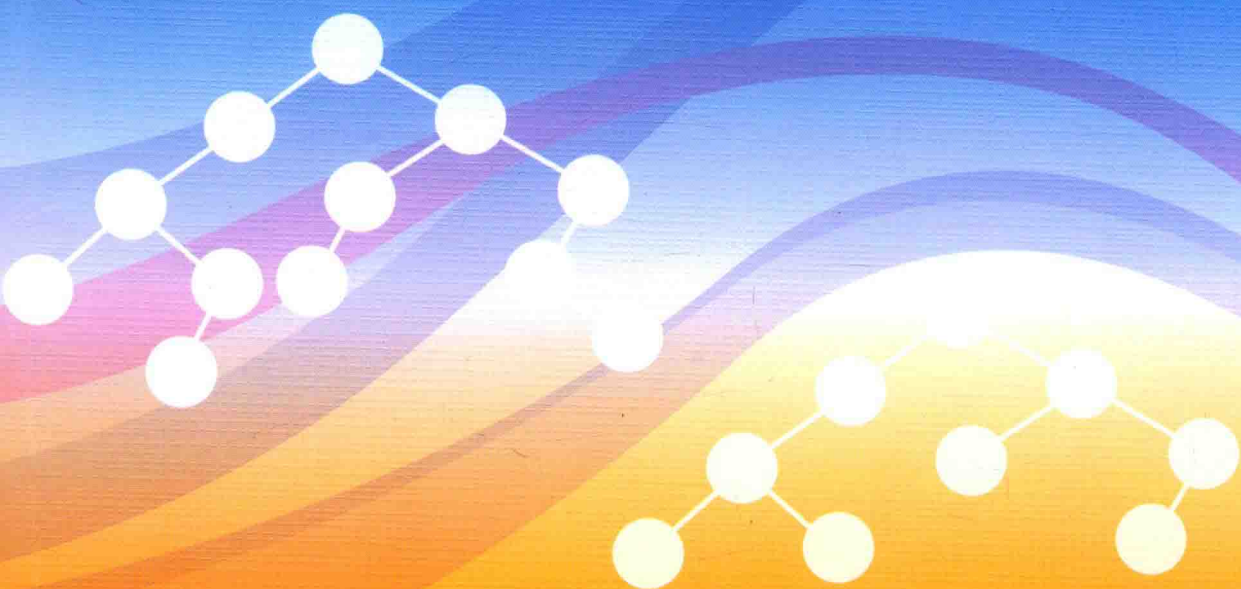


高等学校计算机专业规划教材

计算机英语 (第2版)



邱仲潘 曾思亮 薛伟胜 等 编著



清华大学出版社

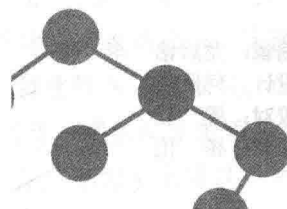
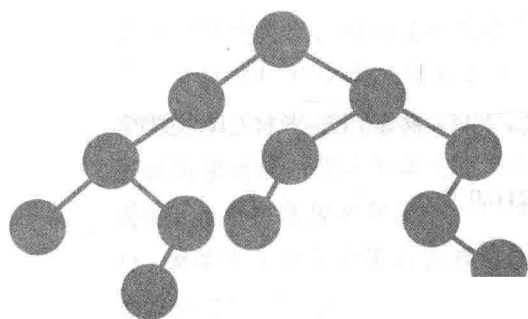


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内 容 简 介

本书主要介绍计算机硬件、软件、系统、网络、应用程序等相关知识,共分为20章,新版增加了智能手机、无线 Wi-Fi、机器学习等领域最新的科技文章,增加了时代感和趣味性。

本书由一线教师编写,这些教师了解学生的知识水平、接受能力和需求点,而且翻译过大量计算机图书,有丰富的翻译经验。本书强调阅读理解,对一些难句进行了深入的解析。

本书可作为高等院校“计算机英语”课程的教材或教学参考书,也可供有一定英语基础的广大计算机用户学习计算机英语时使用。

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计算机技术的发展,最初是从英语国家开始的,目前美国具有绝对优势。从事计算机行业的人,难免会遇到大量英文资料,无论是外版教材、技术手册、联机说明,还是阅读或者发表高水平的专业论文,都必须使用英语。因此,学好专业英语对计算机专业学生来说非常重要。

本书是针对计算机专业学生编写的。本书的第一版得到了广大师生的许多好评,同时也收到了许多改进建议,新版本吸收了这些丰富而宝贵的教学实践经验。此外,新版还收录了智能手机、无线 Wi-Fi、机器学习等领域最新的科技文章,增加了时代感和趣味性。

对计算机专业学生的基本要求是读懂英文的软件需求文档和在编程中根据要求插入简单的注释文本,因此在本书编写过程中,作者一直认为应该强调阅读理解、强调简单文本写作以及强调专业术语和基本科技英语语法。同时,为了提高效率和便于工作中的资料积累与交流,应该介绍一些翻译技巧,使学生能够把看懂的内容用比较准确和流畅的中文表达出来,能够把软件设计与实现中的思路翻译成简单英文。为此,特意挑选一些难句,在给出准确翻译的同时选择学生常见的翻译错误进行剖析,增加学生的理解深度。课文后面还用英语提供了关键术语的解释,以便有兴趣的学生可以了解到许多相关专业知识和有趣的词源知识。相关知识包括翻译技巧以及技术方面和语言方面的知识,非常实用。文章后面还有参考读物,难度略大于课文。建议老师在保证让学生掌握课文内容的前提下,根据学生的接受情况和兴趣决定教学内容的深浅。俗话说:“兴趣是成功之母。”本书努力通过各种背景知识和词源知识增加趣味性,老师还可以通过调动学生积极参与课堂教学活动激发学生的学习兴趣,可以鼓励学生自己从网络和其他地方寻找相关资料,扩大视野,并且把学到的专业英语知识应用到其他专业课程的学习中,学以致用,切实体会计算机英语的作用,变“要我学”为“我要学”。

本书第 1~11 章由邱仲潘负责,作者翻译了大量计算机科学图书,积累了许多素材,辅助材料大部分是由邱仲潘提供的。刘新钰、薛伟胜、王若涵同志负责第 12 章和第 20 章,曾思亮、王水德、洪镇宇同志负责第 13~



19 章。在本书的写作过程中,宋智军、王帅、刘文红、邹文、邓欣欣、王润涛、周丹丹、朱敏、张朋丽、刘文琼等同志也完成了大量工作,在此深表感谢。由于时间仓促,书中难免存在错误和缺漏之处,期待各位老师和同学不吝赐教,以便今后修订时改正和增补。

编者

2016年11月



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习题答案 /377

Chapter 1

PC Basic

As a college student or person who engages in IT, you must know PC and its components first; include its storage equipments and I/O devices. Now let's see these components first:

1.1 Storage

The purpose of storage in a computer is to hold data or information and get that data to the CPU as quickly as possible when it is needed. Computers use disks for storage: hard disks that are located inside the computer, and floppy or compact disks that are used externally.

1. Hard Disks

Your computer uses two types of memory: primary memory which is stored on chips located on the motherboard, and secondary memory that is stored in the hard drive. Primary memory holds all of the essential memory that tells your computer how to be a computer. Secondary memory holds the information that you store in the computer.

Inside the hard disk drive case you will find circular disks that are made from polished steel.

On the disks, there are many tracks or cylinders. Within the hard drive, an electronic reading/writing device called the head passes back and forth over the cylinders, reading information from the disk or writing information to it. Hard drives spin at 3600 or more rpm (Revolutions Per Minute)—that means that in one minute, the hard drive spins around over 3600 times! Today's hard drives can hold a great deal of information-sometimes over 20GB!

2. Floppy Disks

When you look at a floppy disk, you'll see a plastic case that measures 3.5 by 5 inches. Inside that case is a very thin piece of plastic (see Figure 1.1) that is coated with microscopic iron particles.

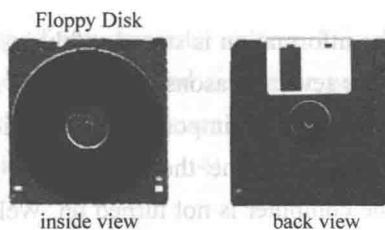


Figure 1.1 Floppy disk

This disk is much like the tape inside a video or audio cassette. Take a look at the floppy disk pictured. At one end of it is a small metal cover with a rectangular hole in it. That cover can be moved aside to show the flexible disk inside.

But never touch the inner disk—you could damage the data that is stored on it. On one side of the floppy disk is a place for a label. On the other side is a silver circle with two holes in it. When the disk is inserted into the disk drive, the drive hooks into those holes to spin the circle. This causes the disk inside to spin at about 300 rpm! At the same time, the silver metal cover on the end is pushed aside so that the head in the disk drive can read and write to the disk.

Floppy disks are the smallest type of storage, holding only 1.44MB.

3. How Hard and Floppy Disks Work

The process of reading and writing to a hard or floppy disk is done with electricity and magnetism. The surfaces of both types of disks can be easily magnetized. The electromagnetic head of the disk drive records information to the disk by creating a pattern of magnetized and non-magnetized areas on the disk's surface.

Do you remember how the binary code uses on and off commands to represent information? On the disk, magnetized areas are on and non-magnetized areas are off, so that all information is stored in binary code. This is how the electronic head can both write to or read from the disk surface. It is very important to always keep magnets away from floppy disks and away from your computer! The magnets can erase information from the disks!

4. Compact Disks

Instead of electromagnetism, CDs(see Figure 1.2) use pits (microscopic indentations) and lands (flat surfaces) to store information much the same way floppies and hard disks use magnetic and non-magnetic storage. Inside the CD-ROM is a laser that reflects light off of the surface of the disk to an electric eye. The pattern of reflected light (pit) and no reflected light (land) creates a code that represents data.



Compact Disk

Figure 1.2 CD

CDs usually store about 650MB. This is quite a bit more than the 1.44MB that a floppy disk stores. A DVD or Digital Video Disk holds even more information than a CD, because the DVD can store information on two levels, in smaller pits or sometimes on both sides.

5. Uses of Floppy Disks

You might wonder: If all the information is stored safely inside my computer, why would I need to store it outside? There are several reasons why portable storage is so important.

Floppies make it possible to backup important information in case it is lost by the computer. RAM loses its memory each time the computer is turned off, but ROM keeps information stored even when the computer is not turned on. Well, sometimes computers have problems that can cause them to crash. No, that doesn't mean they jump off the desk and