IEEE 100

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Published by
Standards Information Network
IEEE Press

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The Institute of Electrical and Electronics Engineering, Inc.
3 Park Avenue, New York, NY, 10016-5997, USA

To order IEEE Press publications, call 1-800-678-IEEE.

Print: ISBN 0-7381-2601-2 *SP1122*

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Library of Congress Cataloging-in-Publication Data

IEEE 100 : the authoritative dictionary of IEEE standards terms.—7th ed.
p. cm.
ISBN 0-7381-2601-2 (paperback : alk. paper)
1. Electric engineering—Dictionaries. 2. Electronics—Dictionaries. 3. Computer engineering—Dictionaries. 4. Electric engineering—Acronyms. 5. Electronics—Acronyms. 6. Computer engineering—Acronyms. I. Institute of Electrical and Electronics Engineers.

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621.3'03—dc21

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load field voltage, and then suddenly establishing circuit conditions which would be used to obtain nominal exciter ceiling voltage. For a rotating exciter, response should be determined at rated speed. This definition does not apply to main exciters having one or more series field, except a light differential series field, or to electronic exciters. (PE/EDPG) 421-1972s

exciter voltage response The rate of increase or decrease of the exciter voltage when a change in this voltage is demanded. It is the rate determined from the exciter voltage response curve that if maintained constant would develop the same exciter voltage-time area as is obtained from the curve for a specified period. The starting point for determining the rate of voltage change shall be the initial value of the exciter voltage-time response curve. *See also:* asynchronous machine. (PE) [9]

exciting current The total current applied to a coil that links a ferromagnetic core. The component of the primary current of a transformer that is sufficient by itself to cause the counter electromotive force to be induced in the primary winding. (CHM) 270-1966w, [51]

exciting field The total field responsible for the waves scattered by a particle or elemental surface area. In the case of single scattering, the exciting field consists solely of the incident field. In the multiple scattering case, the exciting field consists of the incident field plus the fields scattered by and among all other particles or elemental surface areas. *See also:* incident field. (AP/PROP) 211-1997

excitron A single-anode pool tube provided with means for maintaining a continuous cathode spot. (ED) [45]

exclusion (1) (mathematics of computing) A dyadic Boolean operator having the property that if P is a statement and Q is a statement, then the expression P exclusion Q is true if and only if P is true and Q is false. *Note:* P exclusion Q is often represented by a combination of AND and NOT symbols such as $P \Lambda Q$.

Exclusion Truth Table

P	Q	$P\Lambda{\sim}Q$
0	0	0
0	1	0
1	0	1
1	1	0

Synonym: NOT-IF-THEN. (C) 1084-1986w
(2) The dyadic Boolean operation whose result has the Boolean value 1 if and only if the first operand has the Boolean value 1 and the second has the Boolean value 0. *See also:* NOT-IF-THEN gate. (C) 610.10-1994w

exclusive lock A lock that grants the holder sole access to the locked data. No other process can access the data for either read or write purposes. *Contrast:* shared lock. (C) 610.5-1990w

exclusive modified An attribute assigned to a cache line if there is an up-to-date copy of the line in the module's cache and the module has the only valid copy in the system. (C/BA) 896.4-1993w

exclusive NOR (XNOR) *See:* equivalence.

exclusive-NOR element *See:* exclusive-NOR gate.

exclusive-NOR gate A gate that performs the Boolean operation of equivalence. *Synonyms:* exclusive-NOR element; IF-AND-ONLY-IF element. (C) 610.10-1994w

exclusive OR (XOR) (mathematics of computing) A dyadic Boolean operator having the property that if P is a statement and Q is a statement, then P exclusive-OR Q is true if and only if either, but not both, is true. *Note:* P exclusive OR Q is often represented by $P \oplus Q$ or $P \cup Q$.

Exclusive OR Truth Table

P	Q	$P \oplus Q$
0	0	0
0	1	1
1	0	1
1	1	0

Synonyms: modulo-two sum; nonequivalence; inequivalence. *Contrast:* OR. (C) 1084-1986w

exclusive-OR element *See:* exclusive-OR gate.

exclusive-OR gate A gate that performs the Boolean operation of nonequivalence. *Synonym:* exclusive-OR element. (C) 610.10-1994w

exclusive unmodified An attribute assigned to a cache line if there is an up-to-date copy of the line in the module's cache and the module is to assume that no other copies of the line are valid in any other cache in the system. (C/BA) 896.4-1993w

excursion *See:* reference excursion.

EXEC A command language used in IBM's VM/CMS environment to carry out command level processing. *Note:* EXEC was superseded by EXEC2 and is superseded by REXX. (C) 610.13-1993w

EXEC2 *See:* EXEC.

Exec family of operations The collection of operations that cause a new program to be executed, *i.e.*, the `Exec` and `Exec_Search` procedures in `POSIX_Unsafe_Process_Primitives` and the `Start_Process` and `Start_Process_Search` procedures in `POSIX_Process_Primitives`. (C) 1003.5-1999

executable instruction (A) An instruction that is in the instruction set for a given computer and can be executed in its current form. **(B)** A word or words containing the complete machine code for a computer operation. (C) 610.10-1994

executable file A regular file acceptable as a new process image file by the equivalent of the POSIX.1 *exec* family of functions, and thus usable as one form of a utility. The standard utilities described as compilers can produce executable files, but other unspecified methods of producing executable files may also be provided. The internal format of an executable file is unspecified, but a conforming application shall not assume an executable file is a text file. (C/PA) 9945-2-1993

executable source statements Source statements that direct the actions of the computer at run time. (C/SE) 1045-1992

execute (1) To carry out an instruction, process, or computer program. (C) 610.12-1990
(2) To perform the actions described in 3.9.1.1. *See also:* invoke. (C/PA) 9945-2-1993

execute features The electrical and mechanical equipment and interconnections that perform a function, associated directly or indirectly with a safety function, upon receipt of a signal from the sense and command features. The scope of the execute features extends from the sense and command features output to and including the actuated equipment-to-process coupling. *Note:* In some instances, protective actions may be performed by execute features that respond directly to the process conditions (for example, check valves, self-actuating relief valves). (PE/NP) 603-1998

execution (software) The process of carrying out an instruction or the instructions of a computer program by a computer. *See also:* instruction; computer program. (C/SE) 729-1983s

execution efficiency The degree to which a system or component performs its designated functions with minimum consumption of time. *See also:* storage efficiency; execution time. (C) 610.12-1990

execution monitor *See:* monitor.

execution phase The operations a software administration utility performs that modify the target. (C/PA) 1387.2-1995

execution time (software) The amount of elapsed time or processor time used in executing a computer program. *Note:* Processor time is usually less than elapsed time because the processor may be idle (for example, awaiting needed computer resources) or employed on other tasks during the execution of a program. *Synonyms:* run time; running time. *See also:* overhead time. (C) 610.12-1990

execution time theory (software) A theory that uses cumulative execution time as the basis for estimating software reliability. *See also:* software reliability; execution time. (C/SE) 729-1983s

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sure is of suitable environmental and tamper-resistant construction for out-door, above-ground installation. (SWG/PE) C37.73-1998

pad-mounted transformer (power and distribution transformers) An outdoor transformer utilized as part of an underground distribution system, with enclosed compartment(s) for high-voltage and low-voltage cables entering from below, and mounted on a foundation pad. (PE/TR) C57.12.80-1978r

pad-type bearing (rotating machinery) A journal or thrust-type bearing in which the bearing surface is not continuous but consists of separate pads. *See also:* bearing. (PE) [9]

PAGE A text-formatting language that uses two-character instruction codes to control typesetting. (C) 610.13-1993w

page (1) (A) A fixed-length segment of data or of a computer program treated as a unit in storage allocation. **(B)** In a virtual storage system, a fixed-length segment of data or of a computer program that has a virtual address and is transferred as a unit between main and auxiliary storage. (C/Std100) 610.12-1990, 610.5-1990
(2) A screenful of information on a video display terminal. (C) 610.12-1990
(3) (or segment) The smallest portion of memory that can be relocated by memory mappingtechniques. (BA/C) 896.3-1993w
(4) A unit of memory with a specific size defined as a power of 2. (C/BA) 1014.1-1994w
(5) (A) In virtual storage, a fixed length block of instructions or data that has a virtual address and that is transferred as a unit between real storage and auxiliary storage. **(B)** To transfer data between real and auxiliary storage as in definition (A). (C/Std100) 610.10-1994
(6) The granularity of process memory mapping or locking. Physical memory and memory objects can be mapped into the address space of a process on page boundaries and in integral multiples of pages. Process address space can be locked into memory—made memory-resident—on page boundaries and in integral multiples of pages. (C/PA) 9945-1-1996
(7) A section of the array that may be written to simultaneously. This usually refers to more than one byte. (ED) 1005-1998
(8) (A) A fixed-length block of data, especially that which fits into a single printed sheet. **(B)** To summon a particular page or the next logical page. *See also:* paging. (PE/NP) 1289-1998
(9) A logical representation of a single unit of printing media. It is a function of the document formatting rather than the printing process. There are one or more pages per impression. A "four-up" single-color printing will typically have four pages per impression. (C/MM) 1284.1-1997
(10) In Auto-Negotiation, the encoding for a Link Code Word. Auto-Negotiation can support an arbitrary number of Link Code Word encodings. Additional pages may have a predefined encoding or may be custom encoded. *See also:* message page; Unformatted Page. (C/LM) 802.3-1998
(11) The granularity of memory mapping and locking, *i.e.*, a fixed-length contiguous range of the address space of a process. Physical memory and memory objects can be mapped into the address space of a process on page boundaries and in integral multiples of pages. Process address space can be locked into memory (*i.e.*, made memory-resident) on page boundaries and in integral multiples of pages. *Note:* There is no implied requirement that usage of the term *page* in this interface for memory mapping necessarily be the same as the term might be used in a virtual memory implementation. (C) 1003.5-1999

page breakage A portion of main storage that is unused when the last page of data or of a computer program does not fill the entire block of storage allocated to it. *See also:* paging. (C) 610.12-1990

page description language (PDL) (1) A computer language in which commands from a text-formatting language are combined into higher-level instructions that can be used in other documents. Examples include GML, HPGL, Postscript, and TEX. *Synonym:* markup language. (C) 610.13-1993w
(2) A formal printer machine language, consisting of commands and data (or equivalently, operators and operands) used to specify and control the content and format of printed pages. A data stream encoded in a PDL is rendered into the printed page image by an interpreter. (C/MM) 1284.1-1997

page eject character *See:* form feed character.

page fault In demand paging, a condition that causes a program interrupt when a page must be read in from disk into main storage. (C) 610.10-1994w

page frame A block of main storage having the size of, and used to hold, a page. *See also:* paging. (C) 610.12-1990
(2) (A) In real storage, a storage location that has the size of a page. **(B)** An area of main storage used to hold a page. (C) 610.10-1994

page makeup *See:* computer-aided page makeup; photocomposition.

page mode A method of operation in which more than one memory location is written simultaneously. (ED) 1005-1998

page orientation The direction of print on a display device or page of paper; that is, left-to-right or top-to-bottom. *See also:* portrait orientation; landscape orientation. (C) 610.10-1994w

page printer A printer that prints one complete page of output at a time. For example, a computer-output microfilm printer or a laser printer. *Contrast:* character-at-a-time printer; line printer. (C) 610.10-1994w

pager A routine that initiates and controls the transfer of pages between main and auxiliary storage. *See also:* paging. (C) 610.12-1990

page reader A character reader whose input data are in the form of printed text. *See also:* optical character reader. (C) 610.10-1994w

page reference An expression that unambiguously identifies a model page. The page reference incorporates a diagram reference to the associated diagram, the type of page, and any sequencing data needed to distinguish different pages of the same type that are associated with the same diagram. (C/SE) 1320.1-1998

page size (1) The edge-to-edge dimensions of hard-copy documents, or the average characters per line and the number of lines per screen for electronically displayed documents. (C/SE) 1045-1992
(2) The number of storage units in a page. (C) 1003.5-1999

page swapping The exchange of pages between main storage and auxiliary storage. *See also:* paging. (C) 610.12-1990, 610.10-1994w

page table A table that identifies the location of pages in storage and gives significant attributes of those pages. *See also:* paging. (C) 610.12-1990

page turning *See:* paging.

page type letter The uppercase letter in a page reference that denotes a specific type of model page. (C/SE) 1320.1-1998

page zero In the paging method of storage allocation, the first page in a series of pages. (C) 610.12-1990

pagination *See:* automatic pagination.

paging (1) (A) A storage allocation technique in which programs or data are divided into fixed-length blocks called pages, main storage is divided into blocks of the same length called page frames, and pages are stored in page frames, not necessarily contiguously or in logical order. *Synonym:* block allocation. *Contrast:* contiguous allocation. **(B)** A storage allocation technique in which programs or data are divided into fixed-length blocks called pages, main storage is divided into