普通高中课程标准实验教科书

英 语

选 修（语言应用类）

计算机英语

Discovering Computers

（中国）　人民教育出版社　课程教材研究所
　　　　　英语课程教材研究开发中心　编著
（美国）　汤姆森学习出版集团

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前　言

　　本套教材是依据《普通高中英语课程标准（实验）》的精神，在美国汤姆森学习出版集团于2003年出版发行的 *Discovering Computers 2004 — A Gateway to Information* 的基础上精心改编而成的。进入21世纪，信息技术的发展日新月异，掌握一定的计算机知识和信息技术常识成为工作和学习的重要组成部分。本套教材结合信息技术知识，力图深入浅出地向学生介绍计算机的基础知识。本套教材适合普通高级中学学生选修使用。

教学目标：
- 帮助学生解个人计算机的硬件、软件、互联网等方面的基础知识。
- 向学生展示计算机和信息技术方面最新的发展。
- 帮助学生了解为什么计算机知识在学习和工作中是不可或缺的。
- 帮助学生了解计算机的发展前景。

教材特点：
- 教材根据学生的兴趣和爱好，由浅及深地讲述计算机知识。例如教材把学生感兴趣的因特网的内容放在第2章，先激发起学生对计算机知识的兴趣，然后再一步一步地学习硬件、软件等，这也符合人的认识规律。
- 每章的内容根据难易度进行了知识分层：本书中层次较深的知识的标题都印刷为红色并标有星号，教学中可根据情况选择是否进行教学。
- 每章后面都罗列了本章中出现的关于计算机和信息技术的术语（KEY TERMS），并且按照其常见程度分为 Primary Terms（一级术语）和 Secondary Terms（二级术语），一级术语为常见术语，二级术语为一般术语。而且为了方便学生识记，在课文中一级术语以黑体字出现，二级术语以斜体字出现。
- 每章的最后都有一个习题部分 CHECKPOINT，学习每一章以后做这些练习题，有利于学生及时检查自己的学习效果。
- 图文并茂。本教材是彩色印刷，而且每一部分都有大量丰富的图片帮助学习理解，使学习变得很轻松、愉快。
- 内容新。本书中涉及到了很多最新的计算机和信息技术方面的技术，这有利于提高学生对计算机的学习兴趣。

教材概述：
　　本套教材共8章，每章分6部分：
- 教学目标：此部分列出了本章的教学目标，即学完本单元后学生可以学到的知识和技能。
- 教学内容：此部分是每章的主体部分，是教学重点。
- 本章总结：此部分总结了本章教学内容的重点。
- 单元注释：此部分对本章中出现的重点、难点的句子进行了注释，以有利于教学。
- 术语列表：此部分列出了本章中出现的计算机术语，分为 Primary Terms 和 Secondary Terms，有利于学生根据这些词语的常用情况掌握它们（一级词汇可以适当识记；二级词汇不做任何要求）。
- 练习题：此部分提供了一定量的练习题，有助于学生巩固所学知识，并进行自我评价。

　　计算机在生活、学习和工作中的应用越来越多，本套教材用鲜活、地道的英语向广大高中生展示了一本内容新颖、图文并茂的计算机教科书。希望大家能掌握一定的计算机知识和技巧，有效利用计算机来提高自己的学习和工作效率。

Discovering Computers
A Gateway to Information

Contents

CHAPTER 1
Introduction to Computers

Objectives:

After completing this unit, you will be able to:
- Define the term "computer".
- Explain the importance of computer literacy.
- Identify the components of a computer.
- Explain the purpose of a network.
- Discuss the uses of the Internet and the World Wide Web.

1. A WORLD OF COMPUTERS

Computers are everywhere: at home, at work, and at school. Many daily activities either use or depend on information from a computer. People use all kinds and sizes of computers for many reasons and in many places. Some computers sit on top of a desk or on the floor; others are small enough to carry.

Computers are the main means of communication for all kinds of people. Employees communicate with customers,

CD/DVD drive (storage)

floppy disk drive (storage)

hard disk drive (storage)

speaker (output)

modem (communications)

scanner (input)

card reader (storage)

digital camera (input)

microphone (input)

system unit (processor, memory, and storage)

keyboard (input)

PC video camera (input)

monitor (output)

screen

pointer

speaker (output)

mouse (input)

printer (output)

FIGURE 1-1 Common computer hardware components include the keyboard, mouse, microphone, scanner, digital camera, PC camera, printer, monitor, speakers, system unit, disk drives, card reader, and modem.

students with teachers, and family with friends and other family members.

Through computers, people have instant access to information from around the world. Local and national news, weather reports, sports scores, airline schedules, job listings, and countless forms of educational material are always available.

In the workplace, employees use computers to create letters and calculate payroll, and weather forecasters use computers to predict weather patterns.[1] Teachers use computers to prepare for and help with classroom teaching, and students finish homework and do research on computers in lab rooms and at home.

People also spend hours of free time on the computer. They play games, listen to music, create music, watch movies, read books or magazines, make videos, edit photos, or plan vacations.

As technology continues to advance, computers are becoming more a part of daily life. Therefore, many people believe that computer literacy is key to success. **Computer literacy** means having the knowledge and understanding of computers and their uses.

This book presents the knowledge you need to be computer literate. As you read this first chapter, remember it is an overview. Many of the terms and concepts introduced in this chapter will be discussed in more detail later in the book.

WHAT IS A COMPUTER?

A **computer** is an electronic device, operating under the control of instructions stored in its own memory, that can accept data, manipulate the data according to certain rules, produce results, and store the results for future use.[2]

Data and Information

Data is a collection of items that have not yet been processed. Data can include text, numbers, pictures, audio, and video. **Information** communicates meaning, i.e. is useful to people. For example, when data such as class names, student names, and class grades are arranged into a grade report, a student has information.

Information Processing Cycle

Computers process input (data) into output (information). A computer often holds data, information, and instructions in storage for future use. *Instructions* are the steps that tell the

computer how to perform a task. Some people call the series of input, process, output, and storage activities the *information processing cycle*.[3]

Most computers today can communicate with other computers. As a result, communications also has become a very important part of the information processing cycle.

THE COMPONENTS OF A COMPUTER

A computer contains many electric, electronic, and mechanical components known as **hardware**. These components include input devices, output devices, a system unit, storage devices, and communications devices.[4] Figure 1-1 shows some common computer hardware components.

Input Devices

An **input device** is any hardware component that allows you to enter data or instructions into a computer. Six widely used input devices are the keyboard, mouse, microphone, scanner, digital camera, and PC video camera (Figure 1-1).

A computer keyboard contains keys you press to enter data into the computer. A mouse is a small handheld device. With the mouse, you control movement of a small symbol on the screen, called the pointer, and you can select things on the screen.

A microphone allows people to speak into the computer to enter data and instructions. A scanner changes printed material (such as words and pictures) into something that the computer can use. For example, you can scan a picture and then put the picture in invitations you create on the computer.

With a digital camera, you take pictures and then transfer the pictures to the computer or printer instead of storing the pictures on traditional film. A PC video camera is a digital video camera that allows you to create a movie or take photos electronically. With the PC video camera attached to the computer, you can make a video telephone call — a call that lets you and the one you call see each other when you talk.

Output Devices

An **output device** is any hardware component that conveys information to one or more people. Three commonly used output devices are a printer, a monitor, and speakers (Figure 1-1).

A printer produces text and graphics on paper or other material. A monitor displays text,

graphics, and videos on a screen. Many monitors look similar to a television. Speakers allow you to hear music, voice, and other audio (sounds).

System Unit

The **system unit** is a box-like case that contains electronic components of the computer. The circuitry of the system unit usually is part of or is connected to a circuit board called the motherboard.[5]

Two main components on the motherboard are the processor and the memory. The *processor* is the electronic component that interprets and carries out the basic instructions that operate the computer. *Memory* consists of electronic components that store instructions waiting to be executed and data needed by those instructions. Most memory keeps data and instructions temporarily, although some kinds of memory are permanent.

Storage Devices

Storage holds data, instructions, and information for future use. For example, computers can store hundreds or millions of customer names and addresses. Storage holds these items permanently.

A computer keeps data, instructions, and

FIGURE 1-2   A floppy disk is inserted in and removed from a floppy disk drive.

information on **storage media**. Examples of storage media are floppy disks, Zip® disks, hard disks, CDs, DVDs, and memory cards. A **storage device** writes and/or reads items to and from storage media. Drives and readers are types of storage devices. They accept only a certain kind of storage media. For example, a CD drive (storage device) accepts a CD (storage media).

A floppy disk consists of a thin, round, flexible disk in a square-shaped plastic shell. You insert

a floppy disk and remove it from a floppy disk drive (Figure 1-2). A Zip disk looks similar to a floppy disk but can store much more — almost 170 times as much as a floppy disk. Zip disks are inserted into and removed from Zip drives.

A hard disk can store even more than a floppy disk or Zip disk. Although some hard disks can be easily removed, most hard disks are usually in a closed, airtight case inside the system unit.

A compact disc is a flat, round, metal disc. One kind of compact disc is a CD-ROM, which can be used in most CD and DVD drives. Another kind of compact disc is a DVD-ROM, which can store a large amount of data — as much as a movie. To use a DVD-ROM, you need a DVD drive (Figure 1-3).

FIGURE 1-3   To use a DVD-ROM, you need a DVD drive.

Some hand-held devices, such as digital cameras, use memory cards or other types of very small storage media. You then can use a card reader (Figure 1-1) to move stored things, such as the digital photographs, from the memory card to a computer or printer.

Communications Devices

A **communications device** is a hardware component that enables a computer to send (transmit) and receive data, instructions, and information to and from one or more computers. A widely used communications device is the modem (Figure 1-1).

Communications occur over cables, telephone lines, mobile phone networks, satellites, or other kinds of media. Some, such as satellites and mobile phone networks, are wireless, which

means they have no real lines or wires. People around the world communicate with each other using these kinds of media.

4. WHY IS A COMPUTER SO POWERFUL?

Computers are powerful for many reasons. They perform the information processing cycle operations (input, process, output, and storage) with amazing speed, reliability, consistency, and accuracy. Computers can store huge amounts of data and information. Also, computers allow users to communicate with other users or computers. A user is anyone who communicates with a computer or makes use of its information.

Speed

In the system unit, operations go through electronic circuits. When data, instructions, and information flow along these circuits, they travel at amazingly fast speeds. Most computers carry out billions of operations in a single second. The world's fastest computer can perform trillions of operations in one second.

Reliability and Consistency

The electronic components in modern computers are dependable because their chance of failure is very low. The high reliability of components make it possible for the computer to produce the same results over and over again.

Accuracy

Computers process large amounts of data and produce error-free results if the data is input correctly and the instructions work properly. If data is not correct, the results will not be correct. A phrase often used in the computer world, known as *garbage in, garbage out*, points out that the correct output depends on whether the input is correct.

Storage

With today's storage devices, the computer can transfer data quickly from storage to memory, process it, and then store it again for future use.

Many computers store huge amounts of data to use for processing whenever it is needed.

Communications

Most computers today can communicate with other computers. Computers with this ability can share any of the four information processing cycle operations — input, process, output, and storage — with another computer. For example, two computers connected by a communications device, such as a modem, can share stored data, instructions, and information. These two computers can be in the same room or thousands of kilometers away from each other in two different countries.

5. NETWORKS AND THE INTERNET

A **network** is a group of computers and devices connected together by communications devices and transmission media. Networks allow computers to share *resources*, such as hardware, software, data, and information. Sharing resources saves time and money. For example, instead of buying one printer for every computer in a school, you can connect all computers to one printer by using a network. This enables all connected computers to use the same printer.

In many networks, one or more computers act as a server. The *server* controls access to a network's resources. The other computers on the network are called *clients*. They request resources from the server (Figure 1-4). The main
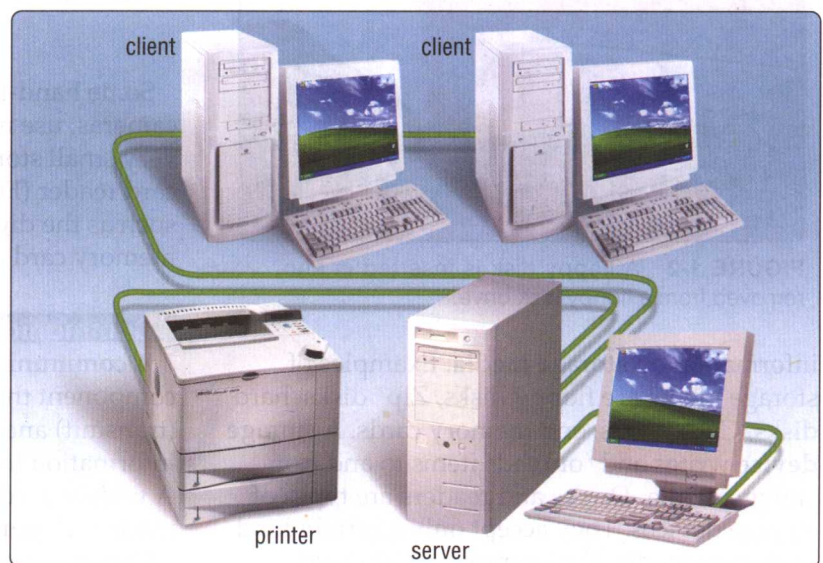
FIGURE 1-4 A server manages the resources on a network and clients access the resources on the server. This network enables three separate computers to share the same printer.

differences between the server and client computers are that the server usually has more power, more storage space, and is more reliable.

Many homes and most businesses and schools network their computers together. Home networks usually are small. Business and school networks can be small or quite large. A network can connect computers in a school laboratory, an office building, a group of buildings, or across a city, country, or the world. The world's largest network is the Internet.

The Internet

The **Internet** is a worldwide collection of networks that connects millions of businesses, governments, schools, and individuals.

People use the Internet every day for many reasons, such as:

- Communicate with and meet other people around the world
- Access a wealth of information, news, and research
- Shop for products and services
- Bank and invest
- Take a class
- Access sources for fun and relaxation, such as online games, music, videos, books, and magazines

The **Web**, short for World Wide Web, is one of the more popular services of the Internet. Think of the Web as a world-wide library of information that is available to anyone connected to the Internet. The Web has billions of documents called Web pages. A Web page can contain text, graphics, audio, and video.

Web pages often have built-in connections, or links, to other documents, graphics, other Web pages, or Web sites. A Web site is a group of related Web pages.

People also connect to the Internet to exchange information with others around the world. E-mail allows you to send messages to other users. With instant messaging, you can have a live conversation with another user who is online. In a chat room, you can communicate with different users at the same time — similar to a group discussion. Some Web sites offer online calendars and address books so you can share information with each other.

In addition to accessing and using information on the Web, many people use the Web to share personal information, photographs, videos, or artwork with the world. Anyone can create a Web page and then make it available on the Internet for others to see (read Issue 1-1 for a related discussion).

6. COMPUTER SOFTWARE

Software, also called a **program**, is a series of instructions that tells the computer what to do and how to do it. A program exists on storage media such as a floppy disk or compact disc.

Installing is the process of setting up the software to work with the computer, printer, and other hardware components. To begin installing the software from a CD or DVD, a user inserts the program disc into a CD or DVD drive. The computer then copies all or part of the program from the disc to the computer's hard disk. After the software is installed, you can use it.

Software is the key to productive use of computers. A computer can be a valuable tool with right software. The two kinds of software are system software and application software. The following sections describe these kinds of software.

System Software

System software consists of all the programs that control or maintain the operations of the computer and its devices. System software serves as the interface between the user, the application software, and the computer's hardware.

Two kinds of system software are the operating system and utility programs.

OPERATING SYSTEM An *operating system* is a set of programs that coordinates all the activities among computer hardware devices. The operating system also contains instructions that allow users to run application software.

Many of today's computers use one of Microsoft's operating systems, such as Windows XP (Figure 1-5).

When a user starts a computer, parts of the operating system load into memory from the computer's hard disk. It stays in memory while the computer is on. The operating system provides a way for users to communicate with the computer and other software.

UTILITY PROGRAMS A *utility program* allows a user to perform operations usually related to managing a computer, its devices, or its programs. For example, one kind of utility program can examine a floppy disk or hard disk
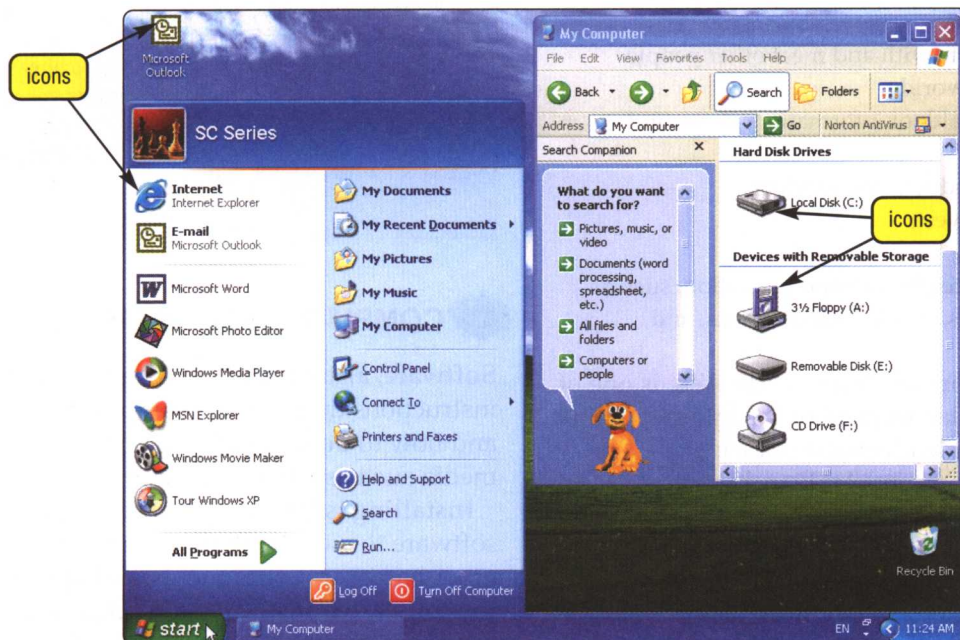
FIGURE 1-5 The graphical user interface of Windows XP.

to find if it has any physical problems such as a scratch. Most operating systems have several utility programs for managing disk drives, printers, and other devices. You can also buy utility programs, which allow you to to manage the computer in other ways.

Application Software

Application software consists of programs that perform specific tasks for users. A widely used type of application software related to communications is a Web browser, which allows users who are connected to the Internet to access

and look at Web pages. Other popular application software includes word processing software, spreadsheet software, database software, and presentation graphics software.

Word processing software allows users to create documents like letters, memos, and brochures. Spreadsheet software calculates numbers arranged in rows and columns and allows users to perform financial tasks. Database software provides a way to store, use, and display data in different ways. With presentation graphics software, users create visual aids for a presentation.

CATEGORIES OF COMPUTERS

Experts usually divide computers into five groups: personal computers, mobile computers and mobile devices, midrange servers, mainframes, and supercomputers. A computer's size, speed, and processing power usually decide which group it fits. Because of rapid changes in technology, however, the difference between the groups is not always very clear. For example, the speed that defines a mainframe computer today may define a midrange server next year. Some characteristics may overlap groups. Still, many people refer to these groups when discussing computers.

COMPUTER APPLICATIONS IN SOCIETY *

The computer has changed society today as much as the industrial revolution changed society in the eighteenth and nineteenth centuries.

You may work directly with computers in fields such as education, finance, government, health care, science, publishing, travel, or industry. Or, you may benefit from discoveries and developments in these fields. The following pages describe how computers have made a difference in people's work in these fields.

Education

Education is the process of acquiring knowledge. Traditionally, people learn from other people such as parents, teachers, and employers. Books and other materials are used to help learning. Today, educators are also using computers to assist with education. Students use software to assist with learning or to finish homework.

Sometimes, the delivery of education is different from the place of learning. For example, students can take a class on the Web. Some classes are mixed, that is, part of the learning happens in a real classroom and the other part happens on the Web.

Finance

Many people and companies use computers to help manage their finances. Some use finance software to pay bills, manage investments, and take care of many other financial tasks. This software usually includes a variety of online services. For example, computer users can keep an eye on investments, compare insurance rates from different insurance companies, and do online banking.

Many banks' Web sites also offer online banking. With **online banking**, users access their account balances, pay bills, and copy monthly transactions from the bank's computer directly onto their computers. When using a Web site instead of finance software on your computer, all your account information is stored on the bank's computer. The advantage is that you can access your bank information from anywhere in the world. Web-based banks often allow you to transfer money from a credit card or bank account to another person's credit card or bank account.

Government

A government provides society with direction by making and administering policies. Many people consider the government responsible for making, carrying out, and interpreting the law. Government also includes areas such as law enforcement, employment, military, national security, taxes, and national and local agencies. To provide people with up-to-date information, most government offices have Web sites.

Employees of government agencies use computers in their daily work.

Health Care

Nearly every area of health care uses computers:
- Hospitals and doctors use computers to keep patient records.
- Computers monitor patients' vital signs in hospital rooms and at home.
- Computers and computerized devices assist doctors, nurses, and technicians with medical tests.
- Doctors use the Web and medical software to assist with researching and diagnosing health conditions.
- Surgeons use computer-controlled devices to help with difficult operations, such as laser eye surgery and heart surgery.

An exciting development in health care is telemedicine, which is a kind of long-distance health care. Through *telemedicine*, health-care workers in different places can meet and hold discussions using the computer. For example, a

doctor in one city can have a conference with a doctor in another city to discuss a bone x-ray. Live images of each doctor, along with the x-ray, are displayed on each doctor's computer.

Science

All branches of science, from biology to astronomy to meteorology, use computers to help them with collecting, studying, and working with data. Scientists also use the Internet to communicate with other scientists around the world.

Breakthroughs in surgery, medicine, and treatments often result from scientists' use of computers. Tiny computers now act like parts of the human body, such as part of an eye or an ear. One tiny computer that is put into the ear allows a deaf person to hear. Cameras small enough to swallow take pictures inside your body to help doctors look for cancer and other problems.

Publishing

Publishing is the process of making work available to the public. These works include books, magazines, and newspapers. Special software assists publishers in designing pages that include text, graphics, and photographs. Journalists carry notebook computers, mobile devices, and digital cameras to catch and record news when it happens.

In addition to printing materials, many publishers make the content of magazines and newspapers available online. Some Web sites allow you to copy an entire book to your computer.

Industry

Industries use computers to help with manufacturing processes. This use is called **Computer-aided manufacturing** (*CAM*). Industries use CAM to reduce product development costs, shorten a product's time to market, and stay ahead of the competition.

Robots often carry out processes in a CAM environment. CAM is used by many industries, including looking for oil, generating power, and manufacturing food and cars. Car factories, for example, have an entire line of industrial robots to put together a car.

CHAPTER SUMMARY

Chapter 1 introduced you to basic computer concepts such as what a computer is, how it works, and what makes it a powerful tool. You learned about the components of a computer. Next, the chapter discussed networks, the Internet, and computer software. Computer applications in society were also presented. This chapter was an overview. Many of the terms and concepts that were introduced here will be discussed further in later chapters.

KEY TERMS

>> Primary Terms
(shown in bold-black characters in the chapter)

application software
应用软件

communications device
通讯设备

computer
计算机

computer literacy
计算机能力(常识、知识)

computer-aided manufacturing
计算机辅助生产

data
数据

hardware
硬件

information
信息

input device
输入设备

installing
安装

Internet
因特网

network
网络

output device
输出设备

photo community
图片社区

program
程序

software
软件

storage device
存储设备

storage media
存储介质

system software
系统软件

system unit
主机、系统单元

telecommuting
远程办公

Web
网络，万维网

>> Secondary Terms
(shown in italic characters in the chapter)

CAM
计算机辅助生产

client
用户、客户机

digital divide
数字鸿沟

garbage in, garbage out*
无用输入，无用输出

information processing cycle
信息处理周期

instructions
指令

memory
内存

operating system
操作系统

processor
处理器

resources
资源

server
服务器

telemedicine
远程医疗

utility program
公用程序

*garbage in, garbage out
    这是一个电脑用语，意为"无用（或错误）输入，则导致无用（或错误）输出"，缩写为 GIGO。这是在资料处理上一个十分著名的理论。这个理论强调的是：对电脑系统来说，只有对有意义的资料输入进行处理，才能产生有意义的输出；无论电脑的能力有多么强大，假如输入电脑中的资料是错误的，则输出的资料必定是无用或错误的。这个电脑用语强调了数据输入的准确性。

单元注释

1 ... employees use computers to create letters and calculate payroll, and weather forecasters use computers to predict weather patterns. 员工用计算机写信、计算薪水；天气预报工作者用计算机预报天气模式。

目前，数值天气预报水平的高低已经成为了衡量世界各国气象事业现代化程度的重要标志，而气象预报也已从传统的理论方法，发展到了今天以大气科学理论为基础、综合运用科技手段，通过高性能计算机平台完成的现代气象数值预报。为了满足气象数据处理中要求的超级运算能力和高存储，我国自主设计出了专门用于气象预报的超级计算机，为我国的气象事业做出了重大贡献。

2 A computer is an electronic device, operating under the control of instructions stored in its own memory, that can accept data, manipulate the data according to certain rules, produce results, and store the results for future use. 计算机是一种在存储于其内存中的指令的控制下接受数据、按一定规则运算数据、并将结果储存起来供将来使用的电子设备。

1946年2月，世界上第一台电子计算机 ENIAC (Electronic Numerical Integrator And Caculator, 电子数字积分计算机）在美国加利福尼亚州问世，ENIAC 用了 18 000 个电子管和 86 000 个其他电子元件，有两个教室那么大，运算速度却只有每秒300次各种运算或5 000次加法，耗资100万美元以上。尽管 ENIAC 有许多不足之处，但它是计算机的始祖，揭开了计算机时代的序幕。

计算机的发展到目前为止共经历了四个时代，从1946年到1959年这段时期我们称之为"电子管计算机时代"。第一代计算机的内部元件使用的是电子管。其特点是发热量大、寿命短，计算机运行时常常发生由于电子管被烧坏而使计算机死机的现象。第一代计算机主要用于科学研究和工程计算。

从1960年到1964年，由于在计算机中采用了比电子管更先进的晶体管，所以我们将这段时期称为"晶体管计算机时代"。晶体管比电子管小得多，不需要暖机时间，消耗能量较少，处理更迅速、更可靠。第二代计算机的程序语言从机器语言发展到汇编语言。接着，高级语言 FORTRAN 语言和 COBOL 语言相继开发出来并被广泛使用。这时，开始使用磁盘和磁带作为辅助存储器。第二代计算机的体积和价格都下降了，使用的人也多起来了，计算机工业迅速发展。第二代计算机主要用于商业、大学教学和政府机关。

从1965年到1970年，集成电路被应用到计算机中来，因此这段时期被称为"中小规模集成电路计算机时代"。集成电路 (Integrated Circuit, 简称IC) 是做在晶片上的一个完整的电子电路，这个晶片比手指甲还小，却包含了几千个晶体管元件。第三代计算机的特点是体积更小、价格更低、可靠性更高、计算速度更快。第三代计算机的代表是IBM公司花了50亿美元开发的 IBM 360 系列。

从1971年到现在，被称之为"大规模集成电路计算机时代"。第四代计算机使用的元件依然是集成电路，不过，这种集成电路已经大大改善，它包含着几十万到上百万个晶体管，人们称之为大规模集成电路 (Large Scale Integrated Circuit, 简称LSI) 和超大规模集成电路 (Very Large Scale Integrated Circuit, 简称VLSI)。1975年，美国IBM公司推出了个人计算机PC (Personal Computer)，从此，人们对计算机不再陌生，计算机开始深入到人类生活的各个方面。

3 Some people call the series of input, process, output, and storage activities the information processing cycle. 有人把输入、处理、输出和存储信息这一系列过程称为信息处理周期。

4 A computer contains many electric, electronic, and mechanical components known as hardware. These components include input devices, output devices, a system unit, storage devices, and communications devices. 一台计算机包括很多电气、电子和机械组件。这些组件又称为"硬件"，包括输入设备、输出设备、系统单元、存储设备和通讯设备。

5 The system unit is a box-like case that contains electronic components of the computers. The circuitry of the system unit usually is part of or is connected to a circuit board called the motherboard. 系统单元是一个盒状的容器，里面容纳了计算机的电子组件。系统单元的线路一般是一个被称为主板的线路板的一部分或是连接在主板上。

打开机箱后，您能够看到的最大的一块电路板就是主板。在它的上面有很多长短不一的插槽，显卡、内存条等设备就是插在这些插槽里与主板连接起来的。除此之外，还有各种元器件和接口，它们将机箱内的各种设备连接起来。如果说CPU是电脑的心脏，那么主板就是血管和神经，有了主板，电脑的CPU才能控制硬盘、软驱等周边设备。

CHECKPOINT

Use the Checkpoint exercises to check your knowledge level of the chapter.

LABEL THE FIGURE Identify these common computer hardware components.

a. card reader (storage)

b. CD/DVD drive (storage)

c. digital camera (input)

d. floppy disk drive (storage)

e. hard disk drive (storage)

f. keyboard (input)

g. microphone (input)

h. modem (communications)

i. monitor (output)

j. mouse (input)

k. PC video camera (input)

l. printer (output)

m. scanner (input)

n. speaker (output)

o. system unit (processor, memory, storage)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

TRUE/FALSE Mark T for True and F for False.

_____ 1. Computer literacy means knowing how to program computers.

_____ 2. Data is a collection of items that have not yet been processed.

_____ 3. The client controls access to the resources on a network.

_____ 4. The Internet is a worldwide group of servers.

_____ 5. Software is a series of instructions that tells the computer what to do.

_____ 6. System software is a set of programs that manages all the activities among computer hardware devices.

_____ 7. Few publishers put magazines and newspapers online.

_____ 8. A network must have a server.

MULTIPLE CHOICE   Select the best answer.

1. As technology continues to advance, many people believe that _____ is key to success.

   a. computer animation

   b. computer programming

   c. computer crime

   d. computer literacy

2. Computer literacy means having the knowledge and understanding of _____ and their uses.

   a. application software

   b. system software

   c. computers

   d. computer hardware

3. Three commonly used _____ are a printer, a monitor, and speakers.

   a. input devices

   b. output devices

   c. storage devices

   d. communications devices

4. A(n) _____ is any hardware component that conveys information to one or more people.

   a. input device

   b. output device

   c. storage device

   d. communications device

5. The circuitry of the system unit is usually part of or is connected to a circuit board called the _____.

   a. processor   b. motherboard

   c. keyboard   d. memory

6. A computer phrase known as *garbage in, garbage out* points out that the _____ of a computer's output depends on the accuracy of the input.

   a. speed   b. correctness

   c. storage   d. consistency

7. In a network, the main differences between the server and client computers are that the server usually has _____ .

   a. less power, less storage, and is less reliable

   b. less power, more storage, but is less reliable

   c. more power, less storage, but is more reliable

   d. more power, more storage, and is more reliable

8. Some widely used _____ include(s) personal information manager, desktop publishing, and Web page authoring.

   a. system software

   b. operating systems

   c. application software

   d. utility programs

WORKING TOGETHER   Working with a group of your classmates, complete the following team exercise.

Six commonly used input devices are listed in this chapter. These devices are a keyboard, mouse, microphone, scanner, PC video camera, and digital camera. Using the Internet or other resources, prepare a report about each one of these devices. Talk about how and when you would use one device instead of another. What are some of the different features available in each device? How would you decide which keyboard, mouse, and so on is the best for your special needs? Share your reports with the class.