



Rocky Enterprise Linux 9.2 Manual Pages on command 'isupper.3'

\$ man isupper.3

ISALPHA(3) Linux Programmer's Manual ISALPHA(3)

NAME

isalnum, isalpha, isascii, isblank, iscntrl, isdigit, isgraph, islower,
isprint, ispunct, isspace, isupper, isxdigit, isalnum_l, isalpha_l,
isascii_l, isblank_l, iscntrl_l, isdigit_l, isgraph_l, islower_l, is?
print_l, ispunct_l, isspace_l, isupper_l, isxdigit_l - character clas?
sification functions

SYNOPSIS

```
#include <ctype.h>

int isalnum(int c);

int isalpha(int c);

int iscntrl(int c);

int isdigit(int c);

int isgraph(int c);

int islower(int c);

int isprint(int c);

int ispunct(int c);

int isspace(int c);
```

```

int isupper(int c);
int isxdigit(int c);
int isascii(int c);
int isblank(int c);
int isalnum_l(int c, locale_t locale);
int isalpha_l(int c, locale_t locale);
int isblank_l(int c, locale_t locale);
int iscntrl_l(int c, locale_t locale);
int isdigit_l(int c, locale_t locale);
int isgraph_l(int c, locale_t locale);
int islower_l(int c, locale_t locale);
int isprint_l(int c, locale_t locale);
int ispunct_l(int c, locale_t locale);
int isspace_l(int c, locale_t locale);
int isupper_l(int c, locale_t locale);
int isxdigit_l(int c, locale_t locale);
int isascii_l(int c, locale_t locale);

```

Feature Test Macro Requirements for glibc (see `feature_test_macros(7)`):

`isascii()`:

```

_XOPEN_SOURCE
    || /* Glibc since 2.19: */ _DEFAULT_SOURCE
    || /* Glibc versions <= 2.19: */ _SVID_SOURCE

```

`isblank()`:

```

_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
isalnum_l(), isalpha_l(), isblank_l(), iscntrl_l(), isdigit_l(), is?
graph_l(), islower_l(), isprint_l(), ispunct_l(), isspace_l(), isup?
per_l(), isxdigit_l():

```

Since glibc 2.10:

```

_XOPEN_SOURCE >= 700

```

Before glibc 2.10:

```

_GNU_SOURCE

```

`isascii_l()`:

Since glibc 2.10:

`_XOPEN_SOURCE >= 700 && (_SVID_SOURCE || _BSD_SOURCE)`

Before glibc 2.10:

`_GNU_SOURCE`

DESCRIPTION

These functions check whether `c`, which must have the value of an unsigned char or EOF, falls into a certain character class according to the specified locale. The functions without the `"_l"` suffix perform the check based on the current locale.

The functions with the `"_l"` suffix perform the check based on the locale specified by the locale object `locale`. The behavior of these functions is undefined if `locale` is the special locale object `LC_GLOBAL_LOCALE` (see `duplocale(3)`) or is not a valid locale object handle.

The list below explains the operation of the functions without the `"_l"` suffix; the functions with the `"_l"` suffix differ only in using the locale object `locale` instead of the current locale.

`isalnum()`

checks for an alphanumeric character; it is equivalent to `(isalpha(c) || isdigit(c))`.

`isalpha()`

checks for an alphabetic character; in the standard "C" locale, it is equivalent to `(isupper(c) || islower(c))`. In some locales, there may be additional characters for which `isalpha()` is true?letters which are neither uppercase nor lowercase.

`isascii()`

checks whether `c` is a 7-bit unsigned char value that fits into the ASCII character set.

`isblank()`

checks for a blank character; that is, a space or a tab.

`iscntrl()`

checks for a control character.

`isdigit()`

checks for a digit (0 through 9).

isgraph()

checks for any printable character except space.

islower()

checks for a lowercase character.

isprint()

checks for any printable character including space.

ispunct()

checks for any printable character which is not a space or an alphanumeric character.

isspace()

checks for white-space characters. In the "C" and "POSIX" locales, these are: space, form-feed ('\f'), newline ('\n'), carriage return ('\r'), horizontal tab ('\t'), and vertical tab ('\v').

isupper()

checks for an uppercase letter.

isxdigit()

checks for hexadecimal digits, that is, one of
0 1 2 3 4 5 6 7 8 9 a b c d e f A B C D E F.

RETURN VALUE

The values returned are nonzero if the character c falls into the tested class, and zero if not.

VERSIONS

isalnum_l(), isalpha_l(), isblank_l(), iscntrl_l(), isdigit_l(), isgraph_l(), islower_l(), isprint_l(), ispunct_l(), isspace_l(), isupper_l(), isxdigit_l(), and isascii_l() are available since glibc 2.3.

ATTRIBUTES

For an explanation of the terms used in this section, see attributes(7).

??

?Interface ? Attribute ? Value ?

??

?isalnum(), isalpha(), isascii(), ? Thread safety ? MT-Safe ?

```

?isblank(), iscntrl(), isdigit(), ?      ?      ?
?isgraph(), islower(), isprint(), ?      ?      ?
?ispunct(), isspace(), isupper(), ?      ?      ?
?isxdigit()      ?      ?      ?

????????????????????????????????????????????????????????????

```

CONFORMING TO

C89 specifies `isalnum()`, `isalpha()`, `iscntrl()`, `isdigit()`, `isgraph()`, `islower()`, `isprint()`, `ispunct()`, `isspace()`, `isupper()`, and `isxdigit()`, but not `isascii()` and `isblank()`. POSIX.1-2001 also specifies those functions, and also `isascii()` (as an XSI extension) and `isblank()`. C99 specifies all of the preceding functions, except `isascii()`. POSIX.1-2008 marks `isascii()` as obsolete, noting that it cannot be used portably in a localized application. POSIX.1-2008 specifies `isalnum_l()`, `isalpha_l()`, `isblank_l()`, `iscntrl_l()`, `isdigit_l()`, `isgraph_l()`, `islower_l()`, `isprint_l()`, `ispunct_l()`, `isspace_l()`, `isupper_l()`, and `isxdigit_l()`. `isascii_l()` is a GNU extension.

NOTES

The standards require that the argument `c` for these functions is either EOF or a value that is representable in the type `unsigned char`. If the argument `c` is of type `char`, it must be cast to `unsigned char`, as in the following example:

```

char c;

...

res = toupper((unsigned char) c);

```

This is necessary because `char` may be the equivalent of signed `char`, in which case a byte where the top bit is set would be sign extended when converting to `int`, yielding a value that is outside the range of `unsigned char`.

The details of what characters belong to which class depend on the locale. For example, `isupper()` will not recognize an A-umlaut (ä) as an uppercase letter in the default C locale.

iswalnum(3), iswalph(3), iswblank(3), iswcntrl(3), iswdigit(3), isw?
graph(3), iswlower(3), iswprint(3), iswpunct(3), iswspace(3), iswup?
per(3), iswxdigit(3), newlocale(3), setlocale(3), toascii(3),
tolower(3), toupper(3),uselocale(3), ascii(7), locale(7)

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A
description of the project, information about reporting bugs, and the
latest version of this page, can be found at
<https://www.kernel.org/doc/man-pages/>.

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