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THE
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DICTIONARY
OF IEEE STANDARDS TERMS

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Seventh Edition



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(5) The full width of a distribution measured at half the maximum ordinate. For a normal distribution, $\text{FWHM} = 2 \cdot (2 \ln 2)^{1/2} = 2.355$ times the standard deviation, s .

(NPS) 325-1996

full width at one-tenth maximum (FW.1M) The full width of a distribution measured at one tenth of the maximum ordinate measured above the background.

(NPS) 300-1988r

full width at tenth maximum (FWTM) (x-ray energy spectrometers) Same as full width at half maximum (FWHM), except measurement is made at one tenth of the maximum ordinate rather than one half.

(NPS/NID) 759-1984r

full width (duration) half maximum (fiber optics) A measure of the extent of a function. Given by the difference between the two extreme values of the independent variable at which the dependent variable is equal to half of its maximum value. The term "duration" is preferred when the independent variable is time. *Note:* Commonly applied to the duration of pulse waveforms, the spectral extent of emission or absorption lines, and the angular or spatial extent of radiation patterns.

(Std100) 812-1984w

fullword *See:* computer word; word.

fully concatenated key *See:* concatenated key.

fully connected network A network in which each node is directly connected with every other node.

(LM/COM) 168-1956w

fully decoded EAROM organization An EAROM organization in which rows and columns of memory cells are addressable through on-chip decoding circuitry.

(ED) 641-1987w

fully inverted file An file that has been inverted on all secondary keys in the file. *Contrast:* partially inverted file.

(C) 610.5-1990w

fully qualified software_spec A software_spec that always identifies a software object unambiguously.

(C/PA) 1387.2-1995

fully relational Pertaining to a database management system that supports a relational database and a language that provides the functionality of the relational algebra.

(C) 610.5-1990w

fume-resistant So constructed that it will not be injured readily by exposure to the specified fume.

(SWG/PE/IA/ICTL/IA/C) C37.100-1981s, [56], [60]

function (1) (general) When a mathematical quantity u depends on a variable quantity x so that to each value of x (within the interval of definition) there correspond one or more values of u , then u is a function of x written $u = f(x)$. The variable x is known as the independent variable or the argument of the function. When a quantity u depends on two or more variables $x_1, x_2, \dots, x_n$ so that for every set of values of $x_1, x_2, \dots, x_n$ (within given intervals for each of the variables) there correspond one or more values of u , then u is a function of $x_1, x_2, \dots, x_n$ and is written $u = f(x_1, x_2, \dots, x_n)$. The variables $x_1, x_2, \dots, x_n$ are the independent variables or arguments of the function.

(Std100) 270-1966w

(2) (vector) When a scalar or vector quantity u depends upon a variable vector V so that if for each value of V (within the region of definition) there correspond one or more values of u , then u is a function of the vector V .

(Std100) 270-1966w

(3) (test, measurement, and diagnostic equipment) The action or purpose which a specific item is intended to perform or serve.

(MIL) [2]

(4) (A) (software) A defined objective or characteristic action of a system or component. For example, a system may have inventory control as its primary function. **(B) (software)** A software module that performs a specific action, is invoked by the appearance of its name in an expression, may receive input values, and returns a single value. *See also:* subroutine.

(C) 610.12-1990

(5) (mathematics of computing) A mathematical entity whose value is uniquely determined by the value of one or more independent variables.

(C) 610.2-1987

(6) Normal or characteristic action of a component or the system of which it is a part.

(PE/EDPG) 803.1-1992

(7) A task, action, or activity expressed as a verb-noun combination (e.g., Brake Function: stop vehicle) to achieve a defined outcome.

(C/SE) 1220-1994s

(8) (software user documentation) A specific purpose of an entity or its characteristic action.

(SE/C) 1063-1987r, 1074-1995s

(9) A programming-language construct, modeled after the mathematical concept. A function encapsulates some behavior. It is given zero or more arguments as input, performs some processing, and returns some results. Functions are also known as procedures, subprograms, or subroutines.

(C/PA) 1327.2-1993w, 1224.2-1993w, 1326.2-1993w, 1328.2-1993w

(10) A logical component of a unit that operates mostly independently. A function is independent of bus interface and node topology: a unit has registers that are externally accessible in the bus address space, a function may or may not. For example, a multi-function node may contain SCSI controller, LAN interface, and terminal interface Functions that are accessed via a shared DMA multiplex Unit. A function may also be a software entity (e.g., a Function driver), especially when messages are used for Processor-to-Processor communication.

(C/MM) 1212.1-1993

(11) A primitive operation on system-controlled resources. This standard defines a collection of functions together with suitable input and output parameters.

(C/MM) 855-1990

(12) A task, action, or activity that must be accomplished to achieve a desired outcome.

(C/SE) 1233-1998

(13) A single-valued mapping. The mapping M from D to R is a function if for any x in D and y in R , there is at most one pair $[x, y]$ in M . *Synonym:* single-valued. *Contrast:* multi-valued.

(C/SE) 1320.2-1998

(14) A transformation of inputs to outputs, by means of some mechanisms, and subject to certain controls, that is identified by a function name and modeled by a box. *Synonyms:* activity; task; process; operation.

(C/SE) 1320.1-1998

(15) (scheme programming language) *See also:* procedure.

(C/MM) 1178-1990r

functional A link interface becomes functional when the start-up procedure has successfully completed and the link interface is ready to transmit data.

(C/BA) 1355-1995

functional address (FA) (1) The portion of a full data transport address that specifies the read or write function that is to be performed.

(IM/ST) 1451.2-1997

(2) (local area networks) A bit-significant address used in the ISO/IEC 8802-5 MAC format to identify well-known functional groups.

(C) 8802-12-1998

functional address instruction An instruction whose format contains no operation field because the operation is implicitly specified by its address fields.

(C) 610.10-1994w

functional adjectives (A) (pulse terminology) Linear. Pertaining to a feature whose magnitude varies as a function of time in accordance with the following relation or its equivalent:

$$m = a + bt$$

(B) (pulse terminology) Exponential. Pertaining to a feature whose magnitude varies as a function of time in accordance with either of the following relations or their equivalents:

$$m = ae^{-bt}$$

$$m = a(1 - e^{-bt})$$

(C) (pulse terminology) Gaussian. Pertaining to a waveform or feature whose magnitude varies as a function of time in accordance with the following relation or its equivalent:

$$m = ae^{-b(t-c)^2}, b > 0$$

(D) (pulse terminology) Trigonometric. Pertaining to a waveform or feature whose magnitude varies as a function of time in accordance with a specified trigonometric function or by a specified relationship based on trigonometric functions (for example, cosine squared).

(IM/WM&A) 194-1977