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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 14692-1 (1999): Information Technology - Vocabulary,
Part 1: Fundamental Terms [LITD 14: Software and System
Engineering]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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सूचना प्रौद्योगिकी — शब्दावली

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Indian Standard

INFORMATION TECHNOLOGY — VOCABULARY

PART 1 FUNDAMENTAL TERMS

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NATIONAL FOREWORD

This Indian Standard which is identical with ISO/IEC 2382-1 : 1993 'Information Technology — Vocabulary — Part 1 : Fundamental terms', issued jointly by the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC), was adopted by the Bureau of Indian Standards on the recommendation of Software Systems, Languages and Methodologies Sectional Committee and approval of the Electronics and Telecommunication Division Council.

The text of the ISO/IEC standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

CROSS REFERENCES

The concerned technical committee has reviewed the provisions of the following standards referred in this adopted standard and has decided that these are acceptable for use in conjunction with this standard:

ISO 1087 : 1990 Terminology — Vocabulary

ISO 3166 : 1988 Codes for the representation of names of countries

Indian Standard

INFORMATION TECHNOLOGY — VOCABULARY

PART 1 FUNDAMENTAL TERMS

Section 1 : General

1.1 Scope

This part of ISO/IEC 2382 is intended to facilitate international communication in information technology. It presents, in two languages, terms and definitions of selected concepts relevant to the field of information technology and identifies relationships among the entries.

In order to facilitate their translation into other languages, the definitions are drafted so as to avoid, as far as possible, any peculiarity attached to a language.

This part of ISO/IEC 2382 deals with the most important concepts on which are based the further specialized sections in various technical fields, as well as the essential terms which should be used by nonspecialist users in communication with specialists in information processing.

1.2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 2382. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 2382 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1087 : 1990, *Terminology - Vocabulary*

ISO 3166 : 1988, *Codes for the representation of names of countries.*

1.3 Principles and rules followed

1.3.1 Definition of an entry

Section 2 comprises a number of entries. Each entry consists of a set of essential elements that includes an index number, one term or several synonymous terms, and a phrase defining one

concept. In addition, an entry may include examples, notes or illustrations to facilitate understanding of the concept.

Occasionally, the same term may be defined in different entries, or two or more concepts may be covered by one entry, as described in 1.3.5 and 1.3.8 respectively.

Other terms such as **vocabulary**, **concept**, **terms** and **definition**, are used in this part of ISO/IEC 2382 with the meaning defined in ISO 1087.

1.3.2 Organization of an entry

Each entry contains the essential elements defined in 1.3.1 and, if necessary, additional elements. The entry may contain the following elements in the following order:

- a) an index number (common for all languages in which this part of ISO/IEC 2382 is published);
- b) the terms or the generally preferred term in the language. The absence of a generally preferred term for the concept in the language is indicated by a symbol consisting of five points (.....); a row of dots may be used to indicate, in a term, a word to be chosen in a particular case;
- c) the preferred term in a particular country (identified according to the rules of ISO 3166);
- d) the abbreviation for the term;
- e) permitted synonymous term(s);
- f) the text of the definition (see 1.3.4);
- g) one or more examples with the heading "Example(s)";
- h) one or more notes specifying particular cases in the field of application of the concepts with the heading "NOTE(S)";
- i) a picture, a diagram, or a table which could be common to several entries.

1.3.3 Classification of entries

A two-digit serial number is assigned to each

part of this International Standard, beginning with 01 for “fundamental terms”.

The entries are classified in groups to each of which is assigned a four-digit serial number; the first two digits being those of the part of this International Standard.

Each entry is assigned a six-digit index number; the first four digits being those of the part of this International Standard and the group.

To show the relationship between versions of this International Standard in various languages, the numbers assigned to parts, groups, and entries are the same for all languages.

1.3.4 Selection of terms and wording of definitions

The selection of terms and the wording of definitions have, as far as possible, followed established usage. Where there were contradictions, solutions agreeable to the majority have been sought.

1.3.5 Multiple meanings

When, in one of the working languages, a given term has several meanings, each meaning is given a separate entry to facilitate translation into other languages.

1.3.6 Abbreviations

As indicated in 1.3.2, abbreviations in current use are given for some terms. Such abbreviations are not used in the texts of the definitions, examples, or notes.

1.3.7 Use of parentheses

In some terms, a word or words printed in bold typeface are placed between parentheses. These words are part of the complete term, but they may be omitted when use of the abridged term in a technical context does not introduce ambiguity. In the text of another definition, example, or note of ISO/IEC 2382, such a term is used only in its complete form.

In some entries, the terms are followed by words in parentheses in normal typeface. These words are not a part of the term but indicate directives for the use of the term, its particular field of application, or its grammatical form.

1.3.8 Use of brackets

When several closely related terms can be defined by texts that differ only in a few words, the terms and their definitions are grouped in a single entry. The words to be substituted in order to obtain the different meanings are placed in brackets, i.e. [], in the same order in the term and in the definition. To clearly identify the words to be substituted, the last word that according to the above rule could be placed in front of the opening bracket is, wherever possible, placed inside the bracket and repeated for each alternative.

1.3.9 Use of terms printed in italics in definitions and the use of an asterisk

A term printed in italics in a definition, an example, or a note is defined in another entry in this International Standard, which may be in another part. However, the term is printed in italics only the first time it occurs in each entry.

Italics are also used for other grammatical forms of a term, for example, plurals of nouns and participles of verbs.

The basic forms of all terms printed in italics which are defined in this part of ISO/IEC 2382 are listed in the index at the end of the part (see 1.3.11).

An asterisk is used to separate terms printed in italic typeface when two such terms are referred to in separate entries and directly follow each other (or are separated only by a punctuation mark).

Words or terms that are printed in normal typeface are to be understood as defined in current dictionaries or authoritative technical vocabularies.

1.3.10 Spelling

In the English language version of this part of ISO/IEC 2382, terms, definitions, examples, and notes are given in the spelling preferred in the USA. Other correct spellings may be used without violating this part of ISO/IEC 2382.

1.3.11 Organization of the alphabetical index

For each language used, an alphabetical index is provided at the end of each part. The index includes all terms defined in the part. Multiple-word terms appear in alphabetical order under each of their key words.

Section 2 : Terms and definitions

01 Fundamental terms

01.01 General terms

01.01.01

information (in information processing)

Knowledge concerning objects, such as facts, events, things, processes, or ideas, including concepts, that within a certain context has a particular meaning.

NOTE — see figure 1.

01.01.02

data

A reinterpretable representation of *information* in a formalized manner suitable for communication, interpretation, or processing.

NOTES

1 Data can be processed by humans or by *automatic* means.

2 See figure 1.

01.01.03

text

Data in the form of *characters*, *symbols*, words, phrases, paragraphs, sentences, tables, or other character arrangements, intended to convey a meaning, and whose interpretation is essentially based upon the reader's knowledge of some *natural language* or *artificial language*.

Example: A business letter printed on paper or *displayed* on a *screen*.

01.01.04

to access

To obtain the use of a resource.

01.01.05

information processing

The systematic performance of operations upon *information*, that includes *data processing* and may include operations such as *data communication* and *office automation*.

NOTES

1 The term information processing must not be used as a synonym for data processing.

2 See figure 1.

01.01.06

data processing

DP (abbreviation)

automatic data processing

ADP (abbreviation)

The systematic performance of *operations* upon *data*.

Example: Arithmetic or *logic operations* upon data, *merging* or *sorting* of data, *assembling* or *compiling* of *programs*, or operations on *text*, such as *editing*, *sorting*, *merging*, *storing*, *retrieving*, *displaying*, or *printing*.

NOTES

1 The term data processing must not be used as a synonym for *information processing*.

2 See figure 1.

01.01.07

hardware

All or part of the physical components of an *information processing system*.

Example: *Computers*, *peripheral devices*.

01.01.08

software

All or part of the *programs*, *procedures*, rules, and associated documentation of an *information processing system*.

NOTE — Software is an intellectual creation that is independent of the medium on which it is recorded.

01.01.09

firmware

An *ordered* set of *instructions* and associated *data** stored in a way that is functionally independent of *main storage*, usually in a *ROM*.

01.01.10

storage (device)

A *functional unit* into which *data* can be placed, in which they can be retained, and from which they can be retrieved.

01.01.11

memory

All of the addressable *storage* space in a *processing unit* and all other *internal storage* that is used to *execute** *instructions*.

01.01.12

automatic

Pertaining to a *process* or equipment that, under specified conditions, functions without human intervention.

01.01.13

to automate

To make a *process* or equipment *automatic*.

01.01.14

automation

The conversion of *processes* or equipment to *automatic* operation, or the results of the conversion.

01.01.15

to computerize

To *automate* by means of *computers*.

01.01.16

computerization

Automation by means of *computers*.

01.01.17

computer generation

A category in a historical classification of *computers* based mainly on the technology used in their manufacture.

Example: First generation based on relays or vacuum tubes, the second on transistors, the third on integrated circuits.

01.01.18

computer science

The branch of science and technology that is concerned with *information processing* by means of *computers*.

01.01.19

computer center

data processing center

A facility that includes personnel, *hardware*, and *software*, organized to provide *information processing* services.

01.01.20

data processing system

computer system

computing system

One or more *computers*, *peripheral equipment*, and *software* that perform *data processing*.

01.01.21

information processing system

One or more *data processing systems* and devices, such as office and communication equipment, that perform *information processing*.

01.01.22

information system

An *information processing system*, together with associated organizational resources such as human, technical, and financial resources, that

provides and distributes *information*.

01.01.23

resource

computer resource

Any element of a *data processing system* needed to perform required operations.

Example: *Storage devices*, *input-output units*, one or more *processing units*, *data*, *files*, and *programs*.

01.01.24

1. process

A predetermined course of events defined by its purpose or by its effect, achieved under given conditions.

01.01.25

2. process (in data processing)

The predetermined course of events that occur during the *execution* of all part of a *program*.

01.01.26

configuration

The manner in which the *hardware* and *software* of an *information processing system* are organized and interconnected.

01.01.27

block diagram

A diagram of a system in which the principal parts or functions are represented by blocks connected by lines that show the relationships of the blocks.

NOTE — Block diagrams are not restricted to physical devices.

01.01.28

synchronous

Pertaining to two or more *processes* that depend upon the occurrence of specific events such as common timing *signals*.

01.01.29

asynchronous

Pertaining to two or more *processes* that do not depend upon the occurrence of specific events such as common timing *signals*.

01.01.30

input (data)

Data entered into an *information processing system* or any of its parts for *storage* or *processing*.

01.01.31

input (process)

The *process* of entering *data* into an *information*

processing system or any of its parts for *storage* or processing.

01.01.32

input (adjective)

Pertaining to a device, *process*, or *input-output channel* involved in an *input process*, or to the associated *data* or states.

NOTE — The word “input” may be used in place of “input data”, “input signal”, or “input process” when such a usage is clear in a given context.

01.01.33

output (data)

Data that an *information processing system*, or any of its parts, transfers outside of that system or part.

01.01.34

output (process)

The *process* by which an *information processing system*, or any of its parts, transfers *data* outside of that system or part.

01.01.35

output (adjective)

Pertaining to a device, *process*, or *input-output channel* involved in an *output process*, or to the associated *data* or states.

NOTE — The word “output” may be used in place of “output data”, “output signal”, or “output process” when such a usage is clear in a given context.

01.01.36

to download

To *transfer* programs* or *data* from a *computer* to a connected computer with fewer *resources*, typically from a *mainframe* to a *personal computer*.

01.01.37

to upload

To *transfer* programs* or *data* from a connected *computer* to a computer with greater *resources*, typically from a *personal computer* to a *mainframe*.

01.01.38

interface

A shared boundary between two *functional units*, defined by various characteristics pertaining to the functions, physical interconnections, *signal* exchanges, and other characteristics, as appropriate.

01.01.39

data communication

Transfer of *data* among *functional units* according

to sets of rules governing *data transmission* and the coordination of the exchange.

01.01.40

functional unit

An entity of *hardware* or *software*, or both, capable of accomplishing a specified purpose.

01.01.41

online (adjective)

on-line/GB/(adjective)

Pertaining to the operation of a *functional unit* when under the control of a *computer*.

01.01.42

offline (adjective)

off-line/GB/(adjective)

Pertaining to the operation of a *functional unit* that takes place either independently of, or in parallel with, the main operation of a *computer*.

01.01.43

time sharing

time slicing (deprecated in this sense)

An operating technique of a *data processing system* that provides for the *interleaving* in time of two or more *processes* in one *processor*.

01.01.44

network

An arrangement of *nodes* and interconnecting *branches*.

01.01.45

computer network

A *network* of *data processing nodes* that are interconnected for the purpose of *data communication*.

01.01.46

local area network

LAN (abbreviation)

A *computer network* located on a user's premises within a limited geographical area.

NOTE — Communication within a local area network is not subject to external regulations; however, communication across the LAN boundary may be subject to some form of regulation.

01.01.47

interoperability

The capability to communicate, *execute* programs*, or *transfer data* among various *functional units* in a manner that requires the user to have little or no knowledge of the unique characteristics of those units.

01.01.48

turnkey system

A *data processing system* that is ready to use when installed, and supplied to the user in a ready-to-run condition possibly customized to a specific user or application.

NOTE — Some preparatory work on the user's *data* may be required.

01.01.49

virtual

Pertaining to a *functional unit* that appears to be real, but whose functions are accomplished by other means.

01.01.50

virtual machine

VM (abbreviation)

A *virtual* data processing system* that appears to be at the exclusive disposal of a particular user, but whose functions are accomplished by sharing the *resources* of a real data processing system.

01.01.51

data medium

A material in or on which *data* can be recorded and from which data can be retrieved.

01.01.52

disk

A *data medium* consisting of a flat circular plate that is rotated in order to *read* or *write* data* on one or both sides.

01.01.53

to log on

to log in

To initiate a *session*.

01.01.54

to log off

to log out

To end a *session*.

01.02 Information representation

01.02.01

signal

A variation of a physical quantity used to represent *data*.

01.02.02

discrete

Pertaining to *data* that consist of distinct elements, such as *characters*, or to physical quantities having a finite number of distinctly recognizable values.

as well as to *processes* and *functional units* that use those data.

01.02.03

numeric

numerical

Pertaining to *data* that consist of *numerals* as well as to *processes* and *functional units* that use those data.

01.02.04

digital

Pertaining to *data* that consist of *digits* as well as to *processes* and *functional units* that use those data.

01.02.05

alphanumeric

Pertaining to *data* that consist of *letters*, *digits*, and usually other *characters*, such as punctuation marks, as well as to *processes* and *functional units* that use those data.

01.02.06

analog

Pertaining to continuously variable physical quantities or to *data* presented in a continuous form, as well as to *processes* and *functional units* that use those data.

01.02.07

symbol

A graphic representation of a concept that has meaning in a specific context.

01.02.08

bit

binary digit

Either of the *digits* 0 or 1 when used in the *binary numeration system*.

01.02.09

byte

A *string* that consists of a number of *bits*, treated as a unit, and usually representing a *character* or a part of a character.

NOTES

1 The number of bits in a byte is fixed for a given *data processing system*.

2 The number of bits in a byte is usually 8.

01.02.10

octet

8-bit byte

A *byte* that consists of eight bits.

01.02.11 character

A member of a set of elements that is used for the representation, organization, or control of *data*.

NOTE — Characters may be categorized as follows :

Types	Examples
[digit	[letter
[graphic character	[ideogram
[[special character
character [
[[transmission control character
[control character	[format effector
	[code extension character
	[device control character

01.02.12 digit numeric character

A *character* that represents a nonnegative *integer*.

Example: One of the characters 0, 1, ..., F in the *hexadecimal numeration system*.

01.03 Hardware

01.03.01 processing unit central processing unit CPU (abbreviation)

A *functional unit* that consists of one or more *processors* and their *internal storages*.

NOTE — In English, the term *processor* is often used synonymously with *processing unit*.

01.03.02 mainframe

A *computer*, usually in a *computer center*, with extensive capabilities and *resources* to which other computers may be connected so that they can share facilities.

01.03.03 computer

A *functional unit* that can perform substantial computations, including numerous *arithmetic operations* and *logic operations* without human intervention.

NOTES

1 A computer may consist of a stand-alone unit or several interconnected units.

2 In English, in *information processing*, the term *computer* usually refers to a *digital computer*.

01.03.04 digital computer

A *computer* that is controlled by internally *stored* programs* and that is capable of using common *storage* for all or part of a *program* and also for all or part of the *data necessary* for the *execution* of the programs; executing user-written or user-designated programs; performing user-designated manipulation of digitally represented *discrete data*, including *arithmetic operations* and *logic operations*; and executing programs that modify themselves during their execution.

NOTE — In English, in *information processing*, the term *computer* is often used to refer to a digital computer.

01.03.05 analog computer

A *computer* whose *operations* are analogous to the behaviour of another system and that accepts, processes, and produces *analog data*.

01.03.06 hybrid computer

A *computer* that integrates *analog computer* components and *digital computer* components by interconnection of *digital-to-analog converters* and *analog-to-digital converters*.

NOTE — A hybrid computer may use or produce *analog data* and *discrete data*.

01.03.07 peripheral equipment

Any device that is controlled by and can communicate with a particular *computer*.

Example: *Input-output units, external storage*.

01.03.08 processor

In a *computer*, a *functional unit* that *interprets* and *executes instructions*.

NOTE — A processor consists of at least an *instruction control unit* and an *arithmetic and logic unit*.

01.03.09 microprocessor

A *processor* whose elements have been miniaturized into one or a few *integrated circuits*.

01.03.10 integrated circuit IC (abbreviation) microchip chip

A small piece of semiconductive material that

contains interconnected electronic elements.

01.03.11

terminal

A *functional unit* in a system or communication *network* at which *data* may be entered or retrieved.

01.03.12

user terminal

A *terminal* that enables a user to communicate with a *computer*.

01.03.13

workstation

A *functional unit* that usually has special purpose computing capabilities and includes user-oriented *input units* and *output units*.

Example: A *programmable terminal*, a *nonprogrammable terminal* or a stand-alone *microcomputer*.

01.03.14

programmable terminal intelligent terminal

A *user terminal* that has built-in *data processing* capability.

01.03.15

nonprogrammable terminal dumb terminal

A *user terminal* that has no independent *data processing* capability.

01.03.16

video display terminal VDT (abbreviation)

visual display terminal visual display unit VDU (abbreviation)

A *user terminal* with a *display* screen*, and usually equipped with an *input unit* such as a keyboard.

01.03.17

calculator

A device that is suitable for performing *arithmetic operations*, but that requires human intervention to alter its *stored* program*, if any, and to initiate each operation or sequence of operations.

NOTE — A calculator performs some of the functions of a *computer*, but usually operates only with frequent human intervention.

01.03.18

computer architecture

The logical structure and functional characteristics of a *computer*, including the interrelationships

among its *hardware* and *software* components.

01.03.19

microcomputer

A *digital computer* whose *processing unit* consists of one or more *microprocessors*, and includes storage and *input-output* facilities.

01.03.20

personal computer PC (abbreviation)

A *microcomputer* primarily intended for stand-alone use by an individual.

01.03.21

portable computer

A *microcomputer* that can be hand-carried for use in more than one location.

01.03.22

laptop computer

A battery powered *portable computer* small and light enough to be operated on a person's lap.

01.03.23

minicomputer

A *digital computer* that is functionally intermediate between a *microcomputer* and a *mainframe*.

01.03.24

supercomputer

Any of the class of *computers* that have the highest processing speeds available at a given time for solving scientific and engineering problems.

01.03.25

MIPS (abbreviation)

millions of instructions per second

A unit of measure of processing performance equal to one million *instructions* per second.

01.03.26

MFLOPS (abbreviation)

megaflops

A unit of measure of processing performance equal to one million floating-point operations per second.

NOTE — This unit of measure is used in scientific computer applications.

01.03.27

connectivity

The capability of a system or device to be attached to other systems or devices without modification.

01.04 Software

01.04.01

**application software
application program**

Software or a program that is specific to the solution of an application problem.

Example: A *spreadsheet* program.

01.04.02

system software

Application-independent *software* that supports the running of *application software*.

Example: An *operating system*.

01.04.03

**support software
support program**

Software or a program that aids in the development, maintenance, or use of other software or provides general application-independent capability.

Example: A *compiler*, a *database management system*.

01.04.04

system documentation

The collection of documents that describe the *requirements*, capabilities, limitations, design, operation, and *maintenance* of an *information processing system*.

01.04.05

software package

A complete and documented set of *programs* supplied to several users for a generic application or function.

NOTE — Some software packages are alterable for a specific application.

01.04.06

portability (of a program)

The capability of a *program* to be *executed* on various types of *data processing systems* without converting the program to a different language and with little or no modification.

01.04.07

software engineering

The systematic application of scientific and technological knowledge, methods, and experience to the design, implementation, testing, and documentation of *software* to optimize its production, support, and quality.

01.04.08

operating system

OS (abbreviation)

Software that controls the execution of programs and that may provide services such as resource allocation, scheduling, input-output control, and data management.

NOTE — Although operating systems are predominantly software, partial *hardware* implementations are possible.

01.05 Programming

01.05.01

**program
computer program**

A syntactic unit that conforms to the rules of a particular *programming language* and that is composed of *declarations* and *statements* or *instructions* needed to solve a certain function, task, or problem.

01.05.02

**to program
to code** (deprecated in this sense)
To design, write, modify, and test *programs*.

01.05.03

programming
The designing, writing, modifying, and testing of *programs*.

01.05.04

**routine
program** (deprecated in this sense)
A *program*, or part of a program, that may have some general or frequent use.

01.05.05

algorithm
A finite *ordered* set of well-defined rules for the solution of a problem.

01.05.06

**flowchart
flow diagram**
A graphical representation of a *process* or the step-by-step solution of a problem, using suitably annotated geometric figures connected by flowlines for the purpose of designing or documenting a process or *program*.

01.05.07

to debug
To detect, locate and eliminate *errors* in *programs*.

01.05.08

natural language
A language whose rules are based on current usage without being specifically prescribed.

01.05.09

artificial language

A language whose rules are explicitly established prior to its use.

01.05.10

programming language

An *artificial language* for expressing *programs*.

01.06 Applications and end user

01.06.01

simulation

The use of a *data processing system* to represent selected behavioral characteristics of a physical or abstract system.

Example: The representation of air streams around airfoils at various velocities, temperatures, and air pressures.

01.06.02

emulation

The use of a *data processing system* to imitate another data processing system, so that the imitating system accepts the same *data*, *executes* the same *programs*, and achieves the same results as the imitated system.

NOTE — Emulation is usually achieved by means of *hardware* or *firmware*.

01.06.03

information retrieval

IR (abbreviation)

Actions, methods and procedures for obtaining *information* on a given subject from *stored* data*.

01.06.04

hard copy

A permanent copy of a *display image* generated on an *output unit* such as a *printer* or a *plotter*, and which can be carried away.

01.06.05

soft copy

Nonpermanent output of *information* in audio or visual format.

Example: A cathode ray tube display.

01.06.06

menu

A list of options *displayed* by a *data processing system*, from which the user can select an action to be initiated.

01.06.07

prompt

A visual or audible message sent by a *program* to request the user's response.

01.06.08

computer graphics

Methods and techniques for construction, manipulation, storage, and *display of images* by means of a *computer*.

01.06.09

office automation

OA (abbreviation)

The integration of office activities by means of an *information processing system*.

NOTE — This term includes in particular the processing and communication of *text*, *images*, and *voice*.

01.06.10

text processing

word processing

Data processing operations on *text*, such as entering, editing, sorting, merging, retrieving, storing, displaying, or printing.

01.06.11

compatibility

The capability of a *functional unit* to meet the requirements of a specified *interface* without appreciable modification.

01.06.12

artificial intelligence

AI (abbreviation)

The branch of *computer science* devoted to developing *data processing systems* that perform functions normally associated with human intelligence, such as reasoning, learning, and self-improvement.

01.06.13

robotics

The techniques involved in designing, building and using *robots*.

01.06.14

computer-aided

computer-assisted

CA (abbreviation)

Pertaining to a technique or *process* in which part of the work is done by a *computer*.

01.06.15

electronic publishing

computer-aided publishing

computer-assisted publishing

The production of typeset-quality *documents* including *text*, *graphics*, and pictures with the

assistance of a *computer*.

NOTE — In some instances, electronic publishing is accomplished through the use of *application programs* and in other instances it is achieved through the use of a dedicated system.

01.06.16

desktop publishing

Electronic publishing using a microcomputer.

01.06.17

electronic mail

E mail

Correspondence in the form of *messages* transmitted between *user terminals* over a *computer network*.

01.06.18

knowledge base

K-base (abbreviation)

A *database* that contains *inference* rules and *information* about human experience and expertise in a domain.

NOTE — In self-improving systems, the knowledge base additionally contains information resulting from the solution of perviously encountered problems.

01.06.19

expert system

ES (abbreviation)

A *computer system* that provides for expertly solving problems in a given field or application area by drawing *inferences* from a *knowledge base* developed from human expertise.

NOTES

1 The term is sometimes used synonymously with , though it is usually taken to emphasize expert knowledge.

2 Some expert systems are able to improve their *knowledge base* and develop new inference rules based on their experience with previous problems.

01.06.20

image processing

picture processing

The use of a *data processing system* to create, scan, analyze, enhance, interpret, or *display* images.

01.06.21

spreadsheet program

A *program* that *displays* a table of cells arranged in rows and columns, in which the change of the contents of one cell can cause recomputation of one or more cells based on userdefined relations among the cells.

01.06.22

user-friendly

Pertaining to ease and convenience of use by humans.

01.07 Computer security

01.07.01

data protection

The implementation of appropriate administrative, technical or physical means to guard against unauthorized intentional or accidental disclosure, modification, or destruction of *data*.

01.07.02

computer crime

A crime committed through the use, modification, or destruction of *hardware*, *software*, or *data*.

01.07.03

1. hacker

A technically sophisticated *computer* enthusiast.

01.07.04

2. hacker

A technically sophisticated *computer* enthusiast who uses his or her knowledge and means to gain unauthorized access to protected *resources*.

01.07.05

software piracy

Illegal use or copying of *software* products.

01.08 Data Management

01.08.01

information management

In an *information processing system*, the functions of controlling the acquisition, analysis, retention, retrieval, and distribution of *information*.

01.08.02

data management

In a *data processing system*, the functions that provide *access* to *data*, performs or monitors the *storage* of data, and controls *input-output* operations.

01.08.03

access method

A technique to obtain the use of *data*, the use of *storage* in order to *read* or *write* data, or the use of an *input-output channel* to transfer data.

Example: Random access method, indexed access method, sequential access method.

01.08.04
data bank

A set of *data* related to a given subject and organized in such a way that it can be consulted by subscribers.

01.08.05
database

A collection of *data* organized according to a

conceptual structure describing the characteristics of these data and the relationships among their corresponding *entities*, supporting one or more application areas.

01.08.06
file

a named set of *records** *stored* or processed as a unit.

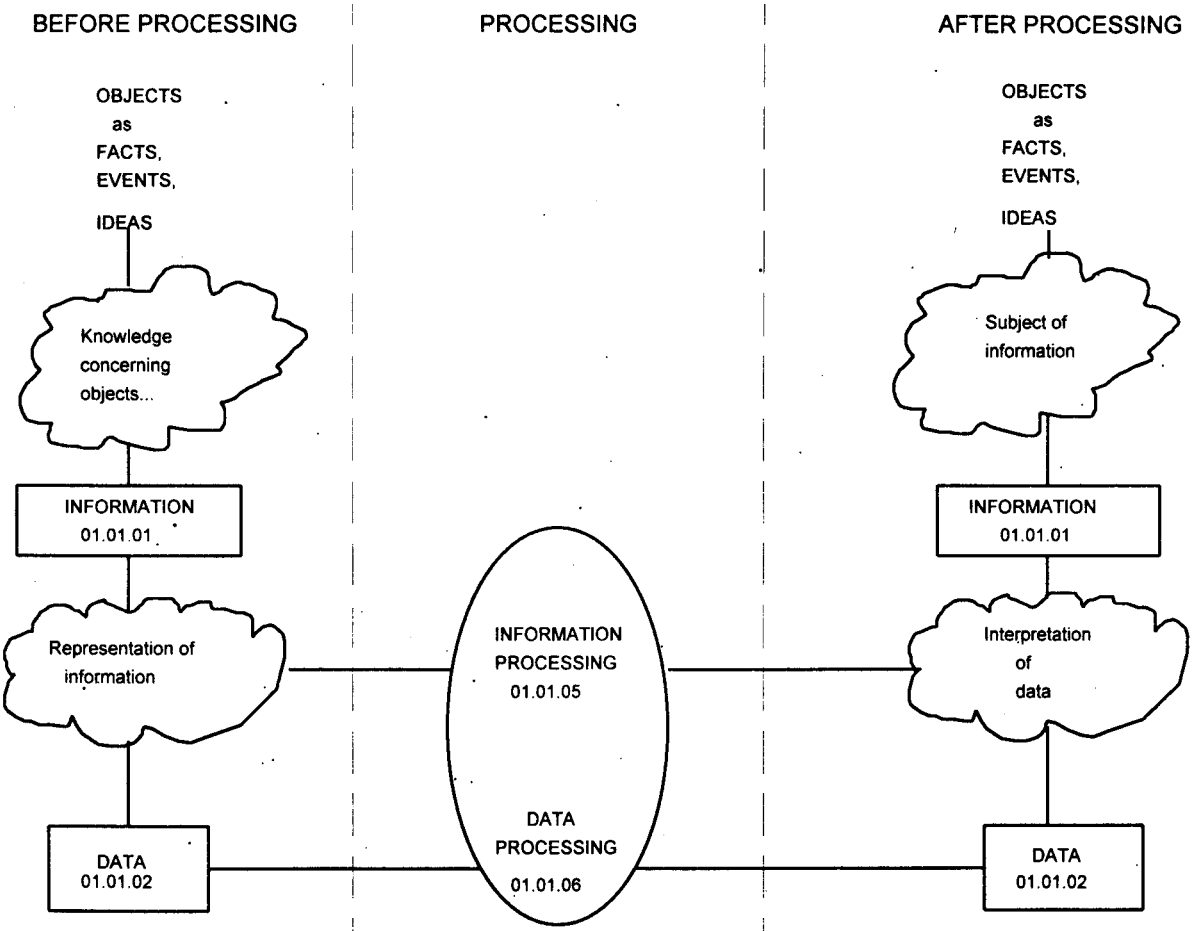


Figure 1 - Interrelationships between information and data

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computerize
computing
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copy

CPU
crime

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database
debug
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device
diagram

digit**digital**

discrete
disk
display

documentation
download
DP
dumb

E

E**electronic**

emulation
engineering
equipment
ES
expert

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virtual		
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VM		
word		
workstation		

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