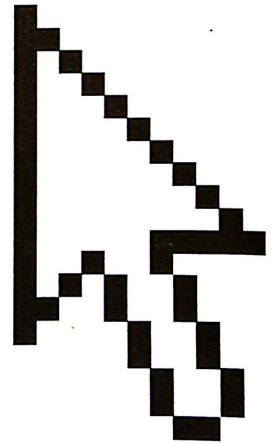


Microsoft

Computer Dictionary

Fifth Edition



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Acquisitions Editor: Alex Blanton

Project Editor: Sandra Haynes

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programming, to keep the implementation details of a class a separate file whose contents do not need to be known by a programmer using that class. *See also* object-oriented programming, TCP/IP.

Encapsulated PostScript *n.* *See* EPS.

encapsulated type *n.* *See* abstract data type.

encapsulation *n.* **1.** In object-oriented programming, the packaging of attributes (properties) and functionality (methods or behaviors) to create an object that is essentially a “black box”—one whose internal structure remains private and whose services can be accessed by other objects only through messages passed via a clearly defined interface (the programming equivalent of a mailbox or telephone line). Encapsulation ensures that the object providing service can prevent other objects from manipulating its data or procedures directly, and it enables the object requesting service to ignore the details of how that service is provided. *See also* information hiding. **2.** In terms of the Year 2000 problem, a method of dealing with dates that entails shifting either program logic (data encapsulation) or input (program encapsulation) backward into the past, to a parallel year that allows the system to avoid Year 2000 complications. Encapsulation thus allows processing to take place in a “time warp” created by shifting to an earlier time before processing and—for accuracy—shifting output forward by the same number of years to reflect the actual date. *See* data encapsulation, program encapsulation.

encipher *vb.* *See* encrypt.

encode *vb.* **1.** *See* encrypt. **2.** In programming, to put something into code, which frequently involves changing the form—for example, changing a decimal number to binary-coded form. *See also* binary-coded decimal, EBCDIC.

encoder *n.* **1.** In general, any hardware or software that encodes information—that is, converts the information to a particular form or format. For example, the Windows Media Encoder converts audio and video to a form that can be streamed to clients over a network. **2.** In reference to MP3 digital audio in particular, technology that converts a WAV audio file into an MP3 file. An MP3 encoder compresses a sound file to a much smaller size, about one-twelfth as large as the original, without a perceptible drop in quality. *Also called:* MP3 encoder. *See also* MP3, WAV. *Compare* rip, ripper.

encoding *n.* **1.** *See* Huffman coding. **2.** A method of dealing with computers with Year 2000 problems that entails storing a four-digit year in date fields designed to hold only two digits in a program or system. This can be accomplished by using the bits associated with the date field more efficiently—for example, by converting the date field from ASCII to binary or from decimal to hexadecimal, both of which allow storage of larger values.

encrypt *vb.* To encode (scramble) information in such a way that it is unreadable to all but those individuals possessing the key to the code. Encrypted information is known as cipher text. *Also called:* encipher, encode.

encryption *n.* The process of encoding data to prevent unauthorized access, especially during transmission. Encryption is usually based on one or more keys, or codes, that are essential for decoding, or returning the data to readable form. The U.S. National Bureau of Standards created a complex encryption standard, Data Encryption Standard (DES), which is based on a 56-bit variable that provides for more than 70 quadrillion unique keys to encrypt documents. *See also* DES.

encryption key *n.* A sequence of data that is used to encrypt other data and that, consequently, must be used for the data’s decryption. *See also* decryption, encryption.

end-around carry *n.* A special type of end-around shift operation on a binary value that treats the carry bit as an extra bit; that is, the carry bit is moved from one end of the value to the other. *See also* carry, end-around shift, shift.

end-around shift *n.* An operation performed on a binary value in which a bit is shifted out of one end and into the other end. For example, a right-end shift on the value 00101001 yields 10010100. *See also* shift.

en dash *n.* A punctuation mark (–) used to show ranges of dates and numbers, as in 1990–92, and in compound adjectives where one part is hyphenated or consists of two words, as in pre–Civil War. The en dash is named after a typographical unit of measure, the en space, which is half the width of an em space. *See also* em space. *Compare* em dash, hyphen.

End key *n.* A cursor-control key that moves the cursor to a certain position, usually to the end of a line, the end of a screen, or the end of a file, depending on the program. *See* the illustration.

it by the class or object from which it was derived. *See also* object-oriented programming.

Inhibit *vb.* To prevent an occurrence. For example, to inhibit interrupts from an external device means to prevent the external device from sending any interrupts.

.Ini *n.* In MS-DOS and Windows 3.x, the file extension that identifies an initialization file, which contains user preferences and startup information about an application program.

Ini file *n.* Short for **initialization file**, a text file containing information about the initial configuration of Windows and Windows-based applications, such as default settings for fonts, margins, and line spacing. Two ini files, win.ini and system.ini, are required to run the Windows operating system through version 3.1. In later versions of Windows, ini files are replaced by a database known as the registry. In addition to Windows itself, many older applications create their own ini files. Because they are composed only of text, ini files can be edited in any text editor or word processor to change information about the application or user preferences. All initialization files bear the extension .ini. *See also* configuration, configuration file, registry, system.ini, win.ini.

INIT *n.* On older Macintosh computers, a system extension that is loaded into memory at startup time. *See also* extension (definition 4). *Compare* cdev.

Initial Graphics Exchange Specification *n.* A standard file format for computer graphics, supported by the American National Standards Institute (ANSI), that is particularly suitable for describing models created with computer-aided design (CAD) programs. It includes a wide variety of basic geometric forms (primitives) and, in keeping with CAD objectives, offers methods for describing and annotating drawings and engineering diagrams. *Acronym:* IGES. *See also* ANSI.

Initialization *n.* The process of assigning initial values to variables and data structures in a program.

Initialization file *n.* *See* ini file.

Initialization string *n.* A sequence of commands sent to a device, especially a modem, to configure it and prepare it for use. In the case of a modem, the initialization string consists of a string of characters.

Initialize *vb.* **1.** To prepare a storage medium, such as a disk or a tape, for use. This may involve testing the medium's surface, writing startup information, and setting

up the file system's index to storage locations. **2.** To assign a beginning value to a variable. **3.** To start up a computer. *See also* cold boot, startup.

Initializer *n.* An expression whose value is the first (initial) value of a variable. *See also* expression.

Initial program load *n.* The process of copying an operating system into memory when a system is booted. *Acronym:* IPL. *See also* boot, startup.

Initiator *n.* The device in a SCSI connection that issues commands. The device that receives the commands is the target. *See also* SCSI, target.

Ink cartridge *n.* A disposable module that contains ink and is typically used in an ink-jet printer. *See also* ink-jet printer.

Ink-jet printer or **Inkjet printer** *n.* A nonimpact printer in which liquid ink is vibrated or heated into a mist and sprayed through tiny holes in the print head to form characters or graphics on the paper. Ink-jet printers are competitive with some laser printers in price and print quality if not in speed. However, the ink, which must be highly soluble to avoid clogging the nozzles in the print head, produces fuzzy-looking output on some papers and smears if touched or dampened shortly after printing. *See also* nonimpact printer, print head.

Inline *adj.* **1.** In programming, referring to a function call replaced with an instance of the function's body. Actual arguments are substituted for formal parameters. An inline function is usually done as a compile-time transformation to increase the efficiency of the program. *Also called:* unfold, unroll. **2.** In HTML code, referring to graphics displayed along with HTML-formatted text. Inline images placed in the line of HTML text use the tag . Text within an inline image can be aligned to the top, bottom, or middle of a specific image.

Inline code *n.* Assembly language or machine language instructions embedded within high-level source code. The form it takes varies considerably from compiler to compiler, if it is supported at all.

Inline discussion *n.* Discussion comments that are associated with a document as a whole or with a particular paragraph, image, or table of a document. In Web browsers, inline discussions are displayed in the body of the document; in word-processing programs, they are usually displayed in a separate discussion or comments pane.

privileged mode *n.* A mode of execution, supported by the protected mode of the Intel 80286 and higher microprocessors, in which software can carry out restricted operations that manipulate critical components of the system, such as memory and input/output ports (channels). Application programs cannot be executed in privileged mode; the heart (kernel) of the OS/2 operating system can be, as can the programs (device drivers) that control devices attached to the system.

privileges *n.* See access privileges.

PRN *n.* The logical device name for *printer*. A name reserved by the MS-DOS operating system for the standard print device. PRN usually refers to a system's first parallel port, also known as LPT1.

.pro *n.* One of seven new top-level domain names approved in 2000 by the Internet Corporation for Assigned Names and Numbers (ICANN). .pro is meant for use in Web sites relating to professions such as physicians, accountants, and lawyers. Six of the new domains became available for use in the spring of 2001; negotiations are still underway for the final registry agreement for the .pro domain.

probability *n.* The likelihood that an event will happen, which can often be estimated mathematically. In mathematics, statistics and probability theory are related fields. In computing, probability is used to determine the likelihood of failure or error in a system or device.

problem solving *n.* **1.** The process of devising and implementing a strategy for finding a solution or for transforming a less desirable condition into a more desirable one. **2.** An aspect of artificial intelligence wherein the task of problem solving is performed solely by a program. See also artificial intelligence.

procedural language *n.* A programming language in which the basic programming element is the procedure (a named sequence of statements, such as a routine, subroutine, or function). The most widely used high-level languages (C, Pascal, Basic, FORTRAN, COBOL, Ada) are all procedural languages. See also procedure. Compare nonprocedural language.

procedural rendering *n.* The rendering of a two-dimensional image from three-dimensional coordinates with texturing according to user-specified conditions, such as direction and degree of lighting.

procedure *n.* In a program, a named sequence of statements, often with associated constants, data types, and variables, that usually performs a single task. A procedure can usually be called (executed) by other procedures, as well as by the main body of the program. Some languages distinguish between a procedure and a function, with the latter (the function) returning a value. See also function, parameter, procedural language, routine, subroutine.

procedure call *n.* In programming, an instruction that causes a procedure to be executed. A procedure call can be located in another procedure or in the main body of the program. See also procedure.

process¹ *n.* A program or part of a program; a coherent sequence of steps undertaken by a program.

process² *vb.* To manipulate data with a program.

process-bound *adj.* Limited in performance by processing requirements. See also computation-bound.

process color *n.* A method of handling color in a document in which each block of color is separated into its subtractive primary color components for printing: cyan, magenta, and yellow (as well as black). All other colors are created by blending layers of various sizes of halftone spots printed in cyan, magenta, and yellow to create the image. See also color model, color separation (definition 1). Compare spot color.

processing *n.* The manipulation of data within a computer system. Processing is the vital step between receiving data (input) and producing results (output)—the task for which computers are designed.

processor *n.* See central processing unit, microprocessor.

Processor Direct Slot *n.* See PDS (definition 1).

Processor Input/Output *n.* See PIO.

Procmall *n.* An open-source e-mail-processing utility for Linux and other UNIX-based computers and networks. Procmall can be used to create mail servers and mailing lists, filter mail, sort incoming mail, preprocess mail, and perform other mail-related functions.

Prodigy *n.* An Internet service provider (ISP) that offers Internet access and a wide range of related services. Prodigy was founded by IBM and Sears as a proprietary online service, was acquired by International Wireless in 1996, and in 1999 entered into a partnership with SBC Commu-

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dedicated to that data, and it cannot be reprogrammed. *See also* EEPROM, EPROM, ROM (definition 2).

PROM blaster *n.* *See* PROM programmer.

PROM blower *n.* *See* PROM programmer.

promiscuous-mode transfer *n.* In network communications, a transfer of data in which a node accepts all packets regardless of their destination address.

PROM programmer *n.* A hardware device that records instructions or data on a PROM (programmable read-only memory) chip or an EPROM (erasable programmable read-only memory) chip. *Also called:* PROM blaster, PROM blower. *See also* EPROM, PROM.

prompt *n.* **1.** In command-driven systems, one or more symbols that indicate where users are to enter commands. For instance, in MS-DOS, the prompt is generally a drive letter followed by a greater-than symbol (C>). In UNIX, it is usually %. *See also* command-driven system, DOS prompt. **2.** Displayed text indicating that a computer program is waiting for input from the user.

propagated error *n.* An error used as input to another operation, thus producing another error.

propagation *n.* Travel of a signal, such as an Internet packet, from its source to one or more destinations. Propagation of messages over different paths with different lengths can cause messages to appear at a user's computer with varying delivery times. *See also* propagation delay.

propagation delay *n.* The time needed by a communications signal to travel between two points; in satellite links, a noticeable delay of between one-quarter second and one-half second, caused by the signal traveling through space.

propeller head *n.* Slang for a person who is obsessed with computers or other technology; a geek. The name refers to a child's beanie cap topped by a spinning propeller.

property *n.* In Windows 9x, a characteristic or parameter of an object or device. Properties of a file, for example, include type, size, and creation date and can be identified by accessing the file's property sheet. *See also* property sheet.

property sheet *n.* A type of dialog box in Windows 9x, accessed by choosing Properties in the File menu or by right-clicking on an object and selecting Properties, that lists the attributes or settings of an object such as a file, application, or hardware device. A property sheet presents the user with a tabbed, index-card-like selection of prop-

erty pages, each of which features standard dialog-style controls for customizing parameters.

proportional font *n.* A set of characters in a particular style and size in which a variable amount of horizontal space is allotted to each letter or number. In a proportional font, the letter *i*, for example, is allowed less space than the letter *m*. *Compare* monospace font.

proportional spacing *n.* A form of character spacing in which the horizontal space each character occupies is proportional to the width of the character. The letter *w*, for example, takes up more space than the letter *i*. *Compare* monospacing.

proprietary *adj.* Of, pertaining to, or characteristic of something that is privately owned. Generally, the term refers to technology that has been developed by a particular corporation or entity, with specifications that are considered by the owner to be trade secrets. Proprietary technology may be legally used only by a person or entity purchasing an explicit license. Also, other companies are unable to duplicate the technology, both legally and because its specifications have not been divulged by the owner. *Compare* public domain.

proprietary software *n.* A program owned or copyrighted by an individual or a business and available for use only through purchase or by permission of the owner. *Compare* open source, public-domain software.

protected *n.* A keyword in a programming language (such as Java or C++) used in a method or variable declaration. It signifies that the method or variable can be accessed only by elements residing in its class, subclasses, or classes in the same package. *See also* class, declaration, method, package, variable.

protected mode *n.* An operating mode of the Intel 80286 and higher microprocessors that supports larger address spaces and more advanced features than real mode. When started in protected mode, these CPUs provide hardware support for multitasking, data security, and virtual memory. The Windows (version 3.0 and later) and OS/2 operating systems run in protected mode, as do most versions of UNIX for these microprocessors. *Compare* real mode.

protocol *n.* *See* communications protocol.

protocol analyzer *n.* A management tool designed to identify and diagnose computer network problems. A protocol analyzer looks at LAN (local area network) or WAN (wide area network) traffic and finds protocol errors, connection delays, and other network faults. The protocol

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