普通高等教育“十一五”国家级规划教材

21世纪高等学校计算机专业核心课程规划教材

计算机英语实用教程

（第3版）

张强华　司爱侠　宋德富　张美兰　编著

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内 容 简 介

本书内容涉及计算机的技术基础、系统和应用等各个方面，书中包括了反映当前最新技术和应用的内容。全书分为10个单元，每个单元均由以下几个部分组成：课文、单词、词组、缩略语、难句讲解、习题、构词法、句型和阅读材料，并提供了自测试卷及参考答案。

为了方便教学，本书提供了配套的练习册——《计算机英语真题解析与练习》。

本书既可作为高等院校信息类（包括计算机科学与工程、计算机应用与维护、计算机网络、软件工程、信息管理等专业）的专业英语教材，也可供参加计算机行业各种考试的读者备考之用。本书作为培训班教材和供从业人员自学，亦颇得当。

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第3版前言

我们一直认为，教材必须与时俱进，动态升级，不断地推陈出新，计算机类教材尤其应该如此。因此，我们坚持根据“主干稳固、枝叶鲜活”的原则更新与提升教材。

本次修订的主要内容如下：

1．删除了部分内容过时的课文，增加了新技术（如增加了平板电脑及SSD等）。

2．进一步完善了少量内容。

3．根据读者意见，增加了“总词汇表”，便于读者复习、记忆单词。

第2版前言

本书出版后，深受读者喜爱，许多学校选为教材，也有众多的从业人士自学使用。去年，经出版社筛选推荐、教育部聘请专家评审、网络公示等程序，本书被批准为“国家级十一五规划教材”。在此，对各位读者的厚爱和专家的支持表示衷心感谢！

为了使本书进一步优化完善，紧跟技术发展，我们对第1版进行了修订。此次修订主要内容包括：

1．更新内容，加入新技术资料。

2．提供读音光盘，进一步满足教学和读者学习需要，以帮助读者提高专业英语听力水平，提高读者职场竞争力。

3．提供配套练习册，帮助读者巩固提高。本书所配套的练习册——《计算机英语真题解析与练习》——即将由清华大学出版社出版。内容包括：

（1）本书练习参考答案。

（2）10套计算机英语练习题，包括单词练习、词组练习、句子翻译练习、短文练习，并提供参考答案。

（3）历年软件水平考试程序员专业英语试题解析，包括真题再现、试题翻译、参考答案、试题解析及核心词汇。对参加程序员软件水平考试的读者极有帮助。

（4）历年软件水平考试高级程序员/软件设计师专业英语试题解析，包括真题再现、试题翻译、参考答案、试题解析及核心词汇。对参加高级程序员/软件设计师软件水平考试的读者极有帮助。

（5）历年软件水平考试系统分析师专业英语试题解析，包括真题再现、试题翻译、参考答案、试题解析及核心词汇。对参加系统分析师软件水平考试的读者极有帮助。

4．希望任课教师到清华大学出版社网站下载本书电子教案。

第1版前言

计算机行业的从业人员必须快速掌握最新技术，这有赖于从业人员的英语能力。英语水平已经成为决定工作能力的因素之一。要提高专业英语水平，就必须进行针对性的专门学习。本书的目的就在于切实提高读者实际使用计算机英语的能力。

本书体例上以 Unit 为单位，每一 Unit 由以下几部分组成：课文——包括基础知识和基本概念；单词——给出课文中出现的新词，读者由此可以积累计算机专业的基本词汇；词组——给出课文中的常用词组；缩略语——给出课文中出现的、业内人士必须掌握的缩略语；难句讲解——讲解课文中出现的疑难句子，培养读者的阅读理解能力；习题——既有针对课文的练习，也有一些开放性的练习；构词法——既可以帮助读者记忆单词，也可以帮助读者“破解”新出现的词汇；句型——可以帮助读者掌握专业英语常用句型，阅读专业英语遇到疑难句子时可以据此加以剖析，汉译英时可做到心中有数；阅读材料——提供了最新的设备和软件的相关资料，可以进一步扩大读者的视野；习题参考答案——可供读者检查学习效果；自测试卷（含答案）——可供读者自我测试。

本书既考虑教学需要，也兼顾计算机行业的一些考试，一些练习与一些专业考试的题目接近。本书遵循 E-learn 教学理念，加以适当的开放性练习，以培养学生的创造性学习能力，提高学生素质。

本书作者已经出版了六部计算机英语教材（其中两部获奖），有十年的相关经验。在本书编写中，我们着重从“教师教什么”、“学生就业后用什么”及“计算机相关考试考什么”三方面来考虑。结合学生情况、面对学生毕业后的就业环境以及未来工作实际的要求，本书做了切合实际的精心加工。

在使用本书过程中，有任何问题，都可以通过电子邮件与我们交流，我们一定给予答复。如果读者没有收到我们的回复，请再次联系。邮件标题请注明姓名及“计算机英语教程（清华大学版）”字样，否则会被当作垃圾邮件删除。也可通过出版社与我们联系。

希望大家不吝赐教。让我们共同努力，使本书成为一部“符合学生实际、切合行业实况、知识实用丰富、严谨开放创新”的优秀教材。

本书既可作为高等院校信息类（包括计算机科学与工程、计算机应用与维护、计算机网络、软件工程、信息管理等专业）的专业英语教材，也可供参加计算机行业各种考试的读者备考之用。作为培训班教材和供从业人员自学，亦颇得当。

为了保持构词法和句型内容的连贯性，课文中的序号顺次排列。

目 录

Unit 1

Text A

Computer Basics

Hardware

The physical portion of the computer.

CPU

Central processing unit. The computer chip primarily responsible for executing instructions.

Monitor

The screen for viewing computer information is called a monitor.

Motherboard

The main printed circuit board in a computer that carries the system buses. It is equipped with sockets to which all processors, memory modules, plug-in cards, daughterboards, or peripheral devices are connected.

Memory

Computer memory is used to temporarily store data. In reality, computer memory is only capable of remembering sequences of zeros and ones, but by utilizing the binary number system it is possible to produce arbitrary rational numbers and through clever formatting all manner of representations of pictures, sounds and animations. The most common types of memory are RAM, ROM, and flash.

RAM

Random access memory. A data storage device for which the order of access to different locations does not affect the speed of access, except for bursts. Data is typically stored in RAM temporarily for use by the process or while the computer is operating. FPM, EDO, SDRAM, DDR, etc. are all types of RAM.

ROM

Read-only memory is similar to RAM. It only cannot be altered and does not lose its contents when power is removed.

Mouse

In computer parlance a mouse can be both the physical object moved around to control

a pointer on the screen, and the pointer itself. Unlike the animal, the proper plural of computer mouse is "mouses".

Keyboard

A keyboard on a computer is almost identical to a keyboard on a typewriter. Computer keyboards will typically have extra keys; however, some of these keys (common examples include Ctrl, Alt) are meant to be used in conjunction with other keys just like shift on a regular typewriter. Other keys (common examples include Insert, Delete, Home, End, Help, function keys,etc.) are meant to be used independently and often perform editing tasks. Keyboards on different platforms will often look slightly different and have somewhat different collections of keys. Some keyboards even have independent shift lock and caps lock keys. Smaller keyboards with only math-related keys are typically called "keypads".

Disk

A disk is a physical object used for storing data. It will not forget its data when it loses power. It is always used in conjunction with a disk drive. Some disks can be removed from their drives, and some cannot. Generally it is possible to write new information to a disk in addition to reading data from it, but this is not always the case.

SSD

A solid state drive (SSD), also called a flash drive, is type of hard drive. Though the architecture of an SSD is quite different from traditional hard drives, the name is carried over. An SSD utilizes a special kind of memory chip with erasable, writeable cells that can hold data even when powered off. It might help to think of an SSD as the larger cousin of the memory stick.

Like standard drives, an SSD utilizes a special area for cache memory. Cache memory serves the function of increasing processing speeds by holding data that is needed repeatedly. With the data close at hand in the cache, it does not need to be fetched from the main storage area each time it's called.

Some SSDs use cache that is volatile, as in synchronous dynamic random access memory (SDRAM), while others use nonvolatile cache. The former requires a power source to retain data, just like computer RAM. The latter type retains data even without power.

An SSD has many advantages over a traditional drive. Seek time is decreased significantly, making the SSD very fast. Being sold-state, the drive has no moving parts to malfunction, and does not generate significant heat. It is also lighter than a standard drive, more power efficient, and completely silent. Finally, the SSD is more durable. If dropped or banged it isn't as likely to be damaged.

There are, however, disadvantages to an SSD over a standard hard drive. Most SSDs have a slower write time than standard drives, although this can vary, depending on the type of flash memory used and number of chips. Standard drives are also relatively less expensive than SSDs, although the price has fallen. The SSD also has a limited life

expectancy of erase/write cycles, after which it no longer performs reliably. A hard disk may be able to deliver a good ten years of solid operation.

Many people in the field believe that flash drives or SSDs will eventually replace traditional hard drive technology. By the time this happens, the disadvantages will likely have been eliminated or significantly mitigated. Even today, an SSD can extend the life of a notebook battery, decrease the weight of the machine, make it quieter, and increase read performance.

USB

A really fast type of serial port that offers many of the best features of SCSI without the price. Faster than many types of parallel port, a single USB port is capable of chaining many devices without the need of a terminator. USB is much slower (but somewhat less expensive) than Firewire.

I/O Port

Connection to a CPU that provides a data path between the CPU and external devices, such as a keyboard, display, or reader. It may provide input only, output only, or both input and output.

New Words

hardware	['hɑ:dwɛə]	*n.* 硬件
monitor	['mɔnitə]	*n.* 监视器
motherboard	['mʌðəbɔ:d]	*n.* 主板
memory	['meməri]	*n.* 记忆；回忆；存储器
mouse	[maus]	*n.* 鼠标
keyboard	['ki:bɔ:d]	*n.* 键盘
disk	[disk]	*n.* 磁盘，圆盘，唱片
floppy	['flɔpi]	*adj.* 软的
		n. 软盘
instruction	[in'strʌkʃən]	*n.* 指令；命令，指示，用法说明
screen	[skri:n]	*n.* 屏；屏幕
		vt. 掩蔽
view	[vju:]	*n.* 视域，观察，观看
		vt. 观察，观看
information	[infə'meiʃən]	*n.* 消息，信息；通知
equip	[i'kwip]	*vt.* 装备，配备
socket	['sɔkit]	*n.* 插座，孔
temporarily	['tempərərili]	*adv.* 暂时地，临时地
remember	[ri'membə]	*vt.* 记得，想起；记住
sequence	['si:kwəns]	*n.* 连续，继续；次序

animation	[ˌæni'meiʃən]	*n.* 动画片，卡通
type	[taip]	*n.* 类型；样式
pointer	['pɔintə]	*n.* 指针，指示器
typewriter	['taipraitə]	*n.* 打字机
conjunction	[kən'dʒʌŋkʃən]	*n.* 接合，连接；连接词
perform	[pə'fɔ:m]	*vt.* 履行；表演
		vi. 行动
task	[ta:sk]	*n.* 任务，工作，作业
keypad	['ki:pæd]	*n.* 键区，数字按键键盘
store	[stɔ:]	*vt.* 存储，储藏
traditional	[trə'diʃənəl]	*adj.* 传统的，惯例的
erasable	[i'reizəbl]	*adj.* 可消除的，可抹去的
repeatedly	[ri'pi:tidli]	*adv.* 重复地，再三地
fetch	[fetʃ]	*vt.* 接来，取来，带来
		n. 取得，拿
storage	['stɔridʒ]	*n.* 存储
volatile	['vɔlətail]	*adj.* 易失的，可变的，不稳定的
nonvolatile	['nɔn'vɔlətail]	*adj.* 非易失性的
retain	[ri'tein]	*vt.* 保持，保留
significantly	[sig'nifikəntli]	*adv.* 显著地，值得注目地
malfunction	[mæl'fʌŋkʃən]	*n.* 故障
silent	['sailənt]	*adj.* 寂静的，沉默的，无声的
durable	['djuərəbl]	*adj.* 持久的，耐用的
bang	[bæŋ]	*n.&v.* 重击
reliably	[ri'laiəbli]	*adv.* 可靠地
solid	['sɔlid]	*adj.* 固态的；可靠的，一致的
eliminate	[i'limineit]	*vt.* 排除，消除
mitigate	['mitigeit]	*v.* 减轻
input	['input]	*vt.* 输入
		n. 输入
output	['autput]	*n.* 产量；输出量；输出

Phrases

I/O port	输入输出接口
circuit board	电路板
in reality	事实上
extra key	扩充键
be used in	用于

disk drive	磁盘驱动器
remove from …	从……删除
in addition to	除……之外
removable disk	可移动磁盘
flash drive	闪盘驱动器
be different from …	异于……，不同于……
carry over	（使）延续；（使）延伸；推广到
memory chip	存储器片
writeable cell	可写单元
power off	断电，关机
memory stick	内存条
cache memory	高速缓冲存储器
close at hand	就在眼前
power source	电源
seek time	寻道时间
moving part	运动机件，可动部分
serial port	串行接口
be capable of	能够，具有……的能力

Abbreviations

CPU (Central Process Unit)	中央处理器
RAM (Random Access Memory)	随机存储器
ROM (Read Only Memory)	只读存储器
SSD (Solid State Drive)	固态驱动器，固态硬盘
SDRAM (Synchronous Dynamic Random Access Memory)	同步动态随机访问存储器
USB (Universal Serial Bus)	通用串行总线
SCSI (Small Computer System Interface)	小型计算机系统接口

Notes

[1] It is equipped with sockets to which all processors, memory modules, plug-in cards, daughterboards, or peripheral devices are connected.

本句中，to which all processors, memory modules, plug-in cards, daughterboards, or peripheral devices are connected 是一个由介词+关系代词引导的定语从句，修饰先行词 sockets，表示的意思是 all processors, memory modules, plug-in cards, daughterboards, or peripheral devices are connected to the sockets。be equipped with 的意思是“具有，装备有”；be connected to 表示“与……连接”。

[2] … but by utilizing the binary number system it is possible to produce arbitrary rational numbers and through clever formatting all manner of representations of pictures, sounds, and

animations.

本句中，by utilizing the binary number system 和 through clever formatting 是介词短语做方式状语。it 是形式主语，真正的主语是动词不定式短语 to produce arbitrary rational numbers。在 all manner of representations of pictures, sounds, and animations 前省略了 it is possible to produce。

[3] Generally it is possible to write new information to a disk in addition to reading data from it, but this is not always the case.

本句中，write …to … 的意思是“把……写到……”； in addition to 的意思是“除了……之外”，等于 besides；this 指的是它前面的整个句子；case 的意思是“情况”。

[4] Faster than many types of parallel port, a single USB port is capable of chaining many devices without the need of a terminator.

本句中，Faster than many types of parallel port 是一个形容词短语做原因状语。

Exercises

Ex.1 根据课文内容，回答以下问题。

1. What is the main function of CPU?
2. Through what computer information can be viewed?
3. What kind of devices can be connected to the sockets in the motherboard?
4. What kind of system is utilized in order that arbitrary rational numbers can be produced in memory?
5. How can all manner of representations of pictures, sounds and animations be produced?
6. What is the difference between RAM and ROM?
7. What is the plural form of the noun “mouse” when it is used as an input device of the computer?
8. What disks can be removed from their drives, what can’t?
9. Why is a single USB port capable of chaining many devices without the need of a terminator?
10. What provides a data path between the CPU and external devices?

Ex.2 根据下面的英文解释，写出相应的英文词汇（使用学过的单词、词组或缩略语）。

英 文 解 释	词　汇
A processor whose elements have been miniaturized into one or a few integrated circuits. It is usually used in PC.	
The main board of a computer, usually containing the circuitry for the central processing unit, keyboard, and monitor and often having slots for accepting additional circuitry.	
A unit of a computer that preserves data for retrieval.	