ENGLISH

计算机专业英语

张文奎　张烽强　编著

北京大学出版社

计算机专业英语

张文奎
张烽强 编著

北京大学出版社
北　京

图书在版编目（CIP）数据

计算机专业英语/张文奎，张烽强编著. —北京：北京大学出版社，1996.3

ISBN 7-301-02990-X

Ⅰ.计… Ⅱ.①张… ②张… Ⅲ.电子计算机-英语-语言读物-教材 Ⅳ.H319.4

内 容 提 要

本书由41篇课文和3个附录及总词汇表组成，每篇课文又由英文、词汇和参考译文组成。

主要内容涉及计算机领域的各个方面，如计算机基础知识、软件、硬件、数据库、计算机病毒和办公自动化等，所编内容特别适合于读者自学，主要读者对象为大中专院校师生、广大自考人员和软件水平考试人员。

书　　名：计算机专业英语

著作责任者：张文奎，张烽强 编著

责任编辑：张[illegible]

标准书号：ISBN 7-301-02990-X/TP·0279

出 版 者：北京大学出版社

地　　址：北京[illegible]区中关村北京大学校内 100871

电　　话：出版部 2502015　发行部 2559712　编辑部 2502032

排 印 者：北京飞达印刷厂印刷

发 行 者：北京大学出版社

经 销 者：新华书店

787×1092 毫米　32 开本　8.75 印张 210 千字

1996 年 3 月第一版　1996 年 3 月第一次印刷

定　　价：11.5 元

前　言

随着科学技术的进步，计算机正在我国逐步普及。在纯粹的汉字操作系统出现之前，计算机操作人员仍有必要掌握一定的英语知识，尤其是与计算机有关的计算机专业英语。目前，我国参加计算机专业自学考试的人员越来越多，计算机软件专业技术资格和水平考试也要求参加者掌握一定的计算机专业英语。本书的编写目的也在于此。相信本书的出版对大中专院校师生及参加自学考试的计算机专业人员会有所裨益。参加计算机软件专业技术资格和水平考试的人员也能在本书中找到需要的知识。

全书由 41 篇相对独立的课文和 3 个附录及总词汇表组成，每篇文章中有英文原文、词汇和参考译文。内容涉及计算机领域的各个方面，包括基础知识、硬件、软件、存储器、数据库、计算机病毒、密码学等。附录包括计算机专业英语自学考试试题；软件人员水平考试试题中的英文部分；日本软件人员水平考试英语试题。

在本书编写过程中参考了其他相关书籍和资料，编者愿意在此向它们的作者表示谢意。晏继文同志认真审校了全书，责任编辑张豫夫同志为本书的出版付出了辛勤劳动，编者在此也一并表示感谢!

由于时间仓促，加之编者水平所限，书中错误和缺点在所难免，希望广大读者不吝指正，以便今后再版时更正。

编者

1995 年 7 月于北京

Contents

Lesson one What is a computer? ····· (1)
Lesson two Computer and microcomputer ····· (4)
Lesson three Development of computer ····· (12)
Lesson four Hardware and software ····· (17)
Lesson five Computer system ····· (23)
Lesson six Multiprocessing ····· (31)
Lesson seven What is a processor? ····· (37)
Lesson eight Types of memory ····· (43)
Lesson nine Computer-system Input/Output ····· (50)
Lesson ten Star memories ····· (55)
Lesson eleven How the 80386 microprocessor manages memory?
····· (59)
Lesson twelve Introduction to 486 CPU family ····· (66)
Lesson thirteen The RAM revolution ····· (69)
Lesson fourteen Hard disks and RAM disks ····· (80)
Lesson fifteen Magnetic disks ····· (84)
Lesson sixteen Use conditions and maintenace of printer ····· (88)
Lesson seventeen Types of software products ····· (93)
Lesson eighteen Application of office automation ····· (99)
Lesson nineteen User interfaces ····· (104)
Lesson twenty Program design ····· (110)
Lesson twenty-one Programming languages ····· (113)
Lesson twenty-two Types of programs ····· (118)

此为试读,需要完整PDF请访问: www.ertongbook.com

Lesson twenty-three Batch files …… (122)
Lesson twenty-four Edlin …… (127)
Lesson twenty-five Types of programmers …… (129)
Lesson twenty-six Operating systems …… (134)
Lesson twenty-seven Operating system Input/Output …… (138)
Lesson twenty-eight File systems …… (141)
Lesson twenty-nine Disk operating system (DOS) …… (146)
Lesson thirty Database …… (151)
Lesson thirty-one Database management systems (DBMS) …… (157)
Lesson thirty-two Data independence, integrity and security … (160)
Lesson thirty-three Modern data dictionary …… (165)
Lesson thirty-four Why RISC? …… (172)
Lesson thirty-five Computer viruses …… (177)
Lesson thirty-six Computer security …… (182)
Lesson thirty-seven Cryptography …… (186)
Lesson thirty-eight Fault-tolerant networks …… (190)
Lesson thirty-nine Multimedia technology …… (194)
Lesson forty Expert system …… (199)
Lesson forty-one Data-compression techniques ease storage problems …… (204)
Appendix Ⅰ …… (208)
Appendix Ⅱ …… (214)
Appendix Ⅲ …… (238)
Vocabulary …… (252)
Bibliography …… (271)

目　录

第　一　课　什么是计算机? …… (2)
第　二　课　计算机和微型计算机 …… (9)
第　三　课　计算机的发展 …… (15)
第　四　课　硬件与软件 …… (21)
第　五　课　计算机系统 …… (27)
第　六　课　多道处理 …… (35)
第　七　课　什么是处理器? …… (40)
第　八　课　存储器的种类 …… (47)
第　九　课　计算机系统的输入/输出 …… (53)
第　十　课　明星存储器 …… (57)
第十一课　80386 微处理器如何管理存储器? …… (63)
第十二课　80486 系列CPU 简介 …… (67)
第十三课　RAM 革命 …… (75)
第十四课　硬盘与RAM 盘 …… (82)
第十五课　磁盘 …… (86)
第十六课　打印机的使用条件和维护 …… (91)
第十七课　软件分类 …… (96)
第十八课　办公自动化的应用软件 …… (102)
第十九课　用户界面 …… (107)
第二十课　程序设计 …… (112)
第二十一课　程序设计语言 …… (116)
第二十二课　程序的种类 …… (120)
第二十三课　批处理文件 …… (125)

第二十四课　行编辑器（Edlin） …… (128)
第二十五课　程序员的类型 …… (132)
第二十六课　操作系统 …… (136)
第二十七课　操作系统输入/输出 …… (140)
第二十八课　文件系统 …… (144)
第二十九课　磁盘操作系统 …… (149)
第三十课　数据库 …… (154)
第三十一课　数据库管理系统（DBMS） …… (158)
第三十二课　数据的独立性、完整性和安全性 …… (163)
第三十三课　现代数据字典 …… (169)
第三十四课　为什么要采用RISC …… (175)
第三十五课　计算机病毒 …… (180)
第三十六课　计算机安全 …… (184)
第三十七课　密码学 …… (188)
第三十八课　容错网络 …… (192)
第三十九课　多媒体技术 …… (197)
第四十课　专家系统 …… (202)
第四十一课　数据压缩技术缓解存储问题 …… (206)
附　录　Ⅰ　计算机专业英语自学考试题及解答 …… (208)
附　录　Ⅱ　全国计算机应用软件人员水平考试英语部分试题及解答 …… (214)
附　录　Ⅲ　日本计算机全国统考英语部分试题及解答 …… (238)
总词汇表 …… (252)
参考文献 …… (271)

Lesson One

What Is a Computer?

For you this question may or may not be relevant. This chapter will discuss computer hardware in terms of the CPU memory, bus and peripheral devices plus the computer software or programs that control a computer's operations. If you are already working with computers these terms may be quite familiar. If not, let's pursue them now.

You probably own or at least use a calculator, which is essentially a small computer composed of the following sections:

- an arithmetic section capable of adding, subtracting, multiplying and dividing, plus other mathematical functions.
- an input section, the keypad, where commands and data are entered. Some calculators accept commands such as + or − from the keypad and execute or perform them as they are entered; others are capable of storing the entered program steps and then repetitively executing them, each time with different data.
- memory for several different purposes: storing of programs as they are entered, storing of data in the form of

intermediate and final answers and, lastly, the permanent storage of internal program steps to perform calculations involving sine and cosine.

● an output device to communicate the result (s) to the user. On some calculators the answers appear on a display, typically 8 to 12 digits long. Other calculators have an optional printer to provide a permanent record of the results.

The above component sections, seen in a calculator, form the basis for the discussion, "What is a computer".

词　汇

1.	relevant	*adj.* 相关的
2.	memory	*n.* 存储器
3.	pursue	*v.* 研究
4.	add	*v.* 加
5.	subtract	*v.* 减
6.	divide	*v.* 除
7.	multiply	*v.* 乘
8.	keypad	*n.* 键盘
9.	permanent	*adj.* 永久性的

参考译文

什么是计算机?

这个问题与你可能有关也可能无关。这篇文章将讨论中央处理器、存储器、总线和外围设备等计算机硬件以及控制计算机操作运行的软件或

程序。如果已经在使用计算机，那么你可能已相当熟悉这些词汇，否则现在就让我们去研究它们。

你或许拥有或者至少使用过计算器，它基本上是一台由下列几个部分组成的小型计算机：

- 可以进行加、减、乘、除及其他数学功能的算术部分。
- 输入部分：用键盘输入指令和数据。某些计算器从键盘接收“+”或“-”指令，在接收的同时执行或操作输入的内容；其他的能够存储被输入的程序段，然后反复地运行，每次的数据都不同。
- 有几种不同用途的存储器：存储输入的程序段，存储中间或终结应答形式的数据，并且还有存放进行正弦和余弦等计算的内部程序段的永久性存储器。
- 输出装置：把结果传送给用户。在某些计算器上应答是显示在显示器上的，通常有 8 到 12 位长，其他的计算器具有可选的打印机，对结果提供永久性的记录。

在计算器上看到的上述几个组成部分，构成了“什么是计算机”这一论述的基本部分。

此为试读，需要完整PDF请访问：www.ertongbook.com

Lesson Two

Computer and Microcomputer

A computer is a machine with an intricate network of electronic circuits that operate switches or magnetized tiny metal cores. A total computer system includes both hardware and software. Hardware consists of the physical components and all associated equipment. Software refers to the programs that are written for the computers.

It is possible to be familiar with various aspects of computer software without being concerned with details of how the computer hardware operates. It is also possible to design parts of the hardware without a knowledge of its software capabilities. However those concerned with computer architecture should have a knowledge of both hardware and software because the two branches influence each other.

A program written by a user may be either dependent or independent of the physical computer that runs his program. For example, a program written in standard FORTRAN is machine independent.

The basic job of computers is the processing of information. For this reason, computers can be defined as

devices which accept information in the form of instructions called a program and characters called data, perform mathematical and/or logical operations on the information, and then supply results of these operations. The program, or part of it, which tells the computers what to do and the data, which pvoride the information needed to solve the problem, are kept inside the computer in a place called memory.

Computers are thought to have many remarkable powers. However, most computers, whether large or small, have three basic capabilities. First, computers have circuits for performing arithmetic operations, such as: addition, subtraction, division, multiplication and exponentiation. Second, computers have a means of communicating with the user. After all, if we couldn't feed information in and get results back, these machines wouldn't be of much use.

Some of the most common methods of inputting information are to use punched cards, magnetic tapes, disks, and terminals. The computer's input device reads the information into the computer.

For outputting information, two common devices used are a printer which prints the new information on paper, or a CRT display screen which shows the results on a TV-like screen.

Third, computers have circuits which can make decisions. The kinds of decisions which computer circuits can make are not of the type: "Who would win a war between two countries ?" or "Who is the richest person in the world?" Unfortunately,

the computer can only decide three things, namely: Is one number less than another? Are two numbers equal ? and, Is one number greater than another?

A computer can solve a series of problems and make hundreds, even thousands, of logical decisions without becoming tired or bored. It can find the solution to a problem in a fraction of the time it takes a human being to do the job. A computer can replace people in dull, routine tasks, but it has no originality; it works according to the instructions given to it and cannot exercise any value judgements. But a computer can carry out vast numbers of arithmetic logical operations almost instantaneously.

Microcomputers, or micro for short, is a kind of computers. It was born in the early 1970s. The central processor of the micro, called the microprocessor, is built as a single semiconductor device; that is, the thousands of individual circuit elements necessary to perform all the logical and arithmetic functions of a computer are manufactured as a single chip. A complete microcomputer system is composed of a microprocessor, a memory and peripheral equipment. The processor, memory and electronic controls for the peripheral equipment are usually put together on a single or on a few printed circuit boards. Systems using microprocessors can be hooked up together to do the work that until recently only minicomputer systems were capable of doing. Micros generally have somewhat simpler and less flexible instruction sets than

minis, and are typically much slower. Different micros are available with 4-, 8-, 12-, 16-bit word lengths. Similarly, minis are available with much larger primary memory sizes. Micros are becoming more powerful and converging with minicomputer technology.

The available range of microcomputer systems is evolving more rapidly than minicomputers. Because of their incredibly low price, it is now possible to use only a small fraction of the computer's capability in a particular system application and still be far ahead financially of any other way of getting the job done. For example, thousands of industrial robots are in use today, and the number is growing very rapidly as this relatively new industry improves the price and performance of its products by using the latest microcomputers.

Even though the software available for most microcomputer systems is very limited—more so than for minis—it does not discourage their use in the many high-volume, fixed applications for which programming is essentially a "one shot deal" as is the case in the space shuttle program. In addition to their extensive use in control systems of all types, they are destined for many new uses from more complex calculators to automobile engine operation and medical diagnostics. They are already used in automobile emission control systems and are the basis of many TV game attachments. There is also a rapidly growing market for personal computers whose application potential in education is

only just beginning to be exploited.

词　汇

1. microcomputer　*n.* 微型计算机
2. software　*n.* 软件
3. hardware　*n.* 硬件
4. associated　*adj.* 有关的，有联系的
5. program　*n.* 程序
6. familiar　*adj.* 通晓的
7. concern　*v.* 涉及
8. architecture　*n.* 结构
9. information　*n.* 信息
10. character　*n.* 字符，符号
11. instruction　*n.* 指令
12. device　*n.* 设备，装置
13. exponentiation　*n.* 指数
14. communicate　*v.* 通信
15. punched card　穿孔卡片
16. magnetic tape　磁带
17. disk　*n.* 磁盘
18. terminal　*n.* 终端
20. printer　*n.* 打印机
21. CRT display screen　阴极射线管显示器
22. individual　*adj.* 个体的，单独的
23. element　*n.* 元件，组件
24. circuit board　电路板

25. hook up together　连接在一起
26. be equipped with　配备，装备
27. primary memory　主存储器
28. space shuttle　航天飞机
29. automobile　*n*. 汽车，机动车

参考译文

计算机和微型计算机

计算机是一种具有复杂电路网络的机器，其电路可控制开关或磁化微小的金属磁心。一个完整的计算机系统应包括硬件和软件两部分，硬件由物理元件和所有相关设备组成；软件则是为计算机所写的程序。

即使不了解计算机硬件的工作细节，也可以通晓计算机软件的各种特性；同样，不懂计算机软件也可以设计硬件部件。但是，一旦涉及计算机体系结构，就必须同时具有硬件和软件两方面的知识，因为这两个分支是相互影响的。

用户所写的程序，可以依赖，也可以独立于运行这个程序的具体计算机。例如，用标准FORTRAN 语言编写的程序就是独立于机器的。

计算机的基本工作是处理信息。为此，计算机可以定义为接收信息的装置。信息是以指令和字符形式出现的，其指令组称为程序，字符则称为数据。该装置可对信息进行算术和逻辑运算，然后提供运算结果。程序或部分程序的作用是指示计算机如何工作，而数据则是为解决问题提供的所需要的信息，两者都存储在计算机的存储器里。

人们认为计算机具有很多显著的功能。不过大多数计算机，无论是大型机还是小型机，都具有三个基本的性能。

第一，计算机具有进行加、减、乘、除及取幂等各种算术运算的电路。

第二，计算机具有与用户通信的功能。如果我们不能输入信息和取出结果，这种计算机毕竟不会有多大用处。

此为试读，需要完整PDF请访问：www.ertongbook.com