T.C.
DOKUZ EYLUL UNIVERSTY

FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

2021 - 2022
SPRING SEMESTER

CME 3208
PRINCIPLES OF EMBEDDED SYSTEMS

LAB 6 – 12.04.2022
DHT11 MONITOR

In this lab you are required to use your DHT11 (or an alternative sensor you have selected) to get current temperature and humidity in the environment. You are required to show this info on your LCD screen. Example LCD screen are given below.

ENGLISH LCD SCREEN:

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
00	T	E	M	(	F	)	:		1	0	0	.	7	7		E	N
01	H	U	M	(	%	)	:			6	2	.	1	7			

TURKISH LCD SCREEN:

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
00	S	I	C	(	C	)	:			3	8	,	2	1		T	R
01	N	E	M	(	%	)	:			6	2	,	1	7			

As you can see there are two different screens displayed based on language. In English screen, the temperature is written in Fahrenheit format and in Turkish, Celsius format is used. To change between languages, you should use a push down button.

While using a push down button, take care to make a change only once, you should NOT use delay or sleep in this exercise, you should check if the state of button changed from "not pressed" to "pressed" by remembering previous state at the time of button press event. During button press event, the screen should only change once.

DHT11 could easily be damaged by not using correct resistance or making faulty connections. Be careful otherwise, you will require another DHT11 sensor to show your lab. In this lab, you will be required to show differences in temperature and humidity to verify your sensor works, be careful not to use fire or other extreme methods to change sensor values, it could destroy your sensor.

Search if you can get float values for temperature and humidity from DHT11 sensors. If you are sure that it is not possible to do so and only integer values are returned for both temperature and humidity, you may only use the integer value part and disregard the floating point value.

For decimal point or separator, as you can see in LCD examples above, you should use "." for English screen and "," for Turkish screen.

GOOD LUCK TO YOU ALL!