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# Microsoft Press® **Computer Dictionary** Third Edition

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application or utility program is characterized by some or all of the following traits: a mysterious and unintuitive user interface, failure to respond predictably to commands, failure to release unused memory, failure to close open files, and use of "reserved" elements of the operating system that can result in a fatal error in a program or the operating system. Braindamaged programs are also often responsible for causing problems across local area networks. *Compare* kludge (definition 2).

**brain dump** \brān' dump\ *n.* A large, unorganized mass of information, presented in response to a query via e-mail or a newsgroup article, that is difficult to digest or interpret.

**branch** \branch\ *n.* **1.** A node intermediate between the root and the leaves in some types of logical tree structure, such as the directory tree in Windows or a tape distribution organization. **2.** Any connection between two items such as blocks in a flowchart or nodes in a network. **3.** *See* branch instruction.

**branch instruction** \branch' in-struk'shən\ *n.* An assembly- or machine-level instruction that transfers control to another instruction, usually based on some condition (that is, it transfers if a specific condition is true or false). Branch instructions are most often relative transfers, jumping forward or backward by a certain number of bytes of code. *See also* GOTO statement, jump instruction.

**branchpoint** \branch'point\ *n.* The location at which a given branch instruction occurs if the attendant condition (if any) is true. *See also* branch instruction.

**branch prediction** \branch' prə-dik'shən\ *n.* A technique used in some processors with an instruction called prefetch to guess whether or not a branch will be taken in a program, and to fetch executable code from the appropriate location. When a branch instruction is executed, it and the next instruction executed are stored in a buffer. This information is used to predict which way the instruction will branch the next time it is executed. When the prediction is correct (as it is over 90 percent of the time), executing a branch does not cause a pipeline break, so the system is not slowed down by the need to retrieve the next instruction. *See also* branch instruction, buffer<sup>1</sup>, central processing unit, pipeline processing.

**BRB** \B'R-B'\ Acronym for (I'll) **be right back**. An expression used commonly on live chat services on the Internet and online information services by participants signaling their temporary departure from the group. *See also* chat<sup>1</sup> (definition 1).

**breadboard** \bred'bōrd\ *n.* A blank, perforated board used to support prototype electronic circuits. Experimenters would put components on one side of the board and run the leads through the perforations to be connected by wires running along the underside. Today a circuit designer's breadboard is made of plastic. Its holes are small and closely spaced to accommodate the pins of chips, and connections are made by metal strips plugged into the holes. *See* the illustration. *Compare* wire-wrapped circuits.



**Breadboard.**

**break**<sup>1</sup> \brāk\ *n.* **1.** Interruption of a program caused by the user pressing the Break key or its equivalent. **2.** Interruption of a communications transmission that occurs when the receiving station interrupts and takes over control of the line or when the transmitting station prematurely halts transmission.

**break**<sup>2</sup> \brāk\ *vb.* **1.** To interrupt execution at a given spot, usually for the purpose of debugging. *See also* breakpoint. **2.** To cause a routine, module, or program that had previously worked to cease working correctly.

**Break key** \brāk' kē\ *n.* A key or combination of keys used to tell a computer to halt, or break out of, whatever it is doing. On IBM PCs and compatibles under DOS, pressing the Pause/Break or Scroll Lock/Break key while holding down the Ctrl key issues the break command (as does Ctrl-C).

**function** \funk'shən\ *n.* **1.** The purpose of, or the action carried out by, a program or routine. **2.** A general term for a subroutine. **3.** In some languages, such as Pascal, a subroutine that returns a value. *See also* function call, procedure, routine, subroutine.

**functional design** \funk'shə-nəl də-zīn'\ *n.* The specification of the relationships between working parts of a computer system, including details of logical components and the way they work together. Functional design is shown graphically in a functional diagram, which uses special symbols to represent the elements of the system.

**functional programming** \funk'shə-nəl prō-gram-ēng'\ *n.* A style of programming in which all facilities are provided as functions (subroutines), usually without side effects. Pure functional programming languages lack a traditional assignment statement; assignment is usually implemented by copy and modify operations. Functional programming is thought to offer advantages for parallel-processing computers. *See also* side effect.

**functional redundancy checking** \funk'shə-nəl rə-dun'dən-sē chek-ēng'\ *n.* A method of preventing errors by having two processors execute the same instructions on the same data at the same time. If the results produced by the two processors do not agree, an error has occurred. The Intel Pentium and higher processors have built-in support for functional redundancy checking. *Acronym:* FRC (F'R-C).

**functional specification** \funk'shə-nəl spes'ə-fə-kā'shən'\ *n.* A description of the scope, objectives, and types of operations that are to be considered in the development of an information-handling system.

**function call** \funk'shən kāl'\ *n.* A program's request for the services of a particular function. A function call is coded as the name of the function along with any parameters needed for the function to perform its task. The function itself can be a part of the program, be stored in another file and brought into the program when the program is compiled, or be a part of the operating system. *See also* function (definition 2).

**function key** \funk'shən kē'\ *n.* Any of the 10 or more keys labeled F1, F2, F3, and so on, that are

placed along the left side or across the top of a keyboard (or both) and are used for special tasks by different programs. The meaning of a function key is defined by a program or, in some instances, by the user. Function keys are used in application programs or the operating system to provide either a shortcut for a series of common instructions (such as calling up a program's on-screen help facility) or a feature that is not otherwise available. *See also* key (definition 1). *Compare* Command key, Control key, Escape key.

**function library** \funk'shən lī'brār-ē'\ *n.* A collection of routines compiled together. *See also* function (definition 2), library (definition 1), toolbox.

**function overloading** \funk'shən ɔ'vər-lō-dēng'\ *n.* The capability of having several routines in a program with the same name. The different functions are distinguished by their parameter types, return value types, or both; the compiler automatically selects the correct version, based on parameter types and return types. For example, a program might have one trigonometric sine function that uses a floating-point parameter to represent an angle in radians, and another that uses an integer parameter to represent an angle in degrees. In such a program,  $\sin(3.14159/2.0)$  would return the value 1.0 (because the sine of  $\pi/2$  radians is 1), but  $\sin(30)$  would return the value 0.5 (because the sine of 30 degrees is 0.5). *See also* operator overloading.

**fuse** \fyūz\ *n.* A circuit element that burns out or breaks when the current passing through it exceeds a certain level. A fuse protects a circuit from damage caused by excess current. It performs the same function as a circuit breaker, but it cannot be reset, so it must be replaced if it breaks. A fuse consists of a short length of wire of a specific composition and thickness; the thicker the wire, the more current it can pass before the wire melts and breaks the circuit.

**fusible link** \fyūz zə-bl lēnk'\ *n.* A circuit component, often part of an integrated circuit, that is designed to break, or burn like a fuse, when a relatively high current is applied. Rather than protecting against excessive current flow, fusible links allow intentional circuit modification in the field. Fusible links were used in PROM chips, and they

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**.jpg**

**.jpg** \dot-J P-G\ *n.* The file extension that identifies graphic images encoded in the JPEG File Interchange Format, as originally specified by the Joint Photographic Experts Group (JPEG). Inline graphics on World Wide Web pages are often .jpg files, such as coolgraphic.jpg. *See also* JPEG (definition 2).

**Jughead** \jug hed\ *n.* Acronym for **J**onzy's **U**niversal **G**opher **H**ierarchy **E**xcavation and **D**isplay. An Internet service that enables a user to locate directories in Gopherspace through a keyword search. A Jughead server indexes keywords appearing in directory titles in top-level Gopher menus but does not index the files within the directories. To access Jughead, users must point their Gopher clients to a Jughead server. *See also* Gopher, Gopherspace. *Compare* Archie, Veronica.

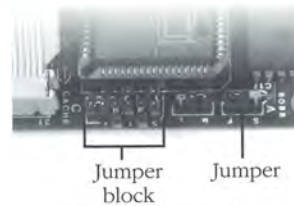
**jukebox** \jook bok\ *n.* Software that is designed to play a list of sound files in a user-specified order reminiscent of jukeboxes used to play vinyl records. *See also* CD-ROM jukebox.

**Julian calendar** \jool le-an kal on-dar\ *n.* The calendar introduced by Julius Caesar in 46 B.C. to replace the lunar calendar. The Julian calendar provided for a year of 365 days with a leap year every 4 years, or an average year length of 365.25 days. Because the solar year is slightly shorter, the Julian calendar gradually moved out of phase with the seasons and was superseded by the Gregorian calendar, introduced by Pope Gregory XIII. *Compare* Gregorian calendar.

**Julian date** \jool le-an dat\ *n.* **1.** A date expressed as the number of days elapsed since January 1, 4713 B.C. (on the Julian calendar)—for example, 2,450,000 for October 9, 1995 (Gregorian). Julian dates are useful for finding elapsed times between events that may be many years apart, as in astronomy. The starting point is the beginning of the Julian Period, defined in 1583 by Joseph Scaliger as the coincidence of several cycles based on the Julian calendar. *Acronym:* JD (J-D). *See also* Gregorian calendar, Julian calendar. **2.** Often (but incorrectly), a date expressed as the year and the number of days elapsed since the beginning of the year—for example, 91.13 for January 13, 1991.

**just-in-time**

**jumper** \jum par\ *n.* A small plug or wire that can be connected between different points in an electronic circuit in order to alter an aspect of a hardware configuration. *See* the illustration. *Compare* DIP switch.



*Jumper.* A group of jumpers is referred to as a jumper block.

**jump instruction** \jump in-struk shan\ *n.* An instruction that transfers the flow of execution from one statement or instruction to another. *See also* GOTO statement, transfer statement.

**jump table** \jump ta-bl\ *n.* *See* dispatch table.

**junction** \junk shan\ *n.* **1.** Any point at which two or more electrical components are connected. **2.** The contact between two types of semiconductors, such as N-type and P-type semiconductors. *See also* N-type semiconductor, P-type semiconductor, semiconductor.

**justify** \jus ta-ft\ *vb.* **1.** To align vertically. **2.** To align lines of text evenly along both the left and right margins of a column by inserting extra space between the words in each line. If the spacing is excessive, it can be reduced by rewriting or by hyphenating words at the ends of lines. *See also* align (definition 1). *Compare* rag.

**just-in-time** \just in-tim\ *adj.* **1.** Describing a system of inventory control and industrial production management based on the Japanese *kanban* system. Under a just-in-time system, workers receive materials from suppliers "just in time" for scheduled manufacturing to take place. Line workers generally signal that they require materials by means of a card or a computerized request system. *Acronym:* JIT (J-I-T). **2.** Describes a compiler that compiles Java on the fly. *See also* Java, on the fly.