

SCANDIR(3)

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

NAME

scandir, alphasort, versionsort - scan a directory for matching entries

SYNOPSIS

```
#include <dirent.h>

int scandir(const char *dirp, struct dirent ***namelist,
            int (*filter)(const struct dirent *),
            int (*compar)(const struct dirent **, const struct dirent **));

int alphasort(const void *a, const void *b);

int versionsort(const void *a, const void *b);
```

Feature Test Macro Requirements for glibc (see **feature__test__macros(7)**):

scandir(), **alphasort()**: `_BSD_SOURCE` || `_SVID_SOURCE`

versionsort(): `_GNU_SOURCE`

DESCRIPTION

The **scandir**() function scans the directory dirp, calling filter() on each directory entry. Entries for which filter() returns nonzero are stored in strings allocated via **malloc**(3), sorted using **qsort**(3) with the comparison function compar(), and collected in array namelist which is allocated via **malloc**(3). If filter is NULL, all entries are selected.

The **alphasort**() and **versionsort**() functions can be used as the comparison function compar(). The former sorts directory entries using **strcoll**(3), the latter using **strverscmp**(3) on the strings (*a)->d_name and (*b)->d_name.

RETURN VALUE

The **scandir**() function returns the number of directory entries selected. On error, -1 is returned, with errno set to indicate the cause of the error.

The **alphasort**() and **versionsort**() functions return an integer less than, equal to, or greater than zero if the first argument is considered to be respectively less than, equal to, or greater than the second.

ERRORS

ENOENT The path in dirp does not exist.

ENOMEM Insufficient memory to complete the operation.

ENOTDIR The path in dirp is not a directory.

VERSIONS

versionsort() was added to glibc in version 2.1.

CONFORMING TO

alphasort() and **scandir**() are specified in POSIX.1-2008, and are widely available. **versionsort**() is a GNU extension.

The functions **scandir**() and **alphasort**() are from 4.3BSD, and have been available under Linux since libc4. Libc4 and libc5 use the more precise prototype

```
int alphasort(const struct dirent ** a,
              const struct dirent **b);
```

but glibc 2.0 returns to the imprecise BSD prototype.

The function **versionsort**() is a GNU extension, available since glibc 2.1.

Since glibc 2.1, **alphasort**() calls **strcoll**(3); earlier it used **strcmp**(3).

EXAMPLE

```
#define _SVID_SOURCE
/* print files in current directory in reverse order */
#include <dirent.h>

int
main(void)
{
    struct dirent **namelist;
    int n;

    n = scandir(".", &namelist, NULL, alphasort);
    if (n < 0)
        perror("scandir");
    else {
        while (n-- > 0) {
            printf("%s\n", namelist[n]->d_name);
            free(namelist[n]);
        }
        free(namelist);
    }
}
```

SEE ALSO

closedir(3), **fnmatch**(3), **opendir**(3), **readdir**(3), **rewinddir**(3), **scandir**(3), **seekdir**(3), **strcmp**(3), **strcoll**(3), **strverscmp**(3), **telldir**(3)

COLOPHON

This page is part of release 3.54 of the Linux man-pages project. A description of the project, and information about reporting bugs, can be found at <http://www.kernel.org/doc/man-pages/>.

2013-04-19 GNU
