ECE 265
Computer Problem #4

In the previous computer problem, the CHANGE_TEMP feature was implemented through polling. In this computer problem, it will be converted so that it is implemented through an interrupt. This insures a faster response when the CHANGE_TEMP pushbutton is depressed.

Complete the following in order to set up the CHANGE_TEMP interrupt:

1. Initialization: in the MAIN section of the program, add instructions to enable interrupts on the rising edge of STRA (CHANGE_TEMP). Also, enable interrupts on IRQ.

2. Remove polling: remove polling of STRA by eliminating the JSR UP_DOWN instruction in the main LOOP.

3. Interrupt service routine: convert the UP_DOWN subroutine to an interrupt service routine.

4. Interrupt vector: set up the IRQ interrupt vector.

To test your program, you may want to single-step through your program to be sure that the M68HC11 is immediately responsive to the interrupt invoked on a rising edge of STRA (CHANGE_TEMP).

After you have successfully written and tested the program to produce the desired results, then upload the assembly language program (pht4.asm) to the Computer Problem #4 dropbox on Carmen. Also, print copies of the following two pages and turn them in during class on the due date:

1. pht4.LST

2. THRSim11 IO Box Window

The THRSim11 IO Box Window should show some typical results. Only one hardcopy of the program and results needs to be turned in for each group, but each person should upload pht4.asm through their Carmen account.