NAME

opendir − open a directory / readdir − read a directory

SYNOPSIS

#include <sys/types.h>

#include <dirent.h>

DIR *opendir(const char *_name_);

struct dirent *readdir(DIR *_dir_);

DESCRIPTION opendir

The **opendir()** function opens a directory stream corresponding to the directory *name*, and returns a pointer to the directory stream. The stream is positioned at the first entry in the directory.

RETURN VALUE

The **opendir()** function returns a pointer to the directory stream or NULL if an error occurred.

DESCRIPTION readdir

The **readdir()** function returns a pointer to a dirent structure representing the next directory entry in the directory stream pointed to by *dir*. It returns NULL on reaching the end-of-file or if an error occurred.

The data returned by **readdir()** is overwritten by subsequent calls to **readdir()** for the same directory stream.

The *dirent* structure is defined as follows:

```
struct dirent {
    long          d_ino;          /* inode number */
    off_t         d_off;          /* offset to the next dirent */
    unsigned short  d_reclen;     /* length of this record */
    unsigned char   d_type;     /* type of file */
    char          d_name[256];  /* filename */
};
```

RETURN VALUE

The **readdir()** function returns a pointer to a dirent structure, or NULL if an error occurs or end-of-file is reached.

ERRORS

EACCES
Permission denied.

EMFILE
Too many file descriptors in use by process.

ENFILE
Too many files are currently open in the system.

ENOENT
Directory does not exist, or *name* is an empty string.

ENOMEM
Insufficient memory to complete the operation.

ENOTDIR
name is not a directory.

SEE ALSO

open(2), **readdir**(3), **closedir**(3), **rewinddir**(3), **seekdir**(3), **telldir**(3), **scandir**(3)

NAME

calloc, malloc, free, realloc − Allocate and free dynamic memory

SYNOPSIS

#include <stdlib.h>

void *calloc(size_t *nmemb***, size_t** *size***);**
void *malloc(size_t *size***);**
void free(void **ptr***);*
void *realloc(void **ptr***, **size_t** *size***);**

DESCRIPTION

calloc() allocates memory for an array of *nmemb* elements of *size* bytes each and returns a pointer to the allocated memory. The memory is set to zero.

malloc() allocates *size* bytes and returns a pointer to the allocated memory. The memory is not cleared.

free() frees the memory space pointed to by *ptr*, which must have been returned by a previous call to **malloc()**, **calloc()** or **realloc()**. Otherwise, or if **free(***ptr***)** has already been called before, undefined behaviour occurs. If *ptr* is **NULL**, no operation is performed.

realloc() changes the size of the memory block pointed to by *ptr* to *size* bytes. The contents will be unchanged to the minimum of the old and new sizes; newly allocated memory will be uninitialized. If *ptr* is **NULL**, the call is equivalent to **malloc(size)**; if size is equal to zero, the call is equivalent to **free(***ptr***)**. Unless *ptr* is **NULL**, it must have been returned by an earlier call to **malloc()**, **calloc()** or **realloc()**.

RETURN VALUE

For **calloc()** and **malloc()**, the value returned is a pointer to the allocated memory, which is suitably aligned for any kind of variable, or **NULL** if the request fails.

free() returns no value.

realloc() returns a pointer to the newly allocated memory, which is suitably aligned for any kind of variable and may be different from *ptr*, or **NULL** if the request fails. If *size* was equal to 0, either NULL or a pointer suitable to be passed to *free*() is returned. If **realloc()** fails the original block is left untouched - it is not freed or moved.

CONFORMING TO

ANSI-C

SEE ALSO

brk(2), **posix_memalign**(3)