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Microsoft

Computer Dictionary

Fifth Edition

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- *Easy to read, expertly illustrated*
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downstream rates from about 10 Mbps to 36 Mbps. *See also* coaxial cable, modem.

cable telephony *n.* Telephone service provided over a cable TV connection rather than over traditional telephone lines. Although service is delivered over cable rather than telephone wire, the end user perceives no difference between cable telephony and normal telephone service. Proponents of cable telephony see it as part of the eventual integration of Internet, television, and telephone services into a single communication/entertainment unit.

cable television *n.* *See* CATV.

cabling diagram *n.* A plan that shows the path of cables that attach computer system components or peripherals. Cabling diagrams are particularly important for explaining the connection of disk drives to a disk controller.

cache *n.* A special memory subsystem in which frequently used data values are duplicated for quick access. A memory cache stores the contents of frequently accessed RAM locations and the addresses where these data items are stored. When the processor references an address in memory, the cache checks to see whether it holds that address. If it does hold the address, the data is returned to the processor; if it does not, a regular memory access occurs. A cache is useful when RAM accesses are slow compared with the microprocessor speed because cache memory is always faster than main RAM memory. *See also* disk cache, wait state.

cache card *n.* An expansion card that increases a system's cache memory. *See also* cache, expansion board.

Cache-Coherent Non-Uniform Memory Access *n.* *See* ccNUMA.

cache farm *n.* A group of servers that save copies of Web pages to caches to fulfill successive requests without calling the pages up repeatedly from the Web server. In essence, the servers are dedicated to caching. By saving Web pages where they can be accessed without increasing traffic on the Web site, the cache farm allows higher-performance Web access for the end user and a reduction in network congestion and volume. *See also* cache.

cache memory *n.* *See* cache.

cache poisoning *n.* Deliberate corruption of Internet Domain Name System (DNS) information through alteration of data that equates host names with their IP

addresses. Misleading information of this type, when cached (saved) by one DNS server and later passed to another, exposes DNS servers to attacks in which data sent from one host to another can be accessed or corrupted. Cache poisoning has been used to redirect network requests from a legitimate server to an alternate Web site. *See also* DNS.

CAD *n.* Acronym for computer-aided design. A system of programs and workstations used in designing engineering, architectural, and scientific models ranging from simple tools to buildings, aircraft, integrated circuits, and molecules. Various CAD applications create objects in two or three dimensions, presenting the results as wire-frame "skeletons," as more substantial models with shaded surfaces, or as solid objects. Some programs can also rotate or resize models, show interior views, generate lists of materials required for construction, and perform other allied functions. CAD programs rely on mathematics, often requiring the computing power of a high-performance workstation. *See also* CAD/CAM, I-CASE.

CAD/CAM *n.* Acronym for computer-aided design/computer-aided manufacturing. The use of computers in both the design and manufacture of a product. With CAD/CAM, a product, such as a machine part, is designed with a CAD program and the finished design is translated into a set of instructions that can be transmitted to and used by the machines dedicated to fabrication, assembly, and process control. *See also* CAD, I-CASE.

CADD *n.* A system of hardware and software similar to CAD but with additional features related to engineering conventions, including the ability to display dimension specifications and other notes. *Acronym:* CADD. *See also* CAD.

caddy *n.* A plastic carrier that holds a CD-ROM and is inserted into a CD-ROM drive. Some PCs, especially older models, have CD-ROM drives that require the use of a caddy. Most current CD-ROM drives do not require a caddy.

CAE *n.* Acronym for computer-aided engineering. An application that enables the user to perform engineering tests and analyses on designs created with a computer. In some instances, capabilities such as logic testing that are generally attributed to CAE applications are also part of CAD programs, so the distinction between CAD and CAE is not a hard-and-fast one. *See also* CAD, I-CASE.

digitize *vb.* To convert any continuously varying (analog) source of input, such as the lines in a drawing or a sound signal, to a series of discrete units represented in a computer by the binary digits 0 and 1. Analog-to-digital converters are commonly used to perform this translation. *See also* aliasing, analog-to-digital converter.

digitizing tablet *n.* *See* graphics tablet.

DikuMUD *n.* **1.** Multiuser dungeon (MUD) software developed by five individuals at the Computer Science Institute at Copenhagen University (whose acronym in Danish is DIKU). DikuMUD uses multimedia and is object-oriented, but the classes are hard-coded. The software is covered by a license agreement that forbids its distribution for money. *See also* MUD, multimedia, object-oriented. **2.** A game that uses the DikuMUD software.

dimensioning *n.* In CAD programs, a means of specifying and possibly controlling the measurements and spatial relationships of elements in a modeled object, such as using lines, arrows, and text (that is, measurements) to indicate the length, height, and thickness of each of the walls in a modeled room or house. *See also* CAD.

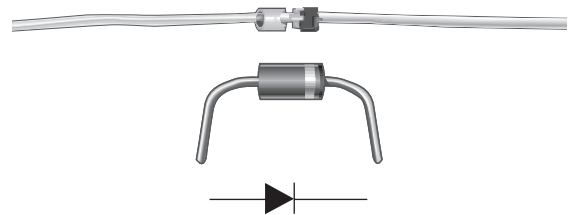
DIMM *n.* Acronym for **dual inline memory module**. A type of memory board comprised of RAM chips mounted on a circuit board, similar to the more commonly used SIMM (Single Inline Memory Module). DIMMs are characterized by a 64-bit data path and pins (connectors) on each side that are on different circuits and that respond to different signals. SIMMs, in contrast, have a 32-bit data path, and their connectors are on the same circuit and respond to the same signal. While SIMMs must be added in pairs, DIMMs can be added to a computer one at a time. *See also* memory chip. *Compare* SIMM.

dimmed *adj.* Shown on the screen in gray characters instead of black characters on white or white characters on black. Menu options appear dimmed in a graphical user interface to indicate that under current circumstances they are not available—for example, “Cut” when no text has been highlighted or “Paste” when there is no text in the clipboard.

DIN connector *n.* A multipin connector conforming to the specification of the German national standards organization (Deutsch Industrie Norm). DIN connectors are used to link various components in personal computers.

dingbat *n.* A small graphical element used for decorative purposes in a document. Some fonts, such as Zapf Dingbats, are designed to present sets of dingbats. *See also* font. *Compare* bullet.

diode *n.* A device that passes current in only one direction. A diode is usually a semiconductor. *See the illustration.* *See also* semiconductor.



Diode. *The drawings (top) show two of the many types of diode packages. The band on the right end of each indicates polarity. At bottom is a schematic representation of a diode.*

diode-transistor logic *n.* A type of circuit design that employs diodes, transistors, and resistors to perform logic functions. *Acronym:* DTL.

DIP *n.* Acronym for **dual inline package**. A standard for packaging integrated circuits in which the microminiature electronic circuits etched on a silicon wafer are enclosed in a rectangular housing of plastic or ceramic and connected to downward-pointing pins protruding from the longer sides of the chip. Designed to facilitate circuit board manufacturing, this design does not work well for modern chips requiring very large numbers of connections. *See also* document image processing. *Compare* leadless chip carrier, pin grid array, SIP, surface-mount technology.

dipole *n.* A pair of opposite electric charges or magnetic poles of opposite sign separated by a small distance.

DIP switch *n.* Short for **Dual Inline Package switch**. One or more small rocker- or sliding-type toggle switches contained in the plastic or ceramic housing of a dual inline package (DIP) connected to a circuit board. Each switch on a DIP switch can be set to one of two positions, closed or open, to control options on the circuit board. *See also* DIP.

dir *n.* An MS-DOS command that instructs a computer to display a list of files and subdirectories in the current directory or folder. If the command is followed by a path, the computer displays a list of files and subdirectories in the specified directory or folder. *See also* command, MS-DOS, path (definition 2).

Direct3D *n.* *See* DirectX.

direct access *n.* The ability of a computer to find and go straight to a particular storage location in memory or on disk to retrieve or store an item of information. Note that direct access is not the same as direct memory access (DMA), which is the ability to transfer information

directly between an input/output channel and memory rather than taking the longer and more circuitous route of I/O channel to microprocessor to memory. *See also* random access. *Compare* direct memory access.

direct access storage device *n.* *See* DASD.

direct address *n.* *See* absolute address.

DirectAnimation *n.* *See* DirectX.

direct broadcast satellite *n.* A digital telecommunications service that delivers television programming via the Digital Satellite System (DSS). Direct broadcast satellite technology uses a geostationary orbit satellite (GEO) to receive digitized signals sent by ground-based uplink centers; the satellite then beams the signal across a wide swath on Earth. Subscribers within that swath use small (18-inch) satellite dishes to bring the signal into a set-top box decoder for playback. Although primarily used for television broadcasts, the technology is seen as having potential to also deliver high-quality, digital communications and multimedia content in the future. *Acronym:* DBS. *Also called:* digital broadcast satellite. *See also* digital satellite system, geostationary orbit satellite, webcasting.

direct cable connection *n.* A link between the I/O ports of two computers that uses a single cable rather than a modem or other active interface device. In most cases, a direct cable connection requires a null modem cable.

direct-connect modem *n.* A modem that uses standard telephone wire and connectors and that plugs directly into a telephone jack, eliminating the need for an intermediary telephone. *Compare* acoustic coupler.

direct-coupled transistor logic *n.* A circuit design that uses transistors and resistors only, with the transistors directly connected to each other. This design was used in the earliest commercial integrated circuits. The switching speed and power consumption of such circuits are about average. *Acronym:* DCTL.

direct current *n.* Electrical current whose direction of flow does not reverse. The current may stop or change amplitude, but it always flows in the same direction. *Acronym:* DC. *Compare* alternating current.

direct digital color proof *n.* A test sheet produced by a lower-cost output device, such as a color laser printer, to serve as an approximation of what the final image will look like when produced on professional-quality printing equipment. A direct digital color proof does not involve color separation, as in traditional proofs. Instead, a direct digital color proof is printed in all colors at one time on a

single page, resulting in somewhat lower quality compared with traditional separation methods but having the advantages of increased speed and reduced cost. *Acronym:* DDCP. *Also called:* digital proof. *See also* color separation (definition 1).

DirectDraw *n.* *See* DirectX.

Direct Graphics Interface Specification *n.* *See* DGIS.

DirectInput *n.* An API (application programming interface) developed by Microsoft for joysticks and similar pointing devices in Windows 9x. *See also* DirectX.

direction key *n.* *See* arrow key.

direct memory access *n.* Memory access that does not involve the microprocessor and is frequently used for data transfer directly between memory and an “intelligent” peripheral device, such as a disk drive. *Acronym:* DMA. *Compare* PIO.

DirectMusic *n.* *See* DirectX.

directory *n.* **1.** A catalog for filenames and other directories stored on a disk. A directory is a way of organizing and grouping the files so that the user is not overwhelmed by a long list of them. The uppermost directory is called the *root directory*; the directories within a directory are called *subdirectories*. Depending on how an operating system supports directories, filenames in a directory can be viewed and ordered in various ways—for example, alphabetically, by date, by size, or as icons in a graphical user interface. What the user views as a directory is supported in the operating system by tables of data, stored on the disk, that indicate characteristics and the location of each file. In the Macintosh and Windows 9x operating systems, directories are called *folders*. **2.** On a network, an index of names and pertinent information related to authorized users and network resources.

Directory Access Protocol *n.* The protocol that governs communications between X.500 clients and servers. *See also* CCITT X series.

Directory Client Agent *n.* *See* DUA.

Directory Information Base *n.* *See* DIB (definition 2).

Directory Mozilla *n.* *See* Open Directory Project.

directory path *n.* *See* pathname.

directory replication *n.* The copying of a master set of directories from a server (called an *export server*) to specified servers or workstations (called *import computers*) in the same or other domains. Replication simplifies the task of maintaining identical sets of directories and files on

flush¹ *adj.* Aligned in a certain way on the screen or on paper. Flush left, for example, means aligned on the left side; flush right means aligned on the right side. *See also* align (definition 1).

flush² *vb.* To clear a portion of memory. For example, to flush a disk file buffer is to save its contents on disk and then clear the buffer for filling again.

flux *n.* **1.** The total strength of a magnetic, electric, or radiation field over a given area. **2.** A chemical used to aid the binding of solder to electrical conductors.

flux reversal *n.* The change in orientation of the minute magnetic particles on the surface of a disk or tape toward one of two magnetic poles. The two different alignments are used to represent binary 1 and binary 0 for data storage: a flux reversal typically represents a binary 1, and no reversal represents a binary 0.

fly swapping *n.* *See* swap-on-the-fly.

FM *n.* *See* frequency modulation.

FM encoding *n.* *See* frequency modulation encoding.

focus *vb.* In television and raster-scan displays, to make an electron beam converge at a single point on the inner surface of the screen.

FOCUS *n.* *See* Federation on Computing in the United States.

FOD *n.* *See* fax on demand.

folder *n.* In the Mac OS, 32-bit versions of Windows, and other operating systems, a container for programs and files in graphical user interfaces, symbolized on the screen by a graphical image (icon) of a file folder. This container is called a directory in other systems, such as MS-DOS and UNIX. A folder is a means of organizing programs and documents on a disk and can hold both files and additional folders. It first appeared commercially in Apple Computer's Lisa in 1983 and in the Apple Macintosh in 1984. *See also* directory.

folio *n.* A printed page number.

follow-up *n.* A post to a newsgroup that replies to an article. The follow-up has the same subject line as the original article, with the prefix "Re:" attached. An article and all of its follow-ups, in the order they were received, constitute a thread, which a user can read together using a newsreader.

font *n.* A set of characters of the same typeface (such as Garamond), style (such as italic), and weight (such as bold).

A font consists of all the characters available in a particular style and weight for a particular design; a typeface consists of the design itself. Fonts are used by computers for on-screen displays and by printers for hard-copy output. In both cases, the fonts are stored either as bit maps (patterns of dots) or as outlines (defined by a set of mathematical formulas). Even if the system cannot simulate different typefaces on the screen, application programs may be able to send information about typeface and style to a printer, which can then reproduce the font if a font description is available. *See also* bit map, font generator.

font card *n.* *See* font cartridge, ROM card.

font cartridge *n.* A plug-in unit available for some printers that contains fonts in several different styles and sizes. Font cartridges, like downloadable fonts, enable a printer to produce characters in sizes and styles other than those created by the fonts built into it. *Also called:* font card. *See also* ROM cartridge.

Font/DA Mover *n.* An application for older Apple Macintosh systems that allows the user to install screen fonts and desk accessories.

font editor *n.* A utility program that enables the user to modify existing fonts or to create and save new ones. Such an application commonly works with a screen representation of the font, with a representation that can be downloaded to a PostScript or other printer, or with both. *See also* PostScript font, screen font.

font family *n.* The set of available fonts representing variations of a single typeface. For example, Times Roman and Times Roman Italic are members of the same font family. When the user indicates italic, the system selects the correct italic font for the font family, with its characteristic appearance. If there is no italic font in the family, the system simply slants, or "obliques," the corresponding roman character. *See also* italic, roman.

font generator *n.* A program that transforms built-in character outlines into bit maps (patterns of dots) of the style and size required for a printed document. Font generators work by scaling a character outline to size; often they can also expand or compress the characters they generate. Some font generators store the resultant characters on disk; others send them directly to the printer.

font number *n.* The number by which an application or operating system internally identifies a given font. On the Apple Macintosh, for example, fonts can be identified by their exact names as well as their font numbers, and a font

hierarchical *adj.* Of, relating to, or organized as a hierarchy. *See also* hierarchy.

hierarchical computer network *n.* **1.** A network in which one host computer controls a number of smaller computers, which may in turn act as hosts to a group of PC workstations. **2.** A network in which control functions are organized according to a hierarchy and in which data processing tasks may be distributed.

hierarchical database *n.* A database in which records are grouped in such a way that their relationships form a branching, treelike structure. This type of database structure, most commonly used with databases for large computers, is well suited for organizing information that breaks down logically into successively greater levels of detail. The organization of records in a hierarchical database should reflect the most common or the most time-critical types of access expected.

hierarchical database management system *n.* A database management system that supports a hierarchical model. *Acronym:* HDBMS. *See also* hierarchical model.

Hierarchical Data Format *n.* A file format for storing multiple types of graphical and numerical data and transferring them between different types of machines, together with a library of functions for handling such files in a uniform way. NCSA developed and supports the file function and library and has placed them in the public domain. Hierarchical Data Format files are supported on most common types of computers. The format can easily be extended to accommodate additional data models. The library functions have both FORTRAN and C interfaces. *Acronym:* HDF. *See also* NCSA (definition 1).

hierarchical file system *n.* A system for organizing files on a disk in which files are contained in directories or folders, each of which can contain other directories as well as files. The main directory for the disk is called the root; the chain of directories from the root to a particular file is called the path. *See also* hierarchy, path (definition 2), root. *Compare* flat file system.

Hierarchical File System *n.* A tree-structured file system used on the Apple Macintosh in which folders can be nested within other folders. *Acronym:* HFS. *See also* hierarchy, path (definition 2), root. *Compare* flat file system.

hierarchical menu *n.* A menu that has one or more submenus. Such a menu/submenu arrangement is hierarchical because each level subsumes the next.

hierarchical model *n.* A model used in database management in which each record may be the “parent” of one or more child records, which may or may not have the same structure as the parent; a record can have no more than one parent. Conceptually, therefore, a hierarchical model can be, and usually is, regarded as a tree. The individual records are not necessarily contained in the same file. *See also* tree.

Hierarchical Storage Management *n.* *See* HSM.

hierarchy *n.* A type of organization that, like a tree, branches into more specific units, each of which is “owned” by the higher-level unit immediately above. Hierarchies are characteristic of several aspects of computing because they provide organizational frameworks that can reflect logical links, or relationships, between separate records, files, or pieces of equipment. For example, hierarchies are used in organizing related files on a disk, related records in a database, and related (interconnected) devices on a network. In applications such as spreadsheets, hierarchies of a sort are used to establish the order of precedence in which arithmetic operations are to be performed by the computer. *See also* hierarchical file system.

high availability *n.* The ability of a system or device to be usable when it is needed. When expressed as a percentage, high availability is the actual service time divided by the required service time. Although high availability does not guarantee that a system will have no downtime, a network often is considered highly available if it achieves 99.999 percent network uptime. *Also called:* RAS (reliability/availability/serviceability), fault resilience. *See also* five-nines availability, four-nines availability, three-nines availability, two-nines availability. *Compare* fault tolerance.

High-bit-rate Digital Subscriber Line *n.* *See* HDSL.

high byte *n.* The byte containing the most significant bits (bits 8 through 15) in a 2-byte grouping representing a 16-bit (bits 0 through 15) value. *See the illustration. See also* hexadecimal.

for its inclusion of graphing and data-management (database) capabilities in addition to spreadsheet functionality, Lotus 1-2-3 is important in the history of the personal computer because it was one of the first “killer apps” that convinced businesses to buy and use a PC. Lotus Development was purchased by IBM in 1995. *See also* killer app.

Lotus cc:Mail *n.* *See* cc:Mail.

Lotus Domino *n.* A groupware application that transforms Lotus Notes into an application and messaging server. *See also* Lotus Notes.

Lotus Notes *n.* A groupware application introduced in 1988 by Lotus Development Corporation and now owned by IBM. Lotus Notes combines e-mail, calendar management, group scheduling, contact and task management, newsgroup access, and Web browsing capability (through the integration of Microsoft Internet Explorer) in one client application. Lotus Notes also offers search capabilities across multiple formats and file types on a network or the Web.

low-Earth-orbit satellite *n.* A communications satellite put into orbit no higher than 500 miles above the earth’s surface. A low-Earth-orbit satellite, or LEO, circles the planet in 90 minutes to 2 hours. LEOs allow for use of smaller dishes and handheld devices, so they are well-suited for interactive conferencing. However, because a LEO remains above the local horizon for about only 20 minutes, large numbers of these satellites, in several different orbits, are required to maintain service. *Acronym:* LEO. *Compare* geostationary orbit satellite.

lowercase *adj.* In reference to letters, not capital—for example, *a, b, c*. *Compare* uppercase.

low frequency *n.* The portion of the electromagnetic spectrum between 30 kilohertz (kHz) and 300 kHz. This range of frequencies is used for several types of radio communication, including the longwave broadcast band in Europe and Asia.

low-level language *n.* A language that is machine dependent or that offers few control instructions and data types. Each statement in a program written in a low-level language usually corresponds to one machine instruction. *See also* assembly language. *Compare* high-level language.

low memory *n.* On computers running MS-DOS, the first 640 kilobytes of RAM. This RAM is shared by MS-DOS, device drivers, data, and application programs. *Also called:* conventional memory. *Compare* high memory.

low-order *adj.* Carrying the least weight or significance; typically, the rightmost element in a group. For example, the rightmost bit in a group of bits is the low-order bit. *Compare* high-order.

lowpass filter *n.* An electronic circuit that allows all frequencies below a specified frequency to pass through it. *Compare* bandpass filter, highpass filter.

low resolution *adj.* Abbreviated lo-res. Appearing in relatively coarse detail, used in reference to text and graphics in raster-oriented computer displays and printing. Low-resolution printing is comparable to draft-quality dot-matrix output printed at 125 dots per inch or less. *See also* resolution. *Compare* high resolution.

LPM *n.* *See* lines per minute.

LPMUD *n.* A type of multiuser dungeon (MUD), typically combat related, that contains its own object-oriented programming language for the creation of new areas and objects in the virtual world. *See also* MUD.

LPT *n.* Logical device name for a line printer, a name reserved by the MS-DOS operating system for up to three parallel printer ports designated LPT1, LPT2, and LPT3. The first port, LPT1, is usually the same as the primary MS-DOS hard-copy output device PRN (the logical device name for the printer). The letters LPT were originally used to stand for *line print terminal*.

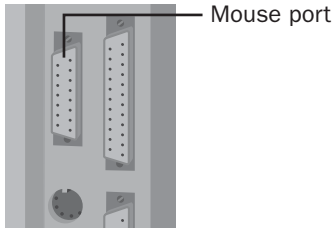
LRC *n.* Acronym for longitudinal redundancy check. A procedure used to check the accuracy of data stored on magnetic tape or transmitted over a communications line. *See also* parity bit. *Compare* VRC.

ls *n.* A UNIX command that instructs the server to return a list of files and subdirectories in the current directory or the directory specified in the command. Because many FTP sites are built on UNIX systems, this command can also be used on those sites. *See also* FTP site, UNIX.

LS-120 *n.* Acronym for Laser Storage-120. A floppy disk drive developed by Imation Corporation that uses proprietary laser storage 120-megabyte (MB) media as well as standard 1.44 MB 3.5-inch floppy media. The LS-120 disk drive is capable of storing 120 MB of data on a single 3.5-inch floppy disk and is compatible with other floppy disk formats. LS-120 drives are ATAPI (AT Attachment Packet Interface) compliant so several different drives can use the same EIDE controller. *Also called:* Super Disk.

gram with which it is working, the area of the screen where the mouse pointer appears serves as the target for an action when the user presses one of the mouse buttons. *See also* block cursor, cursor (definition 3).

mouse port *n.* **1.** In many PC-compatible computers, a dedicated connector where a mouse or other pointing device plugs into the computer. If a mouse port is not available, a serial port can be used to connect the mouse to the computer. *See the illustration. See also* connector, mouse, pointing device, serial port. **2.** In a Macintosh, the Apple Desktop Bus port. *See also* Apple Desktop Bus.



Mouse port.

mouse scaling *n.* *See* mouse sensitivity.

mouse sensitivity *n.* The relationship of mouse movement to screen cursor movement. A more sensitive mouse signals to the computer more “mouse moves” per inch of physical mouse movement than does a less sensitive mouse. Increasing the sensitivity of the program or mouse driver can result in smaller cursor moves for a given mouse move, making it easier for the user to position the cursor precisely. High sensitivity is good for exacting work, such as CAD/CAM and graphic art; low sensitivity is good for tasks in which getting around the screen quickly is important and for applications such as Web browsers, word processors, and spreadsheets, in which the cursor is used mostly to select buttons or text. *Also called:* mouse scaling, mouse tracking.

mouse tracking *n.* *See* mouse sensitivity.

mouse trails *n.* The creation of a shadowlike trail following the mouse pointer on screen in order to make it easier to see. Mouse trails are useful for laptops and notebooks, particularly ones with passive matrix displays or older models with monochrome screens. The relatively low resolution and contrast of these screens made it easy to lose sight of a small mouse pointer. *See also* mouse pointer, submarining.

mousetrapping *n.* A practice employed by some Web sites in which the back and exit buttons of a visitor’s Web browser are disabled and attempts to leave the site are redirected to other pages on the site or to other sites against the visitor’s will. Mousetrapping is most often associated with adult-oriented Web sites. *Compare* page-jacking.

.mov *n.* A filename extension for a movie file in Apple’s QuickTime format. *See also* QuickTime.

move *n.* A command or an instruction to transfer information from one location to another. Depending on the operation involved, a move can affect data in a computer’s memory or it can affect text or a graphical image in a data file. In programming, for example, a move instruction might transfer a single value from one memory location to another. In applications, on the other hand, a move command might relocate a paragraph of text or all or part of a graphic from one place in a document to another. Unlike a copy procedure, which duplicates information, a move indicates that information either is or can be deleted from its original location. *Compare* copy.

.movie *n.* *See* .mov.

Moving Picture Experts Group *n.* *See* MPEG (definition 1).

Mozilla *n.* **1.** A nickname for the Netscape Navigator (later, Netscape Communicator) Web browser, coined by the Netscape Corporation. *See also* Mosaic, Netscape Navigator. **2.** Since 1998, when the Communicator source code was released for free, for use by any interested parties, the name Mozilla has been extended as a generic reference to any Web browser based on Navigator source code.

mozilla.org *n.* The name of the group charged by the Netscape Corporation to act as a clearinghouse for Mozilla-related matters, such as questions, changes to code, bug reporting, forums, and so on.

MP3 *n.* Acronym for MPEG Audio Layer-3. A digital audio coding scheme used in distributing recorded music over the Internet. MP3 shrinks the size of an audio file by a factor of 10 to 12 without seriously degrading the quality (CD-recording level) of the sound. MP3 files are given the file extension .mp3. Although MP3 is part of the MPEG family, it is audio-only and is not the same as the now-defunct MPEG-3 standard. *See also* MPEG-3.

MP3 encoder *n.* *See* encoder.

roman *adj.* Having upright rather than slanted characters in a typeface. *See also* font family. *Compare* italic.

ROM Basic *n.* Short for **read-only memory Beginner's All-purpose Symbolic Instruction Code**. A Basic interpreter stored in ROM (read-only memory) so that the user can start programming after simply turning on the machine, without having to load Basic from a disk or tape. ROM Basic was a feature of many early home computers.

ROM BIOS *n.* Acronym for **read-only memory basic input/output system**. *See* BIOS.

ROM card *n.* Short for **read-only memory card**. A plug-in module that contains one or more printer fonts, programs, or games or other information stored in ROM (read-only memory). A typical ROM card is about the size of a credit card and several times thicker. It stores information directly in integrated circuit boards. *Also called:* font card, game card. *See also* ROM (definition 1), ROM cartridge.

ROM cartridge *n.* Short for **read-only memory cartridge**. A plug-in module that contains one or more printer fonts, programs, games, or other information stored in ROM (read-only memory) chips on a board enclosed in a plastic case with a connector exposed at one end so that it can easily plug into a printer, computer, game system, or other device. For example, a cartridge that plugs into a game system is a ROM cartridge. *Also called:* game cartridge. *See also* ROM (definition 1), ROM card.

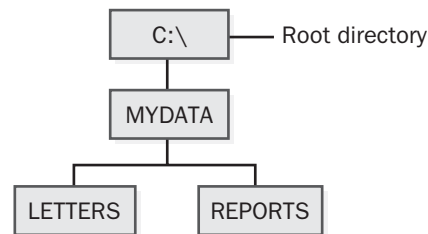
ROM emulator *n.* Short for **read-only memory emulator**. A special circuit containing RAM memory that is connected to a target computer in place of the target computer's ROM chips. A separate computer writes the contents into the RAM, and then the target computer reads the RAM as if it were ROM. ROM emulators are used to debug ROM-resident software without the high cost and delay of manufacturing chips. Even though the use of a ROM emulator is more expensive than programming an EPROM, it is often preferred today because its contents can be changed much more quickly than those of an EPROM. *Also called:* ROM simulator. *See also* EEPROM, EPROM, ROM (definition 1).

ROM simulator *n.* *See* ROM emulator.

root *n.* The main or uppermost level in a hierarchically organized set of information. The root is the point from which subsets branch in a logical sequence that moves from a broad focus to narrower perspectives. *See also* leaf, tree.

root account *n.* On UNIX systems, the account having control over the operation of a computer. The system administrator uses this account for system maintenance. *Also called:* superuser. *See also* system administrator.

root directory *n.* The point of entry into the directory tree in a disk-based hierarchical directory structure. Branching from this root are various directories and subdirectories, each of which can contain one or more files and subdirectories of its own. For example, in the MS-DOS operating system the root directory is identified by a name consisting of a single backslash character (\). Beneath the root are other directories, which may contain further directories, and so on. *See* the illustration.



Root directory.

root folder *n.* The folder on a drive from which all other folders branch. The root folder's name consists of a single backslash character (\). For example, on drive C, this folder would be represented in the file system as C:\.

rootless *n.* A mode in which an application belonging to a different user interface can run on top of a computer's underlying operating system without affecting that desktop or applications it may be running. For example, programs belonging to a rootless version of the X Window System can be run on a Mac OS X computer without disturbing the Aqua desktop. *See also* Mac OS X, X Window System.

root name *n.* In MS-DOS and Windows, the first part of a filename. In MS-DOS and earlier versions of Windows, the maximum length of the root name was eight characters; in Windows NT and later versions of Windows, the root name may be as long as 255 characters. *See also* 8.3, extension (definition 1), filename, long filenames.

root name server *n.* *See* root server.

root server *n.* A computer with the ability to locate DNS servers containing information about top-level Internet domains, such as com, org, uk, it, jp, and other country domains, in the Internet's Domain Name System (DNS) hierarchy. Beginning with the root server and

transceiver *n.* Short for **transmitter/receiver**. A device that can both transmit and receive signals. On LANs (local area networks), a transceiver is the device that connects a computer to the network and that converts signals to and from parallel and serial form.

transceiver cable *n.* A cable that is used to connect a host adapter within a computer to a LAN (local area network). *See also* AUI cable, LAN.

transducer *n.* A device that converts one form of energy into another. Electronic transducers either convert electric energy to another form of energy or convert nonelectric to electric energy.

transfer¹ *n.* **1.** The movement of data from one location to another. **2.** The passing of program control from one portion of code to another.

transfer² *vb.* To move data from one place to another, especially within a single computer. *Compare* transmit.

transfer rate *n.* The rate at which a circuit or a communications channel transfers information from source to destination, as over a network or to and from a disk drive. Transfer rate is measured in units of information per unit of time—for example, bits per second or characters per second—and can be measured either as a raw rate, which is the maximum transfer speed, or as an average rate, which includes gaps between blocks of data as part of the transmission time.

transfer statement *n.* A statement in a programming language that transfers the flow of execution to another location in the program. *See also* branch instruction, CALL statement, GOTO statement, jump instruction.

transfer time *n.* The time elapsed between the start of a data transfer operation and its completion.

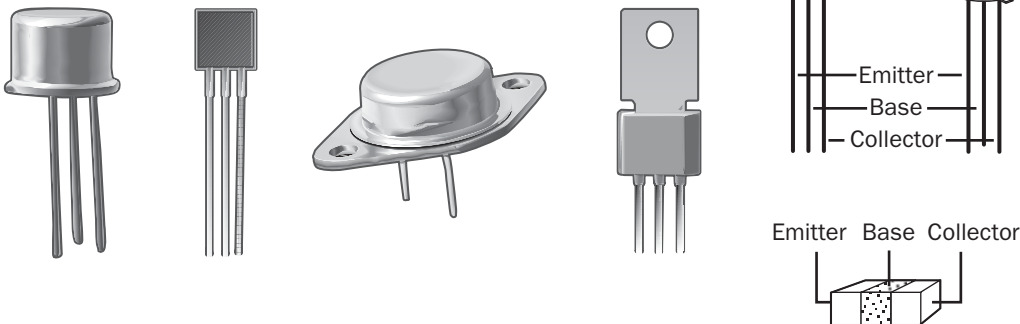
transform *vb.* **1.** To change the appearance or format of data without altering its content; that is, to encode information according to predefined rules. **2.** In mathematics and computer graphics, to alter the position, size, or nature of an object by moving it to another location (translation), making it larger or smaller (scaling), turning it (rotation), changing its description from one type of coordinate system to another, and so on.

transformer *n.* A device used to change the voltage of an alternating current signal or to change the impedance of an alternating current circuit.

transient *adj.* **1.** Fleeting, temporary, or unpredictable. **2.** Of or pertaining to the region of memory used for programs, such as applications, that are read from disk storage and that reside in memory temporarily until they are replaced by other programs. In this context, *transient* can also refer to the programs themselves. **3.** In electronics, of or pertaining to a short-lived, abnormal, and unpredictable increase in power supply, such as a voltage spike or surge. *Transient time* is the interval during which a change in current or voltage is building up or decaying.

transient suppressor *n.* A circuit designed to reduce or eliminate unwanted electrical signals or voltages.

transistor *n.* Short for **transfer resistor**. A solid-state circuit component, usually with three leads, in which a voltage or a current controls the flow of another current. The transistor can serve many functions, including those of amplifier, switch, and oscillator, and is a fundamental component of almost all modern electronics. *See the illustration.* *See also* base (definition 3), FET, NPN transistor, PNP transistor.



Transistor.

ISO/OSI MODEL	
ISO/OSI Layer	Focus
Application (highest level)	Program-to-program transfer of information
Presentation	Text formatting and display, code conversion
Session	Establishing, maintaining, and coordinating communication
Transport	Accurate delivery, service quality
Network	Transport routes, message handling and transfer
Data-link	Coding, addressing, and transmitting information
Physical	Hardware connections

Transport layer.

Transport Layer Security *n.* See TLS.

transpose¹ *n.* The result of rotating a matrix.

transpose² *vb.* **1.** To reverse, as the order of the letters *h* and *t* in *hte*, in correcting the spelling of *the*; or reversing two wires in a circuit. **2.** In mathematics and spreadsheets, to rotate a matrix (a rectangular array of numbers) about a diagonal axis.

transputer *n.* Short for **transistor computer**. A complete computer on a single chip, including RAM and an FPU, designed as a building block for parallel computing systems.

trap¹ *n.* See interrupt.

trap² *vb.* **1.** To intercept an action or event before it occurs, usually in order to do something else. Trapping is commonly used by debuggers to allow interruption of program execution at a given spot. See also interrupt, interrupt handler. **2.** To slightly overlap adjacent colors in preparing material for printing. Page layout and prepress programs trap color to prevent gaps between colors caused by minor variations in registration during printing.

trapdoor *n.* See back door.

trap handler *n.* See interrupt handler.

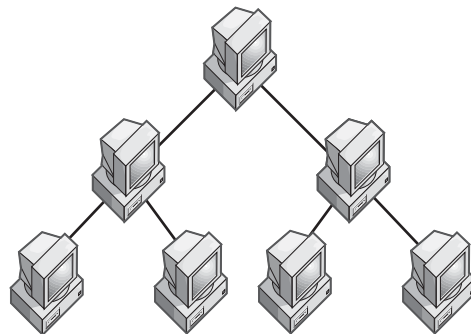
Trash *n.* An icon on the screen in the Macintosh Finder, resembling a garbage can. To delete a file or eject a diskette, the user drags the icon for the file or diskette to the Trash. However, until the user shuts down the system or

chooses the menu option “Empty Trash,” a file in the Trash is not actually deleted; the user can retrieve it by double-clicking the Trash icon and dragging the file’s icon out of the resulting window. Compare Recycle Bin.

traverse *vb.* In programming, to access in a particular order all of the nodes of a tree or similar data structure.

tree *n.* A data structure containing zero or more nodes that are linked together in a hierarchical fashion. If there are any nodes, one node is the root; each node except the root is the child of one and only one other node; and each node has zero or more nodes as children. See also child (definition 2), graph, leaf, node (definition 3), parent/child (definition 2), root.

tree network *n.* A topology for a local area network (LAN) in which one machine is connected to one or more other machines, each of which is connected to one or more others, and so on, so that the structure formed by the network resembles that of a tree. See the illustration. See also bus network, distributed network, ring network, star network, token ring network, topology.

**Tree network.**

tree search *n.* A search procedure performed on a tree data structure. At each step of the search, a tree search is able to determine, by the value in a particular node, which branches of the tree to eliminate, without searching those branches themselves. See also branch (definition 1), tree structure.

tree structure *n.* Any structure that has the essential organizational properties of a tree. See also tree.

tree view *n.* A hierarchical representation of the folders, files, disk drives, and other resources connected to a computer or network. For example, Windows Explorer uses a tree view to display the resources that are attached to a computer or a network. See also resource.