



Linux Ubuntu 26.04 Manual Pages on command 'ispunct.3'

\$ man ispunct.3

ispunct(3) Library Functions Manual ispunct(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, is?digit_l, isgraph_l, islower_l, isprint_l, ispunct_l, isspace_l, isupper_l, isxdigit_l - character classification functions

LIBRARY

Standard C library (libc, -lc)

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 >= 2.19: */ _DEFAULT_SOURCE
    || /* glibc <= 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.

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.

ATTRIBUTES

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

[illegible]

? Interface	? Attribute	? Value	?
-------------	-------------	---------	---

[illegible]

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

? isdigit(), isgraph(), islower(), isprint(), ispunct(), ? ? ?

? isspace(), isupper(), isxdigit()	?	?	?
------------------------------------	---	---	---

[illegible]

STANDARDS

isalnum()

isalpha()

iscntrl()

isdigit()

isgraph()

islower()

```
isprint()
```

ispunct()

isspace()

isupper()

isxdigit()

isblank()

isascii()

isalnum_l()

isalpha_l()

isblank_l()

iscntrl_l()

isdigit_l()

isgraph_l()

islower_l()

isprint_l()

ispunct_l()

isspace_l()

isupper_l()

isxdigit_l()

POSIX.1-2008.

isascii_l()

GNU.

HISTORY

isalnum()

isalpha()

iscntrl()

isdigit()

isgraph()

islower()

isprint()

ispunct()

isspace()

isupper()

isxdigit()

C89, POSIX.1-2001.

isblank()

C99, POSIX.1-2001.

isascii()

POSIX.1-2001 (XSI).

POSIX.1-2008 marks it as obsolete, noting that it cannot be used portably in a local?

ized application.

isalnum_l()

isalpha_l()

isblank_l()

iscntrl_l()

isdigit_l()

isgraph_l()

islower_l()

isprint_l()

ispunct_l()

isspace_l()

isupper_l()

isxdigit_l()

glibc 2.3. POSIX.1-2008.

isascii_l()

glibc 2.3.

CAVEATS

The standards require that the argument `c` for these functions is either EOF or a value that is representable in the type unsigned char; otherwise, the behavior is undefined. 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.

SEE ALSO

iswalnum(3), iswalpha(3), iswblank(3), iswcntrl(3), iswdigit(3), iswgraph(3), iswlower(3), iswprint(3), iswpunct(3), iswspace(3), iswupper(3), iswxdigit(3), newlocale(3), setlocale(3), toascii(3), tolower(3), toupper(3), uselocale(3), ascii(7), locale(7)

