

高职高专规划教材

计算机 专业英语

主 编 梁静坤 张春平
副主编 盖建荣 郝敏钗



北京航空航天大学出版社

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内容简介

“计算机专业英语”是综合计算机知识和英语运用能力的课程,是高职高专计算机专业学生的重要工具课程。本书按照“系统、新颖、实用”的原则组织内容,共分为三部分:第一部分主要介绍计算机硬件,包括计算机基础知识、计算机系统单元、计算机输入和输出设备;第二部分主要介绍计算机软件,包括常用的应用软件和系统软件;第三部分主要讲网络应用,包含六个单元,涉及因特网和万维网、网络互联和网上冲浪,以及通信工具和电子商务,最后介绍网络隐患及其解决方法。

本书的主要特点是内容清晰,语句简单、优美,并配以丰富的实物图片,融知识性、趣味性、实用性于一体,有助于读者的学习;难度适当,每章配有关键词,为计算机英语爱好者提供了更多的相关知识。

本书主要面向高职高专院校计算机专业及相关专业的学生,也可以作为计算机爱好者的普及读物。

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前 言

随着信息化社会的发展,计算机和网络的普及突飞猛进。无论是在工业、农业、教育、国防领域,还是在航空航天、材料、生化等工程领域,计算机几乎无处不在。

计算机的新技术通过英语这个渠道流入和传播,所以英语是了解计算机技术的最直接、最便利的语言工具,谁掌握了计算机英语,谁就掌握了最先进的计算机技术。

因此,想要掌握先进的计算机和网络技术,就需要具有较高的英语水平和较丰富的计算机知识。本书的目的就是提高读者的计算机英语阅读、听说和写作能力。

本书英语文字简单、优美,并配以丰富的图片,融知识性、趣味性、实用性于一体,有助于读者的学习。本书共分为三部分,第一部分主要介绍计算机硬件,包含4个单元,分别介绍计算机基础知识、计算机系统单元、计算机输入和输出设备;第二部分主要介绍计算机软件,其中包含两个单元,介绍常用的应用软件和系统软件;第三部分主要介绍网络应用,包含六个单元,涉及因特网和万维网、网络互联和网上冲浪,以及通信工具和电子商务,最后介绍网络隐患及其解决方法。难度适当,每章都配有关键词,为计算机英语爱好者提供了更多的相关知识。

本书由梁静坤、张春平主编,盖建荣、郝敏钗副主编,鲍慧芝、张海鹏、冯秀彦、李丽娟、贺志芳、高欣彦等也参与了本书的部分编写工作。文字校对由金欣担任。本书可作为高职高专计算机专业英语教材,也可以作为计算机爱好者的读物。

书中个别单词和短语专业性较强,读者可以酌情取舍。由于时间仓促,书中难免有不当之处,敬请读者不吝指正。

编 者

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Part One

Hardware

Unit 1

Elementary Knowledge



What kind of hardware will best serve my needs?

A bare-bones hardware computer system might include a desktop or notebook with a hard-disk drive. It should also include a monitor and a printer. With a newer system, the sky's the limit. On the one hand, specialized activities—it's doubtful you'll really need such things as voice-input devices, touch screens, scanners, and the like. On the other hand, you will probably need speakers and a CD-ROM or DVD-ROM drives. The choices of equipment are vast.

What kind of hardware will best serve my needs today?

What kind will best serve my needs in another year or two?



Computers are electronic devices that can follow instructions to accept input, process what input, and produce information. This book focuses principally on microcomputers. However, it is almost certain that you will come in contact, at least indirectly, with other types of computers.

Types of Computers

There are four types of computers; supercomputers, mainframe computers, minicomputers, and microcomputers.

Supercomputers are the fastest, most powerful, and most expensive type of computers. (See Figure 1-1, 1-2.) Organizations such as NASA that are heavily involved in research and “number crunching” employ supercomputer because of the speed with which they can process information. Other large, customer-oriented businesses such as General Motors and AT&T employ supercomputers just to handle customers’ information and transaction processing.

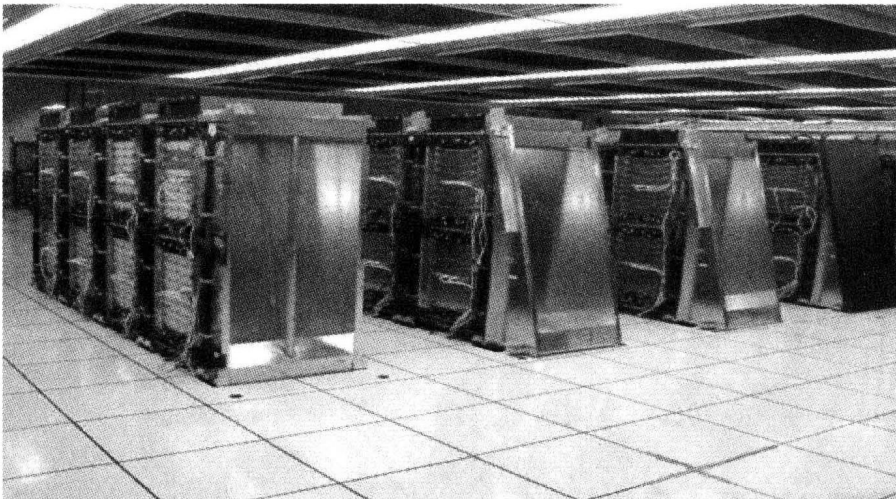


Figure 1-1 Supercomputer 1

Mainframe computers occupy specially wired, air-conditioned rooms. (See Figure 1-3, 1-4.) They are easily cost in excess of \$1 million. With processing speed greater than 1 trillion instructions per second, mainframes can handle the processing requests of hundreds of people simultaneously.

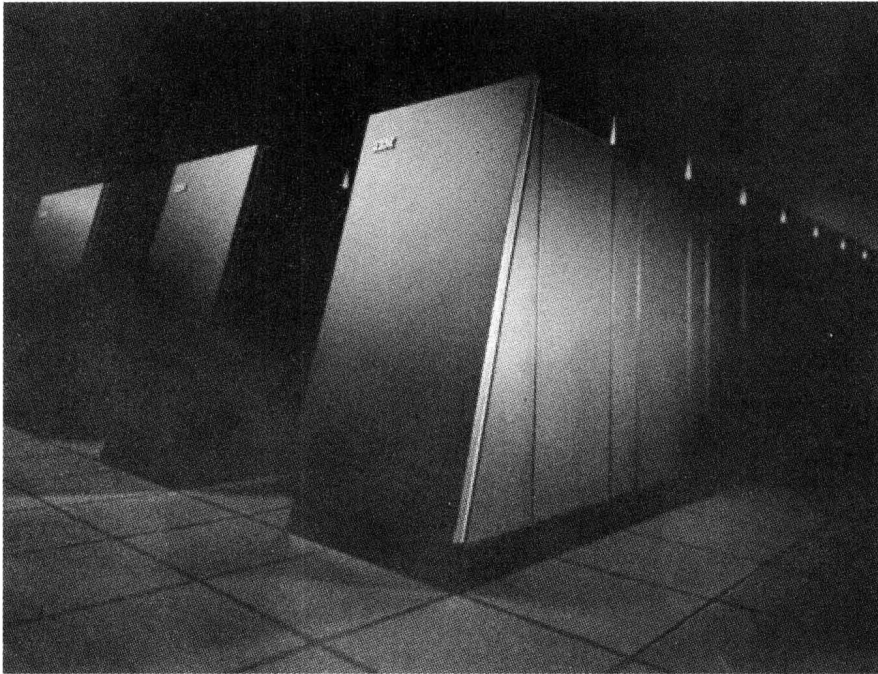


Figure 1-2 Supercomputer 2

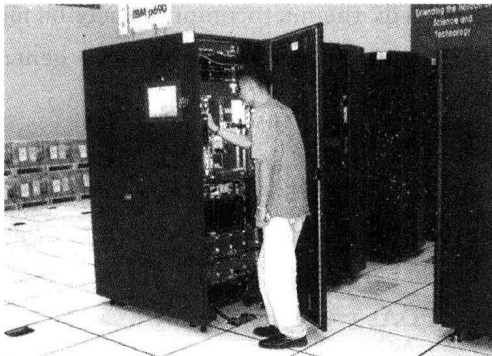


Figure 1-3 Mainframe computer 1

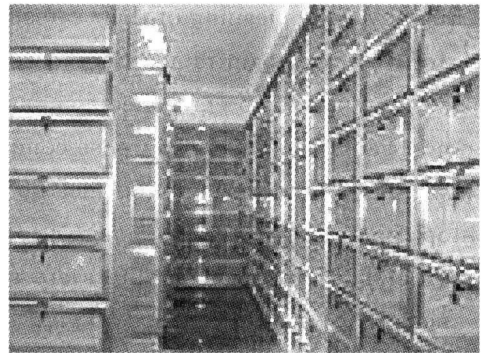


Figure 1-4 Mainframe computer 2

Minicomputers, also known as midrange computers, are desk-sized machines. (See Figure 1-5.) They are designed to meet the computing needs for several people simultaneously in a small to medium-size business environment. Minicomputers are more powerful and faster than desktop computers but also cost more, ranging from \$ 5,000 to several hundred thousand dollars. Minicomputers are well suited for small to medium-size

business environments in which people need to share common information, processing power, and/or certain peripheral devices such as high-quality color printers.

Microcomputers are the least powerful, yet are the most widely used and fastest-growing type of computers. (See Figure 1-6.)



Figure 1-5 Minicomputers



Figure 1-6 Microcomputers

But now, the meaning of their categories have changed, the microcomputer may be more powerful than the mainframe. So the computers are divided into two categories: general-purpose computers and embedded computers.

We discuss the general-purpose computers as follows.

Categories of microcomputer include desktop, notebook, and personal digital assistants. Desktop computers are small enough to fit on top of or alongside a desk, yet are too big to carry around. Notebook computers are portable, weigh between 4 and 10 pounds, and fit into most briefcases. Personal Digital Assistants (PDAs) are also known as palmtop computers or handheld computers. They combine pen input, writing recognition, personal organizational tools, and communications capabilities in a very small package.

Microcomputer Hardware

Hardware for a computer system consists of a variety of different devices. (See Figure 1-7.) This physical equipment falls into three basic categories: system unit, input and output, and secondary storage. Because we will discuss hardware in detail later in following

units, we present just a quick overview here.

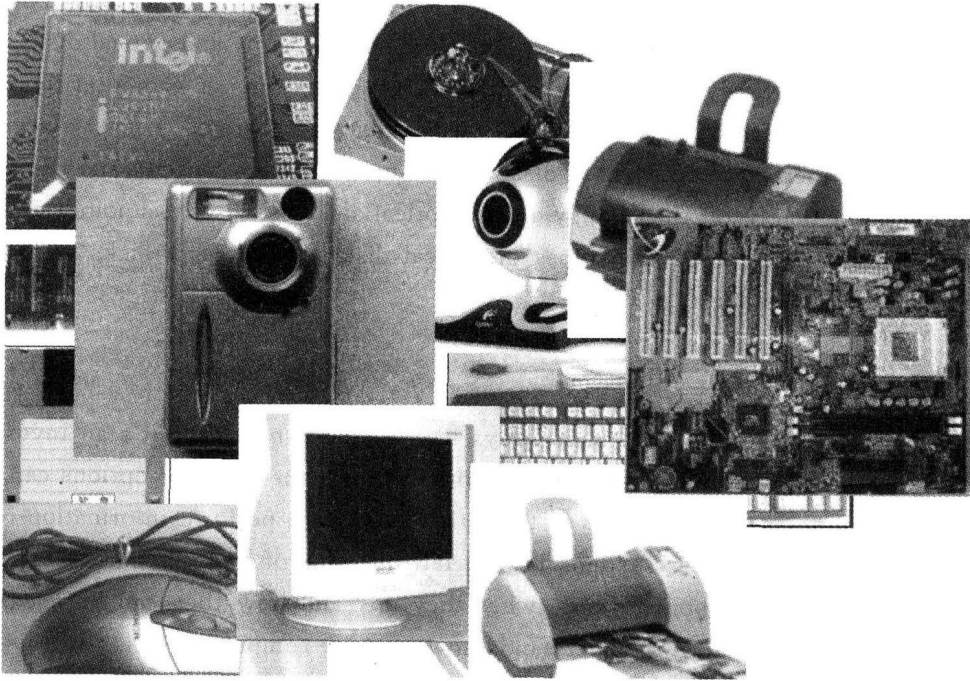


Figure 1-7 Hardware

System unit: The system unit, also known as the system cabinet or chassis, is a container that houses most of the electronic components that make up a computer system. Two important components of the system unit are the microprocessor and memory. The microprocessor controls and manipulates data to produce information. Many times the microprocessor is contained with a protective cartridge. Memory, also known as primary storage or Random Access Memory (RAM), holds data and program instructions for processing the data. It also holds the processed information before it is output. Memory is sometimes referred to as temporary storage because its contents will typically be lost if the electrical power to the computer is disrupted.

Input devices: Input devices translate data and programs that humans can understand into a form that the computer can process. The most common input devices are the keyboard and the mouse.

Output devices: Output devices translate the processed information from the computer into a form that humans can understand. The most common output devices are monitors or video display screens and printers.

Secondary storage devices: Unlike memory, secondary storage devices hold data and programs even after electrical power to the computer system has been turned off. The most important kinds of secondary storages are USB flash memory, hard, and optical disks. USB flash memory disks are widely used to store and transport data from one computer to another instead of floppy disks. Hard disks are typically used to store programs and very large data files. Using a rigid metallic platter, hard disks have a much greater capacity and are able to access information much faster than floppy disks. Optical disks use laser technology and have the greatest capacity. The two basic types of optical disks are compact disks (CDs) and digital versatile (or video) disks (DVDs).

System Unit

Buying a computer system is in many ways like buying a new car—it's an investment that will make your life better and more fun, and sometimes the range of options can make you dizzy. A computer system is a set of tools that helps you perform information-related tasks. Car buyers and computer systems buyers fall into one of two categories. The first knows what the various components are, what they do, and how they can be used. The second, more sophisticated group, understands how a car or computer works. In this unit, we'll introduce the most important parts of the system unit, and hope it will be a consumer's guide to buying the hardware for a computer system. (Figure 1-8 is the developing market named Zhongguancun.)



Figure 1-8 The biggest electronic market in China

The main part of microcomputer is system unit. (See Figure 1-9.) Do you know how the system unit works? We explain the working of the system unit in this unit. Nowadays, why are most of microcomputers more powerful than others? The answer lies in three words: speed, capacity, and flexibility. After learning this unit, you will be able to judge how fast, powerful, and versatile a particular microcomputer is. If you are planning to buy a new microcomputer system or to upgrade an existing system, this knowledge is valuable. In the same time, it can help you to evaluate whether or not an existing microcomputer system is powerful enough for today's new and exciting applications. For example, with the right

hardware, you can use your computer to capture the valuable video clips for your presentations and to watch TV while you work.

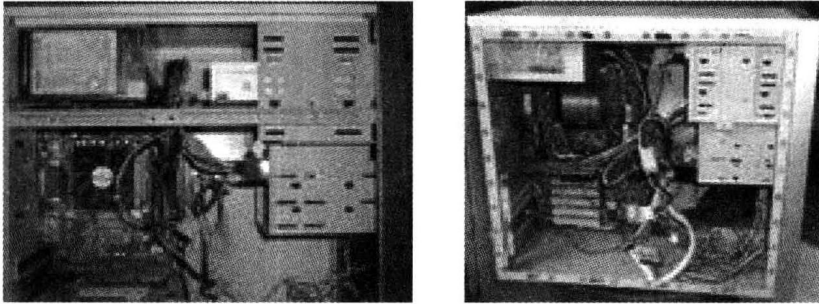


Figure 1-9 System unit

As common users, they have few chances to look the inside of the microcomputer. But if you learn computer, you can get more chances to watch it. When you open it up, you will see that it is basically a collection of electronic circuitry. While there is no need to understand how all these components work, it is important to understand the principles. Once you do, you will then be able to determine how powerful a particular microcomputer is. This will help you judge whether it can run particular kinds of programs and can meet your needs as a user.

As the computer learners, you need to understand the functionality of the basic components in the system unit, including the system board, microprocessor, memory, system clock, expansion slots and cards, bus lines, ports, and cables.

The system unit of a computer is often thought of as a mysterious “black box”. In fact, the system unit is a container that houses most of the electronic components that make up a computer system. It contains the CPU, memory (RAM and ROM) chips, boards onto which chips are mounted, ports and buses. All computer systems have a system unit. For microcomputers, there are three basic types: desktop system unit, notebook system unit, and PDA system unit. (See Figure 1-10.)

Desktop system units typically contain the system’s electronic components and selected secondary storage devices. Input and output devices, such as a mouse, keyboard, and monitor are located outside the system unit. (See Figure 1-10.)

Notebook system units are portable and much smaller. These units contain the electronic components, selected secondary storage devices, and input devices (keyboard and pointing device). Located outside the system unit, the monitor is attached by hinges. (See Figure 1-11, 1-12.)

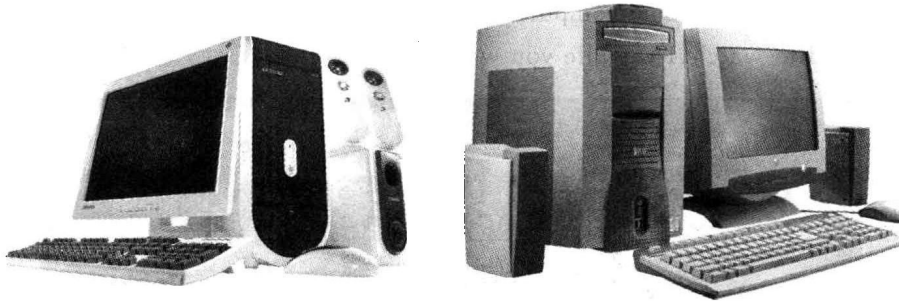


Figure 1-10 Desktop



Figure 1-11 Notebook



Figure 1-12 Notebook

Personal Digital Assistant (PDA) system units are the smallest ones. They contain an entire computer system, including the electronic components, secondary storage, and input and output devices. (See Figure 1-13,1-14.)

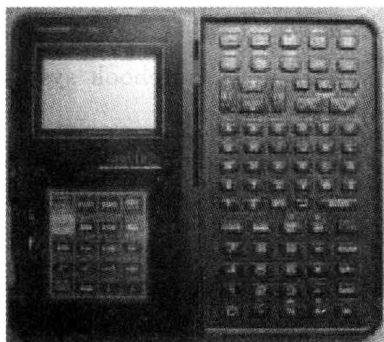


Figure 1-13 The older PDA



Figure 1-14 PDA

Although the actual size may vary, each type of system unit has the same basic system components, including system board, microprocessor, and memory, and they complement the similar functions. The detailed introduction is as follows:

System Board

The system board is also known as the main board or motherboard. It is the main circuit board of a computer, located inside the system unit. (See Figure 1-15, 1-16.) It is also known as the communications web for the entire computer system. Every component of system unit connects directly to the system board. It acts as a data path allowing the various components to communicate with one another. External devices such as keyboard, mouse, and monitor could not communicate with the system unit without the system board.

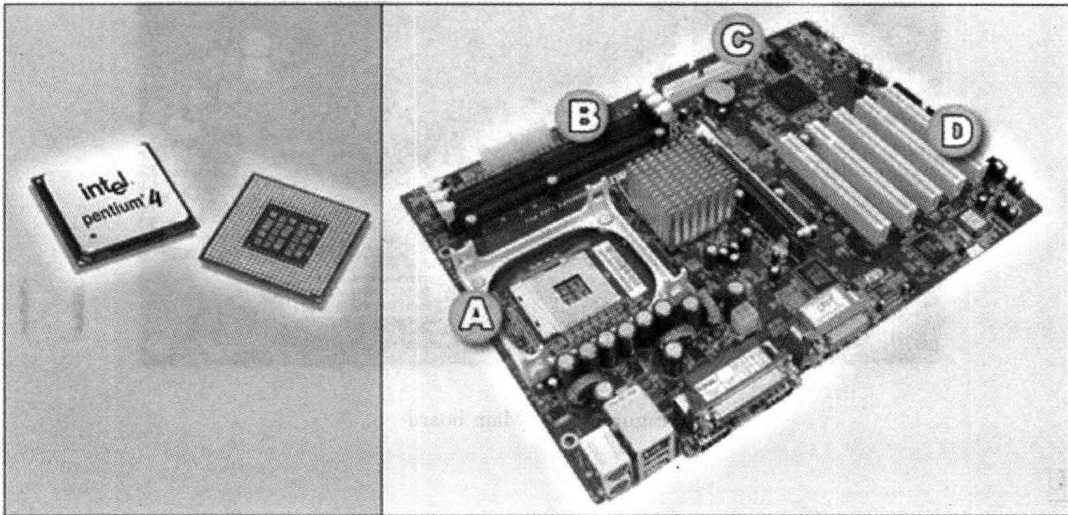


Figure 1-15 CPU and system board

On a desktop computer, the system board is located at the bottom of the system unit. It is a large flat circuit board covered with sockets and other electronic parts, including a variety of clips. A chip consists of a tiny circuit board etched on a postage-stamp-sized square of sandlike material called silicon. A chip is also called a silicon chip, semiconductor, or integrated circuit. Chips are mounted on carrier packages, which then plug into sockets on the system board.

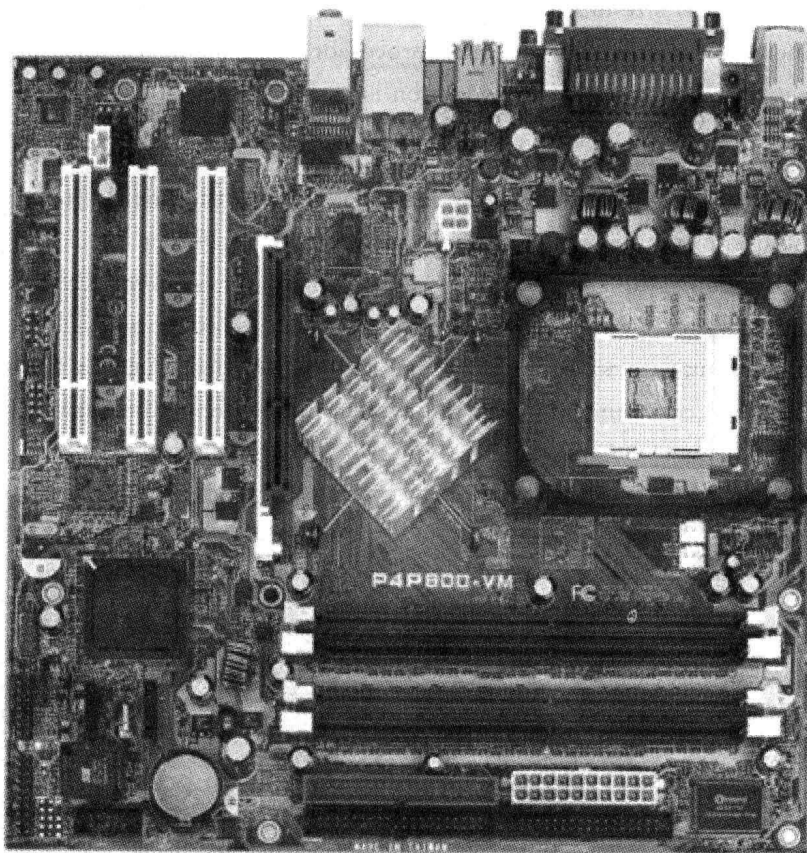


Figure 1-16 Main board

CPU

The Central Processing Unit (CPU) is the most important part in a microcomputer. The CPU or processor is contained on a single chip called the microprocessor. The microprocessor is often contained within a cartridge that plugs into the system board. (See Figure 1-17.) The microprocessor is the “brains” of the system. Most microcomputer systems made today use CPU chips manufactured by Intel, Advanced Micro Devices (AMD), or Motorola. The type of CPU chip in a computer’s system unit greatly affects what a person can do with the system. Software is sometimes designed to

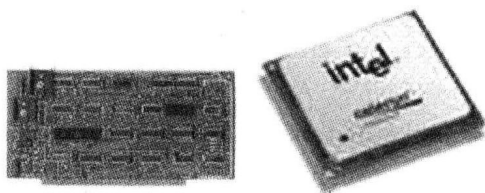


Figure 1-17 CPU