

1 / *Technical Standard*

2 **Base Definitions, Issue 6**

3 *The Open Group*
4 *The Institute of Electrical and Electronics Engineers, Inc.*

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697 This document is being jointly developed by the IEEE and The Open Group and is intended to
698 become both IEEE Std. 1003.1-200x and an Open Group Technical Standard, making up the base
699 volumes of the Single UNIX Specification, Version 3.

700 **IEEE Std. 1003.1-200x**

701 IEEE Std. 1003.1-200x defines the Portable Operating System Interface (POSIX) requirements and
702 consists of the following volumes:

- 703 • Base Definitions (this volume)
- 704 • Shell and Utilities
- 705 • System Interfaces

706 **This volume of IEEE Std. 1003.1-200x**

707 The Base Definitions volume of IEEE Std. 1003.1-200x provides common definitions for
708 IEEE Std. 1003.1-200x, therefore readers should be familiar with it before using the other
709 volumes.

710 This volume of IEEE Std. 1003.1-200x is structured as follows:

- 711 • Chapter 1 is an introduction.
- 712 • Chapter 2 defines the conformance requirements for IEEE Std. 1003.1-200x.
- 713 • Chapter 3 defines general terms used in IEEE Std. 1003.1-200x.
- 714 • Chapter 4 describes general concepts used in IEEE Std. 1003.1-200x.
- 715 • Chapter 5 describes the notation used to specify file input and output formats in this volume
716 of IEEE Std. 1003.1-200x and the Shell and Utilities volume of IEEE Std. 1003.1-200x.
- 717 • Chapter 6 describes the Portable Character Set and the process of character set definition.
- 718 • Chapter 7 describes the syntax for defining internationalization locales as well as the POSIX
719 locale provided on all systems.
- 720 • Chapter 8 describes the use of environment variables for internationalization and other
721 purposes.
- 722 • Chapter 9 describes the syntax of pattern matching using regular expressions employed by
723 many utilities and matched by the *regcomp()* and *regexec()* functions.
- 724 • Chapter 10 describes files and devices found on all systems.
- 725 • Chapter 11 describes the asynchronous terminal interface for many of the functions in the
726 System Interfaces volume of IEEE Std. 1003.1-200x and the *stty* utility in the Shell and
727 Utilities volume of IEEE Std. 1003.1-200x.
- 728 • Chapter 12 describes the policies for command line argument construction and parsing.
- 729 • Chapter 13 defines the contents of headers which declare constants, macros, and data
730 structures that are needed by programs using the services provided by the System Interfaces
731 volume of IEEE Std. 1003.1-200x.

732 Comprehensive references are available in the index.

733 **Typographical Conventions**

734 The following typographical conventions are used throughout IEEE Std. 1003.1-200x:

- 735 • **Bold** font is used in text for options to commands, file names, keywords, type names, data
736 structures, and their members.
- 737 • *Italic* strings are used to denote:
 - 738 — Command operands, command option-arguments, or variable names; for example,
739 substitutable argument prototypes
 - 740 — Environment variables, which are also shown in capitals
 - 741 — Utility names
 - 742 — External variables, such as *errno*
 - 743 — Functions; these are shown as follows: *name()*; names without parentheses are C external
744 variables, C function family names, utility names, command operands, or command
745 option-arguments.
- 746 • The font used here is used for the names of constants and literals.
- 747 • The notation **<file.h>** indicates a header.
- 748 • Names surrounded by braces, for example, {ARG_MAX}, represent symbolic limits or
749 configuration values which may be declared in appropriate headers by means of the C
750 **#define** construct.
- 751 • The notation [EABCD] is used to identify an error value EABCD.
- 752 • Syntax, code examples, and user input in interactive examples are shown in *fixed width*
753 font. Brackets shown in this font, [], are part of the syntax and do *not* indicate optional
754 items. In syntax the | symbol is used to separate alternatives, and ellipses (...) are used to
755 show that additional arguments are optional.
- 756 • **Bold fixed width** font is used to identify brackets that surround optional items in syntax,
757 [], and to identify system output in interactive examples.
- 758 • Variables within syntax statements are shown in *italic fixed width* font.
- 759 • Ranges of values are indicated with parentheses or brackets as follows:
 - 760 — (a,b) means the range of all values from a to b, including neither a nor b.
 - 761 — [a,b] means the range of all values from a to b, including a and b.
 - 762 — [a,b) means the range of all values from a to b, including a, but not b.
 - 763 — (a,b] means the range of all values from a to b, including b, but not a.
- 764 • Shading is used to identify extensions; see Section 1.5.1 (on page 10).

765 **Note:** A symbolic limit beginning with POSIX is treated differently, depending on context. |
766 In a C-language header, the symbol *POSIXstring* (where *string* may contain |
767 underscores) is represented by the C identifier *_POSIXstring*, with a leading |
768 underscore required to prevent ISO C standard name space pollution. However, in |
769 other contexts, such as languages other than C, the leading underscore is not used |
770 because this requirement does not exist. |

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796 IEEE Std. 1003.1-200x:

797 TBD

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801 This list needs further work, and should be kept in sync with the XBD, Chapter 1, Normative
802 References section.

Normative References

803
804 The following standards contain provisions which, through references in IEEE Std. 1003.1-200x,
805 constitute provisions of IEEE Std. 1003.1-200x. At the time of publication, the editions indicated
806 were valid. All standards are subject to revision, and parties to agreements based on this volume
807 of IEEE Std. 1003.1-200x are encouraged to investigate the possibility of applying the most recent
808 editions of the standards listed below. Members of IEC and ISO maintain registers of currently
809 valid International Standards.

810 ANS X3.9-1978

811 (Reaffirmed 1989) American National Standard for Information Systems: Standard
812 X3.9-1978, Programming Language FORTRAN.

813 ISO/IEC 646:1991

814 ISO/IEC 646:1991, Information Technology — ISO 7-Bit Coded Character Set for
815 Information Interchange.

816 The reference version of the standard contains 95 graphic characters, which are identical to
817 the graphic characters defined in the ASCII coded character set.

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829 This standard character set comprises 191 graphic characters covering the requirements of
830 most of Western Europe.

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