

Rules and Policies – Final Exam:

- *The student must have direct access to [1] a computer system for viewing and submitting the assignment. In addition, the student may have direct access to [2] any documentation provided within the assignment, [3] the Canvas calculator (but it is even better to use the assembler/compiler as a calculator), [4] two completely blank pages of paper, of size 8.5" x 11" or smaller, and [5] some writing utensil(s).*
 - *For the aforementioned computer system, the student must utilize only a single display, camera, microphone, keyboard, mouse, and speaker (or set of speakers), not headphones or earbuds.*
- *Besides the items permitted above and unless otherwise noted by the course instructor(s), the student must not utilize anything that may provide information for how to complete this assignment. Additionally, no item may be utilized for any unconventional purpose.*
- *While completing this assignment, the student must be connected to the class Zoom meeting (available via the hyperlink previously distributed on Canvas) and must not utilize the camera and computer screen sharing features of Zoom.*
 - *Before going to the Zoom link, log in to UF's Zoom, <https://ufl.zoom.us/>. Use your **FULL** name.*
 - *If the student wishes to ask a question to a course staff member, the student must use the "Raise Hand" feature of Zoom (listed under the "Reactions" tab) and wait to be assisted.*
- *The student must utilize Honorlock to complete this assignment.*
 - *When Honorlock requests that the student scan their work area with the connected camera, the student must make every effort to clearly and thoroughly show [1] all of this area, [2] all of the connected computer screen, using some form of a mirror (such as a smartphone screen, etc.) if necessary, [3] both sides of every blank page of paper brought, and [4] all of every writing utensil brought. (This process is likely to take about 60-90 seconds if done properly.) If it is apparent to the course instructor(s) that the student intentionally did not show some of these items, fifty points will be deducted from the student's grade for this assignment and the course instructor(s) will assume that the student has cheated.*
 - *The student must make every effort to share their connected camera, microphone, and computer screen through Honorlock at all times. If it is apparent to the course instructor(s) that the student intentionally stopped sharing one of these items, the course instructor(s) will assume that the student has cheated.*
 - *If the student experiences any issue(s) regarding Honorlock and they themselves are unable to fix said issue(s), they must use the "Live Chat" feature of Honorlock, which will be located on the right side of the relevant window. When this problem occurs, the student should immediately notify the course staff member(s) to the situation via the chat window of the relevant Zoom meeting. If the student is unable to solve any issue(s) regarding Honorlock using the "Live Chat" feature, the student must again alert some course staff member(s) to the situation.*
- *If you ever have WiFi or other internet connection problems just before or when your final begins, use your **phone** to connect to Zoom and use Zoom chat with Dr. Schwartz (or the relevant PI). Describe the issue and continue to try to get back in!*
 - ***As an emergency backup (if your internet goes out), you should learn how to setup your phone as a WiFi hotspot.***
- *For each question within this assignment, the student may be expected to deduce obvious instruction from the relevant context. The student must read all questions carefully and must follow all instructions given. If the student has any question(s) themselves, they may ask a course staff member for assistance; however, all course staff members always reserve the right not to answer a question posed by the student, if answering the question may provide the student with an advantage over any other student(s).*
- *For anything undefined, if necessary, the student may make some additional assumption(s); however, when graded, the relevant course staff member(s) will make the final decision as to whether or not an additional*

assumption made by the student is reasonable. Whenever possible, the student must explicitly note an additional assumption made.

- The student must answer each question in a clear and concise manner; it is likely that a lesser grade will be given for solutions that are either not clear or not concise. (That which is deemed "clear" and that which is deemed "concise" will depend on the context, but the course staff member[s] have full discretion in deciding this.)
- If the student incorporates some explanatory comments, pseudocode, or flowcharts into a solution, the student has a better chance of receiving some positive amount of credit.
- If it is apparent to a course staff member that the student intentionally incorporated some form of nonsense into a solution (e.g., the student intentionally provided something extraneous with the hope that they may get at least something correct, etc.), the student will receive a lesser amount of credit.
- Any point value of a question may be changed at the discretion of the instructor(s).
- This assignment accounts for 14% of the student's total course grade.
- Unless otherwise stated, the following must be assumed by the student while solving this assignment:
 - When some reference of a computing system is made within the assignment, either explicitly or implicitly, this system is the OOTB μ PAD.
 - The clock oscillator frequency for the relevant microcontroller is precisely 2 MHz.
 - When asked to provide a numeric result, a single real number must be given in some decimal point format, e.g., 37.9, not expressions like $3^7 \cdot \sqrt[4]{37}$, nor fractions, like 37/42.
 - Simple bitmasks such as `'BIT0_bm' = 'PIN0_bm' = 0b0000 0001`, `'BIT76_bm' = 'PIN76_bm' = 0b1100 0000`, `'INV76_bm' = 0b0011 1111`, etc., and all symbols available within the relevant AVR include files are already defined.

PLEDGE: On my honor as a University of Florida student, I, the student whose name is to be associated with the work submitted for this assignment, certify that [1] I have read, understood, and, unless otherwise directed by the course instructor(s), will abide by the above while completing this assignment, [2] after submitting this assignment, I will not communicate any details of the assignment to any student in our course that has yet to complete the assignment, and [3] if I suspect that unauthorized aid in completing this assignment has been utilized by any student, I will immediately report my suspicion(s) to the course instructor(s). In addition, I understand that if I am involved in any form of cheating whatsoever, including those forms referenced above, I am to receive no credit for this assignment, I am to receive a failing grade for this course, and I am to be referred to Student Conduct and Conflict Resolution for possible expulsion from the university.

NOTE: By opening and starting this assignment, the student whose name is to be associated with the work submitted for this assignment wholeheartedly commits to the above pledge.

NOTE: If an image is not appearing or not complete, if you are using a Windows computer, use Ctrl-F5 to refresh the Canvas page; if you are using a Mac computer, use Ctrl-Shift-R.