



Documentation — Transliteration of Arabic characters into Latin characters

Documentation — Translittération des caractères arabes en caractères latins

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 233 was prepared by Technical Committee ISO/TC 46, *Documentation*.

It cancels and replaces ISO Recommendation R 233-1961, of which it constitutes a technical revision.

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0 Introduction

0.1 Standards on conversion of systems of writing

This International Standard is one of a series of International Standards dealing with the conversion of systems of writing. The aim of this International Standard and others in the series is to provide a means for international communication of written messages in a form which permits the automatic transmission and reconstitution of these by men or machines. The system of conversion, in this case, must be univocal and entirely reversible.

This means that abstraction should be composed of all phonetic and esthetic considerations, as well as certain national customs; all these considerations are, however, ignored by the machine performing the function.

The adoption of this International Standard for international communication leaves every country free to adopt for its own use a national standard which may be different, on condition that it be compatible with this International Standard. The system proposed herein should make this possible; and be acceptable for international use if the graphisms it creates are such that they may be converted automatically into the graphisms used in any strict national system.

This International Standard may be used by anyone who has a clear understanding of the system and is certain that it can be applied without ambiguity. The result obtained will not give a correct pronunciation of the original text in a person's own language; but it will serve as a means of finding automatically the original graphism and thus allow any one who has a knowledge of the original language to pronounce it correctly. Similarly one can only pronounce correctly a text written in for example, English or Polish, if one has a knowledge of English or Polish.

The adoption of national standards compatible with this International Standard will permit the representation, in an international publication, of the morphemes of each language according to the customs of the country where it is spoken. It will be possible to simplify this representation in order to take into account the number of the character sets available on different kinds of machines.

0.2 General principles of conversion of writing systems

0.2.1 Definitions and methods

0.2.1.1 The words in a language, which are written according to a given script (the converted system), sometimes have to be rendered according to a different system (the conversion system), normally used for a different language. This operation is often followed for historical or geographical texts, cartographical documents and in particular for bibliographical work in every case where it is necessary to write words supplied in various alphabets in a manner that allows intercalation with other words in a single alphabet so as to enable a uniform alphabetization to be made in bibliographies, catalogues, indices, toponymic lists, etc.

It is indispensable in that it permits the univocal transmission of a written message between two countries using different writing systems or exchanging a message the writing of which is different from their own.

It thereby permits transmission by manual, mechanical, as well as electronic means.

The two basic methods of conversion of a system of writing are transliteration and transcription.

0.2.1.2 **Transliteration** is the operation which consists of representing the characters¹⁾ of an entirely alphabetical system of writing by the characters of the conversion alphabet.

In principle, this conversion should be made character by character: each character of the alphabet converted is rendered by one character, and one only, of the conversion alphabet, this being the easiest way to ensure the complete and unambiguous reversibility of the conversion alphabet in the converted alphabet.

When the number of characters used in the conversion system is smaller than the number of characters of the converted system, it is necessary to use digraph or diacritical marks. In this case one must avoid as far as possible arbitrary choice and

1) A **character** is an element of a system of writing, whether or not alphabetical, that represents a phoneme, a syllable, the word or even prosodical characteristics of the language by using graphical symbols (letters, diacritical marks, syllabic signs, punctuation marks, prosodical accents, etc.) or a combination of these signs (a letter having an accent or a diacritical mark, for example â, è, ö, is therefore a character in the same way as a basic letter).

the use of purely conventional marks, and try to maintain a certain phonetic logic in order to give the system a wide acceptance.

However, it must be accepted that the graphism obtained may not always be correctly pronounced according to the phonetic habits of the language (or of all the languages) which usually use(s) the conversion alphabet. On the other hand this graphism must be such that the reader who has a knowledge of the converted language may mentally restore unequivocally the original graphism and thus pronounce it correctly.

0.2.1.3 Retransliteration is the operation which consists of converting the characters of an alphabet of conversion to those of the alphabet converted. This operation is the exact opposite of transliteration; it is carried out by applying the rules of a system of transliteration in reverse order so as to reconstitute the transliterated word to its original form.

0.2.1.4 Transcription is the operation which consists of representing the characters of a language, whatever the original system of writing, by the phonetic system of letters or signs of the conversion language.

A transcription system is of necessity based on the orthographical conventions of a conversion language and its alphabet. The users of a transcription system must therefore have a knowledge of the conversion language to be able to pronounce the characters correctly. Transcription is not strictly reversible.

Transcription may be used for the conversion of all writing systems. It is the only method that can be used for systems that are not entirely alphabetical and for all ideophonographical systems of writing (Chinese, Japanese, etc.).

0.2.1.5 To carry out **romanization** (the conversion of non-Latin writing systems to the Latin alphabet) it is possible to use either transliteration or transcription or a combination of these two methods, according to the nature of the system converted.

0.2.2 A conversion system, proposed for international use may call for compromise and the sacrifice of certain national customs. It is therefore necessary for each community of users to accept concessions, fully abstaining in every case from imposing as a matter of course solutions that are actually justified only by national practice (for example as regards pronunciation, orthography, etc.).

When a country uses two systems univocally convertible one into the other to write its own language, the system of transliteration thus implemented must be taken *a priori* as a basis for the international standardized system, as far as it is compatible with the other principles exposed hereafter.

0.2.3 Where necessary, the conversion systems should specify an equivalent for each character, not only the letters but also the punctuation marks, numbers, etc. They should similarly take into account the arrangement of the sequence of

characters that make up the text, for example the direction of the script, and specify the way of distinguishing words and of using separation signs and capital letters, following as closely as possible the customs of the language(s) which use the converted writing system.

0.3 Principles of conversion for alphabetical writing systems

0.3.1. The conversion may be made at various levels.

The first level is that of completely reversible **stringent conversion** which is necessary to attain in full the aims given in clause 1. This conversion applies all principles of conversion without exception. It does not permit variants. The conventional systems of stringent conversion should be applied as such without any change to meet national or regional customs as regards pronunciation or orthography. They are the only ones permitting the univocal international transmission of messages by mechanical or electronic means.

The second level is that of **simplified conversion**. This simplification may be made necessary, for example, by the use of machines that do not accept all the alphabet characters required for stringent conversion. This method of conversion may allow national or regional variants, which may not permit complete reversibility. The simplified conversion may be the subject of international agreements.

The third level is that of **popular conversion** which, for example, should enable the same foreign names to be written in a uniform manner in the newspapers of a given country. It is obliged to take into account, for example, phonetic practice, and therefore can only be national.

To permit an internationally unequivocal communication, International Standards on transliteration must apply the principles of stringent conversion. They, then, can be used as a basis for the establishment of rules for simplified conversion and for preparation of national standards.

0.3.2 In cases where the same characters are used in different languages, these characters should be transliterated in the same way, irrespective of the language they belong to.

0.3.3 If the converted alphabet gives a different form to the same character according to its place in the word (as is the case for example in the Arabic, Hebrew and Greek alphabets), the conversion alphabet will use only one character of constant form.

1 Scope and field of application

This International Standard establishes a system for the transliteration of Arabic characters into Latin characters following the principles of stringent conversion in order to permit international information exchange.

2 Transliteration table

2.1 Preliminary notice

The proposed transliteration system is a stringent one specifying an equivalent for each character, pronounced or not. It ensures a complete reversibility of Latin characters in the Arabic alphabet.

As Arabic is usually written in an incomplete way (i.e. without vowels), the following three methods are to be considered :

- a) the Arabic text supplies vowels: it will be entirely transliterated;
- b) the Arabic text does not supply vowels: only those characters appearing in the text are transliterated;

c) a modification may nevertheless be necessary: in some cases the words and especially the names of authors (in library catalogues, bibliographic reference lists etc.) shall be reproduced. In such cases, the vowels and diphthongs supplied in table 2 (characters 30 to 32) shall be reproduced, except those which have only a flexional function in nominal forms.

It should be remembered that, as a general principle of transliteration, the phonetic value of encountered characters is not principally taken into account.

The concrete application of the modification mentioned in c) will be subsequently detailed on the basis of the tables in this International Standard, which are valid for cases where only written characters are considered and therefore where reversibility may be complete.

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2.2 Tables

(The notes referred to in the tables are given in 2.3.)

Table 1 — Consonants

No.	Arabic character	Transliteration into Latin character	No.	Arabic character	Transliteration into Latin character
1	ا	ʾ (See Nos 30 and 35)	16	ض	ḍ
1a	آ	ʾâ (See note 2)	17	ط	ṭ
2	ع	ʾ or ʾ (See notes 1a and 1b)	18	ظ	ẓ
3	ب	b	19	ع	ʿ
4	ت	t	20	غ	ġ
5	ث	ṭ	21	ف (ب)*	f
6	ج	ġ	22	ق (ف)*	q
7	ح	ḥ	23	ك	k
8	خ	ḥ	24	ل	l
9	د	d	25	م	m
10	ذ	ḍ	26	ن	n
11	ر	r	27	ه	h
12	ز	z	27a	ة	ṭ (See note 4)
13	س	s	28	و	w (See also No. 31)
14	ش	š	29	ي	y (See also No. 32)
15	ص	ṣ	29a	ى	ÿ

* The letters in brackets are the Maghrebi forms.

Table 2 — Vowels and diphthongs

No.	Character		Character		Character		Character	
	Arabic	Latin	Arabic	Latin	Arabic	Latin	Arabic	Latin
30	اَ	a	اِ	a'	اُ	á', á		
30a			اَ	ā				
30b			اِ	a'î	اُ	á'î		
			اِ	ā'î				
31	و	u	و	uw	و	ú	اَوْ	aw ^o
32	ي	i	ي	iy	ي	í	اَيْ	ay ^o

Table 3 — Other conventional signs

No.	Arabic designation	Arabic character	Transliteration	Examples
33	sukuwn* (sukūn)	◌ْ	◌ْ	أَلْ al ^o
34	ṣadāt (ṣadda ^h)	◌ّ	◌ّ	شّ ṣ
35	ham ^o zāt al ^o waṣ ^o l "alif al ^o waṣ ^o l (hamzat al-waṣl) (alif waṣla ^h)	◌َ	◌َ	فِي نُورِ الْقَمَرِ fiy nuwri l ^o qamari (fiy nuwr al ^o qamar)

* The ancient transliteration is in brackets.

Table 4 — Punctuation

Arabic character	Designation	Latin character
،	comma	,
؛	semi-colon	;
؟	interrogation mark	?

2.3 Notes to tables 1 to 4

Note	Arabic character	Position	Transliteration	Examples
1a	ham ^o zaṭ (hamza ^h)	With bearer أَءِؤْأْ	 ا	بَيْرُوتُ biy ^{io} ru (biy ^{io} r) سَأَلَ sa'ala رُؤُسُ ruw'usú (ruw'us)
1b		Without bearer	 ا	سَأَلَ sa'ala
2	maḍaṭ (madda ^h)	ا	'a	أَدَابُ 'āda'bú ('āda'b) قُرْآنُ qur ^o ānū (qur ^o ān)
3	ال	Definite article always joined to next word without hyphen.	(See No. 35)	السَّمْسُ 'alṣam ^o su ('alṣam ^o s) بِالْأَيْلِ bi'lāy ^o li (bi'lāy ^o l)
4	Ta', mar ^o buwtāt (Tā' marbūṭa ^h)		Rendered by t̄ in all positions.	مَدِينَةُ madiynatū (madiynāt)

Annex

Diacritical signs used

(This annex does not form part of this standard.)

The diacritical signs used in this International Standard are taken from the code table of ISO 5426.

The following table indicates their position in the code table.

Table

No.	Position in the code table	No.	Position in the code table
1	3/1	19	3/0
1a	3/1 and 4/3	20	4/7
2	2/8 or 5/10	27a	4/8
5	5/8	29a	4/1
6	4/15	30	4/2 and 3/1
7	5/6	30a	4/5
8	5/8	30b	4/1, 4/2 and 4/5
10	5/8	31	4/2, 4/10
14	4/15	32	4/2, 4/10
15	5/6	33	4/10
16	5/6	34	4/5
17	5/6	35	3/1 and 4/5
18	5/6		