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Lab Time: Friday, 4:00pm - 5:50pm

# Lab 2 Report

1. How and why does '-DCORRECT' remove errors and warnings?
    - The ‘-D’ option is a preprocessor option for gcc. This removes errors and warnings by defining CORRECT as 1. There are two ways to handle this with gcc, you can either use it the way we have here (-DCORRECT) which will set CORRECT to 1, or true. The other way is to say (-DCORRECT=TRUE), which would do the same thing. The reason the errors and warnings are removed in this case is because the preprocessor now satisfies the #ifdef clause in the beginning which includes the correct libraries (stdio.h and math.h).

2. What does '-lm' do to resolve the error?
    - ‘-lm’ can be broken down to the Linker option and the library we specify to include. ‘-l’ signifies that we want to link a library to the program we’re compiling, and the ‘m’ is the symbol that means math (links to libm.so/dll, or something of the sort). This resolves the errors because the functions that have been included (pow) now has a definition instead of just a declaration from the header file.

3. What has the linker done in 'a.out' compared to 'linker3.o'?
    - The difference between a.out and linker3.o (rather, object files and executable files) is that the executable, a.out, has all of the references necessary to execute the program inside of the file. This means the code for my_mul, foo, and printf is linked to the top of this program. This also explains the incredible size difference between the two programs (42KB vs 4KB). In linker3.o, there are no references to these methods/libraries because it hasn’t been linked yet and still contains unresolved external references.