

# **The New C Standard** (Excerpted material)

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**An Economic and Cultural Commentary**

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### 3.7

character  
<abstract>

#### character

<abstract> member of a set of elements used for the organization, control, or representation of data

#### Commentary

This is the abstract definition of the term *character* (it is a very minor rewording of the definition given in ISO/IEC 2382-1:1993). The C-specific sense of the term *character* is given in the following (standard) sentence.

Characters are not created as stand-alone entities. Each is part of a larger whole, a character set. There are a large number of character sets (see Fischer<sup>[1]</sup> for the history until 1968), one for almost every human language in the world. A character set provides another means of interpreting sequences of bits.

glyph

Characters are the smallest components of written languages that can have semantic value. The visible appearance of a character when it is displayed is called a *glyph* (there are often many different possible glyphs that can be used to represent the same character). A single character may be representable in a single byte (usually an alphabetic character) or may require several bytes (a multibyte character, often representing what English speakers would call a symbol). A repertoire (set) of glyphs is called a font (see Figure ??).

character  
single-byte  
multibyte  
character  
basic source  
character set

The C Standard defines the basic character set that it requires an implementation to support.

#### C++

The C++ Standard does not define the term *character*; however, it does reference ISO/IEC 2382. Part 1, Clause 01.02.11, defines *character* using very similar wording to that given in the C Standard. The following might also be considered applicable.

17.1.2 *in clauses 21, 22, and 27, means any object which, when treated sequentially, can represent text. The term does not only mean **char** and **wchar\_t** objects, but any value that can be represented by a type that provides the definitions provided in these clauses.*

# References

2002.

1. E. Fischer. The evolution of character codes, 1874-1968. Nov.