

Dictionary of Computer and Internet Terms

Eighth Edition

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femto- metric prefix meaning $\div 1,000,000,000,000,000$. *Femto-* is derived from the Danish word for "fifteen" (because it signifies 10^{-15}). See METRIC PREFIXES.

fencepost error an OFF-BY-ONE ERROR; a programming error caused by doing something one less, or one more, time than necessary. So called because a person who is asked how many fenceposts, one foot apart, are needed to build a 10-foot fence, is likely to answer "ten" rather than the correct "eleven."

FET *see* FIELD-EFFECT TRANSISTOR.

FF (form feed) the character code (ASCII decimal 12, Ctrl-L) that causes a printer to eject the current sheet of paper and start a new one. *Compare* LF (line feed).

fiber optics cables that carry light rather than electrical energy. Fiber-optic cables are made of thin fibers of glass. Large amounts of data can be carried by a single fiber-optic cable. Unlike wire cables, fiber-optic cables are not subject to crosstalk or electromagnetic noise, and they cannot be tapped into (e.g., by an eavesdropper) without producing a noticeable drop in signal level.

field

1. a portion of a record in a database, containing one piece of information. For instance, in an address list, the zip code might be stored in a 10-character field. *See also* RECORD; DATABASE.
2. a place where information can be typed on the screen, such as one of the cells in a spreadsheet. *See* SPREADSHEET.
3. a region of space where an electrical, magnetic, or gravitational effect is present.

field-effect transistor (FET) a transistor in which the flow of current from source to drain is controlled by a charge applied to the gate. This charge attracts electrons into the area between source and drain or repels them away from it, thus changing its semiconductor properties. No current actually flows into the gate (in practice, there is a tiny current, on the order of 10^{-12} ampere). Thus, field-effect transistors consume little power and can be packed very densely on integrated circuit chips.

MOSFETs (metal-oxide-semiconductor FETs) have an insulating layer of metal oxide between the gate and the rest of the transistor. They consume the least power of all kinds of transistors. *See* TRANSISTOR; CMOS; INTEGRATED CIRCUIT.

FIFO (first-in-first-out) a QUEUE (definition 1); a data structure or memory device from which items are retrieved in the order in which they were stored. *Contrast* LIFO.

fifth-generation computers computers built with advanced large-scale integrated circuits that break out of the traditional Von Neumann