T.C.
DOKUZ EYLUL UNIVERSTY

FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

2021 - 2022
SPRING SEMESTER

CME 3208
PRINCIPLES OF EMBEDDED SYSTEMS

LAB 8 – 26.04.2022
WEIGHT SENSOR

In this lab, you are asked to create a weight sensor that shows the sensor readings in LCD screen in both kilogram (KG) and pound (LB) units simultaneously. The data on screen should be updated on LCD screen continuously, without requiring user input for LCD update. A special case for this lab would be exceeding weight limit of your sensor. When you detect such an event occurred, represent it on your LCD as “Over <LIMIT> KG” where “<LIMIT>” is the limit of your weight sensor.

Example screens are given below.

DEFAULT LCD SCREEN:

	00	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**
00	K	G	:			1	7	.	3	2	1					
01	L	B	:			3	8	.	1	8	6					

OVERLOAD LCD SCREEN:

	00	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**
00	K	G	:		O	V	E	R		4	0		K	G		
01	L	B	:													

Check your weight sensors for the precision of the results, if they are less than 3 digits over decimal point (e.g. 17.32 or 17.3), just write the available number of digits. If it is higher than 3 digits, you can either reduce them to 3 or you can print them all in LCD in given format.

Check different configurations for your weight sensor and LCD. If they exist, try them out if one that you tried on Tinkercad does not work on your Arduino board.

The weight sensor capacity that was requested in lab material list was 40 kg. If your sensor exceeds this value, you can represent it in LCD (e.g. your sensor can measure upt to 50 kg and you can show it in LCD screen). However, check online for what kind of data you get when you exceed the weight limit on the sensor, because you will need to understand when such a situation occurred to represent it in Overload LCD Screen.

GOOD LUCK TO YOU ALL!