软件人员英语考试指导

江华圣　编著

国防工业出版社

北京科海培训中心系列教材

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(京)新登字 106 号

内 容 简 介

从 1987 年以来，全国部分省市试行了计算机应用软件人员水平考试，并从 1990 年 2 月起，国家人事部将这项考试作为计算机应用软件人员专业技术任职资格的凭证在全国实行。本书旨在提高计算机专业人员英语的阅读能力，并帮助广大应试人员复习和学习，检验自己的英语能力。本书分为阅读指导，阅读材料，中国及日本历年不同级别计算机应用软件人员水平考试试题及解答，常用英汉计算机专业词汇对照表等四部分。为方便广大读者，书末还搜集了 IBM—PC 机常用出错信息表及汇编程序出错信息。

本书是广大计算机应用软件人员参加应用软件人员任职资格考试的良师益友，亦可作为大中专院校的计算机专业的学生学习计算机专业英语教材使用，还可供使用计算机的工程技术人员参考。

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新华书店经售

北京门头沟胶印厂印装

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787×1092 毫米 16 开本 13 印张 333 千字

1992 年 8 月第一版 1992 年 8 月第一次印刷 印数：00 001—5000 册

ISBN 7-118-01056-1/TP・134 定价：10.00 元

前　言

60年代以后，美、英、日等许多发达国家和地区相继建立了软件人员水平考试制度，我国从1987年起，全国各省、市相应建立了计算机应用软件人员水平考试工作制度。1990年2月，劳动人事部又把该项考试作为计算机应用软件人员专业技术职务资格考试，以考代评在全国实行。实践表明，水平考试制度是培养和考查计算机应用软件人员的一项有效措施。

计算机专业英语是广大计算机人员的主要工具，从历年的考题分析看来，英语部分考题份量占上午试题的五分之一，这个数字足以说明外语水平对一个计算机工作者的重要程度。

为提高广大计算机应用软件人员的英语能力，本书从加深阅读理解入手，以最新计算机技术资料为例，介绍了计算机专业英语的阅读理解及解题技巧。书中第二部分为阅读材料，并附有练习与答案。书中第三部分收集了我国1987～1991年各种不同级别的计算机应用软件人员任职资格水平考试试题及参考答案和日本1983～1989年全国计算机统考试题及解答。书中第四部分为常用英汉计算机专业词汇对照表，供广大读者阅读计算机最新技术资料参考。书后附有包括DOS(磁盘操作系统)命令、IBM－PC机常用出错信息一览表及汇编程序出错信息。

全书第一、二部分由陈星焯教授审阅。沈孟煜对本书提出了部分修改意见。赵薇、肖卫平、管玉芬帮助整理了部分资料。在此一并致谢。

由于时间紧迫，书中缺点和错误在所难免，恳请读者批评指正。

编　者

1992年6月

目　录

第一部分 综 合 阅 读

从1990年以来，国家人事部与机电部计算机软件人员考试中心对计算机的应用软件人员分初级程序员、程序员、高级程序员及系统分析员四个级别实行了全国统一考试。从参加考试人数最多的程序员级和高级程序员级两个级别的考题来看，上午试题中的外语题占总分的五分之一。由此可以看出外语对于从事计算机软件专业的人员的重要程度。

计算机的专业英语是众多的计算机应用软件人员选考的语种。严格说来，语言最初并无什么专业可分。只是随着科学技术的飞速发展，各种新技术，新专业知识应运而生，各种专业知识越分越细，趋于专门化，相应的专业术语也就随之诞生了。

计算机专业英语主要包括基础英语知识、计算机专业的英语词汇及使用方法、以及计算机专业的相关领域的基本知识。为帮助读者提高计算机专业英语的阅读能力，我们以最新的计算机英语阅读材料与练习为例来展开分析，以供参考。

一、 掌握一定数量的英语词汇及基本语法(尤其是有些词语的固定搭配用法)

请看下例：

A total computer system includes both hardware and software. Hardware consists of the physical components and all associated equipment. Software refers to the programs that are written for the computers. It is possible to be familiar [A]various aspects of computer software without [B]concerned with details of how the computer hardware operates. It is also possible to design parts of the hardware without a knowledge of its software capabilities. However, those concerned with computer[C] should have a knowledge of both hardware and software because the two branches[D]each other.

A program written by a user may be either dependent or independent of the physical computer that runs his program. For example, a program written in standard FORTRAN is machine[E].

供选择的答案：

1 dependent	2 independent	3 character	4 at	5 with
6 flow	7 affect	8 influence	9 being	10 to be
11 have been	12 architecture	13 block	14 hardware	15 software

答案：

A. 5； B. 9； C. 12； D. 8； E. 2

这一段英语的中文意思是：一个计算机系统包含硬件和软件两个部分。硬件是由物理构件及其有关的所有设备组成的。软件指的是为计算机编写的程序。熟悉计算机软件的各种语言便可以不必详细地了解计算机硬件的工作方式(此处的词组 to be familiar 与介词 with 为固定搭配，因此 A 空应选 5with)，只搞硬件部分的设计也可以不必具备软件方面的知识。然而研究计算机体系结构的人，就必须具备计算机的硬件和软件两个方面的知识。因为，这两个分支的科学知识相互影响。

B 空后接 be concerned with，意为涉及或研究。它与 verb to be 固定搭配，因其前面有介词 without ，所以应填动名词的被动形式 being。

该段文字的最后一部分指的是由用户编写的程序，可以与运行该程序的计算机相关，也可以与

其无关。例如，以标准 FORTRAN 编写的程序就是与机器无关的。machine independent 意为与机器无关。因此，具有这一方面的基本知识就可以选好恰当的词语。

二、 掌握必备的英语语法知识与计算机的基础知识

请看下例：

The binary number system is the most natural system for a computer, but [A] are accustomed to the decimal system. One way to solve this conflict is to convert all input [B] numbers into [C] numbers. Let the computer perform all arithmetic operations in binary and then convert the binary results back to decimal for the human user to understand. However, it is also possible for the computer to perform arithmetic operations directly with decimal numbers provided they are placed in registers in a coded alphanumeric [D].

供选择的答案：

1	binary	2	decimal	3	code	4	digit	5	digital
6	people	7	machines	8	computers	9	characters		

答案：

A. 6； B. 2； C. 1； D. 9

本段文字的意思是：二进制对计算机说来是最合适不过了，但是人们都习惯于十进制（此处 A 的位置是在句首作主语用，而从下文中可以看出人们习惯于十进制的计数方式，因此 A 空应选 6people）。解决这种矛盾的一种方式是将所有输入的十进制数转换为二进制数，让计算机能按二进制来执行全部的算术运算，然后再将二进制的运算结果转换为能便于人们理解的十进制（对于 B，C 两空，具有一点计算机硬件基础知识中有关数制转换的基本知识就不难选择了）。然而，让计算机直接对存入在寄存器中的字母数字化的字符按十进制进行算术运算也是可能的（根据专业知识，在编码的字母数字化后应填入字符 characters 一词）。

此外，一定的逻辑推理能力对分析填充题很有帮助，请看下例：

The complexity of the logic diagram that implements a boolean function is directly related to the [A] of the algebraic expression from which the function is implemented. The truth table representation of a function is [B] but the function can appear in many different forms when expressed [C]. The expressition may be simplified using the basic relations of boolean algebra. This procedure, however, is sometimes difficult because it [D] specific rules for predicting each succeeding step in the manipulative process. The map method provides a simple, straightforward procedure for simplifying boolean functions. This method may be [E] as a pictorial arrangement of the truth table which allows an easy interpretation for choosing the minimum number of variables needed to express the function algebraically. The map method is also known by the name [F] map methed.

供选择的答案：

1	Von neumann	2	Karnaugh	3	Boole	4	complexity
5	reliability	6	denoted	7	regarded	8	has
9	lacks	10	algebraically	11	usually	12	different
13	difficult	14	unique				

答案：

A. 4； B. 14； C. 10； D. 9； E. 7； F. 2

本段短文的第一句指的是:执行布尔函数运算的逻辑图的难度与执行该函数运算的代数表达式的(难度)直接相关(此处,A 空所填的单词意思直接与主语 complexity 相响应,所以 A 空应填 4complexity)。任一函数的真值都是(唯一的),但函数用代数式来表达时却可以表现为多种形式(显然,B 空的生词是依据布尔代数的基本知识来推理得出的,所以 B 空应选 14unique,而 C 空应填 10algebraically)。表达式可以用基本的布尔代数关系式进行化简。然而,化简的步骤有时很困难,因为在处理过程中还缺乏预料下一步化简所需要的具体的关系式。图形法为简化布尔代数式提供了一种简单直观的方法。这个方法可以认为是一种将真值表进行图示排列,使之易于辨读,以便选用最少的变量来写出代数表达式的方法(to be regarded as 为一固定搭配用法的词组,因此,E 空选 7 是恰当的)的。最后一句指的是图形法也以众所周知的卡诺的名字来命名(知道卡诺图来历的人很容易选择 F 空,填 2Karnaugh)。

三、 依据某些单词的词性在语法上与连接词前的单词同词性的特点有助于读者选取恰当的词汇填空

请看下例:

Binary information transmitted through some form of communication medium is subject to external noise that could change bits from 1 to 0 and vice versa. An error detection code is binary code that [A] digital errors during transmission. The [B] errors cannot be corrected but their presence is indicated. The usual procedure is to observe the frequency of errors. If errors occur infrequently at [C] ,the particular erroreous information is transmitted again. If the error occurs too often,the system is check for [D].

The most common error detection code used is the parity bit. A parity bit is an [E] bit included with a binary message to make the total number of 1's either odd or [F].

供选择的答案:

1 redundant	2 extra	3 even	4 prime	5 detects
6 detecting	7 detected	8 random	9 zero	10 one
11 malfunction	12 effection			

答案:

A. 5; B. 7; C. 8; D. 11; E. 2; F. 3

本段短文的中文意思是:通过通讯媒介形式传播的二进制信息要受到外部噪声的影响,噪声容易引起位的信息由 1 变 0 或由 0 变为 1。检错代码是检测传输数字错误的二进制代码。检错不能纠错,但是能指出错误所在。常用的方法是观察出错频率。如果错误是随机的且很少发生,那么特殊的错误信息会再一次传输。如果错误发生太频繁,系统就被核定为有故障。

最普遍使用的检错码是奇偶校验位。奇偶校验位是在一个含有二进制的信息后多加上一位,使整个组成的代码中含"1"的个数为偶数或奇数(就 F 空而言,该填的单词与 or 前的 odd(奇数)一词应是类同的单词,因此很自然地联想选填 even(偶数)一词)。

再请看下例:

The part of a computer that performs the bulk of data processing operations is called the [A] and is referred to as the CPU. The CPU contains the hardware components for instructions and [B] it is comprised of a control unit and a processor unit which together supervise and implement the various data processing tasks in the central part of a computer system. If we remove the memory and [C] from the basic computer,what remains can be classified as a CPU.

Computers with a limited number of registers in the CPU employ a single accumulator for implementing [D] with the availability of integrated circuits, registers and other digital circuits are not as expensive as when constructed with [E]. Consequently, most recent computers employ a large number of processor registers and route information among them through common buses.

供选择的答案:

1 memory	2 central processor unit	3 program
4 registers	5 data	6 peripheral devices
7 drum	8 micro—operations	9 transistors
10 discrete components		

答案:

A. 2; B. 5; C. 6; D. 8; E. 10

本段短文的中文意思是:计算机中完成批量数据处理运算的那一部分称为中央处理单元,通常称 CPU(从语法来分析,and 后的陈述句是解释 A 空的单词的。因为 CPU 是 central processor unit 的缩写形式,因此很容易确定 A 空选 2central processor unit)。中央处理单元包含存取指令和数据的硬件部分(显然,B 空的单词在语法上,词义和词性上都同于 instructions. 由此可决定 B 空选填 5data)。它是由控制单元和处理单元两部分组成。处理单元在计算机系统的中心部分。它们共同承担监督和执行不同的数据处理的任务。如果我们从计算机的基本组成部分中除掉内存储器和外围设备的话,剩余的部分就可被归结为中央处理单元(这里,C 空的单词与 and 前的名词 memory(内存在词性上等价,所以较容易看出应选填 peripheral devices (外设)一词)。

内存容量有限的计算机 CPU 中,有一个执行微操作的单个累加器,利用集成电路技术,内存储器和其他的数字电路的成本不像用分立元件组装起来的成本那么昂贵。因此,最新的计算机产品都有大容量的处理器内存,而且其中所存有的信息都通过公共的总线。

最后,计算机的应用软件人员应具有快速阅读科技文献及确切理解其涵义的能力。他们应对基础英语和专业英语有比较全面的了解,从单词到语法、翻译的技巧和阅读速度等诸方面都必须达到熟练掌握的程度,这样才能适应科学发展的需要。

为帮助广大读者提高阅读能力,我们以几段计算机专业英语短文为例,给出参考答案及参考译文,以帮助大家加深分析和理解。

例一

The memory unit is an essential component in any digit computer since it is need for storing the programs that are [A] by the CPU. A very small computer with a limited application may be able to fulfil its intended [B] without the need of additional storage capacity. However, most computers would run more efficiently if they are supplied [C] additional storage beyond the capacity of the [D] memory. There is just not enought space in one memory unit to accomodate all the systems programs written for a typical computer. Moreover, most computer installations accumulate and continue to accumulate large amounts of [E].

供选择的答案:

1 auxiliary	2 drum	3 tape	4 main
5 task	6 in	7 with	8 executing
9 executed	10 data	11 information	12 disk

答案:

4

A. 9； B. 5； C. 7； D. 4； E. 11

任何数字计算机，存储单元都是主要的部分。因为它需要存储由CPU执行的程序。用途有限的小型计算机可以在不增加存储器空间的条件下完成预定的任务。然而，大多数计算机在主存储器外增加辅助存储器后运行效率有所提高。对典型的计算机说来，仅一个内存单元没有足够的空间来满足全部写入系统的程序存储的需要。而且，大多数的计算机累积了而且继续在积累大量的信息。

例二

The input－output subsystem of computer provides an efficient mode of [A] between the central system and the outside environment. Programs and [B] must be entered into computer memory for processing and results [C] from computations must be recorded or displayed for the [D]. A computer serves nouseful purpose [E] the ability to receive information from an outside source and to transmit results in a meaningful form.

The simplest and cheapest way to communicate with a computer is by means of a typewriter [F] and printer. However, this is a very slow process and it wastes computer time.

供选择的答案：

1 keyboard	2 cursor	3 light pen
4 exchange	5 communication	6 data
7 numbers	8 without	9 unless
10 system	12 user	13 obtained

答案：

A. 2； B. 6； C. 12； D. 11； E. 8； F. 1

计算机的输入输出子系统在中央系统和外部环境之间提供了高效率的通讯方式。程序和数据必须送入计算机进行处理而且经由计算机所得的结果必须替用户记录下来或显示出来。不能够从外部源接受信息并以有意义的方式传输结果的计算机是没有实用价值的。

与计算机通讯最简单而又最廉价的方式是借助于打字机键盘和打印机。然而，这个过程非常缓慢且浪费机时。

第二部分 阅 读 材 料

2.1 计算机科学

（课文，词组及术语，练习，参考答案，参考译文，补充读物）

LESSON ONE

BITS , BYTES , AND WORDS

DIALOGUE

Student: Do you know anything about computers?

Programmer: Yes, I write computer programs.

Student: Well, perhaps you can tell me what a bit is.

Programmer: Bit is short for binary digit. A binary digit is either 0 or 1. The binary system is composed of these two digits.

Student: What symbols are used in the decimal system?

Programmer: The symbols used are 0 through 9.

student: So numbers are represented by different symbols when written in different systems.

Programmer: Correct. For example, the decimal number 13 is written as 1101 in the binary system.

Student: But why do computers use the binary system?

Programmer: Because arithmetic operations are defined by fewer rules in the binary system than in the decimal system. That's why circuits for doing binary arithmetic are much easier to build.

Student: But computers are used for more than arithmetic. Word processors are computers, aren't they?

Programmer: Of course. Bits are still used, but in word processing each character is represented by a unique code. For example, the American Standard Code for Information Interchange (ASCII) represents the letter A as 01000001.

Student: I assume that a character can be a letter of the alphabet, a numerical digit, or a punctuation mark.

Programmer: That's right. ASCII uses eight bits to define a given symbol. Groups of bits used in this fashion are called bytes.

Student: Are bits used to code pictures?

Programmer: Absolutely. For this application, tiny dots called picture elements (pixels) have

certain numbers of bits assigned to them. Pictures are formed by putting many pixels together.

Student: Are those pixels stored as eight—bit bytes?

Programmer: No. They're stored as words. High—quality pictures sometimes have as many as 24 bits per pixel, so the system works with 24—bit words.

PHRASES AND EXPRESSIONS

1. American Standard Code for Information Interchange (ASCII): a code scheme that translates characters into binary digits.
   美国信息交换标准：将字符译为二进制数的一种编码表 。
2. binary digit (bit): 0 or 1 ; the smallest unit of information.
   二进制数(位)：0 或 1 ；信息的最小单元 。
3. binary system: a numbering system based on the digits 0 and 1.
   二进制：一种以 0 和 1 为基数的计数系统 。
4. byte: a group of bits that represents a character and is processed as a single unit.
   字节、位组：表示一个字符并作为一个单位来处理的一串二进制数位 。
5. character: a graphic symbol used in writing or printing.
   字符：用于书写或印刷的一种图形符号 。
6. code: a system of symbols for representing a language or numbers in a computer.
   编码：在计算机中表示一种语言或数字的一种符号系统 。
7. decimal system: a numbering system based on the digits 0 through 9.
   十进制：一种以 0 至 9 为基数的计数系统 。
8. digit: a single symbol to which a numerical value is assigned.
   数字 、数位 、位：一种赋于了数值的单个符号。
9. pictures element (pixel): a small rectangular division on a video screen.
   像素：在显示屏上的一种微小长方形区域(它通常是点或线 ，但是在低分辨率的图形显示器中 ，它可以是字符点阵类似的图形)。
10. program: a detailed set of instructions that directs a computer to perform specific tasks.
    程序：指挥一台计算机完成特殊任务的一组详尽的指令。
11. programmer: a person who writes computer programs.
    程序员：编写计算机程序的人员。
12. system: a group of interrelated parts or elements designed to achieve a specific goal.
    系统：为实现某特殊要求 ，有关设备按一定方式联接起来进行工作的集合体 。(system 原意是：为达到某种特殊目的而设计的一组相互关联的部件(组成的一个集合体)。
13. word: a group of bytes processed as a single unit.
    字：作为一个单元来处理的一组二进字位 。
14. word processor: a computerized text editor.
    文字处理器：计算机化的文本编辑 。

EXERCISES

一、 Fill in the blanks with the proper terms from the list

binary system	digit
bit	pixels
bytes	program
characters	word
decimal system	word processor

1. The ____is based on the digits 0 and 1 .
2. A computerized video picture is formed by many tiny ____.
3. The letter T and the number 5 are known as ____.
4. Detailed instructions for a computer to perform specific tasks are known as a ____.
5. A single binary digit is called a ____.
6. ASCII uses eight—bit ____ to represent characters .
7. A single symbol that represents a number is known as a ____.
8. A group of bytes , processed as a single unit,is called a ____.
9. A ____is a computerized text editor .
10. The ____ consists of ten digits .

二、 About terminology——True or false

1. The ASCII representation of a comma is 11000010 . ( )
2. Four bits are required to count from 0 to 31 . ( )
3. In the binary system the symbol 10 represents the decimal number. ( )
4. A long word can consist of 1 eight—bit bytes . ( )
5. The Roman alphabet has 26 characters . ( )
6. Every computer system uses the same code . ( )
7. The number seventeen has two digits in the decimal system . ( )
8. The decimal system consists of eight digits . ( )
9. Pictures are clearer when there are more bits per pixel . ( )
10. Word processors are used to prepare charts in offices . ( )

参考答案：

1. binary system	6. bytes
2. pixels	7. digit
3. characters	8. word
4. program	9. word processor
5. bit	10. decimal system

参考译文：

第一课 对 话

学 生： 你了解计算机吗？

程序员： 对，我的工作是编写计算机程序。

学 生： 或许你能告诉我什么是位？

程序员： 位是二进制位数字的缩写，二进位数字不是 0 就是 1。二进制由这两个数字组成。

学　生：在十进制中使用什么样的符号呢？

程序员：十进制中所使用的符号是 0 到 9。

学　生：所以用不同的制式书写时，就用不同的符号来表示数字。

程序员：对的，例如：十进制的 13 在二进制内写成 1101。

学　生：但是为什么计算机使用二进制呢？

程序员：因为在二进制中规定的算术运算（法则）比在十进制中规定的算术运算（法则）要少，因而构成二进制算术运算的电路要容易得多。

学　生：但是计算机的用途远远超过算术运算。文字处理器就是一种计算机，对吗？

程序员：当然是，（在文字处理器中）仍然采用二进制位，但是在文字处理过程中，每个字符都由专门的编码来表示。例如：美国信息交换标准（码）用 01000001 来表示字母 A。

学　生：我认为，字符可能是字母表中的一个字母，一个数（表示数量的数学实体）或一个标点符号。

程序员：对。（ASCII）使用八个位来定义一个给定的符号，以这样的方式来使用的位组就称为字节。

学　生：位也被用来对图像进行编码吗？

程序员：完全正确，当应用位来对图像进行编码时，每个被称为像素的微点被赋以若干个位。图像就是将许多像素放在一起形成的。

学　生：那些像素是以八位字节的方式来存储的吗？

程序员：不。它们以字的方式存储。有时高质量的画面的每个像素具有 24 位之多，因此，该系统以 24 位字的方式工作。

SUPPLEMENTS

WHAT IS A COMPUTER

For you this question may or may not be relevant. This chapter will discuss computer hardware in terms of [1] the CPU , memory , bus and peripheral devices plus the computer software or programs that control a computer's operations . If you are already working with computers-these terms may be quite familiar . If not , let's pursue them now .

You probably own or at least use a calculator , which is essentially a small computer composed of the following sections :

——an arithmetic section capable of adding , subtracting , multiplying and dividing , plus other mathematical functions .

——an input section, the keypad[2], where commands and data are entered. Some calculators accept commands such as + or − from the keypad and execute or perform them as they are entered ; others are capable of storing the entered program steps and then repetitively executing them , each time with different data .

——memory for several different purposes : storing of programs as they are entered, storing of data in the form of[3]intermediate and final answers and , lastly , the permanent storage of internal program steps to perform calculations involving sine and cosine .

——an output device to communicate the result(s) to the user . On some calculators the answers appear on a display , typically 8 to 12 digits long. Other calculators have an optional print-

er, to provide a permanent record of the results .

The above component sections, seen in a calculator, form the basis for the discussion " What is a computer ". Let's examine each of them in detail.

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[1] in terms of 以…措词； 用…话。

[2] keypad = keyboard 键盘。

[3] in the form of 用…的形式。

CENTRAL PROCESSOR UNIT——CPU

This is the part of a computer which executes the instructions produced by you[1]. Ultimately[2]all instructions are formed of groups of binary numbers, in which the only legal digits are 1 and 0 . Rarely does a programmer[3] prepare or design a program in binary format[4]. It is coded in some other format such as Macro－11, an assembly language , or Pascal, a high level language. Before execution by the computer the program must be translated to binary , a task which the computer itself can perform .

The Central Processor Unit is essentially a large group of digital electronic devices , either packaged inside a single integrated "chip", as it is commonly known, or[5] formed of a group of integrated circuit packages , electrically interconnected by metallic conductors on a"printed circuit board" .

A single integrated circuit, whose active surface[6]area is smaller than a fingernail, may contain tens of thousands of transistors, forming the logic circuitry which[7] performs the CPU functions .

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[1] produced by you 你(自己)编写的。

[2] Ultimately 最终地。

[3] Rarely does a programmer… 很少有程序员…(does 起了强调的作用)。

[4] format 格式。

[5] either…or 或者…或者…(as it is commonly known ,此系一状语从句。electrically interconnected…系一插入语,对 a group of integrated circuit packages 进行补充说明)。

[6] active surface area 有效表面积。

[7] forming the logic circuitry which… 系一现在分词短语作状语,实际上为句子谓语中未述完部分的继续。

LESSON
TWO

THE CPU

DIALOGUE

Student: What's a microprocessor ?

Programmer: It's a very small central processing unit (CPU) , manufactured on a single integrated circuit (IC) chip in amicrocomputer . A microcomputer has a primary storage range of 4 to 64K characters .

Student: Does K stand for kilo ?

Programmer: Not exactly. It represents 1024,and M represents 1048576.
Both are used to measure storage capacity . But let's get back to CPUs.

Student: I've heard about CPUs before . If I recall correctly , the CPU is the brain of a computer system.

Programmer: That's right.

Student: Can a microprocessor do the same operations that a larger CPU does ?

Programmer: Yes , but on a much smaller scale . The microprocessor has the same basic architecture as a larger CPU and, therefore,similar capabilities . However , larger systems can process more data into information in less time , as well as perform more complicated operations .

Student: What do you mean by architecture ?

Programmer: In computer jargon, architecture refers to the physical design or structure of a system's hardware .

Student: Can you tell me something about the CPU?

Programmer: I can give you a general idea of what's inside it . First there's the control unit. Its task is to interpret program instructions and direct the rest of the unit to execute the instruction . The second part of the CPU is the arithmetic —logic unit (ALU) .

Student: I assume this part of the CPU must perform all the mathematical calculations .

Programmer: And the logic operations , also . For instance , it can be used to compare groups of characters.

Student: I see . Can this logic capability be used to search for a name in a list of names?

Programmer: Yes , it can . Now that you understand that , let me tellyou about the third CPU component——primary storage. Primary storage is the computer memory. It's composed of RAM andROM .

Student: I've seen these terms , too . RAM stands for random access memory , and ROM stands for read only memory . But what do these words mean ?

Programmer: RAM refers to the computer's capacity to store information while it is turned on . If the information is to be retrieved at a later time, it must be trans-

ferred to another storage device or it will be lost when the computer is turned off .

Student: And what's the ROM used for ?

Programmer: The ROM is the part of primary storage that holds permanent information that can't be altered by program instructions .

PHRASES AND EXPRESSIONS

1. arithmetic—logic unit (ALU): a part of the CPU that performs all arithmetic and logic operations .
   算术逻辑单元：CPU 中能完成所有算术和逻辑运算的一部分。
2. central processing unit (CPU): the brain of a computer system .
   中央处理单元：计算机系统的大脑 。
3. chip: a piece of semiconductor material on which integrated circuits are etched .
   芯片、晶片：一片包含（蚀刻）集成电路的半导体材料。
4. control unit: the part of the CPU that decodes and directs the flow of program instructions .
   控制部件：CPU 中的一个部件，它能译码并(根据译码)规定计算机执行程序指令的顺序 。
5. data: a collection of independent and unorganized facts .
   数据：一组不相关,无规则的数或资料 。
6. hardware: the physical components of a computer system .
   硬件：计算机系统中的（实际装置）物理部件 。
7. information: meaningful and useful facts that have been processed from data by a computer .
   信息：数据经由计算机处理后的有意义的和有用的数和资料 。
8. integrated circuit (IC): the physical components mounted on a chip, designed to work as a unit .
   集成电路：位于芯片上的（设计）作为一个整体来工作的物理部件。
9. K: a symbol for 1024 .
   K 是表示 1024 的一种符号 . 即 2^{10}。
10. logic operation: a computer operation in which a decision is made.
    逻辑运算：一种用作判断（逻辑加，比较等）的计算机运算 。
11. M: a symbol for 1048576 .
    M 是表示 1048576 的一种符号,即 2^{20}。
12. microcomputer: a small—scale , low—cost computer system with a primary storage range of 4 to 64K characters .
    微型机：主存储器容量在 4 到 64K 范围内的计算机系统，其体积小，造价低 。
13. microprocessor: an entire CPU on an IC chip .
    微处理器：IC 芯片上的一个完整的中央处理器 。
14. primary storage: the most rapidly accessible data storage area, located in the CPU .