This assignment should be completed by Wednesday, April 5th. **Note: there is nothing to hand in for this assignment.** In this homework assignment, you will explore:

- Interrupts in C

1. Examine the INTERRUPT macro in the MICRO-C 8051INT.H file. Calculate the overhead (in microseconds) which is part of any ISR which uses the INTERRUPT macro. What practical limitation does this place on the maximum rate at which interrupts can be serviced when the INTERRUPT macro is used?

2. Look at the interrupt re-vectoring code in PAULMON21.ASM.
   a) What will happen at runtime if you do the following?
      - Set the value of the variable 'vector' to 0x8000 in PAULMON21.ASM
      - Set INTBASE to 8100h in 8051INT.H
      - ORG the code at 8000h in 8051RLPC.ASM
   b) What will happen at runtime if you do the following?
      - Set the value of the variable 'vector' to 0x2000 in PAULMON21.ASM
      - Set INTBASE to 8000h in 8051INT.H
      - ORG the code at 8000h in 8051RLPC.ASM
   c) What will happen at runtime if you do the following?
      - Set the value of the variable 'vector' to 0x8000 in PAULMON21.ASM
      - Set INTBASE to 8000h in 8051INT.H
      - ORG the code at 8100h in 8051RLPC.ASM

3. Analyze the code in the interrupt exercise posted on the course web site and handed out in class. Come to class next week with your analysis of whether there are any potential problems in the code. Assume there are no syntax errors in the code.

4. If you're using SDCC, you should examine the use of interrupts in SDCC. Review the Notes on SDCC document.