### **Error Handling in C**

C language does not provide any direct support for error handling. However a few methods and variables defined in **error.h** header file can be used to point out error using the return statement in a function.

In C language, a function returns -1 or NULL value in case of any error and a global variable **errno** is set with the error code. So the return value can be used to check error while programming.

**What is errno?**

Whenever a function call is made in C language, a variable named errno is associated with it. It is a global variable, which can be used to identify which type of error was encountered while function execution, based on its value. Below we have the list of Error numbers and what does they mean.

|  |  |
| --- | --- |
| **errno value** | **Error** |
| 1 | Operation not permitted |
| 2 | No such file or directory |
| 3 | No such process |
| 4 | Interrupted system call |
| 5 | I/O error |
| 6 | No such device or address |
| 7 | Argument list too long |
| 8 | Exec format error |
| 9 | Bad file number |
| 10 | No child processes |
| 11 | Try again |
| 12 | Out of memory |
| 13 | Permission denied |

C language uses the following functions to represent error messages associated with **errno**:

* perror(): returns the string passed(**custom message**) to it along with the textual representation of the current errno value.
* strerror() is defined in **string.h** library. This method returns a pointer to the string representation of the current errno value.

Ex : No such file or directory

#include <stdio.h>

#include <errno.h>

#include<string.h>

int main ()

{

**FILE \*fp;**

/\*

If a file, which does not exists, is opened,

we will get an error

\*/

**fp = fopen("IWillReturnError.txt", "r");**

printf("Value of errno: %d\n ", **errno**);

if(**errno == 2**){

printf("The error message is : %s\n", **strerror(errno)**);

**perror("no file");**  //custom message

}

return 0;

}

**Output :**

Value of errno : 2

The error message is : No such file or directory

**No file** : No such file or directory