职业技术教育软件人才培养模式改革项目成果教材

计算机英语（下）

邱仲潘 编

高等教育出版社

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内容提要

本书是职业技术教育软件人才培养模式改革项目成果教材。

本书针对计算机专业学生对英语学习和实际工作后强调阅读理解,强调简单文本写作和强调专业术语与基本科技英语语法的要求编写而成。共包括有 54 篇,分上、下两册,上册内容包括 PC 机的组成及连接、微处理器的工作原理、操作系统、Java 编程等 4 个单元,下册包括数据库基础、网络基本知识、多媒体技术等 3 个单元。鉴于近来计算机病毒越来越猖獗,引起了广泛关注,本书最后两课介绍了计算机病毒的一些基本知识,旨在增加学生的阅读兴趣。下册的辅助读物包括电子邮件写作的详细技巧,学生工作过程中可能需要通过电子邮件与外国专家联系,了解一些文化背景和写作技巧能够使他们的工作更加顺畅。

本书适用于高等职业学校、高等专科学校、成人高校、本科院校举办的二级职业技术学院,也可供示范性软件职业技术学院、继续教育学院、民办高校、技能型紧缺人才培养使用,还可供本科院校、计算机从业人员和爱好者参考使用。

本书如有缺页、倒页、脱页等质量问题,请到所购图书销售部门联系调换。

前　　言

从事计算机行业的人,难免会遇到大量英文资料、教材、技术手册和联机说明。学好专业英语对计算机专业学生非常重要,尤其是高职高专计算机专业学生,很多人毕业后会从事专业的软件编程工作。所以,对于高职高专计算机专业学生,关键是读懂英文的软件需求文档和在编程中根据要求插入简单的英文注释文本,因此在本书编写过程中,我们一直认为应该强调阅读理解,强调简单文本写作和强调专业术语与基本科技英语语法。同时,为了提高效率和便于工作中的资料积累与交流,还应该介绍一些翻译技巧,使学生既能够把看懂的内容用比较准确和流畅的中文表达出来,又能够把软件设计与实现中的思路翻译成简单英文。

针对软件职高学生的特点,我们编写的教材精选了硬件、操作系统、编程、网络、数据库、多媒体等方面的文章,分解成篇幅较短的54篇课文,每篇课文设置了问题与翻译练习,使学生可以通过练习检查阅读理解情况。课文后面还用英语提供关键术语的解释,使有兴趣的学生可以了解到许多相关专业知识和有趣的词源知识。此外,文章后面还有参考读物,难度略大于课文。建议老师在保证学生掌握课文内容的前提下,根据学生接受情况和兴趣水平决定教学内容的深浅。兴趣是最好的老师,本教材努力通过各种背景知识和词源知识增加趣味性,老师还可以通过调动学生积极参与课堂教学活动激发学生的学习兴趣,可以鼓励学生自己从网络和其他地方寻找相关资料,扩大视野,并且把学习的专业英语知识应用到其他专业课程的学习中,切实体会计算机英语的作用,变"要我学"为"我要学"。

高职高专计算机英语课程分3学期,建议每个学期学习18篇课文,3个学期共学54篇。本教材分上、下两册,上册内容包括PC机的组成及连接、微处理器的工作原理、操作系统、Java编程等4个单元,下册包括数据库基础、网络基本知识、多媒体技术等3个单元,鉴于近来计算机病毒越来越猖獗,引起了广泛关注,本书最后两课介绍了计算机病毒的一些基本知识,旨在增加学生的阅读兴趣。下册的辅助读物包括电子邮件写作的详细技巧,学生工作过程中可能需要通过电子邮件与外国专家联系,了解一些文化背景和写作技巧能够使他们的工作更加顺畅。

感谢福建省软件高职高专指导委员会李堂秋主任、黄旭明秘书长、陈启安教授和高等教育出版社为我提供了编写本书的机会,感谢2004年福建省首届软件高职高专计算机英语师资培训班的全体同学对本书的编写投入了大量的精力和提出了宝贵的意见。由于时间仓促,书中难免存在错误和疏漏之处,期待各位老师和同学不吝赐教,以便今后修订时改正和增补。

邱仲潘
2004年10月

目　　录

Lesson 28　Internet Infrastructure

1. Where does the name "Internet" come from?
2. Who owns the Internet?

One of the greatest things about the Internet is that nobody really owns it. It is a global collection of networks, both big and small. These networks connect together in many different ways to form the single entity that we know as the Internet. In fact, the very name comes from this idea of interconnected networks.

Since its beginning in 1969, the Internet has grown from four host computer systems to tens of millions. However, just because nobody owns the Internet, it doesn't mean it is not monitored and maintained in different ways. The Internet Society, a non-profit group established in 1992, oversees the formation of the policies and protocols that define how we use and interact with the Internet.

Every computer that is connected to the Internet is part of a network, even the one in your home. For example, you may use a modem and dial a local number to connect to an Internet Service Provider (ISP). At work, you may be part of a Local Area Network(LAN), but you most likely still connect to the Internet using an ISP that your company has contracted with. When you connect to your ISP, you become part of their network. The ISP may then connect to a larger network and become part of their network. The Internet is simply a network of networks.

Most large communications companies have their own dedicated backbones connecting various regions. In each region, the company has a Point of Presence(POP). The POP is a place for local users to access the company's network, often through a local phone number or dedicated line. The amazing thing here is that there is no overall controlling network. Instead, there are several high-level networks connecting to each other through Network Access Points(NAPs).

Key Terms and Expressions

1. ISP(因特网服务提供者)。

   ISP(Internet Service Provider)is a company which provides other companies or individuals with access to,or presence on,the Internet. Most ISPs are also Internet Access Providers;extra services include help with design,creation and administration of World Wide Web sites,training,and administration of Intranets.

2. POP(电话接入网点)。

   POP(Point of Presence)is a site where there exists a collection of telecommunications equipments, usually modems,digital leased lines,and multi-protocol routers. An Internet access provider may operate several POPs distributed throughout their area of operation to increase the chance that their subscribers will be able to reach one with a local telephone call. The alternative is for them to use virtual POPs via some third party.

3. NAP(网络接入点)。

4. Internet Society(因特网社区)。

5. network(网络)。

   A system of two or more computers,terminals,and communications devices linked by wires,cables, or a telecommunications system in order to exchange information. The network may be limited to a group of users in a local area or be global in scope,as the Internet is.

Notes

1. In fact,the very name comes from this idea of interconnected networks.
   事实上,这个名称就是指互联网络。

2. However,just because nobody owns the Internet,it doesn't mean it is not monitered and maintained in different ways.
   但是,虽然因特网不属于任何人,但它仍然以不同方式得到监管和维护。

3. The Internet Society,a non-profit group established in 1992,oversees the formation of the policies and protocols that define how we use and interact with the Internet.
   因特网社区是 1992 年成立的非营利组织,监视相关政策与协议的建立,确定因特网如何使用和交互。

4. Every computer that is connected to the Internet is part of a network,even the one in your home.
   每个连接因特网的计算机都是网络的一部分,你的家用计算机也是。

5. The Internet is simply a network of networks.

因特网就是网络的网络。

6. The amazing thing here is that there is no overall controlling network.

这里的奇怪之处是没有总体控制的网络。

Exercises

1. Answer the questions

1) What does the Internet Society do?

2) What may you use to connect to an ISP when you are at home?

3) What does "POP" mean?

2. Translate the following sentences into Chinese

1) One of the greatest things about the Internet is that nobody really owns it. It is a global collection of networks, both big and small. These networks connect together in many different ways to form the single entity that we know as the Internet.

2) Since its beginning in 1969, the Internet has grown from four host computer systems to tens of millions.

3) Most large communications companies have their own dedicated backbones connecting various regions.

3. Simple writing

Please describe the way you connect to the Internet.

Supplementary Reading

The Internet

The Internet is the largest internet(with a small "i")in the world. It is a three level hierarchy composed of backbone networks, mid-level networks, and stub networks. These include commercial(.com or .co), military(.mil), university(.ac or .edu)and other research networks(.org, .net). They span many different

physical networks around the world with various protocols, chiefly the Internet Protocol.

Until the advent of the World Wide Web in 1990, the Internet was almost entirely unknown outside universities and corporate research departments and was accessed mostly via command line interfaces, such as telnet and FTP. Since then it has grown to become an almost-ubiquitous aspect of modern information systems, becoming highly commercial and a widely accepted medium for all sort of customer relations such as advertising, brand building, and online sales and services. Its original spirit of cooperation and freedom have, to a great extent, survived this explosive transformation with the result that the vast majority of information available on the Internet is free of charge.

While the Web(primarily in the form of HTML and HTTP)is the best known aspect of the Internet, there are many other protocols in use, supporting applications such as E-mail, Usenet, chat, remote login, and file transfer.

There were 20 242 unique commercial domains registered with InterNIC in September 1994, 10% more than in August 1994. In 1996 there were over 100 Internet access providers in the US and a few in the UK.

There are several bodies associated with the running of the Internet, including the Internet Architecture Board, the Internet Assigned Numbers Authority, the Internet Engineering and Planning Group, Internet Engineering Steering Group, and the Internet Society.

Additional Materials

网络词汇及缩写解释

Archive——"档案;档案馆"之意。Internet 中的文档服务器,可定期自动地访问众多的 Internet FTP 服务器,将这些服务器上的文件变成一个可以检索的数据库。

Gopher——英文意为"地鼠;(美国南部穴居的)可食用的龟"。它是 Internet 中基于菜单驱动的信息查询软件,可将用户的请求自动转换成 FTP 或 Telnet 命令。在菜单的引导下,用户可对 Internet 上的远程信息系统进行访问。

Hypermedia——超媒体。一种以计算机为基础的利用文字、图形、动画、声音和视频传送和显示信息的方法。这些文字等超媒体的组成元素既可以与其他文件连接,又可以作为单个对象处理。

Hypertext——超文本。用做表示所有超链接,也表示包含链接的文本。这是一种非线性的信息组织方法,文字、图形和其他数据作为单个元素都能够指向(链接的)其他元素。

IRC——Internet Relay Chat,互联网接力聊天。这是一种多用户聊天设施,允许多个用户通过文字实时地与其他人聊天。

Navigator——是美国网景(Netscape)公司出品的 Internet 浏览器软件之一。Navigator 的英文意思是"航海者,海上探险者",寓意人们可以使用该软件在 Internet 的网络海洋中航行,探险。

Navigator 不仅可以浏览万维网(WWW),还具有电子邮件(E-mail)、文件传输(FTP)、远程登录(Tel-net)、新闻组(News Group)以及信息浏览(Gopher)等多种功能。

Remote login——远程登录(注册),它是在网络环境下实现资源共享的一种重要手段,采用这种方式,用户可连接到世界任何一台 Internet 主机。

WAIS——是 Wide Area Information Service 的简写,广域信息服务器。它使得 Internet 上巨大的数据资源变得易于检索,并且可以获得远程数据库的信息。

Lesson 29　A Network Example

1. Please describe a network example in Chinese.
2. What is an ISP?

Text

Here's an example. Imagine that Company A is a large ISP. In each major city, Company A has a POP. The POP in each city is a rack full of modems that the ISP's customers dial into. Company A leases fiber-optic lines from the phone company to connect the POPs together.

Imagine that Company B is a corporate ISP. Company B builds large buildings in major cities and corporations locate their Internet server machines in these buildings. Company B is such a large company that it runs its own fiber-optic lines between its buildings so that they are all interconnected.

In this arrangement, all of Company A's customers can talk to each other, and all of Company B's customers can talk to each other as well. But there is no way for Company A's customers and Company B's customers to intercommunicate. Therefore, Company A and Company B both agree to connect to NAPs in various cities, and traffic between the two companies flows between the networks at the NAPs.

In the real Internet, dozens of large ISPs interconnect at NAPs in various cities, and trillions of bytes of data flows between the individual networks at these points. The Internet is a collection of huge corporate networks that agree to all intercommunicate with each other at the NAPs. In this way, every computer on the Internet connects to each other.

Key Terms and Expressions

1. rack(机架)。
2. dial into(拨号到)。
3. lease(租借)。
4. corporate(公司)。

5. trillion(万亿)。

6. intercommunicate(相互通信)。

7. fiber-optic(光纤的)。

Notes

1. Company A leases fiber-optic lines from the phone company to connect the POPs together.

公司 A 从电话公司租用光缆线,将 POP 连接起来。

2. Company B is such a large company that it runs its own fiber-optic lines between its buildings so that they are all interconnected.

公司 B 很大,大楼之间有自己的光缆,因此它们都是互连的。

3. Therefore, Company A and Company B both agree to connect to NAPs in various cities, and traffic between the two companies flows between the networks at the NAPs.

因此,公司 A 和 B 同意连接城市中的 NAP,两个公司间的通信流在 NAP 处的网络间流动。

4. The Internet is a collection of huge corporate networks that agree to all intercommunicate with each other at the NAPs.

因特网是大公司网络的集合,通过 NAP 进行通信。

Exercises

1. Answer the questions

1) In the first paragraph, what does company A work to connect the POPs together?

2) Why do we say company B's buildings are all interconnected?

3) How to intercommunicate between company A's customers and company B's customers?

4) From the last paragraph, what is the Internet?

2. Translate the following sentences into Chinese

1) The POP in each city is a rack full of modems that the ISP's customers dial into.

2) Company B builds large buildings in major cities and corporations locate their Internet server machines in these buildings.

3) In this arrangement, all of Company A's customers can talk to each other, and all of Company B's customers can talk to each other as well. But there is no way for Company A's customers and Com-

pany B's customers to intercommunicate.

3. Simple writing

Please describe another network example in English.

Supplementary Reading

Uniform Resource Locator

URL(Uniform Resource Locator), previously "Universal", is a standard way of specifying the location of an object, typically a Web page, on the Internet. URLs are the form of address used on the World Wide Web. They are used in HTML documents to specify the target of a hyperlink which is often another HTML document(possibly stored in another computer).

Here are some example URLs:

http://www. w3. org

http://www. acme. co. uk:8080/images/map. gif

ftp://wuarchive. wustl. edu

The part before the first colon specifies the access scheme or protocol. Commonly implemented schemes include:ftp, http(World Wide Web), gopher, and WAIS. The "file" scheme should only be used to refer to a file on the same host. Other less commonly used schemes include news, telnet, and mailto (E-mail).

The part after the colon is interpreted according to the access scheme. In general, two slashes after the colon introduce a hostname. The port number is usually omitted and defaults to the standard port for the scheme, e. g. port 80 for HTTP.

For an HTTP or FTP URL, the next part is a pathname which is usually related to the pathname of a file on the server. The file can contain any type of data but only certain types are interpreted directly by most browsers. These include HTML and images in GIF or JPEG format. The file's type is given by a MIME type in the HTTP headers returned by the server, e. g. "text/html", "image/gif", and is usually indicated by its filename extension. A file whose type is not recognised directly by the browser may be passed to an external "viewer" application, e. g. a sound player.

The last(optional)part of the URL may be a query string preceded by "?" or a "fragment identifier" preceded by "#". The later indicates a particular position within the specified document.

Only alphanumerics, reserved characters used for their reserved purposes and "$", "-", "_", ".", "&", "+" are safe and may be transmitted unencoded. Other characters are encoded as a "%" followed by two hexadecimal digits. Space may also be encoded as "+".

Additional Materials

英语介词的翻译

介词是英语中最活跃的词类之一,使用频率非常高,有点像我国文言文中的"之、乎、者、也、亦、焉"等词。翻开每一页科技英语书籍、资料,都可以见到大量的介词。特别是一些常用的介词,搭配力强,能表达多种意思,更是经常见到。

介词是虚词,不能独立充当句子成分,一般是以介词短语的形式和名词或名词等价物一起充当句子成分。介词可分为三类:一是简单介词,如 in、under、with、about、after、from、to 等;二是合成介词,如 inside、into、within、upon、forward 等;三是复合介词,如 in spite of、instead of、with regard to、according to、belong to 等。

在英语中许多介词含义灵活,一词多义,一词多用。除了一些常用介词短语,大量介词需要从其基本意义出发,联系上下文加以灵活处理。下面简要地介绍几种基本译法。

1. 转译为动词

英语中常用介词来表达动作的意义,翻译时可将介词转译成动词。在作表语的介词短语中,介词常转译为动词,而连系动词则省略不译。在作目的或原因状语的介词短语中,在作条件、方式或方法状语的介词短语中,以及介词短语作补足语时,介词常转译成动词。例如:

- This computer is out of repair.
  【这台计算机失修了。】
- The plane crushed out of control.
  【这架飞机失去控制坠毁了。】
- The letter E is commonly used for electromotive force.
  【通常用 E 这个字母表示电动势。】
- But even the larger molecules with several hundred atoms are too small to be seen with the best optical microscope.
  【但是,即使有几百个原子的分子也是太小了,用最好的光学显微镜也看不见它们。】
- Heat sets these particles in random motion.
  【热量使这些粒子作随机运动。】
- How quickly a fuel burns depends on how well it is mixed with oxygen or air.
  【燃料燃烧的快慢取决于燃料和氧气或空气的混合程度。】

2. 增译

增词要根据上下文特别是与介词搭配的动词或形容词的含义增加,要加得恰当。有不少情况,句中与介词搭配的动词或形容词不出现,如照原文结构无法把意思表达清楚,甚至易于误解时,这就需要增词。因此,熟悉介词与动词或形容词的习惯搭配是增词并正确理解词义的一种重要手段。例如:

- That's all there is to it.

  【那就是与此有关的全部内容。】(原句中 to = related to)

- The engineer was taken ill with consumption. It was flour on the lung, the doctor told him at the time.

  【这个工程师得了肺病,当时医生告诉他那是因面粉对肺部的影响而产生的。】(原句中 on = effect)

3. 分译

介词短语作定语时,往往是定语从句的一种简略形式;介词短语作状语时,有时是状语从句的简略形式;有些介词短语还是并列句的简略形式。因此翻译时,有的可以拆句分译。例如:

- We cannot see it clearly for the fog.

  【由于有雾,我们看不清它。】

- The porous wall acts as a kind of seine for separating molecules.

  【多孔壁的作用就像一把筛子,把不同质量的分子分开。】

- With all its disadvantages this design is considered to be one of the best.

  【这个设计尽管有种种缺点,仍被认为是最佳设计之一。】

- Man's warm blood makes it difficult for him to live long in the sea without some kind warmth.

  【人的血液是热的,如果得不到一定的热量,人就难以长期在海水中生活。】

- This body of knowledge is customarily divided for convenience of study into the classifications: mechanics, heat, light, electricity and sound.

  【为了便于研究,通常将这门学科分为力学、热学、光学、电学和声学。】

4. 不译

不译或省略翻译是在确切表达原文内容的前提下使译文简练,合乎汉语规范,绝不是任意省略某些介词。表示时间或地点的英语介词,译成汉语时如出现在句首,一般都不译。有些介词如 for(为了)、from(从……)、to(对……)、on(在……时)等,也可以不译。表示与主语有关的某一方面、范围或内容的介词有时不译,可把介词的宾语译成汉语主语。不少 of 介词短语在句中作定语,其中 of(……的)往往也不译。例如:

- Something has gone wrong with the engine.

  【这台发动机出了毛病。】

- Gold is similar in color to brass.

  【金子的颜色和黄铜相似。】

- Many water power stations have been built in Our country.

  【我国已建成许多水电站。】

- The barometer is a good instrument for measuring air pressure.

  【气压计是测量气压的好仪器。】

- Answers to question 2 and 3 may be obtained in the laboratory.

  【问题 2 和 3 的答案可以在实验室里得到。】

- Most substances expand on heating and contract on cooling.

  【大多数物质热胀冷缩。】

- It's never occurred to me that bats are really guided by their ears.

  【我从未想到蝙蝠居然是靠耳朵引路的。】

- The change of electrical energy into mechanical energy is done in motors.

  【电能变为机械能是通过电动机实现的。】(of 短语和 change 在逻辑上有主谓关系,可译成主谓结构。)

- Some of the properties of cathode rays listed below.

  【现将阴极射线的一些特性开列如下。】(第一个 of 短语和 some 在逻辑上有部分关系,of 不译出。)

5. 反译

在不少情况下,有的介词短语如不从反面着笔,译文就不通,这时必须反译。例如 beyond, past, against 等表示超过某限度的能力或反对时;off, from 等表示地点、距离时;but, except, besides 等表示除去、除外时;或 from, in 等介词短语作补足语时;有时用反译法。例如:

- It is post repair.

  【这东西无法修补了。】

- The boat sank off the coast.

  【这只船在离海岸不远处沉没了。】

- Copper is the best conductor but silver.

  【铜是仅次于银的最优导体。】

- There are some arguments against the possibility of life on this planet.

  【有些论据不支持这个行星上可能有生物的结论。】

- The molecular formula, C_6H_{14}, does not show anything except the total number of carbon and hydrogen atoms.

  【分子式 C_6H_{14} 只表示碳原子和氢原子的总数。】

- An metal box will keep the Earth's magnetic field away from the compass.

  【金属箱能使地球磁场影响不了指南针。】

- Radio telescopes have been able to probe space beyond the range of ordinary optical telescopes.

  【射电望远镜已能探测普通光学望远镜达不到的宇宙空间。】

Lesson 30　Bridging the Divide

1. What's a router?
2. What's the job of routers?

Text

All of the networks rely on NAPs, backbones and routers to talk to each other. What is incredible about this process is that a message can leave one computer and travel halfway across the world through several different networks and arrive at another computer in a fraction of a second!

The routers determine where to send information from one computer to another. Routers are specialized computers that send your messages and those of every other Internet users speeding to their destinations along thousands of pathways. A router has two separate, but related, jobs:

- It ensures that information doesn't go where it's not needed. This is crucial for keeping large volumes of data from clogging the connections of "innocent bystanders".
- It makes sure that information goes to the intended destination.

In performing these two jobs, a router is extremely useful in dealing with two separate computer networks. It joins the two networks, passing information from one to the other. It also protects the networks from one to another, preventing the traffic on one from unnecessarily spilling over to the other. Regardless of how many networks are attached, the basic operation and function of the router remains the same. Since the Internet is one huge network made up of tens of thousands of smaller networks, its use of routers is absolutely necessary.

Key Terms and Expressions

1. backbone (主干)。

The backbone is the top level in a hierarchical network. Stub networks and transitting networks, which connect to the same backbone, are guaranteed to be interconnected.