LAB # 13   Dr. Rafi

PIC18F SPI USING C

1. Title: PIC18F4321 Serial I/O

2. Objective: The purpose of this lab is to interface two PIC18F4321's
in SPI mode and then perform meaningful experiments.

3. Prelab:

Connect two PIC18F4321's are interfaced in the SPI mode. A switch is
connected to bit 0 of PORTD of the master PIC18F4321 and, an LED is
connected to bit 5 of PORTB of the slave PIC18F4321. It is desired to
input the switch via the master, and output it to the LED of the slave
       PIC18F4321. If the switch is open, the LED will be turned ON
while the LED will be turned OFF if the switch is closed.
Write a C-program to accomplish this.

4. Equipment, Software, and Components required:
-Microchip's MPLAB C18 compiler
-Parts' List
a) PicKit3, and two PIC18F4321 chips from Microchip
b) Breadboard
c) Resistors, DIP switch, and LED
d) Push button for RESET circuit
e) Power Supply
f) Wires and Clip leads

5. Description (corresponding topics covered in the textbook):

Example 11.6 on pages 343, 346-348

6. Prerequisites:
Section 11.4 on pages 338-343

7. Procedure:
-Compile the C language program using the MPLAB.

-Download the compiled program into the PIC18F4321 on the breadboard from your Personal Computer or Laptop using the PICKit3 ™ and MPLAB following the steps provided in Appendix H of the book.

-Use the default clock of the PIC18F4321 and connect the appropriate RESET circuit to the PIC18F4321 $\overline{MCLR}$ pin.

-Connect the DIP switch to bit 0 of port D and an LED to bit 5 of port B, and demonstrate the lab as a PIC18F4321-based stand-alone system.

8. Deliverables:

Postlab:
-Write a PIC18F language program to accomplish the Prelab.
Lab report:
-Submit a lab report (Stapled signed prelab, typed postlab) at the end of the quarter or semester.

9. Concluding remarks:
-Complete the prelab before coming to the lab, and get it signed by the instructor.