PROBLEM SOLVING WITH C
UE20CS151

Prof. Pushpa G and Prof. Sindhu R Pai
Department of Computer Science and Engineering

Problem Solving With C - UE24CS151B

Error Handling in File Handling

Prof. Sindhu R Pai

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Department of Computer Science and Engineering

1. Common Programming Errors

2. Error Handling

3. Demo of Errors

4. Best Practices

Common Programming Errors that occur during File I/O

- Open with invalid filename

- Operation on a file that has not been opened

- Operation not permitted by 'fopen'

- Write to a write-protected file

- Read beyond end-of-file

PROBLEM SOLVING WITH C

Error Handling in File Handling

Error Handling

- Not supported by C directly and is accomplished by using **errno.h**

- When a function is called, a global variable named as **errno** is automatically assigned a value used to identify the type of error that has been encountered

errno value	Type of Error
1	Operation not permitted
2	No such file or directory
5	I/O error
7	Argument list too long
9	Bad file number
11	Try again
12	Out of memory
13	Permission denied

- Coding Examples using perror() and strerror()

Error Handling continued..

- **Two-status library functions** are used to prevent performing any operation beyond EOF

- **feof():** Used to test for an end of file condition

    - **Syntax**: feof(FILE *file_pointer);

    - **Return Value:** Non-zero if EOF, Else zero

- **ferror():** Used to check for the error in the stream

    - **Syntax**: int ferror (FILE *file_pointer);

    - **Return Value**: Non-zero if error occurs, Else zero

- The error indication will last until the file is closed(fclose())or cleared by the clearerr() function.

- **C code demonstration of Error handling in File I/O**

Best Practices

- Given a file pointer check whether it is **NULL before proceeding with further operations**.

- Use **errno.h** and **global variable errno** to know the type of error that occurred. Usage of **strerror() and perror()** helps in providing textual representation of the current errno value.

- Good to check **whether EOF is reached or not before performing any operation on the file.**

THANK YOU

Department of Computer Science and Engineering

Dr. Shylaja S S, Director, CCBD & CDSAML, PESU
Prof. Sindhu R Pai - sindhurpai@pes.edu