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### ***Rocky Enterprise Linux 9.2 Manual Pages on command 'isprint.3'***

#### ***\$ man isprint.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, isprint\_l, ispunct\_l, isspace\_l, isupper\_l, isxdigit\_l - character classification 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(), isgraph\_l(), islower\_l(), isprint\_l(), ispunct\_l(), isspace\_l(), isupper\_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.

`isctrl()`

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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