EMBSYS100 - AU19 ASSIGNMENT 03

Goal

The goals for the assignment this week:

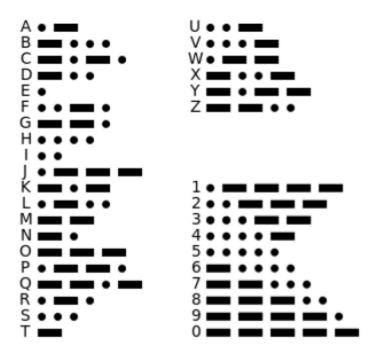
- 1. Become familiar with C programming language's pre-processor, volatile directive, and how GPIOs work.
- 2. Explore using the STM32MXCube tool to generate code for the evaluation board.

Problems:

- 1. Morse Code is considered a sequence of binaries. Please read about Morse Code and share the following findings:
 - a. What is Morse Code?
 - b. Who developed Morse Code?
- 2. Using the International Code below, please write a small program to present your **first name** with Morse Code using the user LED on our Nucleo-F401RE evaluation board.

International Morse Code

- The length of a dot is one unit.
- 2. A dash is three units.
- 3. The space between parts of the same letter is one unit.
- 4. The space between letters is three units.
- 5. The space between words is seven units.



3. Bonus:

- a. Use the STM32CubeMx tool to generate the boiler plate code for controlling the LED
- b. Implement a simple blinking LED program using the code generated by the tool.
- c. For Setup:
 - i. Install the tool (available under the "general" folder in Canvas).
 - ii. Install JRE if it prompts for it.
 - iii. Reference manual for the STM32CubeMX tool

What to turn in and how:

- Check in all your homework in your repo under the folder "assignment03".
- Your folder should contain the following:
 - o The main.c file for the "Morse Code" problem
 - o A video of the blinking Morse Code of your first name using the evaluation board.
 - o An MD file with the answers to the questions above.
 - Bonus: Turn in the main.c file showing your implementation of the blinking LED using the generated code by the STM32MXCube tool.
- Submit a link to your GitHub repo assignment:
 - Ex: "https://github.com/<account_id>/embsys100/assignment03"