Homework #01

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1. Compilation Process

1.1 Preprocessing

a) All three header files, stdio.h, stdlib.h, and math.h are in the "/usr/include" directory.

The paths are

/usr/include/stdio.h

/usr/include/stdlib.h

/usr/include/math.h

b) The gcc option to run preprocessing on pow.c is:

gcc -E pow.c -o pow.i

Function declaration of pow is:

extern double pow (double __x, double __y) __attribute__ ((__nothrow__ , __leaf__));

extern double __pow (double __x, double __y) __attribute__ ((__nothrow__ ,__leaf__));

Function declaration of printf is:

extern int printf (const char *__restrict __format, ...);

c) The preprocessed result does not have pow and printf implementation.

The reason is because the preprocessor removes comments in the source file,

replaces macro name with code and includes required header files in source code.

Preprocessor has nothing to do with implementation.

(Citation: https://www.youtube.com/watch?v=VDslRumKvRA)

(위 영상을 참고하였습니다.)

1.2 Compilation

a)

1) gcc options to compile pow.c to produce pow.o:

 gcc -c pow.c

2) gcc options to link pow.o with libraries and produce pow:

gcc pow.o -o pow -lm

2. C++ Programming Practice

Newbear.h and Newbear.cpp file will be implemented and be submitted by cfds098_HW01.zip.