Laboratory Worksheet #08
Crossbar Configuration Exercise

This worksheet will help you configure the crossbar for Lab 3, part 1. Refer to the notes from the professor's lecture on the crossbar. Review the example the professor went over in class on the crossbar. Also refer to the Priority Crossbar Decode Table in the handout.

Exercise 1: Reserved pins and Crossbar initialization

This problem is an example only, do not confuse it with the Crossbar configuration for Laboratory 3 (and later laboratories).

1) Assume the following are enabled: UART0, I2C (SMBus0), and the first four capture/compare modules associated with the PCA. Which port pins will be assigned to the following:

TX0	P0.0 ;
RX0	P0.1 ;
SDA	P0.2 ;
SCL	P0.3 ;
CEX0	P0.4 ;
CEX1	P0.5 ;
CEX2	P0.6 ;
CEX3	P0.7 ;

2) Determine the bit assignments for XBR0. Indicate assigned bits with a 0 or a 1, no bits will be unassigned (no X's).

XBR0 data sheet

bit	7	6	5	4	3	2	1	0
	0	0	1	0	0	1	0	1

3) Determine the command to initialize XBR0 based on the above bit assignments.

XBR0 = 0x25 ;

Exercise 2: Laboratory preparation

1) What is the XBR0 setting indicated in Laboratory 3? 0x27

2) For each Laboratory 3.1 version, which Capture Compare Module is assiged.

Speed Controller	2 ;
Steering Servo	0 ;
LED	3 ;

When complete, include Worksheet 8 with your Laboratory 3.1 Pre-lab submission.