

# CS240 Comprehensive Review

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## 1 Compiling and Linking

### 1.1 Gcc Flags

- `-c` Compile file into object file
- `-g` Debugging symbols
- `-Wall` Include ALL Warning
- `-Werror` Turn warnings into errors
- `-O1`, `-O2`, `-O3` Optimize output code
- `-o filename` Output to filename
- `-ANSI` Adhere to ANSI std
- `-std=C99` Adhere to C99 std

### 1.2 Linking

Object file contains binary code, symbol tables, and is a compiled form of a C module. To make it a complete executable, one must link object files, with one of them containing `main()`.

## 2 File I/O

### 2.1 Essentials

- `FILE *fopen(char *file_name, char *mode);`  
Modes are "r", "w", and "a" (append). Returns file ptr on success, NULL on unsuccess, so one must check the return val of `fopen()`.
- `int fclose(FILE *file_pointer);`  
It does not set the file ptr to NULL, so you have to manually set it to NULL. Return val check isn't necessary in this class.
- `int fprintf(FILE *stream, const char *format, ...);`
- `int fscanf(FILE *stream, const char *format, ...);`

### 2.2 Binary File Related

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### 2.3 Key notes with `fscanf()`

- Utilize `%[]` (`%[0-9A-z]` `%[^\n]`)