



计算机专业 英语教程

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内 容 简 介

本书的选材首先考虑到计算机的基本体系及常用操作,同时紧跟计算机技术发展变化,尽可能兼顾材料的实用性、广泛性和前瞻性。主要包括:计算机基本知识、计算机发展、内存管理、计算机安全与维护、人工智能、程序设计、多媒体技术、虚拟现实、因特网及最新流行的网上软件工具等。课文之后配有综合练习、常用短语和名词术语注释、阅读理解练习以及生词表。本书注重词汇与内容的实用性,适于作为计算机专业英语课程的教材。

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关于本书

一、目的

本教程可作为各院校计算机专业和以计算机为主干课程专业的计算机英语课教材，也可供有一定英语基础的计算机操作人员自学使用。

二、内容

本教程的选材首先考虑到计算机的基本体系及常用操作，同时紧跟计算机技术日新月异的变化，尽可能兼顾材料的实用性、广泛性和前瞻性。涵盖计算机基本知识、计算机发展、内存管理、计算机安全与维护、人工智能、程序设计、多媒体技术、虚拟真实、Internet 和最新流行的网上软件工具等诸方面。

三、体例

本教材以单元为基本构件。每个单元包括：

1. Passage
2. New Words
3. Technical Terms
4. Abbreviations
5. Notes to the Passage
6. Exercises to the Passage
7. Passage for Reading
8. Exercise to the Passage for Reading

新单词的界定主要参考教育部制定的《大学英语教学大纲通用词汇表》。同时，将在基础英语中相对冷僻的、但在计算机英语中却是常用的单词也列入其内。将单词根据它们的使用频率标以分级记号（*为基础词汇；**为常用计算机词汇；***为不常用词汇），以便在教学过程中把握重点。这样处理的结果使本教程既适合于本科专科院校，同时重点中专的计算机专业的学生也可使用。练习的设计除了主课文和阅读材料的理解外，重点放在计算机术语的反复练习。对使用频率极高的动词也安排了足够的练习。Notes to the Passage 重点讲解长句难句，为学生课后自学提供方便。

全书最后共有五个附录。它们是：

- 主课文参考译文；
- 计算机英语读译技巧；
- 总词汇表；
- 英语构词法；
- 练习参考答案。

“计算机英语读译技巧”紧密结合本教材，对计算机英语的阅读和翻译进行了归纳和

点拨,可有效地提高读者的读译能力;“英语构词法”可帮助学生掌握最常用的构词方法,便于他们迅速扩充英语词汇;总词汇表中包括单词、术语和缩略语,同时可查单词读音。

四、使用

本教程大约需用 72 学时。如果一周开设 4 课时,每周可完成一个单元。最后再用两周进行复习考试。

附录中的内容可供学有余力的同学自学。

五、其它

为方便教学,我们将向教师免费提供教学参考软盘。软盘包括教学所需的资料及期末试卷及答案。请教师填写好书后所附的“读者意见反馈表”寄至彭城大学以获取软盘。

为了更好地汲取读者意见,请读者认真填写“读者意见反馈表”。

六、致谢

本教程的编写得到了美国专家 Peterson 夫妇的大力支持。他们对本书的英文部分进行了认真的阅读、仔细的推敲和必要的修改。

本教程的编写得到了江苏、山东、河南等地十余所高校中从事计算机英语教学的老师们的帮助。他们结合自身教学实践提出了许多有益的建议。

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Unit 1

Passage Computer Hardware

Para 1 Computer hardware can be divided into four categories: (1) input hardware, (2) storage hardware, (3) processing hardware, and (4) output hardware.

Input hardware

Para 2 The purpose of input hardware is to collect data and convert it into a form suitable for computer processing. The most common input device is a keyboard. It looks very much like a typewriter keyboard. Its keys are arranged in the typical typewriter layout. There are also a number of additional keys. They can be used to enter special computer-related codes. Although it isn't the only type of input device available, the computer keyboard is the one which is most generally used by the business community.

Storage hardware

Para 3 The purpose of storage hardware is to provide a means of storing computer instructions and data in a form that is relatively permanent, that is, the data is not lost when the power is turned off — and easy to retrieve when needed for processing. Storage hardware serves the same basic function as do office filing systems except that it stores data as electromagnetic signals or laser-etched spots, commonly on disk or tape, rather than on paper.

Processing hardware

Para 4 The purpose of processing hardware is to retrieve, interpret, and direct the execution of software instructions which are provided to the computer. The most common components of processing hardware are the central processing unit and main memory.

Para 5 The central processing unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

Para 6 Main memory (also called *internal memory*, *primary storage*, or just *memory*) can be thought of as an electronic desktop. The more desk surface you have in front of you, the more you can place on it. Similarly, if your computer has a lot of memory, you can place more software instructions in it. The amount of memory available determines whether you can run simple or sophisticated software; a computer with a large memory is more capable of holding the thousands of instructions that are contained in the more sophisticated software programs. A large memory also allows you to work with and manipulate great amounts of data and information at one time. Quite simply, the more main memory you have in your computer, the more you can accomplish.

Output hardware

Para 7 The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand—examples are paper with text (words or numbers) or graphics printed on it. Softcopy output is displayed on a monitor, a television-like screen on which you can read text and graphics.

New Words

*	available	a.	可用的
*	category	n.	种类, 类型, 类别, 分类
**	code	n.	码, 代码, 编码, 程序
*	community	n.	社区, 社会
*	component	n.	组件, 元件, 部件, 组成部分
**	computer-related	a.	与计算机有关的
*	contain	v.	包含, 包括
*	convert	v.	转换, 变换
*	coordinate	v.	使协调, 调节
**	desktop	a.	桌面的, 台式的
		n.	桌面
**	electromagnetic	a.	电磁的
*	execution	n.	执行, 实行
**	file	n.	文件
		v.	保存文件, 把...归档

**	function	<i>n.</i>	函数, 功能, 操作
		<i>v.</i>	起作用
*	graphics	<i>n.</i>	图形
**	hardcopy	<i>n.</i>	硬拷贝
**	hardware	<i>n.</i>	硬件
**	input	<i>n.</i>	输入
**	instruction	<i>n.</i>	指令, 指导
*	internal	<i>a.</i>	内部的
***	laser-etched	<i>a.</i>	激光蚀刻的
*	layout	<i>n.</i>	布局, 安排, 页面布局, 版面
**	manipulate	<i>v.</i>	操作, 控制, 使用
**	memory	<i>n.</i>	记忆存储, 存储器, 内存, 主存
**	monitor	<i>n.</i>	监视, 显示器, 监视器, 监督程序
		<i>v.</i>	监视, 监控
**	output	<i>n.</i>	输出, 输出设备
*	perform	<i>v.</i>	执行, 完成, 做, 表演
*	permanent	<i>a.</i>	永久的, 持久的
**	program	<i>n.</i>	程序, 步骤, 节目单
**	retrieve	<i>v.</i>	恢复, 寻回
**	software	<i>n.</i>	软件
*	sophisticated	<i>a.</i>	高级的, 复杂的
*	storage	<i>n.</i>	存储, 存储器
*	television-like	<i>a.</i>	像电视机的
*	unit	<i>n.</i>	设备, 单位
		<i>a.</i>	单位的

Technical Terms

a well-designed CPU	设计很好的 CPU
collect data	收集数据
computer instruction	计算机指令

computer processing	计算机处理
electromagnetic signals	电磁信号
electronic desktop	电子桌面
input hardware	输入工具
keyboard function	键盘功能
main memory	主存
manipulate data	管理数据
office filing system	办公室档案系统
on a monitor	在屏幕上
output hardware	输出硬件
processing hardware	处理硬件
processing power	处理能力
retrieve the data	恢复数据
sophisticated software	高级软件
storage hardware	储存硬件
the amount of memory	内存量
the central processing unit	中央处理器

Abbreviations

CPU	Central Processing Unit	中央处理器
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Notes to the Passage

1. [Para 2] data 为 datum 的复数形式，但在美国，data 在语法上也可看作单数。因此，这儿出现了用 it 代替 data 的情形，即...to collect data and convert it into a form suitable for computer processing. 又如：This data has been collected from various sources. (这项资料是从各方面收集来的。) 实际上用 data is 要比用 data are 更常见。
2. [Para 2] Although it isn't the only type of input device available, ...
本句中的 available 为后置形容词，修饰前面的名词 input device，译作“可供使用的输入设备”。英语中的部分形容词可单个作为后置修饰语，例如：test the programs created. 测试所创建的程序；Software compatibility is determined by the kind of processor chip used. (软件的兼容性是由所使用的处理器芯片所决定的。)
3. [Para 3] ... that is relatively permanent, ...

注意，用了 *relatively* 或 *comparatively* 修饰形容词或副词就不能再用它们的比较级，如此处就不能说成：*relatively more permanent*。

4. **[Para 3]** —and easy to retrieve when needed for ...
其中的 *when needed* 是一个省略状语从句，省去了主语 + *be*，这个省略状语从句相当于 *when it (data) is needed*。类似的例如：*A number of problems can occur when (you are) starting up*。
5. **[Para 3]** Storage hardware serves the same basic function as do office-filing systems, ...
本句中的 *do* 为代动词，它代表了前面提到的动词短语 *serve the same basic function* (发挥相同的基本功能)。
6. **[Para 3]** ...except that it stores data as electromagnetic signals ...
本句中的 *except that* 为从属连词，我们可用 *but* 代替 *except*。
7. **[Para 3]** ...commonly on disk or tape rather than on paper.
“*rather than*” 具有否定含义，常表示对照否定。本处意为：“储存在磁盘或磁带上，而不是在纸上”。

Exercises to the Passage

[Ex 1] *Decide whether the following statements are true (T) or false (F) in relation to the information in the passage.*

1. The computer keyboard has exactly the same layout as the typewriter keyboard.
2. To enter special computer-related codes, you may use some additional keys.
3. We must use storage hardware to store computer instructions and data, otherwise they will be lost when the power is turned off.
4. Office filing systems store data as electromagnetic signals or laser-etched spots.
5. The processing hardware is mainly made up of CPU and memory.
6. The design of the CPU determines whether you can run simple or sophisticated software.
7. The more sophisticated software program, the more instructions it contains.
8. If you have a large memory in your computer you'll be able to work with and process great amounts of data and information at one time.
9. The output hardware is the means for the user to see information produced by the computer.
10. You can read hardcopy output on the monitor and softcopy output on paper.

[Ex 2] *Complete the following sentences according to the passage.*

1. The four categories of computer hardware are _____, _____, _____ and _____.
2. A well-designed CPU makes the computer have strong processing _____, and high processing _____ and uses the amount of main _____ effectively.
3. The brain of the computer is the _____.
4. The main memory can be also called _____ memory, _____ storage, or just _____.

5. The example for input device in this passage is the _____; the most common components of processing hardware are the _____ and _____ and the output device this passage deals with is the _____.

[Ex 3] A. Match each of the following terms to the definition that is most closely related.

- A. memory B. keyboard C. information D. Computer
E. data processing F. user G. data H. monitor

1. some one who does not necessarily have much technical knowledge about computers but who makes decisions based on information processed by the computer
2. equipment made up of a combination of electronic and electromechanical (电子机械) components that uses software to process data
3. raw, unorganized and not processed facts
4. meaningful and useful facts that have been processed from data by a computer
5. most common type of input device used with computers
6. processing of data into information
7. output device that can display text and graphics in a variety of colors
8. primary storage of the computer, which can be thought of as an electronic desktop

B. Use the terms mentioned above to complete the following sentences. Change the form if necessary.

1. A display screen often called a monitor, serves as a window on main memory, allowing the _____ to view its contents.
2. Color _____ displays characters, charts, pictures, and diagrams in color.
3. A computer is a machine whose function is to accept _____ and process them into information.
4. The basic input device on most small and microcomputer systems is a _____.
5. A computer is a _____ machine.
6. Unless some human being needs the _____, there is no point to processing the data.
7. A _____ is a machine whose function is to accept data and process it into information.
8. A computer cannot execute a program stored on disk unless it is first copied into main _____.

[Ex 4] Fill in the blanks with the words or terms given below. Change the form if necessary.

function	code	input device	instruction
retrieve	manipulate	hard copy	screen

1. The computer's _____ reads the information into the computer.
2. With a touch _____ or light pen, a user enters a point simply by touching a spot on the _____.
3. The processor _____ the data, storing the results back into memory.
4. If a computer is to function without direct human control, it must be given a set of _____ to guide it, step by step, through a process.
5. In Windows 98, the Recycle Bin is a temporary storage place for deleted files. You can use it to _____ files deleted in errors.
6. Input is a process that involves the use of a device to encode or transform data into digital _____ that the computer can process.
7. One way of obtaining _____ is to press the Ctrl and PrtSc keys simultaneously.
8. The cursor control keys found on many keyboards perform the same _____.

Passage for Reading What Is a Computer System ?

The term computer is used to describe a device made up of a combination of electronic and electromechanical (part electronic and part mechanical) components. By itself, a computer has no intelligence and is referred to as hardware. A computer doesn't come to life until it is connected to other parts of a computer system. A computer system is a combination of five elements (listed here in the order of how expensive it would be to replace them in a system, from least to most expensive):

- Hardware
- Software
- Data/information
- Procedure
- People

When one computer system is set up to communicate with another computer system, connectivity becomes a sixth system element. In other words, the manner in which the various individual systems are connected—for example, by phone lines, microwave transmission or satellite—is an element of the total computer system.

Software is the term used to describe the instructions that tell the hardware how to perform a task; without software instructions, the hardware doesn't know what to do. People operate the computer hardware; they create the computer software instructions and respond to the procedures that those instructions present. You will learn more about software and procedures later. Right

now we want to discuss the importance of data and information.

The purpose of a computer system is to convert data into information. Data is raw, unevaluated facts and figures, concepts, or instructions. This raw material is processed into useful information. In other words, information is the product of data processing. This processing includes refining, summarizing, categorizing, and otherwise manipulating the data into a useful form for decision making. For example, the facts and figures contained in a stack of customer orders waiting to be entered into a computer-based order entry system are data; after the data is entered and processed, an output report about how that data affected product inventory would be information.

People “capture” data in a variety of ways—for example, by reading, listening, or seeing. Then they may record the data on a document. For instance, Roger Shu records his name on an employee timecard by first entering the letter R. This letter, and each of the remaining letters in his name, is an element of data, as are the numbers 12/22 and 5, used to indicate the date and the number of overtime hours worked. By themselves, these data elements are useless; we must process them to make them mean something. The report produced when Roger’s data is run through a computer-based employee records system gives us information—for example, the amount of money due Roger for his overtime work.

Exercise to the Passage for Reading

[Ex 5] *Decide whether the following statements are true (T) or false (F) in relation to the information in the passage.*

1. Usually the term computer is referred to as hardware.
2. The manner in which the various individual systems are connected is also an element of the total computer system.
3. Without being connected with another computer system your computer can’t be called a computer system.
4. Usually hardware is more expensive to replace than software.
5. Without software instructions, the computer doesn’t know what to do.
6. People can make decisions according to the data collected in a variety of ways.
7. The facts and figures can be converted into useful information by the computer.
8. All data can be changed into information.

Unit 2

Passage Types of Computer Systems

Para 1 You should be familiar with the differences among computer systems if you want to show a potential employer that you have a fundamental knowledge of computer. Computers come in a variety of sizes and shapes and with a variety of processing capabilities. The earliest computers were quite large because of the crude technologies used; as technological improvements were made in computer components, the overall size of computers began to shrink. Today, the complete CPU of a computer can be smaller than a postage stamp.

Para 2 To provide a basis for comparing their capabilities, computers are generally grouped into four basic categories:

1. Supercomputers, which are the powerful giants of the computer world;
2. Mainframe computers, which are large, extremely powerful computers used by many large companies;
3. Minicomputers, which are the next most powerful;
4. Microcomputers, which are the least powerful—but which you most likely will be required to use in business.

It's hard to assign a worthwhile definition to each type of computer because definitions can get bogged down in potentially confusing technical jargon. Nevertheless, the following definitions can suffice:

1. A supercomputer can handle gigantic amounts of scientific computation. It's usually maintained in a special room or environment, and may be about 50 000 times faster than a microcomputer. As a user in business, you probably would not have contact with a supercomputer. However, you might if you worked in the areas of defense and weaponry, weather forecasting, scientific research, at one of several large universities, or for the National Aeronautics and Space Administration.
2. A mainframe computer is a large computer, usually housed in a controlled environment, that can support the processing requirements of hundreds and often thousands of users and computer professionals. If you go to work for an airline, a bank, a large insurance company, a large accounting company, a large university, or the Social Security Administration, you will likely have contact, through your individual workstation, with a mainframe computer.