CP2 Exercise 3 **06/11/2006**

1. The ANSI C standard library has a number of types and functions for processing time. The interfaces to these functions can be accessed through the library header file <time.h>. Some of the functions in the library will only work if used in combination which each other:

```
time_t now;
…
time(&now);
printf(“%s”,asctime(localtime(&now)));
…
```

This combination of time functions would print out a string containing the current time in a form similar to “**Mon Oct 24 10:15:10 2005\n**”.

Expand last week’s exercise 3 *(“myLog”*) to precede every new log entry in the file “log.txt” with the time when it was created.

2. Change the previous exercise to:

a) take the name of the log file from the first command-line argument following a call to the “myLog” program.
example call: `./myLog    log.txt`

b) add new log entries to the start of the log file (*instead of appending them to the end of the file*), so that the latest entry will be at the top of the file.

hint: *you may need to use a temporary file to solve part b) of this exercise.*

3. Most modern shells have a built-in history function that keeps track of commands that have been executed (*type the command **history** into the bash shell to see how this works*). Expand the mysh shell from last Friday’s OST exercise to contain a command history. Every command entered into the shell should be appended to a file “.mysh_history”. If the mish command “history” is entered, the contents of “.mysh_history” should be listed (*in a numbered list*) on the standard output.