Submit Tracking Disk data to your instructor
- · Secure your computer for working online
- · Take steps to protect your online privacy

A detailed list of learning objectives is provided at the New Perspectives NP8 Web site

www.course.com/np/concepts8/ch00 +



GETTING STARTED WITH YOUR COMPUTER

When you use the *New Perspectives on Computer Concepts* textbook, you not only learn about computers, you also use computers as learning tools. You can read your textbook on-screen where many of the photos come alive as videos, where screen shots open into guided tours of popular software, and where you can take interactive quizzes to make sure you understand chapter material before encountering it on a test. In Section A you'll learn how to turn on your computer, start the on-screen version of your textbook, use your computer's mouse, start a BookOnCD video, use a computer keyboard, and take an interactive quiz.

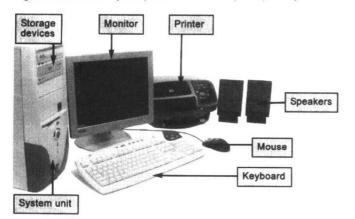
COMPUTER EQUIPMENT

What do I need to know about my computer? Your computer—the one you own, the one you use in a school lab, or the one provided to you at work—is technically classified as a microcomputer and sometimes referred to as a personal computer. A computer runs software (or "programs") that help you accomplish a variety of tasks. A typical computer system consists of several devices—you must be able to identify these devices to use them.

What are the important components of my computer system? The system unit contains your computer's circuitry, such as the microprocessor that is the "brain" of your computer and memory chips that temporarily store information. It also contains storage devices, such as a hard disk drive.

Your computer system also includes basic hardware devices that allow you to enter information and commands, view work, and store information for later retrieval. Devices for entering information include a keyboard and mouse. A display device, such as a TV-like monitor, allows you to view your work, a printer produces "hard copy" on paper, and speakers produce beeps and chimes that help you pay attention to what happens on the screen.

Where are the important components of a desktop computer system? A desktop computer is designed for stationary use on a desk or table. Figure 1 shows the key components of a desktop computer system.



PC or Mac?

Microcomputers can be divided into two camps: PCs and Macs. The CD that comes with this book is designed for use with PCs, and the Orientation instructions apply specifically to PCs.

You can usually determine whether you have a PC or Mac by noting your computer's brand name. PC brands include Dell, IBM, Hewlett-Packard, Compaq, Gateway, and Sony. You can use the software that accompanies your textbook with these and other PC brands.

Macintosh computers are manufactured by Apple Computers, Inc. and sport a rainbow-colored logo of an apple. If you have a Mac, check with your instructor for the location of your school's PC lab.

FIGURE 1

A desktop computer system includes several components, usually connected by cables.