INTERNATIONAL STANDARD

ISO/IEC 646

Third edition
1991-12-15

Information technology — ISO 7-bit coded character set for information interchange

Technologies de l'information — Jeu ISO de caractères codés à 7 éléments pour l'échange d'informations

Reference number
ISO/IEC 646:1991(E)

Documents
Document Sharing Hub

Full document details: ISO_IEC 646_1991

Contents

	Page
1 Scope	1
2 Conformance and implementation	1
2.1 Conformance	1
2.1.1 Conformance of information interchange	1
2.1.2 Conformance of devices	1
2.2 Implementation	2
3 Normative references	2
4 Definitions	2
4.1 active position	2
4.2 bit combination	2
4.3 character	2
4.4 character position	2
4.5 coded character set	2
4.6 coded-character-data-element (CC-data-element)	3
4.7 code extension	3
4.8 code table	3
4.9 control character	3
4.10 control function	3
4.11 device	3
4.12 escape sequence	3
4.13 Final Byte	3
4.14 graphic character	3
4.15 graphic symbol	3
4.16 repertoire	3
4.17 user	3
5 Notation, code table and names	3
5.1 Notation	3
5.2 Code table	4
5.3 Names	4
6 Specification of the coded character set	4
6.1 Structure	4
6.2 Control characters	5

© ISO/IEC 1991

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

ISO/IEC Copyright Office • Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Documents
Document Sharing Hub

Full document details: ISO_IEC 646_1991

6.3 Character SPACE 5
6.4 Graphic characters 5
6.4.1 Unique graphic character allocations 5
6.4.2 Alternative graphic character allocations 7
6.4.3 National or application-oriented graphic character allocations 8
6.5 Character DELETE 8

7 Composite graphic characters 8

8 Versions of the coded character set 8
8.1 General 8
8.2 International Reference Version (IRV) 9
8.3 National versions 9
8.4 Application-oriented versions 10

9 Identification of versions 10
9.1 Purpose and context of identification 10
9.2 Identification of a version 10

10 Explanation of Code tables No. 4 and No. 5 10

Annexes

A Specification of the C0 set 13

B Guidelines for standards derived from ISO/IEC 646 14

C Differences between the second edition (1983) and the present (third) edition of this International Standard 15

Documents
Document Sharing Hub

Full document details: ISO_IEC 646_1991

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 646 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

This third edition cancels and replaces the second edition (ISO 646 : 1983) which has been technically revised.

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

Documents
Document Sharing Hub

Full document details: ISO_IEC 646_1991

Information technology — ISO 7-bit coded character set for information interchange

1 Scope

This International Standard specifies a set of 128 characters, (control characters and graphic characters such as letters, digits and symbols) with their coded representation. Most of these characters are mandatory and unchangeable, but provision is made for some flexibility to accommodate national and other requirements.

This International Standard specifies a 7-bit coded character set with a number of options. It also provides guidance on how to exercise the options to define specific national versions and application-oriented versions. Furthermore it specifies the International Reference Version (IRV) in which such options have been exercised.

This character set is primarily intended for the interchange of information among data processing systems and associated equipment, and within data communication systems. The need for graphic characters and control functions in data processing has also been taken into account in determining this character set.

This character set is applicable to alphabets of the Latin script.

This character set allows the use of control characters for code extension where its character set is insufficient for particular applications. Procedures for the use of these control characters are specified in ISO 2022.

The definitions of the control characters mentioned in this International Standard are specified in ISO 6429. It is assumed that data associated with them are to be processed serially in a forward direction. When they are included in strings of data which are processed other than serially in a forward direction or when they are included in data formatted for fixed-record processing they may have undesirable effects or may require additional special treatment to ensure that they result in their desired function.

2 Conformance and implementation

2.1 Conformance

2.1.1 Conformance of information interchange

A coded-character-data-element (CC-data-element) within coded information for interchange is in conformance with this International Standard if all the coded representations of characters within that CC-data-element conform to the requirements of 8.1 of this International Standard.

A claim of conformance shall identify the version adopted in accordance with 8.2 to 8.4.

2.1.2 Conformance of devices

A device is in conformance with this International Standard if it conforms to the requirements of 2.1.2.1, and either or both of 2.1.2.2 and 2.1.2.3 below. A claim of conformance shall identify the version adopted.

Documents
Document Sharing Hub
Full document details: ISO_IEC 646_1991

2.1.2.1 Device description

A device that conforms to this International Standard shall be the subject of a description that identifies the means by which the user may supply characters to the device, or may recognize them when they are made available to him, as specified respectively in 2.1.2.2 and 2.1.2.3.

2.1.2.2 Originating devices

An originating device shall allow its user to supply any sequence of characters from the version adopted, and shall be capable of transmitting their coded representations within a CC-data-element.

2.1.2.3 Receiving devices

A receiving device shall be capable of receiving and interpreting any coded representations of characters that are within a CC-data-element, and that conform to 2.1.1, and shall make the corresponding characters available to its user in such a way that the user can identify them from among those of the version adopted, and can distinguish them from each other.

2.2 Implementation

The use of this character set requires definitions of its implementation in various media. For example, these could include punched tapes, punched cards, magnetic and optical interchangeable media and transmission channels, thus permitting interchange of data to take place either indirectly by means of an intermediate recording on a physical medium, or by local connection of various units (such as input and output devices and computers) or by means of data transmission equipment.

The implementation of this coded character set in physical media and for transmission, taking into account the need for error checking, is the subject of other International Standards.

3 Normative references

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

ISO 2022 : 1986, *Information processing - ISO 7-bit and 8-bit coded character sets - Code extension techniques.*

ISO/IEC 6429 : [1], *Information processing - Control functions for 7-bit and 8-bit coded character sets.*

4 Definitions

For the purpose of this International Standard the following definitions apply.

4.1 active position : The character position which is to image the graphic symbol representing the next graphic character or relative to which the next control function is to be executed.

NOTE 1 - In general, the active position is indicated in a display by a cursor.

4.2 bit combination : An ordered set of bits used for the representation of characters.

4.3 character : A member of a set of elements used for the organization, control or representation of data.

4.4 character position : The portion of a display that is imaging or is capable of imaging a graphic symbol.

4.5 coded character set; code : A set of unambiguous rules that establishes a character set and the one-to-one relationship between the characters of the set and their bit combinations.

1) To be published.

AVA Documents
Document Sharing Hub

Full document details: ISO_IEC 646_1991