Study Questions: Set No. 12
Introduction to C
<u>Thursday December 5, 2013</u>

<u>*Covering:*</u>

Chapter 15

1. What are the exact search rules for the `#include` directives?

2. We saw that writing `#include <file>` instead of `#include "file"` may not work if *file* is one that we've written. Would there be any problem with writing `#include "file"` instead of `#include <file>` if *file* is a system header?

3. A shared array should be declared as follow:
    `extern int a[];`
    Since arrays and pointers are closely related, would it be legal to write
    `extern int *a;`
    Instead?

4. Does it hurt if a source file includes headers that it doesn't really need?

5. Suppose that a program consists of three source files—`main.c`, `f1.c`, and `f2.c`—plus two header files, `f1.h` and `f2.h`. All three source files include `f1.h`, but only `f1.c` and `f2.c` include `f2.h`. Write a *makefile* for this program, assuming that the compiler is *gcc* and that the executable file is to be named `demo`.

6. Suppose that a program consists of three source files—`main.c`, `f1.c`, and `f2.c`—plus two header files, `f1.h` and `f2.h`. All three source files include `f1.h`, but only `f1.c` and `f2.c` include `f2.h`.
    (a) Which files need to be compiled when the program is built for the first time?
    (b) If `f1.c` is changed after the program has been built, which files need to be recompiled?
    (c) If `f1.h` is changed after the program has been built, which files need to be recompiled?
    (d) If `f2.h` is changed after the program has been built, which files need to be recompiled?