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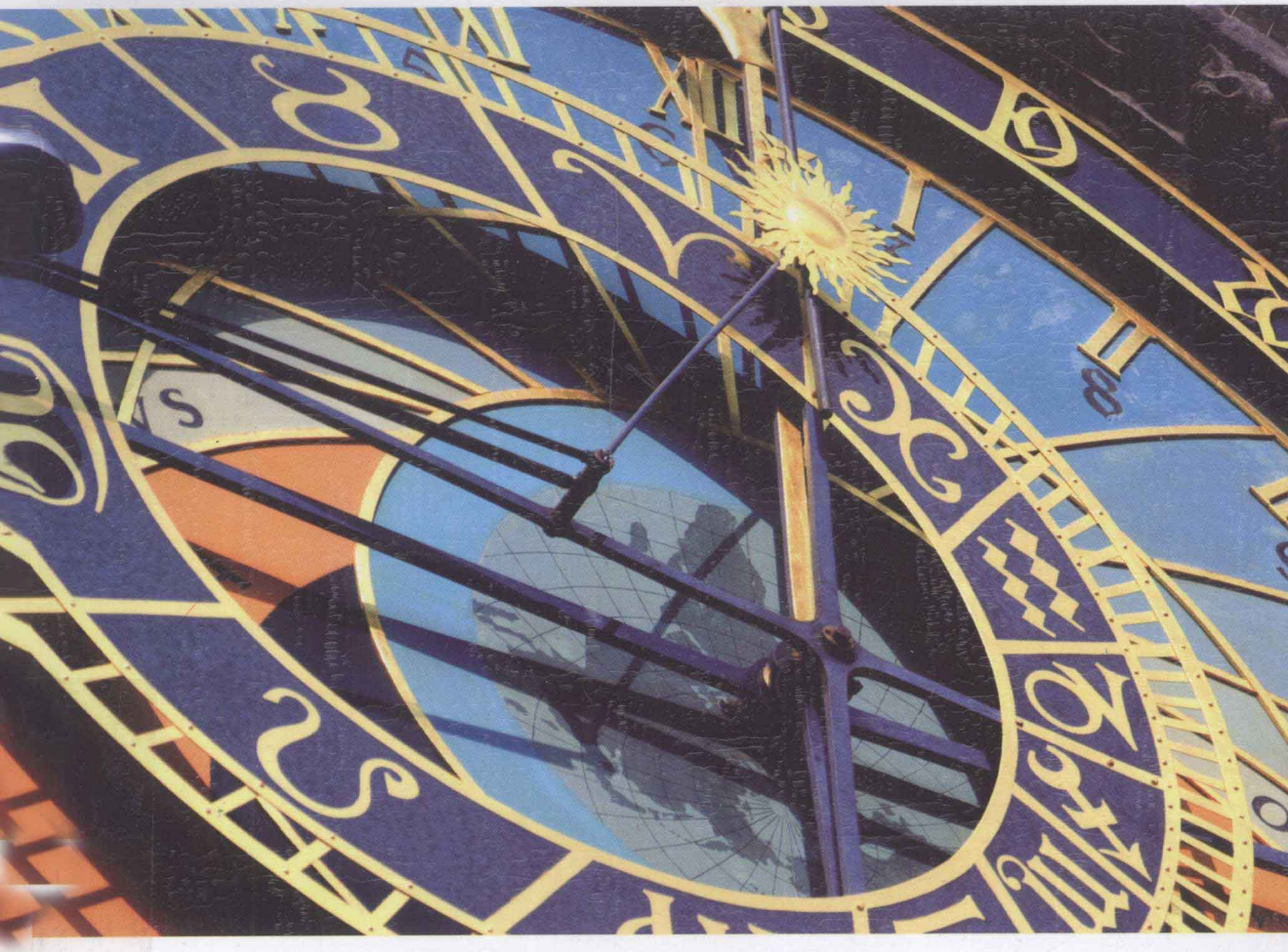
A NEW COURSE IN COMPUTER ENGLISH

新编计算机英语

第2版

王春生 刘 艺 等编著



机械工业出版社
China Machine Press

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本书是为开设计算机专业英语课程的普通高校和广大有志于自学计算机英语的程序员而编写的教材，涉及计算机基础知识、操作系统、程序语言、软件开发、应用开发、网络通信、信息安全、IT应用等方面。全书在第1版的基础上，以计算机和IT领域的最新英语时文和经典原版教材为基础，通过精心挑选难度适中的阅读材料和悉心编写的学习指南，配以详尽的注释和练习，使读者能够了解计算机英语的一般特点并快速掌握大量专业词汇，进而提高阅读和检索计算机原版文献资料的能力。本书选材广泛，图文并茂，特别是人性化的新颖版式设计，极大地方便了读者学习和查阅。此外，本书最后还附有词汇表和缩略词表。

本书可供IT应用型本科生和计算机专业大专生的计算机专业英语教学使用，也可供参加计算机等级考试的考生、IT行业的工程技术人员以及谋求出国发展的计算机人才学习参考。

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前　言

英语作为计算机及IT业的行业性语言，有着其他语言所不能替代的功能。无论是学习最新的计算机技术，还是使用最新的计算机软硬件产品，都离不开对计算机英语的熟练掌握。正是为了适应这种要求，不少有实力、有远见的院校纷纷开设了计算机英语这门课程。有些院校不仅把它作为计算机专业的必修课，甚至还将其作为一门实用的选修课推广到其他专业。

本书是为开设计算机英语课程的普通高校和广大有志于自学计算机英语的程序员而编写的，是我们在编写《计算机英语》（刘艺、王春生编，机械工业出版社出版）第1、2版的基础上，考虑到一些IT应用型本科教学和大专生专业英语教学的需求，结合上述畅销教材的使用意见和教学经验，针对初中级的计算机英语教学要求重新规划和编写的。本书在内容和难度上进行了一定的调整，并增加了一些针对计算机英语的学习指南，加强了对生词和术语的注释，提供了更详细的学习帮助（包括译文、解答和网上资源），从而降低了读者的学习门槛。本书将为深入学习计算机英语、有志全面掌握IT英语的读者提供登堂入室的最佳途径，同时为基础比较薄弱的读者进一步选读我们编写的中高级教材《计算机英语》打下基础。

本教材具有以下主要特色：

1．**精选难度适中的课文**。本教材针对设定的教学要求精心挑选语言地道、难度适中的课文。所有课文既反映计算机科学的技术概貌，又紧扣技术潮流，把握主流经典；既有最新技术时文，也有实用的IT文章。由此给读者带来了大量新鲜的技术术语和缩略词，为读者尽快融入英文技术社区、阅读原文资料提供帮助。那些晦涩深奥、陈腐过时、过于学术化或词汇量过大而影响阅读的文章一律没有采用。显然，简明易读、文笔轻松、知识实用、能够激发阅读乐趣的课文才有益于教学，才是初学者所喜爱的。

2．**详尽的注释、注音**。本教材的生词、术语和缩略词的注释范围扩大，注释内容详尽，并注有音标，这是我们为了更好地照顾初学者而提供的学习便利。考虑到传统教学重阅读轻读说，很多人学成了哑巴英语，不利于国际交流，我们不厌其烦地为生词和术语进行了注音，甚至对难读的或易读错的缩略词也加注音标。例如：缩略词GUI（*g*raphical *u*ser *i*nterface，图形用户界面），读作/ˈguːi /。实际上，即使是业界的一些老程序员也不知道这样的缩略词如何读。

3．**悉心编写的学习指南**。为帮助读者快速掌握计算机英语的学习方法和一般规律，我们根据多年的研究成果和经验积累为读者悉心编写了计算机英语学习指南，分成8个部分，分别编入8个单元的Section C中。学习指南内容包括计算机英语学习方法、计算机英语词汇、计算机英语阅读和计算机英语翻译。值得一提的是，学习指南（Section C）中的绝大部分示例

来源于课文，可紧密结合课文来讲解。由于目前国内还未形成计算机英语的专业研究体系，这方面的成果和可参考的资料几乎没有，因此我们希望通过编写计算机英语学习指南的尝试起到抛砖引玉的作用，积极推动教学研究，提高教学效果，引导学生更好地掌握这门专业英语，为深入学习打下良好的基础。

4．合理优化的体系结构。本书分为8个教学单元（Unit），每个单元又分为精读课文、泛读课文、学习指南3个部分（Section）。同时在全书的体系结构编排上使之更符合计算机科学的体系结构，基本上遵循了计算机基础（1单元）、软件与编程（2～4单元）、网络与安全（5～6单元）、应用（7～8单元）四个层次，可以适应20～40学时的教学需要。

5．新颖、独特的人性化版式。本书最具特色的地方就是旁注生词、脚注难点的同步对照注释版式，加之套色印刷，使生词和例句等应重点记忆和理解的部分更加醒目。另外，书后还附有词汇表和缩略词表，所有生词与缩略词均注明在书中首次出现的课次与具体文章。它们既可作为全书的索引，方便读者进行相关内容的查阅复习，也可作为一本实用的英汉计算机小词典，供读者在日常学习和生活中备用。同时，我们还为大部分文章精心选配了插图和示意图，以增加文章内容的直观性与趣味性，使读者能更好地理解原文和提高学习兴趣。

6．提供完善的售后服务。为了加大对授课老师的支持力度，我们为老师准备了有关教辅材料，授课老师可以登录http://www.hzbook.com注册并下载配套的教辅材料。

参与本书编写的除了封面署名作者之外，还有洪蕾、王珊珊、吴英、刘藩、吴永逸、段立、周安栋等。

本书编写过程中，尽管在资料的查核、术语的汉译以及文字的规范等方面都做了大量工作，但由于计算机领域的发展日新月异，许多新术语尚无确定的规范译法，加上编者水平有限，书中难免有不尽如人意之处，恳请广大读者不吝赐教。

编　者

2012年6月22日于南京

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使 用 说 明

1．本教材在第1版基础上进行了修订，更新调整了大约四分之一的内容。教材共8个单元，每个单元包括两篇文章，课文A为精读材料，课文B为泛读材料。两篇课文均围绕同一主题，课文A一般为该主题的概述，课文B多就该主题的某一具体方面或具体例子展开讨论。

2．课文长度一般为1 000～1 500词，对于课文A要求能正确理解和熟练掌握其内容，对于课文B要求能掌握中心大意，抓住主要事实。

3．课文A配有4项练习，即“课文理解填空”、“词组中英文互译”、“完形填空”和“段落翻译”；课文B配有3项练习，即“课文理解填空”、“词组中英文互译”和“缩略词与汉译配对”（第四、六单元为“术语与定义配对”）。各项练习均与课文内容和计算机专业紧密结合，旨在巩固和拓展学生所学内容。

4．教育部2007年印发的《大学英语课程教学要求》将高等学校非英语专业本科生的英语教学要求分为三个层次，即“一般要求”、“较高要求”和“更高要求”，并规定：“一般要求是高等学校非英语专业本科毕业生应达到的基本要求。”专业英语课程按要求应放在大学英语（公共英语）教学完成之后，这就意味着大学本科生在学习专业英语之前应达到“一般要求”，但不一定达到“较高要求”。因此，本教材的生词选注参照“一般要求”应掌握的词汇。所注生词计有两类：一类是通用词，即超出“一般要求”的词汇；另一类为计算机及相关专业词汇，是超出“一般要求”或“一般要求”未注明有关词义的词汇。但是，由于本教材的适用对象包括计算机及IT相关专业的本科生、高职高专生、从业人员以及其他专业需要或有兴趣学习计算机英语课程的学生或从业人员，因此适当扩大了生词的选注范围。

5．生词均用蓝色粗体在课文中标出，并在课文旁边的文本框中进行注释，以便于阅读和记忆。相同生词原则上只在首次出现之处进行注释，但书后附有生词表备查。每个生词一般标注一个发音，但有的常用异读音也标了出来，中间用逗号分隔；如系英美发音差异，英国发音在前，美国发音在后，中间用分号分隔；生词注音中的斜体音标表示该音可读可不读；短划（-）用于截同示异，代表与前面所注发音相同的部分。

6．计算机英语的特点之一是使用大量的缩略词（这里指首字母缩略词和首字母拼音词），本教材对其采取两种处理方式：一是在首次出现之处加脚注进行说明；二是对大家熟知或其意思在文中不言自明的缩略词未加脚注。但是，无论哪种情况，所有缩略词均收入书后的缩略词表，以备查阅和方便记忆。另外，在计算机英语中，缩略词所代表

的词组或术语在大小写上有比较随意和不一致的现象，本教材原则上尊重原文所采用的形式。

7. 本教材与笔者编著的《计算机英语》（机械工业出版社）适用于不同层次的对象。两本教材可作为配套衔接的教材使用，完成教材学习后应分别达到计算机英语初、中级水平和中、高级水平。

目　录

Unit One About Computers
（关于计算机）

Section A
Computer Overview

overview
/ ˈəʊvəvjuː /
n.〈主美〉概述；概观

You've probably known about computers your whole life. But computers have not really been around for very long.[①] Computers started to become popular with big companies in the 1960s. Computers didn't become widespread in homes and schools until the 1980s.

① *But computers have not really been around for very long*：但是，事实上计算机存在的时间并不是很长。句中的around系形容词，意为“存在着的”、“可得到的”等。

cash register
现金出纳机，收银机
hook / huk /
v. 钩住；连接
coded message
密码电报
desktop / 'desktɔp/
n. 台式（计算）机；桌面
laptop / 'læptɔp /
n. 膝上型计算机，便携机
microwave
/ 'maikrəuweiv /
n. & a. 微波（的）
microwave oven
微波炉
videocassette
/ ˌvidiəukæ'set, -kə- /
n. 盒式录像带
videocassette recorder
盒式磁带录像机
digital video disc
数字（激光）视盘
central processing unit中央处理器
printer / 'printə /
n. 打印机
memory / 'meməri /
n. 存储器，内存
chip / tʃip / **n.** 芯片
memory chip
存储（器）芯片，内存芯片
hard disk硬（磁）盘
drive / draiv /
n. 驱动器
operating system
操作系统
application
/ ˌæpli'keiʃən /
n. 应用程序，（应）用（软）件

I. How Do People Use Computers

People use computers in many ways. Stores use computers to keep track of[①] products and check you out[②] at the **cash register**. Banks use computers to send money all over the world.

Computers help teachers keep track of lessons and grades. They help students do research and learn. Computers let you **hook** up to networks (many computers hooked together). They let you hook up to a worldwide network called the Internet.

Scientists use computers to solve research problems. Engineers use computers to make cars, trucks, and airplanes. Architects use computers to design houses and other buildings. The police use computers to track down[③] criminals. The military uses computers to make and read **coded messages.**

Computers are not just **desktops** and **laptops.** Computers are everywhere around your home. There are tiny computers inside **microwave ovens,** television sets, and **videocassette recorders** (VCRs) or **digital video disc**[④] (DVD) players. There are even tiny computers in cars to help them run better.

II. Hardware and Software

Computers need hardware and software in order to work. Your desktop or laptop and all the parts inside are called hardware. The **central processing unit** (CPU) makes the computer work. The keyboard, mouse, **printer,** and monitor are also pieces of computer hardware.

Memory chips are hardware that stores information and instructions. Information also gets stored on the **hard disk drive.**[⑤]

The programs that run the computer are called software. The computer **operating system** is software that tells the computer how to run. **Applications**

① *keep track of*：保持与…的联系；记录。
② *check out*：（使）结账离开，检出。
③ *track down*：跟踪找到；追捕到；追查到。
④ *disc*：disc本来是英国英语的拼法，其对应的美国拼法为disk。但是，在计算机英语中，现在公认的标准做法是将disc用于表示光盘的场合，而把disk用于所有其他的场合。因此，本文中出现了disc和disk两种拼写形式。
⑤ *Information also gets stored on the hard disk drive*：如同在这句话中，get可用作助动词，与过去分词连用，构成被动语态。

school report
学生成绩报告单

or programs are software that does certain tasks. Word-processing programs, for example, let you write **school reports** and letters.

III. How Can Computers Do So Much

One reason that computers can do so much is that they have a special language that tells them what to do. Computer language has only two letters: zeros and ones. Computers can read these ones and zeros extremely quickly.

bit / bit /
n. 位，比特
byte / bait /
n. 字节

Each zero or one is called a **bit**. Eight zeros and ones together are called a **byte**. Bits and bytes get stored in computer memory chips. Every year, computer engineers make chips that can hold more bytes. The chips can hold more information. Programmers can write applications that can do more things.

IV. Who Invented the Computer

subtract / səb'trækt /
v. 减，减去
lever / 'li:və /
n. 杠，杠杆
punch / pʌntʃ /
v. 在…上打孔；
打出（孔）

Many inventions have contributed to the development of modern computers. French mathematician Blaise Pascal① and other inventors in the 1600s began making machines that could add and **subtract** numbers. Wheels, **levers**, and other moving parts made these machines work. In the 1800s, British mathematicians Charles Babbage② and Augusta Ada Byron③ worked on plans for machines that could store information on cards with holes **punched** in them.

census / 'sensəs /
n. 人口普查

digit / 'didʒit /
n.（0到9中的任何一个）数字，数位，位
digital computer
数字计算机

American inventor Herman Hollerith④ made a machine that automatically totaled population figures for the 1890 United States **census**. His company joined with other companies to become International Business Machines (IBM⑤) in 1924. Other inventors built better computers. But none of these early computers were digital—that is, none used the **digits** zero and one.

The first **digital computer**, called ENIAC⑥ (see Figure 1A-1), was built in the 1940s. It was huge. It was as big as a house. It had more than 18,000 glass tubes inside and weighed more than five elephants.

① *Blaise Pascal*：布莱斯·帕斯卡（1623—1662），法国数学家、物理学家、哲学家，概率论创立者之一。
② *Charles Babbage*：查尔斯·巴比奇（1792—1871），英国数学家和发明家。
③ *Augusta Ada Byron*：奥古斯塔·埃达·拜伦（1815—1852），英国数学家，诗人拜伦之女。
④ *Herman Hollerith*：赫尔曼·何勒里斯（1860—1929），美国发明家和统计学家。
⑤ *IBM*：（美国）国际商用机器公司（*I*nternational *B*usiness *M*achines的首字母缩略）。
⑥ *ENIAC*：电子数字积分计算机，ENIAC计算机（*E*lectronic *N*umerical *I*ntegrator *A*nd Computer的首字母缩略），读作 / 'i:niæk /。

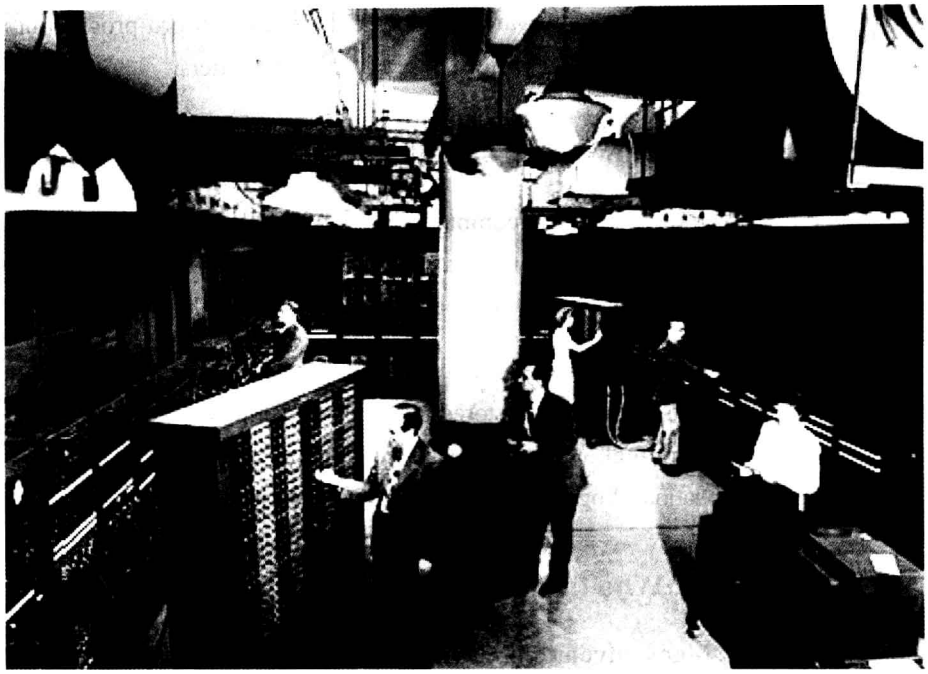

Figure 1A-1: ENIAC was one of the first fully electronic digital computers.

mainframe / 'meinfreim / n. 主（计算）机；大型机
desktop / 'desktɔp / a. 台式的；桌面的
laptop / 'læptɔp / a. 膝上型的
transistor / træn'sistə / n. 晶体管
integrated circuit 集成电路
cram / kræm / v.把…塞进（*into*）；把…塞满（*with*）
personal computer 个人计算机，个人电脑

The first computer used by business was called UNIVAC①. Big computers like ENIAC and UNIVAC were called **mainframes**. The **desktop** or **laptop** computer that you use today is much more powerful than those big machines.

In the 1940s, scientists at Bell Telephone Laboratories② invented a tiny electric switch called the **transistor**. In the 1960s, scientists and engineers invented **integrated circuits** or computer chips. Computer chips **cram** millions of transistors into a space the size of your little fingernail. Computer chips allowed computers to be smaller.

Personal computers (PCs) were invented in the 1970s. Most PCs are meant to be used by only one person at a time. They are small enough to fit on a desk. The Altair 8800③ was the first PC. Apple Computer④ made its first PC in 1977. IBM made its first PC in 1981.

① *UNIVAC*：通用自动计算机（*Univ*ersal *A*utomatic *C*omputer的缩略），读作 / 'ju:nivæk /。
② *Bell Telephone Laboratories*：贝尔电话实验室，即后来的贝尔实验室（Bell Labs）。
③ *Altair 8800*：阿尔塔8800，是位于美国新墨西哥州阿尔伯克基的MITS公司（微仪器遥测系统公司）于1975年1月推出的世界上首款真正意义上的个人电脑产品。Altair 8800首次把小型计算机作为一种大众商品推向电子消费市场。
④ *Apple Computer*：（美国）苹果计算机公司。

V. Who Invented Computer Programs

compiler / kəm'pailə /
n. 编译程序，编译器
programming language
程序设计语言，编程语言
bug / bʌg /
n. 虫子；臭虫；（程序）错误，故障
moth / mɔθ; mɔ:θ /
n. 蛾，飞蛾
tape / 'teip /
v. 用胶布固定

Computer programs are sets of instructions that tell a computer what to do. Many people worked on early computer programs. The first programs were very hard to write and understand. They were extremely long strings of zeros and ones.

American naval officer and mathematician Grace Murray Hopper① in 1952 wrote the first program that turned English computer instructions into the strings of ones and zeros that make computers work. These programs are called **compilers**. In 1957, she helped develop the first **programming language** that companies could buy and use. It was called FLOW-MATIC②. Hopper was also the first to use the word **bug** to mean a problem with a computer. She found a **moth** trapped in one of the computers she worked with. She **taped** the moth into her notebook and wrote, "First actual case of a bug being found."③

VI. Later Developments

As computers have become more powerful and widespread, operating systems have become extremely complex. Few people can use a computer without one. Scientists at AT&T④ developed an operating system called UNIX⑤ in 1969. UNIX and related operating systems such as Linux⑥ are popular at universities and among computer professionals. In 1975, Bill Gates⑦ and his friend Paul Allen⑧ wrote a program for the Altair 8800 and founded the Microsoft Corporation⑨. Microsoft later developed the DOS⑩

① *Grace Murray Hopper*：格雷斯·默里·霍珀（1906—1992），美国海军少将，应用数学家，计算机程序语言的开拓者。1991年被布什（George Herbert Walker Bush）总统授予国家科技勋章。

② *FLOW-MATIC*：1957年，Grace Hopper及其同事设计了首款商用高级计算机语言FLOW-MATIC。该语言直接导致了COBOL程序语言的产生。在COBOL产生之前，大家一直都在用汇编语言编写程序。Hopper成功地使程序语言的语法同自然语言的语法相类似。这样，非技术人员也可以编写代码，开启了商业程序代码的时代。

③ *She taped the moth into her notebook and wrote, "First actual case of a bug being found."*：她用胶带把飞蛾粘贴到笔记本里，并写道："发现的第一个虫子（故障）实例"。在这句话中，bug系双关语，意指进入计算机的飞蛾导致了计算机故障。

④ *AT&T*：美国电话电报公司（*A*merican *T*elephone *and T*elegraph的缩略）。

⑤ *UNIX*：UNIX操作系统，系美国AT&T公司开发的一种操作系统，1971年首次运行在PDP-11（美国DEC公司即数字设备公司推出的一种小型机）上，主要开发人为肯·汤普森（Ken Thompson，1943—）与丹尼斯·里奇（Dennis Ritchie，1941—2011）。

⑥ *Linux*：Linux操作系统，自UNIX发展而来，由芬兰人莱纳斯·托瓦尔德斯（Linus Torvalds）于1991年编写成功，随后采用开放源代码方式在因特网上由全球编程人员共同开发，获得极大成功。莱纳斯·托瓦尔德斯1969年出生于芬兰赫尔辛基，1988年进入赫尔辛基大学攻读计算机科学专业，1991年开发出Linux操作系统的第一个版本。

⑦ *Bill Gates*：比尔·盖茨（1955—），微软公司董事会主席和首席软件架构师，18岁入读哈佛大学，读到二年级时辍学，后来创立微软公司。

⑧ *Paul Allen*：保罗·艾伦（1953—），入读华盛顿州立大学两年后辍学，与比尔·盖茨一起创立微软公司。

⑨ *Microsoft Corporation*：（美国）微软公司。

⑩ *DOS*：磁盘操作系统（*D*isk *O*perating *S*ystem的首字母缩略），读作 / dɔs /。

supercomputer / ˌsjuːpəkəmˈpjuːtə / n. 超级计算机，巨型计算机
cell phone 蜂窝电话，移动电话，手机
surf / səːf / v.（在…）冲浪
web / web / n.（蜘蛛等的）网；网络

and Windows operating systems used on many home and office PCs.

Computers keep getting smaller and more powerful. Personal computers that fit on a desktop today are more powerful than early "**supercomputers**" that filled entire rooms. **Cell phones** and watches contain tiny computers that can store information such as telephone numbers, addresses, and appointments. These devices allow you to **surf** the **Web**[①] and play games. Many computer experts think that computers have only begun to make their mark on history.

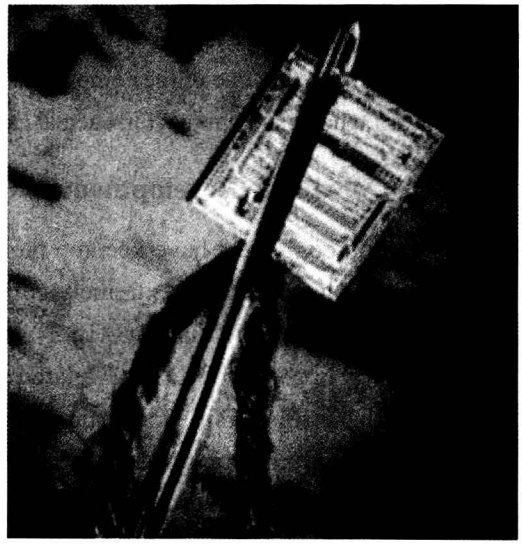

Figure 1A-2: A Miniature Computer Chip
As computers have become more advanced, their parts have become smaller and smaller. This tiny computer chip is small enough to pass through the eye of a needle!

miniature / ˈminiətʃə / a. 小型的，微小的

Exercises

I. Fill in the blanks with the information given in the text:

1. A(n) _____ is made up of eight _____, which are the smallest units of information handled by a computer.

2. According to the text, _____ was the first digital computer ever built in history.

① *Web*：这里指"万维网"、"WWW网"（全称为World Wide Web或World-Wide Web，常缩略为WWW、w3、W3和Web）。

3. It is believed that _____ wrote the first program that turned English computer instructions into the strings of 1s and 0s that make computers work.

4. British mathematicians Charles Babbage and Augusta Ada Byron once worked on plans for machines that could store information on _____ cards, which had _____ in them.

5. With the rapid development of computer technology, the _____ or laptop computers we use today are much more powerful than the _____ built decades ago, such as ENIAC and UNIVAC.

6. The invention of _____ circuits or computer _____ in the 1960s made it possible for computers to become smaller.

7. A computer program is a detailed set of _____ used to tell a computer how to solve a problem or carry out a task.

8. Invented in the 1970s, _____ computers are designed to meet the computing needs of an individual.

II. Translate the following terms or phrases from English into Chinese and vice versa:

1. digital video disc	2. 台式机
3. word-processing program	4. 个人计算机
5. memory chip	6. 中央处理器
7. coded message	8. 计算机程序
9. cell phone	10. 计算机硬件
11. integrated circuit	12. 计算机软件
13. laptop computer	14. 数字计算机
15. hard disk drive	16. 计算机芯片
17. videocassette recorder	18. 操作系统
19. programming language	20. 磁盘操作系统

III. Fill in each of the blanks with one of the words given in the following list, making changes if necessary:

term	*find*	*instruction*	*definition*
accept	*variety*	*machine*	*mainframe*

output	*dictionary*	*size*	*difficult*
computer	*electronic*	*category*	*calculator*

The word "computer" has been part of the English language since 1646, but if you look in a _____ printed before 1940, you might be surprised to _____ a computer defined as a person who performs calculations! Prior to 1940, _____ designed to perform calculations were referred to as _____ and *tabulators* (制表机), not computers. The modern definition and use of the _____ "computer" emerged in the 1940s, when the first _____ computing devices were developed.

Most people can form a mental picture of a _____, but computers do so many things and come in such a _____ of shapes and sizes that it might seem _____ to *distill* (提炼) their common characteristics into an all-purpose _____. At its core, a computer is a device that _____ input, processes data, stores data, and produces _____, all according to a series of stored _____. Based on such *criteria* (标准) as usage, cost, _____, and capability, computers can be grouped into the following _____: personal computers, handheld computers, workstations, *videogame consoles* (电子游戏机), _____, supercomputers, and servers.

IV. Translate the following passage from English into Chinese:

A computer system includes a computer, *peripheral* (外围的) devices, and software. The electric, electronic, and mechanical devices used for processing data are referred to as hardware. In addition to the computer itself, the term "hardware" refers to components called peripheral devices that expand the computer's input, output, and storage capabilities. Computer hardware in and of itself does not provide a particularly useful mind tool. To be useful, a computer requires a set of instructions, called software or a computer program, which tells the computer how to perform a particular task. Computers become even more effective when connected to other computers in a network so users can share information.