

C エラー

[Programming C]

- ・ system call が失敗すると、外部変数 `errno` に設定する。
- ・ `errno` の値は該当する関数を呼び出した直後に調べる必要がある。
- ・ 値と意味は、`error.h` に記述されている。

値	意味
EPERM	操作は許可されない
ENOENT	該当する file または directory が存在しない
EINTR	system call が割り込まれた
EIO	I/O error
EBUSY	device または resource が使用中
EEXIST	file が存在する
EINVAL	引数が無効
EMFILE	open されている file が多すぎる
ENODEV	該当する device が存在しない
EISDIR	directory である
ENOTDIR	directory ではない

strerror

```
#include <string.h>
char *strerror(int errnum);
```

- ・ 指定された error 番号の error の種類を説明する文字列を返す。

perror

```
#include <stdio.h>
void perror(const char *s);
```

- ・ `errno` が示す現在の error の種類を説明する文字列を標準 error 出力に出力する。
- ・ 文字列 `s` が `NULL` でなければ、`s` で指定された文字列に続いて、`:` と空白を出力してから、error 種類をあらわす文字列を出力する。

```
#include <string.h>
#include <error.h>
#include <stdint.h>
#include <stdio.h>
#include <stdlib.h>
int main()
{
    char *buf;
    buf = (char *)malloc(sizeof(char) * 256);
    for (i=0; i<256; i++) {
        buf = strerror(i);
        printf("%d : %s\n", i, buf);
    }
    free(buf);
}
```

}

0 : Success
1 : Operation not permitted
2 : No such file or directory
3 : No such process
4 : Interrupted system call
5 : Input/output error
6 : No such device or address
7 : Argument list too long
8 : Exec format error
9 : Bad file descriptor
10 : No child processes
11 : Resource temporarily unavailable
12 : Cannot allocate memory
13 : Permission denied
14 : Bad address
15 : Block device required
16 : Device or resource busy
17 : File exists
18 : Invalid cross-device link
19 : No such device
20 : Not a directory
21 : Is a directory
22 : Invalid argument
23 : Too many open files in system
24 : Too many open files
25 : Inappropriate ioctl for device
26 : Text file busy
27 : File too large
28 : No space left on device
29 : Illegal seek
30 : Read-only file system
31 : Too many links
32 : Broken pipe
33 : Numerical argument out of domain
34 : Numerical result out of range
35 : Resource deadlock avoided
36 : File name too long
37 : No locks available
38 : Function not implemented
39 : Directory not empty
40 : Too many levels of symbolic links
41 : Unknown error 41
42 : No message of desired type
43 : Identifier removed
44 : Channel number out of range
45 : Level 2 not synchronized
46 : Level 3 halted
47 : Level 3 reset
48 : Link number out of range
49 : Protocol driver not attached
50 : No CSI structure available
51 : Level 2 halted
52 : Invalid exchange
53 : Invalid request descriptor
54 : Exchange full
55 : No anode
56 : Invalid request code
57 : Invalid slot
58 : Unknown error 58
59 : Bad font file format
60 : Device not a stream
61 : No data available
62 : Timer expired
63 : Out of streams resources
64 : Machine is not on the network
65 : Package not installed
66 : Object is remote
67 : Link has been severed
68 : Advertise error
69 : Srmount error
70 : Communication error on send
71 : Protocol error
72 : Multihop attempted
73 : RFS specific error
74 : Bad message
75 : Value too large for defined data type
76 : Name not unique on network
77 : File descriptor in bad state

78 : Remote address changed
79 : Can not access a needed shared library
80 : Accessing a corrupted shared library
81 : .lib section in a.out corrupted
82 : Attempting to link in too many shared libraries
83 : Cannot exec a shared library directly
84 : Invalid or incomplete multibyte or wide character
85 : Interrupted system call should be restarted
86 : Streams pipe error
87 : Too many users
88 : Socket operation on non-socket
89 : Destination address required
90 : Message too long
91 : Protocol wrong type for socket
92 : Protocol not available
93 : Protocol not supported
94 : Socket type not supported
95 : Operation not supported
96 : Protocol family not supported
97 : Address family not supported by protocol
98 : Address already in use
99 : Cannot assign requested address
100 : Network is down
101 : Network is unreachable
102 : Network dropped connection on reset
103 : Software caused connection abort
104 : Connection reset by peer
105 : No buffer space available
106 : Transport endpoint is already connected
107 : Transport endpoint is not connected
108 : Cannot send after transport endpoint shutdown
109 : Too many references: cannot splice
110 : Connection timed out
111 : Connection refused
112 : Host is down
113 : No route to host
114 : Operation already in progress
115 : Operation now in progress
116 : Stale NFS file handle
117 : Structure needs cleaning
118 : Not a XENIX named type file
119 : No XENIX semaphores available
120 : Is a named type file
121 : Remote I/O error
122 : Disk quota exceeded
123 : No medium found
124 : Wrong medium type
125 : Operation canceled
126 : Required key not available
127 : Key has expired
128 : Key has been revoked
129 : Key was rejected by service
130 : Owner died
131 : State not recoverable

この本からの覚書。