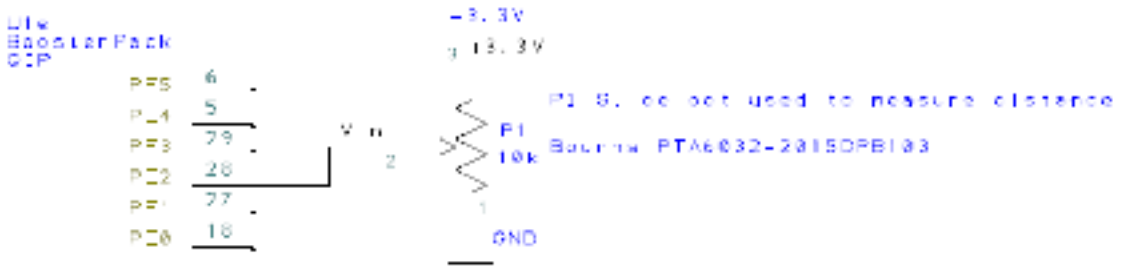
1. Circuit diagram showing the position sensor, hand-drawn or PCB Artist, like Figure 8.1 (part a)



2. Time measurements and a photo showing the ADC/LCD execution time profile (part d)

Amount of Time Toggle between instructions (measured with oscilloscope for duration of each function)

ADC Input: 12 microseconds

LCD Input: 15 microseconds

3. Calibration data, like the first three columns of Table 8.1 (part d)

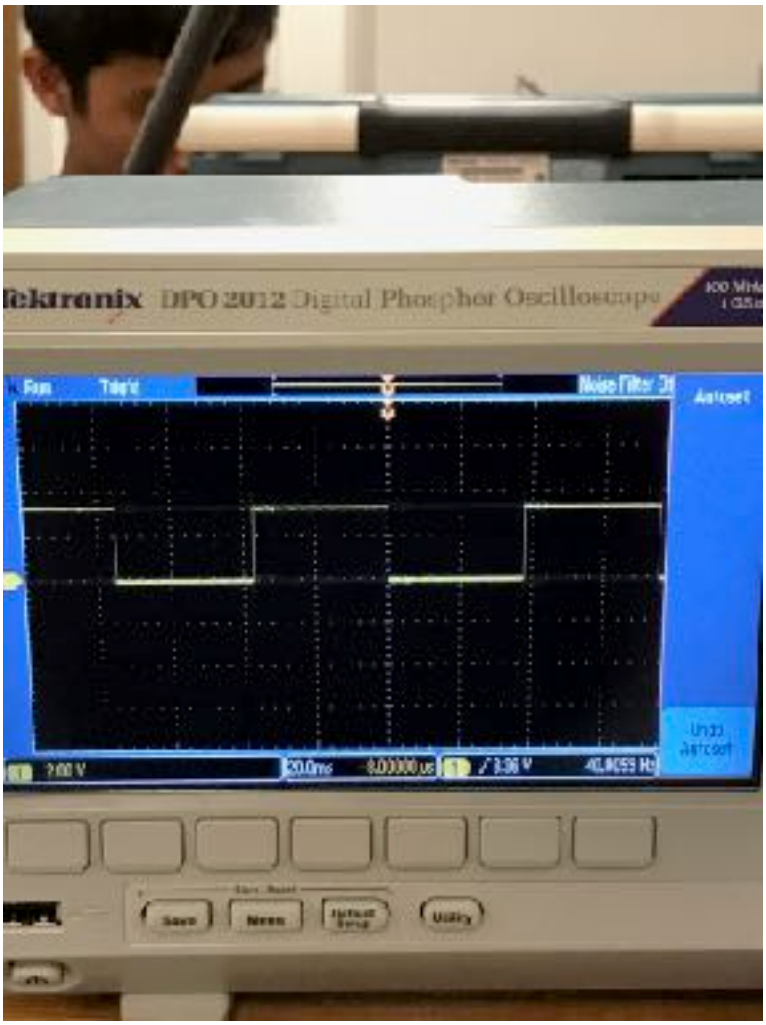
Position (cm)	Analog Input (Digital Voltmeter)	ADC Sample
0.2	0.348	406

Position (cm)	Analog Input (Digital Voltmeter)	ADC Sample
0.4	0.679	810
0.6	1.042	1232
0.8	1.391	1640
1	1.71	2047
1.2	2.089	2456
1.4	2.435	2859
1.6	2.782	3270
1.8	3.131	3688
2	3.28	4075

4. Final version of distance meter with SysTick, ADC, convert, and main (your code for parts c, e, f, g and h)

In code uploaded to Git

5. A photo or screenshot verifying the sampling rate is 40 Hz, like Figure 8.8 (part h)



6. Accuracy data and accuracy calculation, Table 8.2 (part i)

True values (cm) **Measured values (cm)** **Errors**

0.4	**0.418**	**-0.018**
0.8	0.813	-0.013
1.2	1.245	-0.045
1.6	1.589	0.011
2	2.003	-0.003