



Red Hat Enterprise Linux Release 9.2 Manual Pages on 'dirent.h.0p' command

\$ man dirent.h.0p

dirent.h(0P) POSIX Programmer's Manual dirent.h(0P)

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

dirent.h ? format of directory entries

SYNOPSIS

```
#include <dirent.h>
```

DESCRIPTION

The internal format of directories is unspecified.

The <dirent.h> header shall define the following type:

DIR A type representing a directory stream. The DIR type may be an incomplete type.

It shall also define the structure dirent which shall include the following members:

lowing members:

ino_t d_ino File serial number.

char d_name[] Filename string of entry.

The <dirent.h> header shall define the ino_t type as described in <sys/types.h>.

The array d_name is of unspecified size, but shall contain a filename of at most {NAME_MAX} bytes followed by a terminating null byte.

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
int      alphasort(const struct dirent **, const struct dirent **);
int      closedir(DIR *);
int      dirfd(DIR *);
DIR      *fdopendir(int);
DIR      *opendir(const char *);
struct dirent *readdir(DIR *);
int      readdir_r(DIR *restrict, struct dirent *restrict,
                struct dirent **restrict);
void     rewinddir(DIR *);
int      scandir(const char *, struct dirent ***,
                int (*)(const struct dirent *),
                int (*)(const struct dirent **,
                const struct dirent **));
void     seekdir(DIR *, long);
long     telldir(DIR *);
```

The following sections are informative.

APPLICATION USAGE

None.

RATIONALE

Information similar to that in the <dirent.h> header is contained in a file <sys/dir.h> in 4.2 BSD and 4.3 BSD. The equivalent in these implementations of struct dirent from this volume of POSIX.1?2017 is struct direct. The filename was changed because the name <sys/dir.h> was also used in earlier implementations to refer to definitions related to the older access method; this produced name conflicts. The name of the structure was changed because this volume of POSIX.1?2017 does not completely define what is in the structure, so it could be different on some implementations from struct direct.

The name of an array of char of an unspecified size should not be used as an lvalue. Use of:

```
sizeof(d_name)
```

is incorrect; use:

```
strlen(d_name)
```

instead.

The array of char d_name is not a fixed size. Implementations may need to declare struct dirent with an array size for d_name of 1, but the actual number of bytes provided matches (or only slightly exceeds) the length of the filename string.

FUTURE DIRECTIONS

None.

SEE ALSO

<sys_types.h>

The System Interfaces volume of POSIX.1-2017, alphasort(), closedir(), dirfd(), fdopendir(), readdir(), rewinddir(), seekdir(), telldir()

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