ME 477 Embedded Computing

Laboratory Procedures

Before coming to the laboratory, complete the pre-lab preparation. That is, study the appropriate material and write the required programs. To make effective use of your lab time, you must first well understand how the experiment is intended to work, and have written the necessary programs.

Code Documentation

Place a comment block at the beginning of every subprogram (including `main()`). This should include: the subprogram name, the purpose of the subprogram, and a list of all parameters, including direction of information transfer (into this routine, out from the routine back to the calling routine, or both), and their purposes. Be sure to include your name in the header of the main program.

Indent bodies of subprograms, loops and IF statements, and do so with a consistent style.

Use comments! The comments should describe what is happening, how it is being done, what parameters mean, and any restrictions or bugs. Comments should not state what is obvious from the source code; they should succinctly be informative about the purpose of the code. Short comments should be *what*-comments, such as "mean value", rather than *how*-comments such as "sum of values divided by n."

Reports

Laboratory reports should be typed. The report should be brief, consisting of the following parts:

1. Description: Briefly describe the major tasks performed by the program, including any limitations in the program's capability. Explain the functions of the main program and of each subfunction. Graph the hierarchical structure, showing how subprograms are called and how in turn further subprograms are called. Explain any algorithms.

2. Testing: State precisely the complete procedure for testing the program. The tests should not be unnecessarily extensive, but should be adequate to confirm that all major functions perform correctly. A code tester will attempt to follow your test procedure exactly. Each step should be explained with enough detail that someone knowing nothing about the experiment could carry it out. For each step, state what results should occur. For example, state what keyboard or electrical inputs should be applied, and how when and what outputs should be observed to confirm the program function. If the results are not as desired, state what they should be.

3. Results: Briefly discuss the results of your experiment. State how successfully the program runs, noting any unsolved problems. Answer any specific questions suggested in the assignment. Suggest possible improvements, such as extensions to the program beyond what is required, that might be made with more time.

4. Source Listing: Append a printout of the source file (`main.c`). Use the Print item under the File menu to print the active file. Staple all the pages together. Do not fold your report. Be sure your name and the experiment number are clearly written on every page.

Submission

The written report and the assignment code are due **Friday at 4:30 PM**

1. *Written*— Reports (on paper) are due in the Mechanical Engineering Main Office. Give reports to the office receptionist to be time stamped.

2. *Code*— The code tester will execute your code as part of the grading process. Submit your `main.c` file for the appropriate assignment through the ME 477 Catalyst Dropbox before the due time.

   Your `main.c` for each lab is in your workspace folder.

   Do no alter your program after the due date.

Please, do not submit reports in any other way.

Late Penalties

The grade will be reduced by 10% per workday late. A report submitted after 4:30 Friday and before 4:30 Monday is one day late. The maximum late penalty is 50%.