Tips for Assignment 3

Question 1-3

Follow the idea in Example 4.5.7. But also need to know different mapping strategies.

Question 4

Acceptable string formats[1]:

5	"5", "␣␣␣5", "+␣␣5", "␣005" or "+005"
-5	"-5", "-␣␣5" or "-005"
25	"25", "␣␣25", "+␣25", "␣025" or "+025"
-25	"-25", "-␣25" or "-025"
100	"100", "␣100", "+100", "␣100" or "+100"
-100	"-100" or "-100"

So, choose whatever format that is easiest to you!

To get the digits in the magnitude part (bits 6-0), you may need to design a "divide_by_10" function, or follow the idea in the lab this week (the "numDisplay.asm" example)

You only need to implement the function. There are 4 numbers in the main code. They are for the test of the function. You can observe the internal SRAM while debugging the code to see the resulted strings.

Question 5

You need to implement 6 functions. You can reuse the code in assignment 2 for two of them. The other two (showing strings on LCD) are very similar to that of the lab. Another two (number to string) have somewhat similar idea to Question 4.

To the "number to binary string" function, the result string always has 6 characters.

To the "number to decimal string" function, the decimal value is always positive and in range 0-63. But, for example, you must display "␣5" instead of "5" or "05" for value 5.

[1] "␣" stands for space.