Homework #1

Objectives:

1) Set up your laptop for the Silicon Labs IDE and SDCC (6 pts)
2) Upload code on the LMS website (2 pts)
3) Upload a pdf document on the Gradescope website (2 pts)

Due date: Check the LMS LITEC_Calendar (Semester Schedule) to see when this is due for your section.

Reading Assignment

a) Read the Lab Manual: Chapter 1 - Introduction (PDF version on the LMS)

Class preparation assignment (see "Installing SiLabs-SDCC-Drivers" on RPILMS.)

Setting up your laptop:

a) Install the SiLabs IDE – Link available in the installation document
b) Install the SDCC compiler – Link available in the installation document
c) Download the header file c8051_SDCC.h and move it to the appropriate directory – On LMS on the main page
d) Install PuTTY (or SecureCRT) – PuTTY is available under Course Resources, Software & Drivers on LMS. SecureCRT may be obtained online from the computing center
e) Make sure drivers are installed for the USB-to-serial connector.
    a. In class – plug in the USB-to-serial adapter and let New Hardware search the web. This sometimes take a little while.
    b. Out of class (or if the above fails) – use the following link, download the PL2303 driver zip file (PL-2303 USB to Serial Bridge), unzip and run the installer.
        http://www.prolific.com.tw/eng/downloads.asp?ID=31

Every student needs to have a laptop with the above material installed. Completion of HW #1 requires verification from a TA for each student that all software has been installed correctly and a project has been created for "hw1.c" that correctly compiles, links, and downloads to the C805F020, and then executes.

The studio will be open on the first Wednesday of the semester to make sure that every student has all the software tools installed on their laptop. If you have not already completion installation, attendance at one of the Wednesday sessions is mandatory.

Running Homework 1 (6 pts)

a) Download the hw1.c file from LMS and place it in a folder where you will be saving your C code files during the semester. (You will need to save the file using an appropriate name, avoid punctuation and spaces in the name).
b) Create a project as described in the Installation document and add hw1.c to that project.
c) Connect both USB cables to your computer.
d) Turn the car on.
e) Find the COM port using instructions from the Installation document and configure PuTTY as indicated in those instructions.
f) Compile, link and download your code.
g) Follow the instruction in the PuTTY terminal to verify that you have set up everything correctly.
h) Demonstrate your working code to an instructor or TA.

In general, the above process will be repeated for each Laboratory part throughout the semester.

Uploading your Homework 1 code (2 pts)

a) Go to the RPILMS website for *Embedded Control* .
b) Click on Assignments.
c) Click on HW 1.
d) Click on Browse My Computer and navigate to where you saved the hw1.c file.
e) Click on Submit to upload the file and submit your homework.

The above process will be repeated for all software homework assignments. **Note, you will lose points (possibly receive a zero) if you upload a file that is not a c-file, so double check your file type before you click submit.**

Uploading your Results (2 pts)

a) Run your hw1.c code and enter '1' to count to 18.
b) Copy those results into a Word file (or other document).
c) Save the file as a pdf.
d) Go to the Gradescope website.
e) Upload your hw1 results pdf.
f) Select the pages associated with each part of the assignment (in this case only one part and one page).
g) Submit your assignment.

The above process will be repeated for all pre-lab assignments. **Note, you will lose points if you do not select pages associated with each assignment part, so double check that you have finished page assignments before you submit.**