

- 1) From mycourses download this pdf, dxp_Lab6_c1.c, and dxp_Lab6_a1.asm.
- 2) The **objective** of this lab is to learn how to configure and use TimerA to generate PWM signals. Remove the capacitive touch booster pack used in the previous lab. Make sure you have the jumpers J5 in place (in case you removed these previously).
- 3) **Part 1: Build, run and understand the dxp_Lab6_a1.asm code.**
- 4) Create a new assembly only project in your workspace named fmlxxxx_Lab6_a1. Create a copy of the assembly code dxp_Lab6_a1.asm in the project folder, and rename it fmlxxxx_Lab6_a1.asm. Build the project, enter debug mode, and run the program.
- 5) Visually you will see the LED blinking at one rate for a while, and then at another one for the same amount of time.
- 6) Connect an oscilloscope probe and look on to the signal.
- 7) Take some time to read and understand the code carefully
- 8) Modify the period of the signal so that the LED lights **continuously** (instead of blinking), and due to the change in PW you see a change in its intensity (instead of blinking at 2 different rates). **Record and include your values in your report.**
- 9) **Part 2: Modify the fmlxxxx_Lab6_a1.asm code to fmlxxxx_Lab6_c1.asm.**
- 10) Create the same functionality in C code. Use previous C code examples as guides and templates. A while(1) loop and a subroutine call will be the main structures of your code.
- 11) Make sure you write the report and upload it along with your project archives on mycourses. As time permits, demo the intermediate steps to the TA.
- 12) **Grading:**
 - a. Part 1 = 20 points
 - b. Part 2 = 20 points.