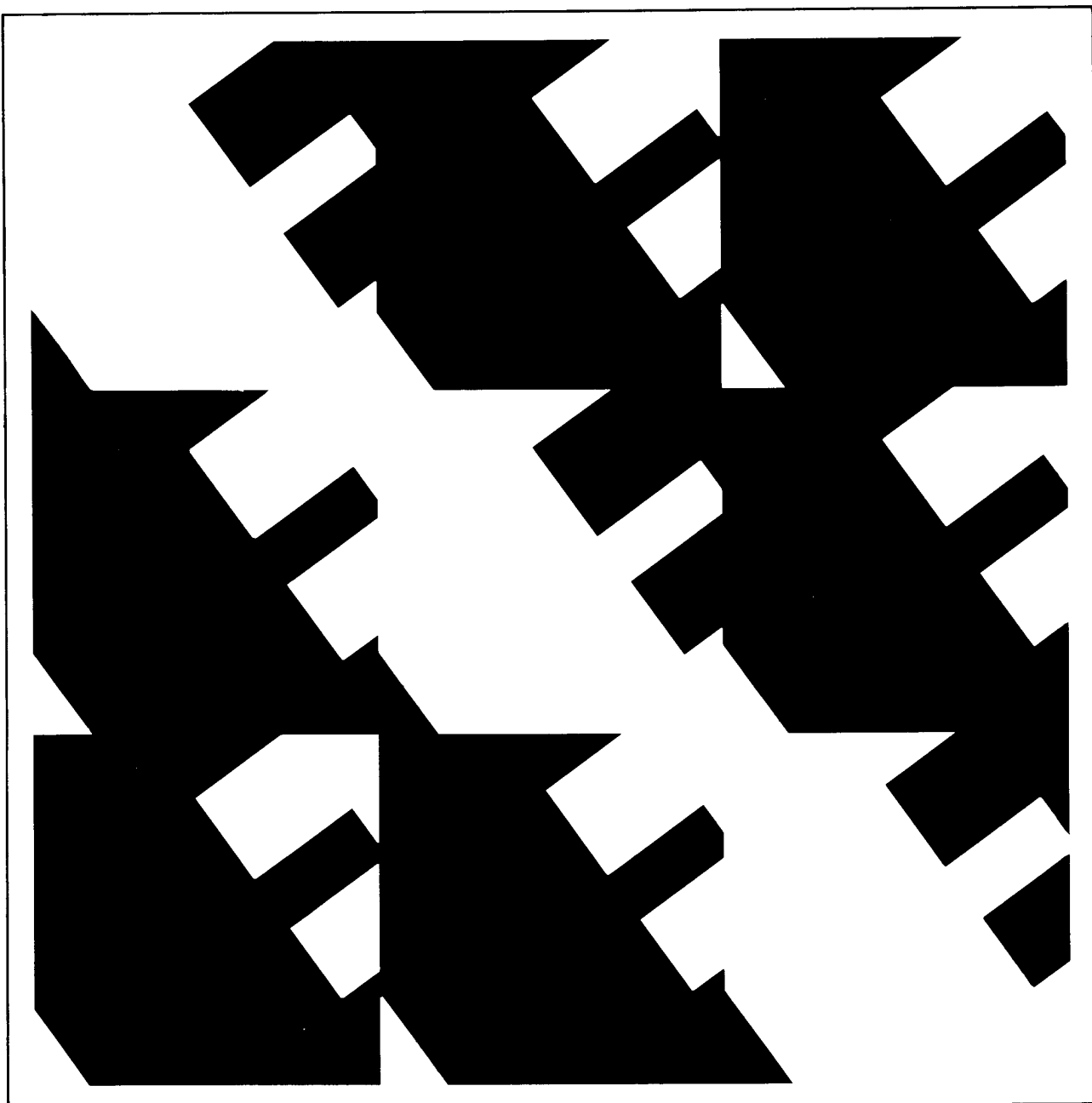


IEEE Standard Glossary of Computer Applications Terminology

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**IEEE Standard Glossary of
Computer Applications Terminology**

Sponsor
**Standards Coordinating Committee of the
IEEE Computer Society**

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IEEE Standards Board

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Foreword

(This Foreword is not a part of ANSI/IEEE Std 610.2-1987, IEEE Standard Glossary of Computer Applications Terminology.)

The computer field is continuing to expand. New terms are being generated and new meanings are being adopted for existing terms. The IEEE Computer Dictionary project was undertaken to document this vocabulary. Its purpose is to identify terms currently in use in the computer field and to establish standard definitions for these terms. The dictionary is intended to serve as a useful reference for those in the computer field and for those who come into contact with computers either through their work or in their everyday lives.

The completed dictionary will contain terms from seven areas: Computer Hardware, Software Engineering, Mathematics of Computing, Theory of Computation, Computer Applications, Computing Environment, and Computing Methodologies, including Artificial Intelligence, Data Management, Image Processing, Modeling and Simulation, Computer Graphics, and Networking and Data Communications. This increment of the dictionary contains terms related to Computer Applications. The remaining areas will be covered in other increments of the dictionary. All areas will be covered in the overall Computer Dictionary.

Every effort has been made to use definitions from established standards in this dictionary. When existing standards were found to be incomplete, unclear, or inconsistent with other entries in the dictionary, however, new, revised, or composite definitions have been developed.

At the time this glossary was approved, the following people formed the steering committee of the Computer Dictionary working group:

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Contents

SECTION	PAGE
1. Scope	7
2. Dictionary Structure	7
3. Sources	7
4. Definitions for Computer Applications Terms.....	8
5. Dictionary Resources	33

An American National Standard

IEEE Standard Glossary of Computer Applications Terminology

1. Scope

This glossary defines terms in the field of Computer Applications. Topics covered include automated language processing, automatic indexing, business data processing, character recognition, computer-aided design and manufacturing, computer-assisted instruction, control systems, critical path method, library automation, medical applications, micrographics, office automation, operations research, personal computing, scientific and engineering applications, telecommunication applications, and word processing.

The terms included in this glossary are intended for users of computer systems. Terms that apply to hardware or software implementation of the areas listed above are included in other glossaries.

Every effort has been made to include all terms that meet the criteria described above. Terms were excluded if they were considered to be parochial to one group or organization; company proprietary or trademarked; multi-word terms whose meaning could be inferred from the definitions of the component words; or terms whose meaning in the computer field could be directly inferred from their standard English meaning.

2. Dictionary Structure

Entries in the dictionary are arranged alphabetically. An entry may consist of a single word, such as "cursor," a phrase, such as "cursor control," or an abbreviation, such as "CAI." Phrases are given in their natural order (cursor control) rather than in reversed order (control, cursor).

Blanks are taken into account in alphabetizing. They precede all other characters. Hyphens

and slashes are treated as blanks. Alternative spellings are shown in parentheses; for example, dialog (dialogue).

A distinction is made in the glossary between acronyms, which are pronounced as words (for example, KWIC), and other abbreviations, which are pronounced as letters (for example, CAI).

If a term has more than one definition, the definitions are numbered. The order of the definitions does not imply preference or frequency of use. In most cases, noun definitions are given first, followed by verb and adjective definitions as applicable. Examples and notes have been added to clarify selected definitions.

The following cross-references are used to show a term's relationship to other terms in the dictionary:

(1) *Contrast with* refers to a term with an opposite or substantially different meaning.

(2) *Syn* refers to a synonymous term.

(3) *See also* refers to a related term.

(4) *See* refers to a preferred term or to a term whose definition serves to define the term that has been looked up.

The word "deprecated" indicates a term or definition whose use is discouraged because such use is obsolete, misleading, or ambiguous.

3. Sources

When a definition has been directly quoted from an existing dictionary or glossary, the source is designated in brackets following the definition. When such a definition was taken from a copyrighted source, permission for its use was obtained from the publisher. A list of all sources being used on the Computer Dictionary project at the time this glossary was completed is given at the conclusion of the glossary.

4. Definitions for Computer Applications Terms

active. Pertaining to a record or file that has been accessed by one or more transactions during a given processing cycle. *See also: inactive; logically deleted; purged.*

activity ratio. The ratio of active records to the total number of records in a file.

add transaction. A transaction that causes a new record to be added to a master file. *See also: change transaction; delete transaction; null transaction; update transaction.*

adjacency. In character recognition, a condition in which the character spacing reference lines of two consecutive characters printed on the same line are separated by less than a specified distance.

adjust line mode. In text formatting, an operating mode in which line endings are automatically adjusted to comply with the current margin setting. *See also: text end adjustment; word wrap.*

administrative data processing (ADP). The use of computers for administrative applications such as personnel, payroll, and accounting functions.

ADP. (1) Abbreviation for **automatic data processing; automated data processing.**
(2) Abbreviation for **administrative data processing.**

AKWIC. Acronym for **author and keyword in context.** *See: author and keyword in context index.*

ALP. Abbreviation for **automated language processing.**

annual cycle. One complete execution of a data processing function that must be performed once a year. *See also: daily cycle; monthly cycle; quarterly cycle; weekly cycle.* *Syn: yearly cycle.*

application. The use to which a computer system is put; for example, a payroll application,

an airline application, or a network application.

APT. Abbreviation for **automatically programmed tools.**

ascender. The portion of a graphic character that extends above the main part of the character; for example, the upper portion of the letters "b" and "h." *Contrast with: descender.*

assigned indexing. Automatic indexing in which appropriate keywords are assigned from a list of preselected keywords rather than from the text of the document or information being indexed. *Syn: assignment indexing.* *Contrast with: derivative indexing.*

assignment indexing. *See: assigned indexing.*

ATM. Abbreviation for **automated teller machine.**

audit trail. A manual or computerized record that can be used to trace the transactions affecting the contents of a record or a file.

author and keyword in context (AKWIC) index. A variation of a keyword in context (KWIC) index in which author and keyword entries are combined and presented in a KWIC format. *Contrast with: word and author index.*

authoring language. A high level programming language used to develop courseware for computer-assisted instruction. *See also: authoring system.*

authoring system. A programming system that incorporates an authoring language.

automated data processing (ADP). *See: automatic data processing.*

automated dictionary. In machine-aided translation, an automated lexicon in which entries are single words. *Contrast with: automated glossary.*

automated glossary. In machine-aided translation, an automated lexicon in which entries

may consist of multiple words. *Contrast with:* **automated dictionary**. *Syn:* **terminology bank**.

automated language processing (ALP). The application of data processing, word processing, and machine-aided translation to the processing or translation of natural languages.

automated lexicon. A computer-resident table of source language and target language equivalents that serves as the central component in a machine-aided translation system. *See also:* **automated dictionary; automated glossary**.

automated office. *See:* **electronic office**.

automated teller machine (ATM). An unattended terminal-type device that offers simple banking services such as cash withdrawals, transfer of funds between accounts, and account balance inquiry. *Syn:* **customer bank communications terminal**.

automated thesaurus. In machine-aided translation, a computer-resident thesaurus used in conjunction with an automated lexicon to handle words with multiple meanings.

automatic. Pertaining to a function, operation, process, or device that, under specified conditions, functions without intervention by a human operator.

automatic abstracting. In library automation, the automatic selection of words and phrases from a document to produce an abstract.

automatic calendar. A component of some office automation systems that allows users to store their appointments in a database and to set up meetings by requesting a search for an available meeting time in each of the participants' calendars.

automatic control. Describes a control system capable of operating without external or human intervention. *See also:* **numerical control; process control**.

automatic data processing (ADP). Data processing performed by a computer system. *Syn:*

automated data processing; electronic data processing.

automatic hyphenation. In text formatting, hyphenation in which all line-ending and word break decisions are made automatically. Word break decisions may be made using syllabication algorithms or a dictionary containing commonly used words and their syllables. *See also:* **manual hyphenation; semi-manual hyphenation**.

automatic index. An index produced by automatic indexing. *See also:* **keyword in context index; keyword out of context index; permutation index; selective listing in combination index; word index**.

automatic indexing. Automated production of an index by selecting keywords and organizing them according to the type of index being produced. *Note:* Methods include assigned indexing and derivative indexing. *See also:* **keyword in context index; keyword out of context index; permutation index; selective listing in combination index; word index**.

automatic pagination. In text formatting, the automatic arrangement or rearrangement of text according to preset page layout parameters such as margin width and lines per page. *Note:* May also include the assignment and placement of page numbers on the pages. *Syn:* **pagination; repagination**.

automatically programmed tools (APT). A programming system using English-like symbolic descriptions of part and tool geometry and tool motion for numerical control.

automation. (1) The implementation of a process by automatic means.

(2) The theory, art, or technique of making a process more automatic. [67]

(3) The investigation, design, development, and application of methods of rendering processes automatic, self-moving, or self-controlling. [67]

background. In micrographics, the portion of a document that does not contain lettering or other information.

bar code. An identification code consisting of a pattern of vertical bars whose width and spacing identifies the item marked. *Note:* The code is meant to be read by an optical input device, such as a bar code scanner. Applications include retail product pricing labels, identification of library documents, and railroad box car identification. *See also:* **universal product code**. *Syn:* **optical bar code**.

BDP. Abbreviation for **business data processing**.

bionics. A branch of technology relating the functions, characteristics, and phenomena of living systems to the development of mechanical systems. [67]

blip. *See:* **document mark**.

block. In text editing and text formatting, one or more contiguous characters or lines of text. *See also:* **block operation**.

block copy. In text editing, an operation that copies a block of text from one point to another within a file or between files, leaving the original block of text intact. *Contrast with:* **block move**.

block delete. In text editing, an operation that removes a block of text from a file.

block move. In text editing, an operation that moves a block of text from one point to another within a file or between files, deleting the block of text from its original location. *Syn:* **block movement**. *Contrast with:* **block copy**.

block movement. *See:* **block move**.

block operation. In text editing, an operation that affects a block of text. For example, block copy, block delete, block move.

blowback. In micrographics, an enlargement. [67]

boilerplate text. In word processing, standardized previously-stored textual material that may be used to create a new document. *Syn:* **stored paragraph**.

bulletin board. *See:* **electronic bulletin board**.

business data processing (BDP). The use of computers for processing information to support the operational, logistical, and functional activities performed by an organization.

business information system. *See:* **management information system**.

CAD. Acronym for **computer-aided design**.

CADE. Abbreviation for **computer-aided design and engineering**. *See:* **computer-aided design**; **computer-aided engineering**.

CADEM. Abbreviation for **computer-aided design, engineering, and manufacturing**. *See:* **computer-aided design**; **computer-aided engineering**; **computer-aided manufacturing**.

CADM. Abbreviation for **computer-aided design and manufacturing**. *See:* **computer-aided design**; **computer-aided manufacturing**.

CAE. (1) Abbreviation for **computer-aided engineering**.
(2) Abbreviation for **computer-aided education**. *See:* **computer-assisted instruction**.

CAI. (1) Abbreviation for **computer-assisted instruction**.
(2) Abbreviation for **computer-aided instruction**.
(3) Abbreviation for **computer-aided inspection**.

CAL. (1) Abbreviation for **computer-assisted learning**. *See:* **computer-assisted instruction**.
(2) Abbreviation for **computer-augmented learning**. *See:* **computer-assisted instruction**.

CAM. (1) Acronym for **computer-aided manufacturing**.
(2) Acronym for **computer-aided management**.

CAT. (1) Acronym for **computer-assisted tomography**. *See: computed tomography.*
(2) Acronym for **computerized axial tomography**. *See: computed tomography.*
(3) Acronym for **computer-aided testing**.

CBCT. Abbreviation for **customer-bank communication terminal**. *See: automated teller machine.*

CBE. Abbreviation for **computer-based education**. *See: computer-based instruction.*

CBI. Abbreviation for **computer-based instruction**.

CBL. Abbreviation for **computer-based learning**. *See: computer-based instruction.*

CDP. Abbreviation for **commercial data processing**.

center. In text formatting, to format one or more lines of text so that the left and right margins are equal in size.

change transaction. A transaction that causes information in a master file to be changed. *See also: add transaction; delete transaction; null transaction; update transaction.*

character boundary. In character recognition, the largest rectangle, with a side parallel to the document reference edge, whose sides are tangential to a given character outline. [67]

character font. A set of graphic characters that are of the same size and style. *See also: font disk; hand-printed character font; OCR-A; OCR-B; optical font. Syn: type font.*

character outline. In character recognition, the graphic pattern established by the stroke edges of a character.

character recognition. The use of pattern recognition techniques to identify characters by automatic means. *See also: magnetic ink character recognition; omni-font character recognition; optical character recognition; single-font character recognition.*

character spacing reference line. In character recognition, a vertical line that is used to

evaluate the horizontal spacing of characters. *Note: It may be a line that equally divides the distance between the sides of a character boundary or that coincides with the center line of a vertical stroke.*

character stroke. In optical character recognition, a line, point, arc, or other mark used as a portion of a graphic character. For example, the dot over the letter i or the cross of the letter t.

CIM. (1) Abbreviation for **computer input microfilm**.

(2) Abbreviation for **computer-integrated manufacturing**.

cine-oriented image. In micrographics, an image appearing on a roll of microfilm in such a manner that the top edge of the image is perpendicular to the long edge of the film. *Contrast with: comic-strip oriented image. Syn: motion-picture display; portrait image.* [67]

clear area. In character recognition, a specified area that is to be kept free of printing or other markings that are not related to machine readings.

closed-loop control. Pertaining to a control system in which the output is measured and compared with a standard representing the acceptable range, and any deviation from the standard is fed back into the system in a way that will reduce the deviation. *Syn: feedback control. Contrast with: open-loop control.*

clustered word processing. Word processing performed on a system composed of multiple work stations, each with its own memory but operating under the control of a master work station. *Contrast with: dedicated word processing; shared-logic word processing; shared-resource word processing; stand-alone word processing.*

CMC. Abbreviation for **code for magnetic characters**. *See: magnetic ink character recognition.*

CMI. Abbreviation for **computer-managed instruction**.