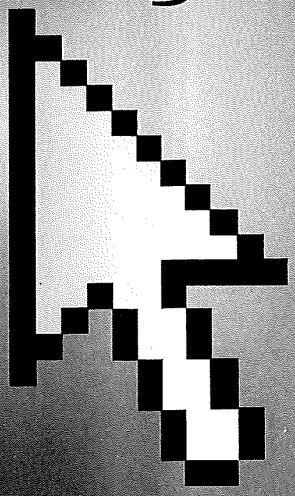
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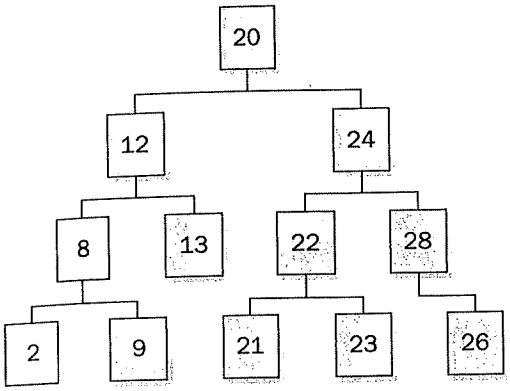
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Binary tree.

binaural sound *n. See* 3-D audio.

bind *vb.* To associate two pieces of information with one another. The term is most often used with reference to associating a symbol (such as the name of a variable) with some descriptive information (such as a memory address, a data type, or an actual value). *See also* binding time, dynamic binding, static binding.

BIND *n.* Acronym for **B**erkeley **I**nternet **N**ame **D**omain. A domain name server originally written for the BSD version of UNIX developed at the Berkeley campus of the University of California but now available for most versions of UNIX. As a domain name server, BIND translates between human-readable domain names and Internet-friendly, numeric IP addresses. It is widely used on Internet servers. *See also* DNS, DNS server, IP address.

Binder *n.* A Microsoft Office program that you can use to organize related documents. You can check spelling, number pages consecutively across all documents in the binder, and print the documents.

binding *n.* The process by which protocols are associated with one another and the network adapter to provide a complete set of protocols needed for handling data from the application layer to the physical layer. *See also* ISO/OSI reference model.

binding time *n.* The point in a program's use at which binding of information occurs, usually in reference to program elements being bound to their storage locations and values. The most common binding times are during compilation (compile-time binding), during linking (link-time binding), and during program execution (run-time binding). *See also* bind, compile-time binding, link-time binding, run-time binding.

BinHex[1] *n.* **1.** Short for **bin**ary to **hex**adecimal. A format for converting binary data files into ASCII text so they can be transmitted via e-mail to another computer or in a newsgroup post. This method can be used when standard ASCII characters are needed for transmission, as they are on the Internet. BinHex is used most frequently by Mac users. *See also* MIME. **2.** An Apple Macintosh program for converting binary data files into ASCII text and vice versa using the BinHex format. *Compare* uudecode[1], uuencode[1].

BinHex[2] *vb.* To convert a binary file into printable 7-bit ASCII text or to convert the resulting ASCII text file back to binary format using the BinHex program. *Compare* uudecode[2], uuencode[2].

binomial distribution *n.* In statistics, a list or a function that describes the probabilities of the possible values of a random variable chosen by means of a Bernoulli sampling process. A Bernoulli process has three characteristics: each trial has only two possible outcomes—success or failure; each trial is independent of all other trials; and the probability of success for each trial is constant. A binomial distribution can be used to calculate the probability of getting a specified number of successes in a Bernoulli process. For example, the binomial distribution can be used to calculate the probability of getting a 7 three times in 20 rolls of a pair of dice. *Also called:* Bernoulli distribution.

BioAPI *n.* An open system specification for use in biometric security and authentication technologies. BioAPI supports a wide range of biometric technology, from handheld devices to large-scale networks, and applications include fingerprint identification, facial recognition, speaker verification, dynamic signatures, and hand geometry. BioAPI was developed for the BioAPI Consortium, a group of organizations with ties to biometrics. BioAPI incorporates compatibility with existing biometric standards such as HA-API, which allows applications to operate BioAPI-compliant technologies without modification.

biometrics *n.* Traditionally, the science of measuring and analyzing human biological characteristics. In computer technology, biometrics relates to authentication and secu-

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rity techniques that rely on measurable, individual biological stamps to recognize or verify an individual's identity. For example, fingerprints, handprints, or voice-recognition might be used to enable access to a computer, to a room, or to an electronic commerce account. Security schemes are generally categorized into three levels: level 1 relies on something the person carries, such as an ID badge with a photo or a computer cardkey; level 2 relies on something the person knows, such as a password or a code number; and level 3, the highest level, relies on something that is a part of the person's biological makeup or behavior, such as a fingerprint, the pattern of blood vessels in a retina, or a signature. *See also* fingerprint reader, handwriting recognition (definition 1), voice recognition.

bionics *n.* The study of living organisms, their characteristics, and the ways they function, with a view toward creating hardware that can simulate or duplicate the activities of a biological system. *See also* cybernetics.

BIOS *n.* Acronym for **b**asic **i**nput/**o**utput **s**ystem. On PC-compatible computers, the set of essential software routines that tests hardware at startup, starts the operating system, and supports the transfer of data among hardware devices, including the date and time. The operating system date is initialized from the BIOS or Real Time Clock date when the machine is booted. Many older PCs, particularly those dating before 1997, have BIOSs that store only 2-digit years and thus may have suffered from Year 2000 problems. The BIOS is stored in read-only memory (ROM) so that it can be executed when the computer is turned on. Although critical to performance, the BIOS is usually invisible to computer users. *See also* AMI BIOS, CMOS setup, Phoenix BIOS, ROM BIOS. *Compare* Toolbox.

BIOS test *n.* A test to see if a PC will make the transition to the year 2000 and keep the correct date. The test can range from resetting the system time in the BIOS and rebooting to running a program or software routine specially designed to uncover Year 2000 problems.

bipartite virus *n. See* multipartite virus.

bipolar *adj.* **1.** Having two opposite states, such as positive and negative. **2.** In information transfer and processing, pertaining to or characteristic of a signal in which opposite voltage polarities represent on and off, true and false, or some other pair of values. *See also* nonreturn to zero. *Compare* unipolar. **3.** In electronics, pertaining to or characteristic of a transistor having two types of charge carriers. *See also* transistor.

BIS *n. See* business information system.

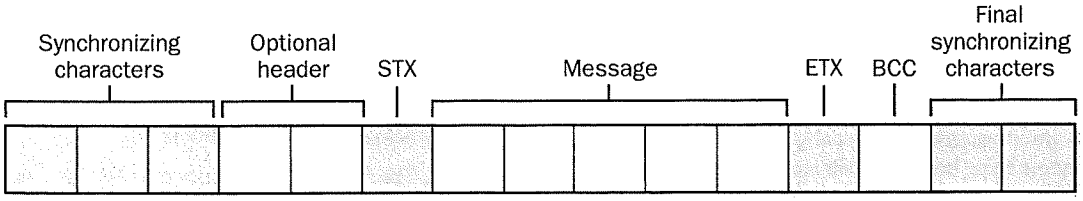
BISDN *n. See* broadband ISDN.

bistable *adj.* Of, pertaining to, or characteristic of a system or device that has two possible states, such as on and off. *See also* flip-flop.

bistable circuit *n.* Any circuit that has only two stable states. The transition between them must be initiated from outside the circuit. A bistable circuit is capable of storing 1 bit of information.

bistable multivibrator *n. See* flip-flop.

BISYNC *n.* Short for **bi**nary **sync**hronous communications protocol. A communications standard developed by IBM. BISYNC transmissions are encoded in either ASCII or EBCDIC. Messages can be of any length and are sent in units called frames, optionally preceded by a message header. BISYNC uses synchronous transmission, in which message elements are separated by a specific time interval, so each frame is preceded and followed by special characters that enable the sending and receiving machines to synchronize their clocks. STX and ETX are control characters that mark the beginning and end of the message text; BCC is a set of characters used to verify the accuracy of transmission. See the illustration. *Also called:* BSC.



BISYNC. *The structure of a BISYNC frame.*

analyzer can filter and decode traffic, suggest solutions to problems, provide graphical reports, and show traffic by protocol and percent utilization. *See also* communications protocol.

protocol layer *n. See* layer.

protocol stack *n.* The set of protocols that work together on different levels to enable communication on a network. For example, TCP/IP, the protocol stack on the Internet, incorporates more than 100 standards including FTP, IP, SMTP, TCP, and Telnet. *See also* ISO/OSI reference model. *Compare* protocol suite.

protocol suite *n.* A set of protocols designed, usually by one vendor, as complementary parts of a protocol stack. *Compare* protocol stack.

prototyping *n.* The creation of a working model of a new computer system or program for testing and refinement. Prototyping is used in the development of both new hardware and software systems and new systems of information management. Tools used in the former include both hardware and support software; tools used in the latter can include databases, screen mockups, and simulations that, in some cases, can be developed into a final product.

proxy *n.* A computer (or the software that runs on it) that acts as a barrier between a network and the Internet by presenting only a single network address to external sites. By acting as a go-between representing all internal computers, the proxy protects network identities while still providing access to the Internet. *See also* proxy server.

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proxy server *n.* A firewall component that manages Internet traffic to and from a local area network (LAN) and can provide other features, such as document caching and access control. A proxy server can improve performance by supplying frequently requested data, such as a popular Web page, and can filter and discard requests that the owner does not consider appropriate, such as requests for unauthorized access to proprietary files. *See also* firewall.

PrtSc key *n. See* Print Screen key.

.ps *n.* The file extension that identifies PostScript printer files. *See also* PostScript.

PS/2 bus *n. See* Micro Channel Architecture.

PSD *n.* A graphics file format used to create, modify, and display still images in Photoshop, a software application designed by Adobe Systems. PSD files have a file extension of .psd.

PSE *n. See* Packet Switching Exchange.

psec *n. See* picosecond.

pseudocode *n.* **1.** A machine language for a nonexistent processor (a pseudomachine). Such code is executed by a software interpreter. The major advantage of p-code is that it is portable to all computers for which a p-code interpreter exists. The p-code approach has been tried several times in the microcomputer industry, with mixed success. The best known attempt was the UCSD p-System. *Abbreviation:* p-code. *See also* pseudomachine, UCSD p-System. **2.** Any informal, transparent notation in which a program or algorithm description is written. Many programmers write their programs first in a pseudocode that looks much like a mixture of English and their favorite programming language, such as C or Pascal, and then translate it line by line into the actual language being used.

pseudo compiler *n.* A compiler that generates a pseudolanguage. *See also* pseudolanguage.

pseudocomputer *n. See* pseudomachine.

pseudolanguage *n.* A nonexistent programming language—that is, one for which no implementation exists. The term can refer either to the machine language for a nonexistent processor or to a high-level language for which no compiler exists. *See also* pseudocode.

pseudomachine *n.* A processor that doesn't actually exist in hardware but that is emulated in software. A program written for the pseudomachine can run on several platforms without having to be recompiled. *Abbreviation:* p-machine. *See also* pseudocode, UCSD p-System.

pseudo-op *n. See* pseudo-operation.

pseudo-operation *n.* In programming, a program instruction that conveys information to an assembler or compiler but is not translated into a machine language instruction—for example, an instruction that establishes the value of a constant or the manner in which Boolean (logical) expressions are to be evaluated. *Abbreviation:* pseudo-op.

pseudo-streaming *n.* A method used for real-time display of audio and video over the Web. Unlike sound or video files that are downloaded to a computer in their entirety before they can be played back, pseudo-streaming enables playback after only a portion of the file—enough to fill a buffer on the receiving computer—has been downloaded. Pseudo-streaming, unlike "true," or Web, streaming, does not depend on server software to dynamically monitor the transmission. It can, however, play back only