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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'wordexp.3' command

\$ man wordexp.3

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

NAME

wordexp, wordfree - perform word expansion like a posix-shell

SYNOPSIS

```
#include <wordexp.h>
```

```
int wordexp(const char *s, wordexp_t *p, int flags);
```

```
void wordfree(wordexp_t *p);
```

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

```
wordexp(), wordfree(): _XOPEN_SOURCE
```

DESCRIPTION

The function `wordexp()` performs a shell-like expansion of the string `s` and returns the result in the structure pointed to by `p`. The data type `wordexp_t` is a structure that at least has the fields `we_wordc`, `we_wordv`, and `we_offs`. The field `we_wordc` is a `size_t` that gives the number of words in the expansion of `s`. The field `we_wordv` is a `char **` that points to the array of words found. The field `we_offs` of type `size_t` is sometimes (depending on flags, see below) used to indicate the number of initial elements in the `we_wordv` array that should be filled with NULLs.

The function `wordfree()` frees the allocated memory again. More precisely, it does not free its argument, but it frees the array `we_wordv` and the strings that points to.

The string argument

Since the expansion is the same as the expansion by the shell (see `sh(1)`) of the parameters to a command, the string `s` must not contain characters that would be illegal in shell command parameters. In particular, there must not be any unescaped newline or `|`, `&`, `;`, `<`, `>`, `(`, `)`, `{`, `}` characters outside a command substitution or parameter substitution context.

If the argument `s` contains a word that starts with an unquoted comment character `#`, then it is unspecified whether that word and all following words are ignored, or the `#` is treated as a non-comment character.

The expansion

The expansion done consists of the following stages: tilde expansion (replacing `~user` by user's home directory), variable substitution (replacing `$FOO` by the value of the environment variable `FOO`), command substitution (replacing `$(command)` or ``command`` by the output of `command`), arithmetic expansion, field splitting, wildcard expansion, quote removal.

The result of expansion of special parameters (`$@`, `$*`, `$#`, `$?`, `$-`, `$$`, `$!`, `$0`) is unspecified.

Field splitting is done using the environment variable `$IFS`. If it is not set, the field separators are space, tab and newline.

The output array

The array `we_wordv` contains the words found, followed by a `NULL`.

The flags argument

The flag argument is a bitwise inclusive OR of the following values:

WRDE_APPEND

Append the words found to the array resulting from a previous call.

WRDE_DOOFFS

Insert `we_offs` initial `NULL`s in the array `we_wordv`. (These are not counted in the returned `we_wordc`.)

WRDE_NOCMD

Don't do command substitution.

WRDE_REUSE

?wordexp() ? Thread safety ? MT-Unsafe race:utent const:env ?

? ? ? env sig:ALRM timer locale ?

??

?wordfree() ? Thread safety ? MT-Safe ?

??

In the above table, utent in race:utent signifies that if any of the functions setutent(3), getutent(3), or endutent(3) are used in parallel in different threads of a program, then data races could occur. word? exp() calls those functions, so we use race:utent to remind users.

CONFORMING TO

POSIX.1-2001, POSIX.1-2008.

EXAMPLES

The output of the following example program is approximately that of "ls [a-c]*.c".

```
#include <stdio.h>
#include <stdlib.h>
#include <wordexp.h>

int
main(int argc, char **argv)
{
    wordexp_t p;
    char **w;
    wordexp("[a-c]*.c", &p, 0);
    w = p.we_wordv;
    for (int i = 0; i < p.we_wordc; i++)
        printf("%s\n", w[i]);
    wordfree(&p);
    exit(EXIT_SUCCESS);
}
```

SEE ALSO

fnmatch(3), glob(3)

COLOPHON

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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