

LAB 6						
Lab Evaluation Rubric						
Criteria for Parts of Lab		Points Possible		Achievement Ratings: Descriptions		
Prelab: ADC Registers		5 (Bonus: 2)		(5 pts) Questions 1, 2 and 3 answered correctly (at least 3 of 4 parts correct on question 3)		
Part 1: Initialize ADC and Display Quantized Values	Initialize and configure registers used for ADC and display quantized value	10		(10 pts) Correctly initializes and configures all registers needed for ADC. Demonstrates ADC conversion using IR sensor signals. Program displays quantized values read from the ADC (raw digital conversion results). Explains whether the quantized values appear to be valid.	(8 pts) Correctly initializes and configures all registers needed for ADC. Demonstrates ADC conversion using IR sensor signals. Program displays quantized values read from the ADC (raw digital conversion results). Does not explain whether the quantized values appear to be valid.	(4 pts) Correctly initializes and configures all registers needed for ADC. Does not demonstrate ADC conversion using IR sensor signals and does not display quantized values read from the ADC (raw digital conversion results).
Part 2: Calibrating Distance Measurement	Plot quantized value at known distance measurements and calibrate IR sensor	10		(10 pts) Plots distance vs. quantized values and calibrates the IR sensor. Prints both distance and quantized value to LCD screen. Readings are within 1 cm of actual values and an averaging mechanism was implemented.	(8 pts) Plots distance vs. quantized values and calibrates the IR sensor. Prints both distance and quantized value to LCD screen. Readings are not within 1 cm of actual values and an averaging mechanism was implemented.	(5 pts) Plots distance vs. quantized values and calibrates the IR sensor. Prints both distance and quantized value to LCD screen. Readings are within 1 cm of actual values and an averaging mechanism was not implemented
Part 3: Visualizing Data	Output data for distance and quantized value to Putty	5		(5 pts) Demonstrates IR/ADC data output in Putty and correctly graphs distance and quantization value. Calibration methods are justified with a detailed description of how choices were made for calibration.	(3 pts) Demonstrates IR/ADC data output in Putty but does not graph distance and quantization values.	
Code Quality		5		(5 pts) Code is fully commented, follows company coding standards, all functions are called from main.	(4 pts) Code is mostly commented and all functions are called from main.	(3 pts) Code is sparsely commented but all functions are called from main.
Bonus: Quick Calibration		3		(3 pts) Efficiently perform a recalibration of the IR sensor measurement using novel implementation	(2 pts) Efficiently perform a recalibration of the IR sensor measurement using suggested	
	Total Points	30				
	Bonus Points	3				
	Evaluator (TA)	Evaluation Date	Total Points	Lab Partner Names	Lab Section	

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Criteria for Parts of Lab			
Prelab: ADC Registers			
Part 1: Initialize ADC and Display Quantized Values	(0 pts) Program does not compile.		
Part 2: Calibrating Distance Measurement	(2 pts) Plots distance vs. quantized values and calibrates the IR sensor. Prints both distance and quantized value to LCD screen. Readings are not within 1 cm of actual values and an averaging mechanism was not implemented		
Part 3: Visualizing Data			
Code Quality	(2 pts) Code is mostly commented but functions are written in main or are not reusable.	(1 pt) Code is sparsely commented but functions are written in main or are not reusable.	(0 pts) Little or no effort shown in commenting or developing reusable code.
Bonus: Quick Calibration			