NAME

wcstoul – convert wide character string to unsigned long

SYNOPSIS

cc [*flag* ...] *file* ... **–lw** [*library* ...]

#include <wchar.h>

unsigned long int wcstoul(const wchar_t **nptr*, **wchar_t** ***endptr*, **int** *base***);**

MT-LEVEL

MT-Safe

DESCRIPTION

The **wcstoul( )** function converts the initial portion of the wide character string pointed to by *nptr* to **unsigned long int** representation. It first decomposes the input wide-character string into three parts: an initial, possibly empty, sequence of white-space wide-character codes (as specified by the function **iswspace**(3I)); a subject sequence interpreted as an integer represented in some radix determined by the value of *base*; and a final wide-character string of one or more unrecognized wide character codes, including the terminating null wide-character code of the input wide character string. It then attempts to convert the subject sequence to an unsigned integer, and returns the result.

If the value of *base* is 0, the expected form of the subject sequence is that of a decimal constant, an octal constant, or a hexadecimal constant, any of which may be preceded by a '+' or a '–' sign. A decimal constant begins with a non-zero digit, and consists of a sequence of decimal digits. An octal constant consists of the prefix '0', optionally followed by a sequence of the digits '0' to '7' only. A hexadecimal constant consists of the prefix '0x' or '0X', followed by a sequence of the decimal digits and letters 'a' (or 'A') to 'f' (or 'F'), with values 10 to 15, respectively.

If the value of *base* is between 2 and 36, the expected form of the subject sequence is a sequence of letters and digits representing an integer with the radix specified by *base*, optionally preceded by a '+' or a '–' sign, but not including an integer suffix. The letters from 'a' (or 'A') to 'z' (or 'Z') inclusive are ascribed the values 10 to 35; only letters whose ascribed values are less than that of *base* are permitted. If the value of *base* is 16, the wide-character codes '0x' or '0X' may optionally precede the sequence of letters and digits, following the sign, if present.

The subject sequence is defined as the longest initial subsequence of the input wide-character string, starting with the first wide-character code that is not a white space and is of the expected form. The subject sequence contains no wide-character codes if the input wide-character string is empty or consists entirely of white-space wide-character codes, or if the first wide-character code that is not a white space is other than a sign or a permissible letter or digit.

If the subject sequence has the expected form and the value of *base* is 0, the sequence of wide-character codes starting with the first digit is interpreted as an integer constant. If the subject sequence has the expected form and the value of *base* is between 2 and 36, it is used as the base for conversion, ascribing to each letter its value as given above. If the subject sequence begins with a minus sign, the value resulting from the conversion is negated. A pointer to the final wide character string is stored in the object pointed to by *endptr*, provided that *endptr* is not a null pointer.

In other than the POSIX locale, additional implementation-dependent subject sequence forms may be accepted.

If the subject sequence is empty or does not have the expected form, no conversion is performed; the value of *nptr* is stored in the object pointed to by *endptr*, provided that *endptr* is not a null pointer.

RETURN VALUE

Upon successful completion, **wcstoul( )** returns the converted value, if any. If no conversion could be performed, **0** is returned and **errno** may be set to indicate the error. If the correct value is outside the range of representable values, **{ULONG_MAX}** is returned and **errno** is set to **ERANGE**.

ERRORS

wcstoul( ) will fail if:

EINVAL The value of *base* is not supported.

ERANGE The value to be returned is not representable.

wcstoul( ) function may fail if:

EINVAL No conversion could be performed.

SEE ALSO

isspace(3C), **iswalpha**(3I), **scanf**(3S), **wcstod**(3I), **wcstol**(3I)

WARNINGS

Because **0** and **{ULONG_MAX}** are returned on error and **0** is also a valid return on success, an application wishing to check for error situations should set **errno** to **0**, call **wcstoul( )**, then check **errno** and if it is non-zero, assume an error has occurred.

Unlike **wcstod**(3I) and **wcstol**(3I), **wcstoul( )** must always return a non-negative number; so, using the return value of **wcstoul( )** for out-of-range numbers with **wcstoul( )**.