

# PRENTICE HALL'S ILLUSTRATED DICTIONARY OF COMPUTING

THIRD EDITION

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PRENTICE HALL

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simple logic, direct mapped caches are typically designed in discrete components to minimize system cost. See *cache*.

**direct memory access** A method of transferring blocks of data directly between a mass-storage device and memory, with no intervention from the processor. In order to transfer data between non-storage devices (such as terminals) and memory, the processor must intervene in the transfer of each byte. The direct memory access (DMA) interface is typically incorporated into the device controller. When a DMA read or write command is given by the processor, the processor loads information about the transfer into special registers in the device controller. This information includes the number of bytes to be moved, the target location in memory, the target device, and the location of the information on that device. After the special registers in the device controller have been loaded, the device controller handles the memory transfer operation independently of the processor, thus freeing the processor for other tasks. When the data transfer is complete, the device controller prepares a status message and interrupts the processor. The processor then reads the status message to confirm that the transfer was completed successfully. [ISO A technique for moving data directly between main storage and peripheral equipment without requiring processing of the data by the processing unit.]

**directory** A list of all the files (and groups of files) stored on a disk. This list acts like an index and displays the type and names of the files, the date stored (or last modified), and the size each file occupies on a disk. See *file allocation table*.

**direct percentage function** [ISO The function that directly calculates a percentage markup or discount value.]

**dirty bit** See *write-through caching*.

**d**

**discrete** [ISO Pertaining to data that consist of distinct elements such as characters, or to physical quantities having distinctly recognizable values.]

**discrete data** [ISO Data represented by characters.]

**discrete representation** [ISO A representation of data by characters, each character or a group of characters designating one of a number of alternatives.]

**Discretionary Access Controls** A security protocol that can be applied by the owner of the data to control who has access to the data. Generally, DACs are granted on a need-to-know basis. Abbreviation 'DAC'.

**disintermediation** In marketing and economic terms, to lose one's purpose in a life cycle or value chain. For example, those whose task it was to deliver gas in bottles to consumers' homes have diminished in number due to the widespread implementation of gas pipes to homes. Those who used to set type by hand at typesetting firms have also been taken out of the value chain (disintermediated) due to the introduction (intermediation) of desktop publishers. Compare *intermediation* and *re-intermediation*.

**disjunction** [ISO The Boolean operation whose result has the Boolean value 0 if and only if each operand has the Boolean value 0.]