

Barron's Dictionary of Computer and Internet Terms

巴朗行业词典 计算机与网络

.....
Douglas Downing
Michael Covington
Melody Covington 编
Catherine Anne Barrett
Sharon Covington

行业词典权威品牌，职业发展得力助手

.....

- 收录约3200个词条，词条中英文对照，全英文注释，附录详尽
- 内容涉及计算机和软件技术、程序设计语言、操作系统、移动设备等领域
- 是计算机与网络领域从业者以及相关人士必备的工具书及参考指南

清华大学出版社

巴朗行业词典 计算机与网络

Barron's Dictionary
of
Computer and
Internet Terms

• • • • •

Douglas Downing
Michael Covington
Melody Covington 编
Catherine Anne Barrett
Sharon Covington

清华大学出版社
北 京

北京市版权局著作权合同登记号 图字：01-2013-4895

DICTIONARY OF COMPUTER AND INTERNET TERMS(ELEVENTH EDITION) by DOUGLAS DOWNING, MICHAEL COVINGTON, MELODY COVINGTON, CATHERINE ANNE BARRETT, AND SHARON COVINGTON. Copyright: ©2013, 2009, 2006 2003 2000, 1998, 1996, 1995, 1992, 1989, and 1986 by Barron's Educational Series, Inc.

This edition arranged with BARRON'S EDUCATIONAL SERIES, INC. through BIG APPLE AGENCY, INC., LABUAN, MALAYSIA.

Simplified Chinese edition copyright:

2015 TSINGHUA UNIVERSITY PRESS

ALL rights reserved.

版权所有，侵权必究。侵权举报电话：010-62782989 13701121933

图书在版编目(CIP)数据

巴朗行业词典. 计算机与网络：汉、英/(美)唐宁(Downing, D.)等编. —北京：清华大学出版社，2015

ISBN 978-7-302-34214-4

I. ①巴… II. ①唐… III. ①电子计算机—词典—汉、英 ②计算机网络—词典—汉、英 IV. ①H316 ②TP3-61

中国版本图书馆CIP数据核字(2013)第246488号

责任编辑：蔡心奕

封面设计：刘艳芝

责任校对：王凤芝

责任印制：杨 艳

出版发行：清华大学出版社

网 址：<http://www.tup.com.cn>, <http://www.wqbook.com>

地 址：北京清华大学学研大厦A座 邮 编：100084

社 总 机：010-62770175 邮 购：010-62786544

投稿与读者服务：010-62776969, c-service@tup.tsinghua.edu.cn

质量反馈：010-62772015, zhiliang@tup.tsinghua.edu.cn

印 装 者：河北新华第一印刷有限责任公司

经 销：全国新华书店

开 本：113mm×185mm 印 张：17 字 数：761千字

版 次：2015年10月第1版 印 次：2015年10月第1次印刷

印 数：1~2500

定 价：60.00元

产品编号：052443-01

TO THE READER

Computers are no longer just for specialists. Today, computing is not just a profession and a hobby; it is also a tool used in virtually all human activities.

That's why we've compiled this book of background knowledge. Its purpose is to tell you the things other people think you already know.

Much has changed since the first edition of this book was published a quarter century ago. New terms are being invented every day. We regularly update the book, and this edition contains new entries on a variety of topics, including Windows 7 and 8, the iPhone and iPad, Twitter, Facebook, and cloud computing. We have also cut out material that was showing its age.

To keep the book small enough to be convenient we have had to be selective. In some ways it would have been easier to write a book five times as large, but such a book would be hard to use. To identify words that we don't cover, use the Internet and do a web search (*see* SEARCH ENGINE). For words specific to particular pieces of software, look in the documentation for that software. If you can't understand our definition of a term, try looking up the other terms used in it.

Terms are marked *slang* or *humorous* if they are seldom used in serious writing. They are marked as *jargon* if, in our estimation, they are somewhat pretentious new names for old concepts and are not likely to endure. We provide occasional *Usage notes* to explain grammar, spelling, and proper use of words, such as the exact difference between *disc* and *disk*.

Throughout, we use SMALL CAPITALS to mark important words that are defined elsewhere in this book. By following cross-references, you can quickly find many entries that pertain to whatever interests you. Here are some entries you may wish to start with to learn about particular topics:

- Internet culture: CHAT ROOM
- right and wrong: COMPUTER ETHICS
- safe computing: COMPUTER SECURITY
- solving exceptionally difficult problems: ARTIFICIAL INTELLIGENCE
- productively using computers in business and daily life: APPLICATION PROGRAM
- listening to music: DIGITAL MUSIC
- taking pictures: DIGITAL CAMERA
- creating web pages: HTML
- writing computer programs: PROGRAMMING LANGUAGE
- software that controls a computer: OPERATING SYSTEM
- how a computer works: COMPUTER ARCHITECTURE
- networking and the Internet: INTERNET
- connecting computers wirelessly: WIRELESS COMMUNICATION
- electronic components: TRANSISTOR

Be sure to notice the visual dictionary of symbols at the end of the book. If you don't know what \sum or \approx or \bullet is called, don't worry; you can look it up there.

All of us want to thank The University of Georgia and Seattle Pacific University for access to facilities and for accommodating us as we worked on the project. We also want to thank Robert Downing for help with 1960s data processing terminology and Brantley Coile of Coraid, Inc., for permission to adapt material from Coraid's glossary of networking and data storage.

Many of the words used in this book are registered trademarks. We have made no attempt to determine or report their legal status. For further information about any product name, consult the manufacturer's literature.

CONTENTS

TO THE READER	iii
NUMBERS	1
Terms.....	5
Greek Letters.....	525
Visual Dictionary of Characters and Symbols.....	527
Country Codes for Top-Level Domains	532
How to Stay Safe on the Internet.....	535

NUMBERS

1G 【第一代移动通信技术】 (first-generation wireless telephony) analog CELLULAR TELEPHONE technology, using conventional FM radio modulation to carry voice over wireless telephones. *Contrast* 2G, 3G, 4G.

1-2-3 【Lotus电子制表程序】 *see* LOTUS 1-2-3.

2G 【第二代移动通信技术】 (second-generation wireless telephony) the oldest type of digital CELLULAR TELEPHONE technology, using digitally encoded audio to carry voice over wireless telephones. This provides much better privacy than 1G telephony. *Contrast* 1G, 3G, 4G.

3Com 【3Com公司（一家网络硬件生产商）】 a leading producer of networking hardware, mainly focusing on residential and small to medium businesses. In recent years the company has sharpened its focus in this area by acquiring U.S. Robotics but selling off Palm (*see* PALM). Their web address is www.3com.com.

3D 【三维图形技术】 *see* THREE-DIMENSIONAL GRAPHICS.

3G 【第三代移动通信技术】 (third-generation wireless telephony) digital CELLULAR TELEPHONE technology that includes access to the Internet and to video signals through the cellular network; it is a combination of ETHERNET and previous cellular telephone technology. *Contrast* 1G, 2G, 4G.

4x, 8x, 16x ... 64x (etc.) 【CD或DVD驱动器的刻录速度为普通音频或视频的4/8/16/64倍】 describing a CD or DVD drive, able to transfer data at 4, 8, 16 (etc.) times the speed of normal audio or video. For example, a 16x CD-R drive can record a full CD, equivalent to about an hour of audio, in about four minutes.

4G 【第四代移动通信技术】 (fourth-generation wireless telephony) digital CELLULAR TELEPHONE technology that includes access to the Internet at full broadband speed (100 megabits per second or more); a standard adopted in 2009 as a successor to 3G. *Contrast* 1G, 2G, 3G.

5.1 【5.1环绕立体声格式】 a format of SURROUND SOUND with five speakers that transmit the full audio spectrum and one that transmits only bass. The five full-range speakers are positioned as front left, center, and right, and rear left and right. The bass speaker, or SUBWOOFER, is usually placed in front. *See* Fig. 253, p. 474. *Compare* 6.1, 7.1.

6.1 【6.1环绕立体声格式】 a format of SURROUND SOUND with six full-range speakers in the left front, center front, right front, left, right, and rear center positions, plus a SUBWOOFER for additional bass. *Compare* 5.1.

7-layer model 【7层模型（指数据通信的7个层面）】 *see* DATA COMMUNICATION.

7.1 【7.1环绕立体声格式】 a format of SURROUND SOUND with seven full-range speakers in the left front, center front, right front, left, right, left rear, and right rear positions, plus a SUBWOOFER for additional bass. *Compare* 5.1.

8.3 filename 【8.3文件名格式（文件名最大长度为8，扩展名最大长度为3）】 a filename consisting of up to 8 letters or digits, a dot (period), and up to three more letters or digits, as in DOS and Windows 3.

10/100 【指网络适配器的运行速度为10/100兆位每秒】 (describing a network adapter) capable of operating at 10 or 100 megabits per second. *See* 10BASE-T; 100BASE-T.

10/100/1000 【网络适配器以10/100/1000兆位每秒的速度运行】 (describing a network adapter) capable of operating at 10, 100, and 1000 megabits per second. *See* 10BASE-T; 100BASE-T; 1000BASE-T.

10base-2 【10兆位细缆以太网】 thinwire Ethernet; a type of Ethernet connection using thin coaxial cable with BNC T-connectors, a bus topology, and a maximum data rate of 10 megabits per second. Cable segments can range from 2 feet (0.6 m) to 607 feet (185 m) in length. *See* ETHERNET; THINWIRE.

Usage note: In this and similar terms, *10* stands for the data rate in megabits per second; *base* means *baseband* (not modulated on a higher-frequency carrier); and *2* is the approximate maximum cable length in hundreds of meters. The hyphen is often left out.

10base-5 【10兆位粗缆以太网】 thickwire Ethernet; a type of Ethernet connection using thick coaxial cable with special cable-piercing taps, a bus topology, and a maximum data rate of 10 megabits per second. Cable segments can range from 8.2 feet (2.5 m) to 1640 feet (500 m) in length. *See* ETHERNET; THICKWIRE.

10base-F 【10兆位光纤以太网】 fiber-optic Ethernet; a type of Ethernet connection using fiber-optic cable and a maximum data rate of 10 megabits per second. Cables can be as long as 1.2 miles (2 km). *See* ETHERNET; FIBER OPTICS.

10base-T 【10兆位双绞线以太网】 twisted-pair Ethernet using Category 3 or Category 5 cable and RJ-45 modular connectors, a star topology with hubs, and a maximum data rate of 10 megabits per second. Each cable can be up to 328 feet (100 m) long. However, because they are unshielded, these cables are somewhat subject to electrical noise if placed close to motors or fluorescent lights. *See* ETHERNET; Crossover cable; CATEGORY 3 cable CATEGORY 5 cable (ETC.).

16-bit program 【16位程序】 a program that runs on Intel microprocessors using only the features of the 8088 or 80286, with 16-bit internal registers. Most DOS applications and many earlier Windows applications are 16-bit programs. *Contrast* 32-BIT PROGRAM.

24-bit graphics 【24位图形】 graphical images that use 24 bits to represent color as a mixture of red, green, and blue. The level of each of these three colors is measured on a scale of 0 to 225 (requiring 8 bits each), and a total of 16,777,216 colors is available. Often called “millions of colors.” *See* COLOR.

24 × 7 (or 24/7, 24-7) 【7天24小时可用】 available 24 hours a day, 7 days a week.

32-bit program 【32位程序】 a program that uses the 32-bit internal registers and large memory capacity of the Intel 386, 486, Pentium, or other compatible microprocessor; generally faster than a 16-bit program doing the same computation on the same CPU. *Contrast* 16-BIT PROGRAM. *See also* WIN32S.

32-bit Windows 【32位Windows操作系统】 Microsoft Windows 95, NT, and their successors for the Pentium and related processors, as distinct from Windows 1.0–3.1 (apart from 32-bit add-ons) or Windows CE. *See* WINDOWS (MICROSOFT).

35-mm equivalent 【35毫米电影摄像机等效焦距的】 the focal length of lens, on a 35-mm film camera, that would cover the same field of view as a particular digital camera and lens. *See* CROP FACTOR; FOCAL LENGTH; ZOOM.

- 47 USC 227** 【1991年美国禁止“垃圾传真”的法律】the 1991 U.S. law that banned “junk faxing” (unsolicited advertising by fax). *See* JUNK FAX.
- 100base-F** 【100兆位快速光纤以太网】fast fiber-optic Ethernet, like 10base-F but with a maximum data rate of 100 megabits per second.
- 100base-T** 【100兆位快速双绞线以太网】fast twisted-pair Ethernet using Category 5 cable and RJ-45 modular connectors; like 10base-T but with a maximum data rate of 100 megabits per second. Many network cards and hubs are compatible with both 10base-T and 100base-T transmission. Thus, you can convert a 10base-T network to 100base-T component-by-component and switch to the higher speed when all the components have been modernized.
- 386** 【386微处理器（英特尔公司发布的第一代32位微处理器）】the first Intel microprocessor with 32-bit internal registers and good support for multitasking and extended memory; able to run Windows 95, but too slow for most present-day software. *See* MICROPROCESSOR.
- 403 FORBIDDEN** 【403 没有访问权限（HTTP协议中的一个错误提示代码）】HTTP error message indicating that the HTTP server is not permitted to read a file. This usually means that the owner of the web page has not set the correct permissions on the file. *See* PERMISSION.
- 404 NOT FOUND** 【404找不到网页（HTTP协议中的一个错误提示代码）】HTTP error message indicating that a web address is invalid. *See* DEAD LINK.
- 419 scam, 4-1-9 scam** 【419骗局（又称尼日利亚骗局）】a form of fraud conducted through e-mail, usually from Nigeria, where it violates section 4-1-9 of the criminal code, hence the name.
- The perpetrator sends out mass e-mail claiming to be a bank officer or government official who needs help sneaking some money out of the country and wants to use someone else’s bank account. In return, the victim will get thousands or millions of dollars.
- What actually happens is that the victim’s bank account is emptied, or the victim’s information is used for further fraud. Some victims have even been lured into traveling overseas without proper visas so that they could be trapped and blackmailed.
- The 419 scam is so common that many active Internet users receive more than one solicitation per day. Newer versions of the scam no longer mention Nigeria, and many of them claim to offer lottery winnings, inheritances, or business deals.
- See also* SPAM; COMPUTER ETHICS.
- 486** 【486微处理器】an Intel microprocessor similar to the 386 but faster; predecessor of the Pentium. *See* MICROPROCESSOR

TABLE 1
IEEE 802.11 STANDARDS FOR WIRELESS NETWORKING

Specification	Popular name	Frequency	Speed	Compatible with
802.11a	Wireless-A	5 GHz	54 Mbps	Wireless-A
802.11b	Wireless-B	2.4 GHz	11 Mbps	Wireless-B
802.11g	Wireless-G	2.4 GHz	54 Mbps	Wireless-B, -G
802.11n	Wireless-N	2.4 GHz	100 Mbps	Wireless-B, -G, -N

802.11 【802.11无线局域网标准】(more fully, IEEE 802.11) a set of specifications for wireless networking that give performance similar to 10base-T or 100base-T and implement Wi-Fi product compatibility standards (Table 1).

Note that the three 2.4-GHz specifications are downward compatible; that is, a Wireless-B computer will work in a Wireless-G or Wireless-N network. Of course, in that case, communication takes place at the lower speed of Wireless-B.

802.16 【802.16无线局域网标准】 *see* WIMAX.

1000base-T 【1000兆位快速双绞线以太网】 fast twisted-pair Ethernet using Category 5e or 6 cable and RJ-45 modular connectors, like 100base-T and 10base-T and largely compatible with it. *See* 10BASE-T; 100BASE-T.

1394, 1394a, 1394b 【火线(由IEEE制定的高速串行连接总线标准)】 *see* FIREWIRE.

2000 【千年虫问题】 *see* YEAR 2000 PROBLEM.

2600 【指人们交换关于进入电脑系统、干预电话系统、复制信用卡等的细节时所使用的识别代码】 a number used as an identifying code by groups of people who exchange detailed information about how to break into computers, tamper with telephone systems, duplicate credit cards, and the like, whether for the purpose of preventing or encouraging these acts. There is a magazine (*2600: The Hacker Quarterly*), a newsgroup (alt.2600), and a variety of loosely organized local “2600” groups. *See* HACKER (definition 3); CRACKER; PHREAK.

The number 2600 is from the 2600-Hz control tone formerly used in telephone systems. The Atari 2600 video game machine is completely unrelated.

8088 【8088微处理器】 the Intel microprocessor used in the original IBM PC (1981). It has 16-bit registers and an 8-bit external bus. *See* MICROPROCESSOR.

68000 【68000微处理器】 the series of Motorola microprocessors originally used in the Apple Macintosh. *See* MICROPROCESSOR.

80286 【80286微处理器】 the Intel microprocessor used in the IBM PC AT (1984). It is faster than the 8088 and supports extended memory but does not have 32-bit registers or the built-in ability to emulate multiple 8088s; for that reason, multitasking operating systems did not become common until the 386 was introduced. *See* MICROPROCESSOR.

80386, 80486 【386和486微处理器的非官方名称】 unofficial names for the Intel 386 and 486 microprocessors. *See* 386, 486, and references there.

A

A 【（数码相机中的）光圈优先自动曝光】(on a digital camera) aperture-priority autoexposure, the mode in which the user sets the lens opening (f-ratio) and the camera chooses the exposure time; same as *Av*. *Contrast* P, TV, S.

A4 【A4型纸】a size of typing paper 210×297 mm (about $8\frac{1}{4} \times 11\frac{3}{4}$ inches). See PAPER SIZES.

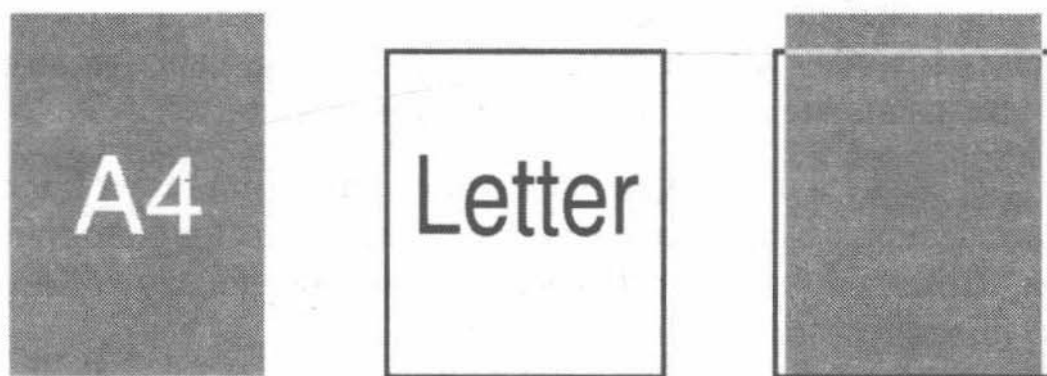


FIGURE 1. A4 paper is longer and narrower than letter size

AAC(Advanced Audio Coding) 【高级音频编码（一种音频压缩格式）】an audio compression format newer and more efficient than MP3, used internally by iTunes and Nintendo Wii. See www.mpeg.org/MPEG/aac.html.

ABC (Atanasoff Berry Computer) 【阿塔纳索夫-贝瑞计算机】a machine developed in 1939 at Iowa State University by John Atanasoff and Clifford Berry for solving equation systems. Although it did not allow for stored programs, it was an important predecessor of the ENIAC and other digital computers.

abort 【异常中止】to cancel an action or command.

abs 【绝对值函数】the function that calculates absolute value in many programming languages and on scientific calculators. It converts negative numbers to positive while leaving positive numbers unchanged. For example, $\text{abs}(37) = 37$; $\text{abs}(-37) = 37$; $\text{abs}(-2.5) = 2.5$; $\text{abs}(0) = 0$.

absolute address 【绝对地址，绝对统一资源定位地址】

1. a fixed location in the computer's memory. See COMPUTER ARCHITECTURE; OFFSET.
2. in a spreadsheet program, a cell address that will not change when a formula is copied to another location. In Excel, absolute addresses are indicated by placing a dollar sign before the column and/or row indicator. For example, if the formula $2*\$D\7 is entered into a cell, then $\$D\7 is an absolute address. If this formula is copied to another cell, the address $\$D\7 will not change. *Contrast* RELATIVE ADDRESS.
3. See ABSOLUTE URL.

absolute URL 【绝对统一资源定位地址】a URL that contains the full address, identifying the machine, directory, and file. For example, if a web page contains the link:

```
<a href="http://www.census.gov/2010census/about_2010_census/">
```

it will find about _2010_census in the directory 2010census at the Internet node

labeled as `www.census.gov`. *Contrast* RELATIVE URL.

abstract 【摘要，抽象的】

1. a summary of a document or file.
2. not tied to a specific pre-existing example. For example, an abstract data type is one that does not correspond exactly to anything in the architecture of the computer; instead, it is declared by the programmer to suit the purposes of the program.
3. In object-oriented programming, a class is declared abstract if there will not be any data or methods specific to that class; instead, it is to be used as a superclass for other classes that will have specific data. An abstract class cannot be instantiated, but other classes can extend it.

accelerator 【加速器】 a device that makes an operation run faster. For example, a graphics accelerator is a card that contains built-in circuits for performing graphics operations, allowing the system to render graphics more quickly than would be the case if the microprocessor bore the entire load.

accelerometer 【加速度计】 a component that measures motion. For example, an accelerometer in the iPad senses when you turn the device, so it can adjust the display to be right-side up.

accents 【重音符号】 marks added to letters (as in *é è ê ë*) to indicate differences of pronunciation; said to have been introduced by Aristophanes of Byzantium c. 200 B.C. to preserve the pitch accent of ancient Greek, which was dying out. The only major languages that do not require accents are English and Latin.

Most computer software treats a letter with an accent as a single character. More sophisticated systems represent the accent and the letter separately, so that any accent can be put on any letter.

acceptable-use policy 【可接受使用政策，可用声明】 a policy established by the owner of a computer system, or by an Internet service provider, concerning acceptable use of the computer and network facilities. Acceptable-use policies should generally include the following points:

1. Users are accountable for what they do. Deliberate snooping, harassment, or interference with other users will not be tolerated, nor will any deliberate unauthorized activity.
2. The computer shall be used only for its intended purposes. For example, you generally can't use your employer's computer to run another business on the side; nor can you run private money-making schemes on a computer owned by a state university. Employees are accountable for how they use their time at work.
3. Passwords must be kept secret. *See* PASSWORD.
4. The service provider has the right to suspend accounts that are being misused. People accused of misconduct have the right to a fair hearing.
5. Users must abide by the acceptable-use policies of newsgroups and other electronic discussion forums, which are mostly paid for by other people. On the Internet you are always someone's guest.
6. Chain letters and mass e-mailing are expensive, unwelcome, and generally not permitted.
7. Cyberspace is not above the law. Practices that are illegal in the real

world, such as forgery, gambling, obscenity, and threatening or inciting violence, are still illegal when you do them on the computer.

8. Losing an account is not necessarily the only penalty for misconduct. The service provider cannot shield users from criminal or civil liability when they break laws or deliberately harm others. Really destructive computer abusers generally have several accounts and must be stopped by other means.

See also COMPUTER ETHICS; COMPUTER LAW.

Access 【Access数据库软件】a powerful, highly programmable RELATIONAL DATABASE marketed by Microsoft as part of the Office suite of products.

access control list 【访问控制表, 存取控制表】in Windows, the list of which users or groups are allowed to use a file, directory, or device. *See* CACLS.

access provider 【因特网接入提供者】*see* INTERNET SERVICE PROVIDER.

access time 【存取时间】the amount of time needed by a memory device to transfer data to the CPU.

accessibility 【可访问性, 可存取性】the measure of how fully a computer product can be used by people of varying abilities. For example, a blind computer user visiting a web page may use speech synthesis software to read the page aloud. A web site where images all have alternate text descriptions is more accessible than a web site without such tags. *See also* WAI.

account 【账号, 账户】authorization to use a computer or any kind of computer service, even if free of charge. An account consists of an identifying name and other records necessary to keep track of a user. Sometimes an account belongs to another computer or a computer program rather than a human being.

accounting system 【会计系统, 记账系统】software that reads in data for transactions and generates income statements, balance sheets, and related financial reports. *See also* QUICKEN.

accumulator 【累加器】a register where a computer retains the result of an arithmetic operation. For example, in 8086 assembly language, the instruction ADD AX, 10 means "Add 10 to the number in the accumulator, and leave the result there." Some computers can use more than one register as an accumulator. *See* COMPUTER ARCHITECTURE; ASSEMBLY LANGUAGE; REGISTER.

acid2 test, acid3 test 【测试网页（用于验证网络浏览器是否准确实施标准特征）】test web pages that can be used to verify that a web browser correctly implements standard features. *See* www.webstandards.org/action/acid2/guide. In chemistry, a strong acid can be applied to a metal to distinguish between precious and base metals, so the term acid test has come to have a more general meaning as a quick, decisive test.

ACL 【访问控制表, 存取控制表】*see* ACCESS CONTROL LIST.

ACM (Association for Computing Machinery) 【美国计算机协会】a worldwide association of computer professionals headquartered in the United States (web address is www.acm.org).

ACPI (Advanced Configuration and Power Interface) 【高级配置与电源接口】

a set of standard hardware/software interactions that give the operating system the ability to direct power management of hardware devices. For example, a computer with ACPI can turn itself off under software control as the last step in shutting down the operating system.

acquire 【获取】 to obtain a file (for editing) from a scanner or a camera. Similar to IMPORT, except that the image is not coming from a file.

Acrobat 【Acrobat软件（Adobe公司开发的一款PDF编辑软件）】 software from ADOBE SYSTEMS, INC., for creating and reading PDF (Portable Document Format) files. Acrobat *Reader* is a browser plug-in available free from Adobe's web site (www.adobe.com) that enables users to view and print PDF files that they receive from others. The full version of Acrobat is a powerful multi-use utility designed to facilitate annotation and distribution of digital documents. With Acrobat, comments and highlights can be added to documents. It's possible to perform minor text edits, although large changes to page layout are not possible. Forms can be made interactive. Multiple .pdf documents can be combined or pages may be extracted into separate files. Acrobat also includes the ability to add a secure digital signature to .pdf documents. *See* PDF.

acronym 【首字母缩略词】 a word formed from the initial parts of other words. For example, LAN stands for Local Area Network. *See also* TLA.

activate 【激活，启动】

1. to choose a window in which you want to type. This is done by moving the mouse pointer into the window and clicking one button. In some operating systems you must click on the window's title bar. *See* WINDOW.
2. to start a piece of software by double-clicking on its name or icon. *See* CLICK; ICON.
3. to make a software product usable by informing the manufacturer that it has been installed and obtaining an activation code. This can be done on line or by making a telephone call. *See* REGISTRATION (definition 1).

active color 【当前颜色，激活颜色】 the color currently selected (in a painting or drawing program). Whatever tool is being used will paint or draw in the active color.

Active Desktop 【主动桌面，现用桌面】 in Windows, the ability to use a WEB PAGE as the desktop, i.e., the screen itself, not just as one of the programs running on it. This makes it easy to display a web page that is constantly updated, such as weather or stock price information, without having to start and run a BROWSER. *See also* DESKTOP; WORLD WIDE WEB.

active matrix 【有源矩阵，有源阵列】 a type of liquid crystal display (LCD) that produces higher contrast than earlier passive-matrix displays by incorporating transistors into the LCD matrix.

active window 【活动窗口，现用窗口】 the window currently in use, the one in which the user is typing, drawing, or making menu choices (*see* Figure 2). There can only be one active window on a screen at one time. *See* WINDOW; ACTIVATE.

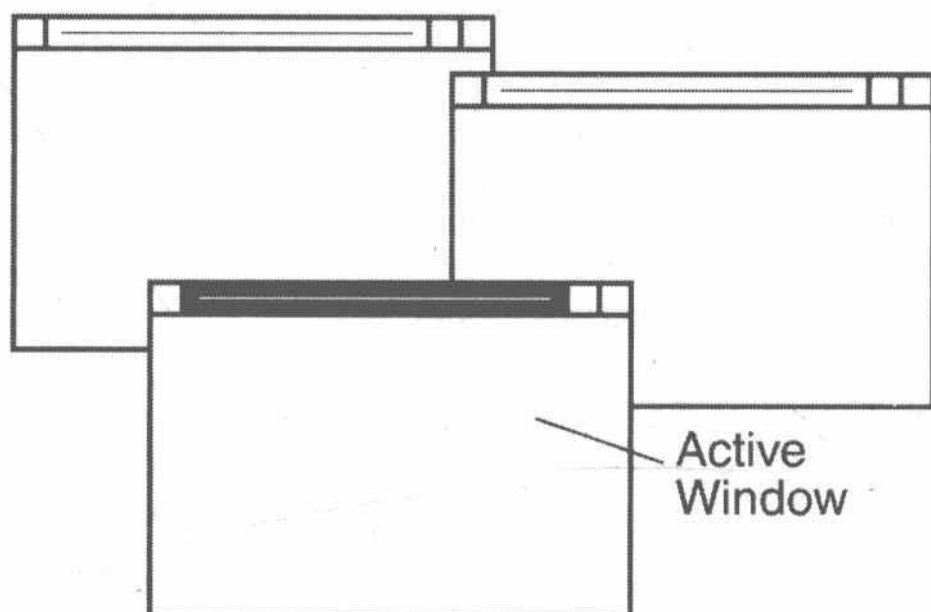


FIGURE 2. Active window

ActiveX 【ActiveX控件】 a marketing name used by Microsoft for many types of software components implemented in the COM (Component Object Model) architecture (*see* COM).

actor 【角色, 施动者, 动作者】 in computer animation, any object that moves in a specified manner along a path, whether or not it represents a human being. Even a bouncing ball is an actor.

actual parameter 【实参, 实在参数】 the value actually passed to a function or procedure in a programming language. For example, if you compute $\text{ABS}(1+x)$ and the value of x is 2.5, then 3.5 is the actual parameter of ABS. *See* FORMAL PARAMETER; PARAMETER.

A/D converter 【模数转换器】 *see* ANALOG-TO-DIGITAL CONVERTER.

Ada 【Ada语言 (一种程序设计语言)】 a programming language developed in the late 1970s for the U.S. Department of Defense. It is named for Augusta Ada Byron, Countess of Lovelace, who worked with Babbage's mechanical calculator in the nineteenth century.

Ada subprograms can be compiled separately and linked together before execution. In the sample program, the *with* and *use* statements specify that this program uses a library of precompiled subroutines called `I_O_PACKAGE`.

Much of the original motivation for designing Ada was the need for a better language for real-time programming, that is, programming computers to control automatic or semiautomatic equipment. Toward this end, Ada allows the programmer to create multiple tasks that run concurrently (*see* TIMESHARING) to pass signals from one task to another and to introduce controlled time delays.

```
with I_O_PACKAGE;
procedure FACTORIAL is
  use I_O_PACKAGE;
  --This program reads a number and
  --computes its factorial.
  NUM, FACT, COUNT: INTEGER;
begin
  GET(NUM);
  FACT := 1;
  for COUNT in 2..NUM loop
```

```

    FACT := FACT * COUNT;
end loop;
PUT("The factorial of ");
PUT(NUM); PUT(" is ");
PUT(FACT);
end;
```

FIGURE 3. Ada program

adaptive technology 【自适应技术】 technology that helps people work around physical limitations. Computer-related examples include magnified screen displays, speech recognition devices, and keyboards with latching shift and control keys for people who can press only one key at a time. *See* ACCESSIBILITY.

ADC 【模数转换器】 *see* ANALOG-TO-DIGITAL CONVERTER.

add-in 【插件，附件】 a package providing additional features to a program such as a spreadsheet; for example, the Solver add-in for Microsoft Excel.

add noise 【添加杂色，添加杂点】 a paint program filter that adds a speckled texture to a picture. This is done by adding noise (random variation) to the pixel values. *Compare* WHITE NOISE.

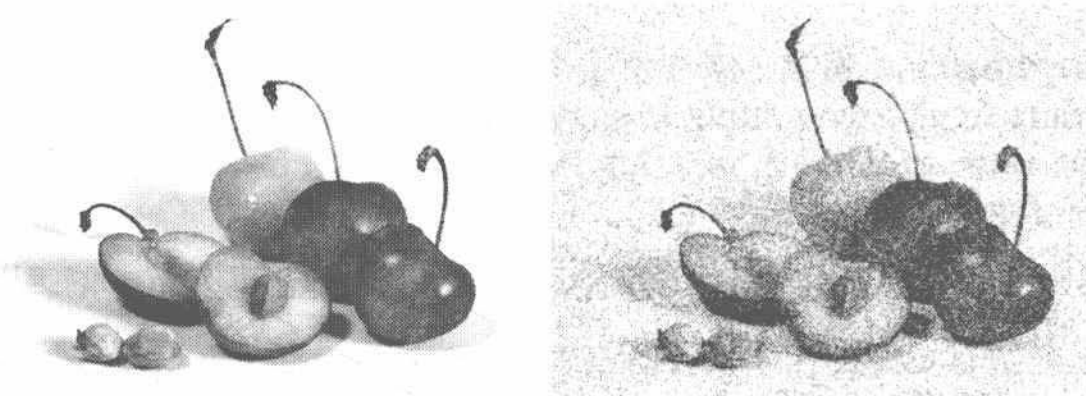


FIGURE 4. Add Noise filter adds texture to image

address 【地址，位址，网址】

1. a number or bit pattern that uniquely identifies a location in a computer memory. Every location has a distinct address.
2. a letter and number identifying the column and row of a cell in a spreadsheet. *See* RELATIVE ADDRESS; ABSOLUTE ADDRESS.
3. a set of numbers identifying a machine on the Internet. *See* IP ADDRESS.
4. an electronic mail address. *See* ELECTRONIC MAIL.
5. a URL identifying a web page. *See* URL.

address book 【（电子）通讯录】 a facility in an e-mail program, chat program, or web browser for storing addresses of individuals or web sites. Addresses may be added to the address book automatically when the user replies to e-mail.

ADF (automatic document feeder) 【自动输稿器，自动进纸器】 a device for feeding documents into a SCANNER automatically, sheet by sheet.

admin 【管理员】 abbreviation for ADMINISTRATOR.

Administrator 【管理员】 the account name used by the system administrator

under Windows NT and its successors. *Compare* ROOT.

Adobe Systems, Inc. 【Adobe系统公司】(San Jose, California) the software company that developed the PDF format for distributing documents on the web and the PostScript command language for output devices. Other products include Photoshop, Illustrator, GoLive, PageMaker, Premiere for digital video production, and a library of type styles. *See* PDF and POSTSCRIPT. Web address: www.adobe.com

ADSL (Asymmetric Digital Subscriber Line) 【非对称数字用户线路】a widely used way of providing a high-speed Internet connection through ordinary telephone lines; called asymmetric because the upstream and downstream data rates are different. Full-rate ADSL provides data rates of up to 8 Mbps downstream and 1.5 Mbps upstream. The variety of ADSL commonly provided to homes is called G.lite and provides data rates up to 1.5 Mbps downstream and 0.5 Mbps upstream. *See* DSL and cross-references there.

advance fee fraud 【预付金诈骗】scams promising you a large amount of money provided you pay some kind of fee in advance. Needless to say, do not send money to anyone that sends such an e-mail to you. *See* 419 SCAM.

adventure game 【冒险游戏, 涉险游戏】a game in which the player navigates through an interactive story, solving puzzles and exploring areas. There may be multiple endings to the game, and the player's actions determine which ending is reached. Adventure games test reasoning skills instead of reflexes.

The first adventure games, such as Zork, had no graphics, only textual descriptions:

“You are in a maze of twisting passages, all alike...”

Some, such as Rogue, used symbols, punctuation, and other ASCII characters to draw rooms and passages on a non-graphical text-only screen. *Compare* ASCII GRAPHICS.

Other notable examples are many games produced by Sierra, such as the King's Quest series, and the Myst series from Cyan Worlds.

adware 【恶意广告软件, 广告软件】software whose main purpose is to display advertisements on the user's computer. Sometimes *adware* refers to legitimate software sent out as samples or sales presentations, but more often, the term denotes software installed without the user's full knowledge and consent. Adware of the latter type can make advertisements pop up on the screen even when the web browser is blocking pop-up ads. *See* POP-UP AD.

Software tools for detecting and removing malicious adware can be found at www.safer-networking.org and www.lavasoftusa.com. *See also* MALWARE; SPYWARE.

Aero 【Aero界面 (Windows Vista和windows 7的新窗口风格)】the new window style of Windows Vista and 7, including many subtle changes from earlier versions, the most noticeable of which is that windows can have transparent borders. Compared to Windows 2000 and XP, Aero shows considerable influence from MAC OS X. Graphics features such as transparency can be turned off to improve performance on slow CPUs.

AES (Advanced Encryption Standard) 【高级加密标准, 先进加密标准】data