

Daily Assessment format

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Course: C programming

Topic: file & errors

- Handling pre-processor

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Report

Accessing files

- An external file can be opened, read from, & written to in C program. For these operations, C includes the FILE type for defining a file stream. The file stream keeps track of where reading & writing last occurred.
- The stdio.h library includes file handling funts.
- File typedef for defining a file pointer

Mode options are

- r open for reading (file must exist)
- w open for writing (file need not exist)
- a open for append (file need not exist)
- rt open for reading & writing from beginning
- wt open for reading & writing, overwriting file
- at open for reading & writing, appending to file

fclose(fp) closes file opened with FILE fp, returning 0 if close was successful. EOF is returned if there is an error in closing.

```
#include <stdio.h>
```

```
int main() {
```

```
FILE *fp; /*
```

```
fp = fopen("myfile.txt", "w");
```

```
if (fp == NULL) {
```



```

printf("error opening file.");
return -1;
}
fclose(fp);
return 0;
}

```

- Reading from a file
- The `stdio.h` library also includes functions for reading from an open file. a file can be read one character at a time, or an entire string can be read into a character buffer, which is typically a char array used for temporary storage.
 - `fgetc(fp)` returns the next character from the file pointed by `fp`. if the end of the file has been reached, then EOF is returned.
 - `fgets(fp)` reads `n` characters from the file pointed by `fp` & stores the string in `buff`. A null character `"\0"` is appended as the last character in `buff`. if the `fgetc` encounters a newline character or the end of file before `n` characters is reached, then only the characters up to that point are stored in `buff`.

Preprocessor directives

The C preprocessor uses the `#` directives to make substitutions in program source code before compilation. for ex: the line `#include <stdio.h>` is replaced by the contents of the `stdio.h` header file before a program is compiled.

preprocessor directives & their uses:

include including header files
define, # undef defining & undefining macros
if, # ifdef, # ifdef, # else, # elif, # endif Conditional
compilation
pragma implementation and compiler specific
error, # warning output an error or warning message
or even halt compilation