Computer Science 338 - Homework/Lab 1

due: 9:55 AM, Thursday, September 14, 2000

1. (please do this part immediately)
   Send me mail at *terescoj@cs.williams.edu* with your preferred e-mail address for the class mailing list. Also, include a brief (a couple sentences) indication of your level of experience with the Unix operating system, which programming languages you are most comfortable with, and any experience you have had with parallel programming.

2. (nothing to submit) Get familiar with the CS Unix systems, and how to compile and run C programs there. Take a look at the *make* utility example on the class web page. Write a small program using a Makefile and compile it on one of the CS FreeBSD systems.

3. Compile and run the sample *pthreads* program on the web page. You will need to add the `-pthread` option to the command line for your compiling and linking step. This tells the compiler to look for the pthread.h header file and to link with thread-safe libraries and the pthread library. Create a Makefile which builds the program with the correct options.

4. Compile and run the sample MPI program on the web page. You will need to use the `mpicc` compiler script to find the MPI header files and libraries. Create a Makefile which builds the program with the correct options.

5. Come up with an example of an application that you use which you think could benefit from parallel processing. Describe how you think it could be parallelized and what benefit parallelization might provide.