

3.2 — Postlab 3. Please answer the following questions and hand in as your post lab for Lab 3.

1. Using a timer clock source of 8 MHz, calculate PSC and ARR values to get a 60 Hz interrupt.
 - This is tricky because precisely 60 Hz is impossible with our system; instead, think about the process and minimize the error. Many combinations of PSC and ARR values work—not just one!

ARR = 6 PSC=799999

2. Look through the Table 13 "STM32F072x8/xB pin definitions" in the chip datasheet and list all pins that can have the timer 3 capture/compare channel 1 alternate function.

- If the pin is included on the LQFP64 package that we are using, list the alternate function number that you would use to select it.

PE3, PA6: 22, PC6: 39, PB4: 56

3. List your measured value of the timer UEV interrupt period from the first experiment.
 - 250ms
4. Describe what happened to the measured duty-cycle as the CCRx value increased in PWM mode 1.
 - The duty-cycle was higher for longer during the period as the CCRX increased
5. Describe what happened to the measured duty-cycle as the CCRx value increased in PWM mode 2.
 - The duty-cycle was lower for longer during the period as the CCRX increased
6. Include at least one logic analyzer screenshot of a PWM capture. 7. What PWM mode is shown in figure 3.6 of the lab manual (PWM mode 1 or 2)?

PWM mode 1

