16.317 Microprocessor I, Spring 2007
Lab 4: PIC Microcontroller Programming with PICkit 1 Kit
Due on 04/18/2007, 12:30pm EST

Reference

[1] PICKIT 1 Flash Starter Kit User's Guide. (Note: this user's guide is on the CD that comes with the PICkit 1 kit at directory /UsersGuide/40051d.pdf)

Objective

(1) Learn how to use PICKIT 1 Flash Starter Kit to compile and upload program to PIC microcontroller.
(2) Learn PIC microcontroller assembly language programming.

Content

Part 1

In this lab, you will follow the instructions outlined in the chapter 4 of [1] to run your first PIC program on the PICkit 1 kit.

The program you are going to run is the button debouncing example (debounce.asm) in Lesson 1 at directory \Lesson 1\Asm .

The goal is to compile the button debouncing example and program it into the PIC16F675 chip. You should be able to toggle the first LED (D0) on and off using the botton.

Part 2 (**Bonus point**, 1% out of the total score = value of a virtual cookie ☺)

You need to change the debounce program so that you can use botton to toggle the second LED (D1) instead of D0.

IMPORTANT NOTES

Please pay attention to the following notes. Failure to follow these instructions may damage the chip or the kit.

(1) The chip you are going to use is PIC 16F675 (8-pin) that comes with the kit.
(2) Please use a chip socket to hold the PIC chip. Plug in the socket into the kit board instead of plugging the chip directly.
(3) Please unplug the USB cord before removing or mounting the PIC chip.
(4) Read the user guide [1] carefully. Most of your questions can be answered there.

Check Off

You need to demo your running program to the TA.

Report format

Your report needs to follow the format below.

Lab # and title:
Student Name:
Partner's Name:

Lab Purpose:
<It is usually the objective of the lab.>

Lab Content:
< Answer the questions in lab specification. Describe what you do in the lab, e.g. what commands you practiced. It has to be at least one page with 11pt font size. Try to organize and summarize the lab in itemized lists.>

Difficulties:
< state what difficulties you encountered in the lab and how you managed to solve it. If not, what have you tried? >

Conclusion and Suggestions:

Date of Grading _____

Student Name _____ Student ID _____

LAB FOUR RUBRICS

Component	**grade**	**Actual points**
Demo Part 1	80	
Demo Part 2	15	
Report Part 1	20	
Report Part 2	5	
Total	100 + 20 bonus	