高等学校计算机系列丛书

计算机专业英语

秦卫平　陈　伟　主编

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COMPUTER ENGLISH
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秦卫平　陈　伟　主　编

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内容简介

本教材分为两部分：第一部分包括十一章，内容涉及计算机软硬件、网络、INTERNET、WINDOWS、计算机病毒等知识。第二部分包括常见计算机英语应用文（文摘、文凭、求学信等）的写作方法和计算机英文出版物介绍及其阅读方法。教材包含许多新概念、新知识，文章风格多样，难度适中，注重实用，有助于读者提高本专业的英语阅读能力。

本书不但可作计算机专业学生的教材，同时也可作为计算机科技人员学习本专业英语或参加有关考试的参考用书。

计算机专业英语

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责任编辑　韩洁

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序

面对知识爆炸，社会学家们几乎都开出了一个相同的药方：计算机。计算机也深孚众望，以其强大的功能，对人类作出了巨大的贡献，取得了叹观止矣的成就。自它1946年2月14日在美国费城诞生以来，至今已过"知天命"的年龄了。现在，计算机已是一个庞大的家族。如果说，它的成员占据了世界的每一个角落和每一个部门也并不过分，甚至找不到这样一个文明人，他的生活不直接或间接与计算机有关。目前，全世界计算机的总量已达数亿台，而且，现在正以每年几千万台的速度增长。

作为计算机在信息传递方面的应用，计算机加上网络，被认为是和能源、交通同等重要的基础设施。这种设施对信息的传递起着异常重要的作用。西方发达国家和我们国家对此都非常重视。例如，美国的信息高速公路计划，全球通讯的"铱"计划，我国也开始实行一系列"金"字头的国民经济管理信息化计划。这些计划中唱主角的设备便是计算机。计算机在各个方面的应用不胜枚举，我们每个人都自觉不自觉地处于计算机包围中。

计算机对社会生产来说是一个产业大户，对每个现代人来说是一种工具，对学生们来说，它是一个庞大的知识系统。面对计算机知识的膨胀，面对计算机及其应用产业的膨胀，计算机各个层次的从业人员的需要也在不断膨胀，计算机知识的教育也遍及从小学生到研究生的各个层次。

为了适应计算机教学的需要，重庆大学出版社近几年出版了大量的计算机教学用书，这一套教材就是一套适应专科层次的系列教材。我们将会看到，这一套教材以系列、配套、适用对路，便于教师和学生选用。如果再仔细研究一下，将会发现它的一系列编写特色：

1. 这些书的作者们是一些长期从事计算机教学和科研的教师，不少作者在以前都有大量计算机方面的著作出版。例如本系列书中的《Visual Fox Pro 中文版教程》的作者，十年前回国后最早将狐狸软件介绍到祖国大陆，这一本书已是他的第八本著作了。坚实的作者基础，是这套书成功的最根本的保证。

2. 计算机科学是发展速度惊人的科学，内容的先进性、新颖性、科学性是衡量计算机图书质量的重要标准，这一套书的作者们在这方面花了极大的功夫，力求让读者既掌握计算机的基础知识，又让读者了解最新的计算机信息。

3. 在内容的深度和知识结构上，从专科学生的培养目标出发，在理论上，从实际出发，满足本课程及后续课程的需要，而不刻意追求理论的深度。在知识结构上，考虑到全书结构的整体优化，而不过分强调单本书的系统性。这样，在学过这一套系列教材后，学生们就可在浩瀚的计算机知识中，建立起清晰的轮廓，就会知道这些知识的前因后果，就会了解这些知识的前接后续。使学生们能在今后的工作实践中得心应手。

4. 计算机是实践性很强的课程，仅靠坐而论道是学习不了这些知识的。所以从课程整体设置来讲，包括有最基本的操作技能的教材。对单本书来说，在技术基础课和专业课中，都安排有一定的上机实习或实验，这样可使学生既具备一定的理论知识以利今后发展和深造，又掌握实际的工作技能胜任今后的实际工作。

编写一套系列教材，这是一个巨大的工程。这一套书的作者们，重庆大学出版社的领导和编辑们，都为此付出了辛勤的劳动。作为计算机工作者，以此序赞赏他们的耕耘，弘扬他们的成绩。

周明德

1997 年 6 月 15 日

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前　言

为适应计算机专业学生的教学需要，根据国家教委对《计算机专业英语》的要求，编写了此教材。

编写本教材，力求从几方面突出特点：第一，选材尽量新颖。第二，原文风格多样，本教材所选课文和阅读材料，是从多种书籍和资料中节选下来的，文风各异，能使读者领略各种文章的风格，了解其行文特色。第三，文章难度适当，符合学生的阅读能力。同时为满足英语水平较高一些学生的需求，每课选编了一篇有一定难度的阅读材料，教师可根据实际情况选用。第四，本教材加大了翻译能力的训练，每一课都留有翻译练习，能使学生在翻译能力上有所提高。第五，有一定实用性，本教材的下篇，就是为了体现这一特点而编写的。通过学习，能使读者掌握一些计算机专业方面的英文应用文知识，了解计算机英文出版物及其阅读方法，使其在实际工作中受益。

本教材分为两部分，使用者可根据教学总学时选择适当的内容进行教学。编者建议，上篇的每章用 3～4 学时，并尽量将阅读教材学完。这样可提高学生的阅读能力。下篇，可根据实际情况选择讲授或让学生自学。

本书由秦卫平任主编，承担全书的选编、统稿以及下篇第一章的编写工作。陈伟任副主编，负责翻译、课文词汇和疑难点的注释工作。美国犹他大学范息涛博士，负责原文的选材、译文及注释的审校工作。陈克巧编写了下篇第二章。

在编写本教材时，编者选用了一些相关资料，在此向原作者表示谢意，并请有关作者对有关版权事宜向编者或出版社联系。由于时间仓促，水平有限，难免错误和不妥，敬请读者批评指正。

本书是计算机专业学生的教材，同时也可作为计算机科技人员学习专业英语或参加有关考试的参考用书。

编者

1997 年 6 月

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上　篇

计算机英语阅读

Chapter 1 What is a Computer

A computer is a general-purpose machine for storing and manipulating information. Beyond this, there are two very different schools of thought.

1. Computers are dumb but very fast machines equivalent to extremely powerful calculators.

2. Computers are thinking machines capable of awe-inspiring, almost limitless feats of intelligence.

Both of these things are true. In themselves, computers have a very limited set of skills. They can add numbers, compare numbers, and store numbers. This probably seems very strange. The computers we know or have heard about seem to do far more than this. They manipulate text, display graphic images, generate sounds, and do lots of other things that, to us, seem nonmathematical.

But internally, the computer handles all information as numbers, and everything it does involves storing and manipulating those numbers. In this sense, computers are like fancy adding machines. But assuming that you know how to "talk" to a computer in the language of numbers, as some programmers do, you can get it to do some amazing things. Any kind of information that can be represented numerically—and this includes everything from music to photographs to motion picture videos—can be manipulated via a computer, assuming someone knows how to provide the computer with the proper instructions.

This does not mean that you need to know how to learn to program computers (write your own instructions) in order to use them. Chances are you will simply buy and use programs that other people have created. Then you simply need to learn how to use those programs, a task that is far easier and less demanding than learning to write programs of your own.

Even if you have yet to encounter a computer at work or buy a computer for home, you probably deal with computer on a daily basis, whether you want to or not. Every time you use an automated teller machine, or watch the checker scan the bar code on your milk carton into an electronic cash register, or use a hand-held calculator, you are using a computer. Some of those computers—like the calculator, for example —are designed to do a very specific task, and the instructions for performing that task are built into the equipment itself.

The type of computer you will probably be dealing with at your home or office is more general purpose. It can do just about anything provided it is given appropriate instructions. (1)

Computers come in a multitude of shapes, sizes, and types, ranging from those that fit in

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the palm of your hand or hide in the corner of your microwave or VCR to those that occupy entire rooms, from ones that are generally used by one person at a time to those that are simultaneously used by dozens or even hundreds of people.

Personal computers are newcomers to the computer scene. Although the first computers were built in the 1940s, the first personal computers were only introduced in the 1970s and were primarily the province of hobbyists, almost like new-fangled ham radios. In 1975, Apple produced the first Apple computer, followed by the Apple **I** in 1978. By 1980, there were a number of microcomputers on the market that could practicably be used in small businesses, but they were used only by people and companies that were either particularly adventurous or especially in need of automation. Then in the fall of 1981, IBM introduced the original IBM PC, whose instant popularity astounded everyone, including IBM. The success of the IBM PC was due to a combination of good timing(a lot of small to medium-sized businesses were itching for a financially feasible way to automate) and the IBM name, which lent new credibility to the whole notion of small desktop computing. The budding personal computer mania was further spurred by Apple's introduction, in 1984, of the original Macintosh computer: a type of computer specifically designed to be easy to learn, fun to use , and unintimidating for the nontechnical user. Meanwhile, the speed and capacity of the machines continued to increase almost as fast as their size and prices shrank, making them all the more practical and popular. (Today's personal computers are hundreds of times more powerful than those sold ten years ago, generally cost less, and can fit in packages the size of a notebook.) By the end of the decade, personal computers had gone from being the province of hobbyists and retired engineers, to being an almost ubiquitous fixture in the work world and a member (so to speak) of almost 20% of U. S. households. (2)

The majority of personal computers currently used in business fall into two camps:

(1) IBM PCs and compatibles.

(2) Apple Macintosh computers(often referred to simply as "Macs")

The terms IBM clone and IBM compatible mean a computer that uses similar components and a similar design to IBM-manufactured PCs, and therefore can use the same type of programs as IBM computers.

Macintosh clones are extremely rare, due to both certain technical complexities of the machine and Apple's very tightly held copyrights. In contrast, when it first created the PC, IBM decided to allow others to imitate its machines. The theory was that the more IBM imitations there were, the more likely it was the IBM would become the business standard.

WORDS AND EXPRESSIONS

manipulate v. 处理

calculator n. 计算器

image n. 图像
nonmathematical a. 非计算方面的
via prep. 通过
appropriate a. 适当的
instruction n. 指令
multitude n. 众多,大量
microwave n. 微波炉
simultaneously ad. 同时地
scene n. (喻)舞台
hobbyist n. 业余癖好者
ham a. 搞业余无线电收发报的
popularity n. 普及,流行
astound v. 使震惊
budding a. 正发芽的
notion n. 概念
credibility n. 可接受性
mania n. 狂热
feasible a. 可行的
unintimidate v. 不吓人
shrink (shrank, shrunk) vi. 缩小, 减少
ubiquitous a. 普遍存在的
camp n. 阵营
compatible a. 兼容的
clone n. 无性系(复制品)
imitation n. 仿制品

general-purpose 通用
different schools of thought 不同的学派,不同的观点
awe-inspiring 使人敬畏的
feat of intelligence 智力
bar code 条形码
electronic cash register (ECR) 电子现金出纳机
VCR (Video Cassette Recorder) 录像机
new-fangled 新花样的
be equivalent to 相当于
far more than 远远不止
itch for 渴望
all the more 更加,越发
so to speak 可以这么说

NOTES

(1) It can do just about anything provided it is given appropriate instructions.

句中 provided 是连接词，意为 on condition that 假若，倘使。

(2) By the end of the decade, personal computers had gone from being the province of hobbyists and retired engineers, to being an almost ubiquitous fixture in the work world and a member (so to speak) of almost 20% of U. S. households.

句中 being 为介词 from 和 to 的宾语。

EXERCISES

1. Translate the following sentences into English.

(1) 计算机可以处理文本、显示图形。

(2) 个人计算机是为个人使用而设计的。

(3) 在 80 年代初 IBM 公司造出了 IBM-PC。

(4) 人们不会编写计算机指令也能使用计算机。

(5) 计算机有各种类型和尺寸。

2. Translate the following sentences into Chinese.

(1) A computer is a machine for storing data and manipulating data into information.

(2) Computers are thinking machines and have limitless feats of intelligence.

(3) Personal computers are newcomers in the computer family.

(4) You needn't know how to program in order to use computer.

(5) Computer can add, compare, and store numbers in very fast speed.

3. Translate the following paragraphs into Chinese.

(1) Just because personal computers are "personal" it doesn't mean they can't talk to each other. Many businesses and other organizations have computer networks—groups of computers that are linked together so that they can share information, programs, and/or equipment such as printers, plotters and so on.

(2) The Web gave the Internet the first universal method of access to information regardless of the operating system you used. For the first time in 15 years, the pervasive platform is an open network, not a proprietary operating system.

(3) A computer is an electronic device that operates on timed pulse of electric. The processor reacts to pulse and no pulse pattern. Memory holds these on/off patterns. The binary number system is ideal for representing such paterns because it uses only two symbols: 0 and 1.

(4) The basic building block of a modern computer is a chip, a complex, integrated electronic circuit etched on a tiny square of silicon no bigger than a fingernail. A computer is assembled by sliding the appropriate boards into a cabinet. One board might hold the processor. Another might hold main memory, while a third might contain the electronics to link a particular input or output device to the system.

Reading Materials

(1) Brief History of Computer

In 1946 two engineers at the University of Pennsylvania, J. Eckert and J. Mauchly, built the first digital computer using parts called vacuum tubes. They named their new invention ENIAC. Another important advancement in computers came in 1947, when John von Newman developed the idea of keeping instructions for the computer inside the computer's memory.

The first generation of computers, which used vacuum tubes, came out in the late 1940s. Univac I is an example of these computers which could perform thousands of calculations per second. In 1960, the second generation of computers was developed and these could perform work ten times faster than their predecessors. The reason for this extra speed was the use of transistors instead of vacuum tubes. Second-generation were smaller, faster and more dependable than first-generation computers. The third-generation computers appeared on the market in 1965. These computers could do a million calculations a second, which is 1000 times as many as first-generation computers. Unlike second-generation computers, these are controlled by tiny integrated circuits and are consequently smaller and more dependable. Fourth-generation computers have now arrived, and the integrated circuits that are being developed have been greatly reduced in size. This is due to microminiaturization, which means that the circuits are much smaller than before; as many as 1000 tiny circuits now fit onto a single chip. A chip is a square or rectangular piece or silicon, usually from 1/10 to 1/4 inch, upon which several layers of an integrated circuit are etched or imprinted, after which the circuit is encapsulated in plastic, ceramic or metal. Fourth-generation computers are 50 times faster than third-generation computers and can complete approximately 1,000,000 instructions per second.

At the rate computer technology is growing, today's computers might be obsolete by

1990 and most certainly by 1995. It has been said that if transport technology had developed as computer technology, a trip across the Atlantic Ocean today would take a few seconds.

NOTES

the University of Pennsylvania （美国)宾西法尼亚大学
ENIAC Electronic Numerical Integrator And Calculator
计算机名称(电子数字积分及计算器)
John von Newman 约翰·冯·诺依曼
first-generation computer 第一代计算机
vacuum tube 真空管,电子管
transistor 晶体管
integrated circuits (IC) 集成电路
microminiaturization 超小型化
chip 芯片
etche 蚀刻
imprint 铭刻
encapsulate 包裹起来
plastic 塑料
ceramic 陶瓷
metal 金属
approxmately 近似地,大约地
obsolete 废弃的,过时的

(2) Terminals and PCs

An Internet terminal with a simple operating system can download small applets and files from robust servers, thus supplying the functionality of a PC at a much lower cost. Can you connect to your network with PCs? Sure. But most PCs used in business are underutilized and expensive. The PC may be a relatively inexpensive device to purchase, but the sticker price is a fraction of the cost of ownership.

Personal Computers (PCs) have become personal activity tools, not personal productivity tools. we have all this functionality—spell checking, fancy fonts and graphics—that goes unused 80% of the time. And what percentage of corporate laptop PCs are redundant machines that are used solely to access the company network while workers are on the road?

Customers will purchase Internet terminals because the overall cost of ownership is favorable, not because of the cheap hardware. If you can centralize the administrative functions while continuing to provide the independence employees have become accustomed

to, you solve a major headache for IS managers worldwide.

No one is predicting the death of the PC. The success of the Internet will fuel much of the new PC demand, and Internet browsing is now a standard feature of PCs everywhere. But there's a better way to serve the needs of some corporate employees who need access to their networks and want simple computers with virtually no administrative costs.

NOTES

Internet 国际互联网，或因特网
applets and files 应用程序和文件
robust servers 强大的服务器
underutilize 未利用
sticker price 标签价，广告价
fancy fonts and graphics 漂亮的字体和图形
laptop PC 便携机
administrative function 管理功能
IS (information system) 信息系统
corporate employee 公司雇员
predict 预测

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