Lab 8 grading sheet

Students name 1) Last_____ First_____ EID_____

Use same spelling as listed on Blackboard

Students name 2) Last_____ First_____ EID_____

Circle instructor:

Valvano	TTh5
Telang	MWF2
Yerraballi	TTh3:30 or MW3
Gerstlauer	TTh2

1. Deliverables 20%:

0) This sheet

Before your checkout, you will be uploading two files to BB. The first is a doc docx or pdf file (named UTEID1_UTEID2.DOC) with the following. Have it open during demonstration. You are allowed to print these instead of creating the doc file.

1) A screenshot showing the ADC test running in simulation mode (part c)
2) Circuit diagram showing the position sensor and LCD, (PCBArtist or hand drawn),
3) Calibration data, like the first three columns of Table 7.1 (part d)
4) Final version of main program 4 with LCD, OC, ADC and PLL (parts c, e, f, g and h)
5) Accuracy data and accuracy calculation, Table 7.2

The second file to upload to BB is a single zip file with

All your source code files: *.C, *.H, *.ASM (do not include project, lst, UC, IO, rtf files)
There should be absolutely no spaces in file and/or folder names.
The ZIP file name should be UTEID1_UTEID2.ZIP where 1 and 2 are in alphabetical order.
Both partners should submit the same zip file through Blackboard.
If you are doing an electronic submission, each student should be submitting two files: UTEID1_UTEID2.ZIP and UTEID1_UTEID2.DOC (DOC, DOCX and PDF are acceptable.) However, if a student is doing a paper submission, each student should still submit UTEID1_UTEID2.ZIP through Blackboard.

2. Performance 40%:

Does it handle correctly all situations as specified?
How pretty is the software?

1)	2)

3. Demonstration 40% (TAs will ask similar, but not exactly identical questions):

You will show the TA your program operation on the actual 9S12 board. The TA may look at your data and expect you to understand how the data was collected and how the ADC and interrupts work. You should be able to explain how the potentiometer converts distance into resistance, and how the circuit converts resistance into voltage. Also be prepared to explain how your software works and to discuss other ways the problem could have been solved. What will you change in your program if the potentiometer were to be connected to a different ADC pin? How would you have configured the ADC for 10-bit mode instead of 8-bit mode? How would this system be different if the units of measurement were inches instead of cm? What's your sampling rate? What do you mean by sampling rate? What is the ADC range, resolution and precision? What does it mean that the ADC conversion time is 6μs? How and why is it set to 6μs? How do you initialize OC interrupt? How can you change your sampling rate? Be prepared to prove what the sampling rate is using a calculator and the manual. Explain how, when an interrupt occurs, control reaches the interrupt service routine. How would you change your program to use a different output compare channel. Why is it extremely poor style to output the converted data to the LCD inside the OC ISR? Where is the interrupt vector located? What are the differences between an interrupt and a subroutine? What will happen if you increase your sampling rate a lot? At what point do you think your program will crash? What is the Nyquist Theorem? How does it apply to this lab?

	1)	2)
Total:		