CSC 155/290 – Systems Programming – HW #4 (100 total points)
Due: Monday, Oct. 14 @ 11:59pm

1. (50pts) Modify the program below (which is Fig. 4.3 on pg. 90) so that it uses `stat` instead of `lstat` and so that it does not use the header file "apue.h" (i.e. do not include "apue.h"):

```
#include "apue.h"

int
main(int argc, char *argv[])
{
     int            i;
     struct stat    buf;
     char           *ptr;

     for (i = 1; i < argc; i++) {
          printf("%s: ", argv[i]);
          if (lstat(argv[i], &buf) < 0) {
               err_ret("lstat error");
               continue;
          }
          if (S_ISREG(buf.st_mode))
               ptr = "regular";
          else if (S_ISDIR(buf.st_mode))
               ptr = "directory";
          else if (S_ISCHR(buf.st_mode))
               ptr = "character special";
          else if (S_ISBLK(buf.st_mode))
               ptr = "block special";
          else if (S_ISFIFO(buf.st_mode))
               ptr = "fifo";
          else if (S_ISLNK(buf.st_mode))
               ptr = "symbolic link";
          else if (S_ISSOCK(buf.st_mode))
               ptr = "socket";
          else
               ptr = "** unknown mode **";
          printf("%s\n", ptr);
     }
     exit(0);
```

2. (50pts) Write a C program called `mystat.c` which takes three arguments (i.e. argc == 4) where all three arguments are file path names (i.e. argv[1], argv[2], and argv[3]). Call `stat()` on each of them and print out only the file path name that is the newest of the two.

   So, for instance, running your program would look similar to the following:

   ```
   $ ./mystat foo.c test.c hello.c
   ```

   And of course, it should also work if the files are absolute path names.

   Submit the following files to Blackboard:

   1. mystat.c
   2. Makefile
   3. README (or readme.txt or Readme in some shape or form)

   by creating a TAR file with the above files included so that one file is submitted. (You can choose to compress it or not).