CSE 333 13sp Exercise 5

out: Friday, July 5, 2013
due: Monday, July 8, 2013 by **9:00 am**.

Your job in this exercise is to produce an improved version of the imsobuggy.c program. Start by downloading a copy of that file, then transform it as follows:

- Split the code into three C source files:
  - vector.h - specification (declarations) of the vector type and operations
  - vector.c - implementation of the vector type and operations declared in vector.h
  - ex5.c - main program that uses the vector type
- Clean up the code: in particular, fix the comments to be more precise and eliminate unnecessary text, add appropriate headings, and so forth.
- Eliminate all of the bugs in the code.
- Create a suitable makefile. The command "make" (without the quotes) should compile the source files as needed to create an executable program named ex5. The makefile should only recompile individual files and rebuild the program when needed and should reuse any existing .o files or other files that are already up to date.

  The command "make clean" (without the quotes) should remove the ex5 executable file, all .o files, and any editor or other backup files whose names end in ~ (for example, ex5.c~).

Your code must:

- compile without errors or warnings on CSE Linux machines (lab workstations, attu, or CSE home VM)
- have no crashes, memory leaks, or memory errors on CSE linux machines
- have a makefile as described above that compiles code with the gcc options -Wall -std=gnu99 -g
- be pretty: the formatting, modularization, variable and function names, and so on must make us smile rather than cry. (Suggestion: clint)
- be robust: you should think about handling bogus input from the user, and you should handle hard-to-handle cases (if there are any) gracefully.
- have a comment at the top of each source file and the makefile with your name, student number, and CSE or UW email address.

You should submit your exercise using the assignment dropbox linked on the main course web page. You may submit the four files (source files + makefile) either as separate files or in a single tar archive named ex5.tar.