

1. Where is errno?

`errno` 定義在頭文件 `<errno.h>` 中，它用於指示錯誤條件。當函數遇到錯誤時，它會將 `errno` 設置為對應於所遇到錯誤類型的特定值，使用者可以檢查 `errno` 的值來確定錯誤的原因。

2. Please find all known error numbers. Do not search them from Google but find them from codes.

```
1  #include <stdio.h>
2  #include <errno.h>
3  #include <string.h>
4
5  int main() {
6      for (int i = 0; i < 134; i++) {
7          printf("Error number: %d, Meaning: %s\n", i, strerror(i));
8      }
9      return 0;
10 }
```

```
Error number: 0, Meaning: Success
Error number: 1, Meaning: Operation not permitted
Error number: 2, Meaning: No such file or directory
Error number: 3, Meaning: No such process
Error number: 4, Meaning: Interrupted system call
Error number: 5, Meaning: Input/output error
Error number: 6, Meaning: No such device or address
Error number: 7, Meaning: Argument list too long
Error number: 8, Meaning: Exec format error
Error number: 9, Meaning: Bad file descriptor
Error number: 10, Meaning: No child processes
Error number: 11, Meaning: Resource temporarily unavailable
Error number: 12, Meaning: Cannot allocate memory
Error number: 13, Meaning: Permission denied
Error number: 14, Meaning: Bad address
Error number: 15, Meaning: Block device required
Error number: 16, Meaning: Device or resource busy
Error number: 17, Meaning: File exists
Error number: 18, Meaning: Invalid cross-device link
Error number: 19, Meaning: No such device
Error number: 20, Meaning: Not a directory
Error number: 21, Meaning: Is a directory
Error number: 22, Meaning: Invalid argument
Error number: 23, Meaning: Too many open files in system
Error number: 24, Meaning: Too many open files
Error number: 25, Meaning: Inappropriate ioctl for device
Error number: 26, Meaning: Text file busy
Error number: 27, Meaning: File too large
```

Error number: 28, Meaning: No space left on device
Error number: 29, Meaning: Illegal seek
Error number: 30, Meaning: Read-only file system
Error number: 31, Meaning: Too many links
Error number: 32, Meaning: Broken pipe
Error number: 33, Meaning: Numerical argument out of domain
Error number: 34, Meaning: Numerical result out of range
Error number: 35, Meaning: Resource deadlock avoided
Error number: 36, Meaning: File name too long
Error number: 37, Meaning: No locks available
Error number: 38, Meaning: Function not implemented
Error number: 39, Meaning: Directory not empty
Error number: 40, Meaning: Too many levels of symbolic links
Error number: 41, Meaning: Unknown error 41
Error number: 42, Meaning: No message of desired type
Error number: 43, Meaning: Identifier removed
Error number: 44, Meaning: Channel number out of range
Error number: 45, Meaning: Level 2 not synchronized
Error number: 46, Meaning: Level 3 halted
Error number: 47, Meaning: Level 3 reset
Error number: 48, Meaning: Link number out of range
Error number: 49, Meaning: Protocol driver not attached
Error number: 50, Meaning: No CSI structure available
Error number: 51, Meaning: Level 2 halted
Error number: 52, Meaning: Invalid exchange
Error number: 53, Meaning: Invalid request descriptor
Error number: 54, Meaning: Exchange full
Error number: 55, Meaning: No anode
Error number: 56, Meaning: Invalid request code
Error number: 57, Meaning: Invalid slot
Error number: 58, Meaning: Unknown error 58
Error number: 59, Meaning: Bad font file format

Error number: 60, Meaning: Device not a stream
Error number: 61, Meaning: No data available
Error number: 62, Meaning: Timer expired
Error number: 63, Meaning: Out of streams resources
Error number: 64, Meaning: Machine is not on the network
Error number: 65, Meaning: Package not installed
Error number: 66, Meaning: Object is remote
Error number: 67, Meaning: Link has been severed
Error number: 68, Meaning: Advertise error
Error number: 69, Meaning: Srmount error
Error number: 70, Meaning: Communication error on send
Error number: 71, Meaning: Protocol error
Error number: 72, Meaning: Multihop attempted
Error number: 73, Meaning: RFS specific error
Error number: 74, Meaning: Bad message
Error number: 75, Meaning: Value too large for defined data type
Error number: 76, Meaning: Name not unique on network
Error number: 77, Meaning: File descriptor in bad state
Error number: 78, Meaning: Remote address changed
Error number: 79, Meaning: Can not access a needed shared library
Error number: 80, Meaning: Accessing a corrupted shared library
Error number: 81, Meaning: .lib section in a.out corrupted
Error number: 82, Meaning: Attempting to link in too many shared libraries
Error number: 83, Meaning: Cannot exec a shared library directly
Error number: 84, Meaning: Invalid or incomplete multibyte or wide character
Error number: 85, Meaning: Interrupted system call should be restarted
Error number: 86, Meaning: Streams pipe error
Error number: 87, Meaning: Too many users
Error number: 88, Meaning: Socket operation on non-socket
Error number: 89, Meaning: Destination address required
Error number: 90, Meaning: Message too long
Error number: 91, Meaning: Protocol wrong type for socket

```
Error number: 92, Meaning: Protocol not available
Error number: 93, Meaning: Protocol not supported
Error number: 94, Meaning: Socket type not supported
Error number: 95, Meaning: Operation not supported
Error number: 96, Meaning: Protocol family not supported
Error number: 97, Meaning: Address family not supported by protocol
Error number: 98, Meaning: Address already in use
Error number: 99, Meaning: Cannot assign requested address
Error number: 100, Meaning: Network is down
Error number: 101, Meaning: Network is unreachable
Error number: 102, Meaning: Network dropped connection on reset
Error number: 103, Meaning: Software caused connection abort
Error number: 104, Meaning: Connection reset by peer
Error number: 105, Meaning: No buffer space available
Error number: 106, Meaning: Transport endpoint is already connected
Error number: 107, Meaning: Transport endpoint is not connected
Error number: 108, Meaning: Cannot send after transport endpoint shutdown
Error number: 109, Meaning: Too many references: cannot splice
Error number: 110, Meaning: Connection timed out
Error number: 111, Meaning: Connection refused
Error number: 112, Meaning: Host is down
Error number: 113, Meaning: No route to host
Error number: 114, Meaning: Operation already in progress
Error number: 115, Meaning: Operation now in progress
Error number: 116, Meaning: Stale file handle
Error number: 117, Meaning: Structure needs cleaning
Error number: 118, Meaning: Not a XENIX named type file
Error number: 119, Meaning: No XENIX semaphores available
Error number: 120, Meaning: Is a named type file
Error number: 121, Meaning: Remote I/O error
Error number: 122, Meaning: Disk quota exceeded
Error number: 123, Meaning: No medium found
```

```
Error number: 124, Meaning: Wrong medium type
Error number: 125, Meaning: Operation canceled
Error number: 126, Meaning: Required key not available
Error number: 127, Meaning: Key has expired
Error number: 128, Meaning: Key has been revoked
Error number: 129, Meaning: Key was rejected by service
Error number: 130, Meaning: Owner died
Error number: 131, Meaning: State not recoverable
Error number: 132, Meaning: Operation not possible due to RF-kill
Error number: 133, Meaning: Memory page has hardware error
```

3. Please define a new error number and use perror to show it.

```
1  #include <stdio.h>
2  #include <errno.h>
3  #define MY_ERROR 255
4
5  int main() {
6      errno = MY_ERROR;
7      perror("Custom error message: ");
8      return 0;
9  }
```

```
nieves@nieves-VirtualBox:~/HW2_41147046S$ ./test
Custom error message: : Unknown error 255
```