

Homework 9

0. What is an advantage to using a separate timer to keep track of time for you?

1a. Write C code that sets up the SysTick Timer to interrupt once a second, assuming you have a 15MHz clock. What does your counter need to count from?

1b. What file is the #define statement for the SysTick data structure in? What is the base address that it is defined to be at?

2. Is it possible to use the SysTick Timer to generate an interrupt once every 10 seconds given a 2 MHz clock? If not, what is the closest you can come, and what is your error? Name two ways that you can solve this problem.

3. Is it possible to use the SysTick Timer to generate 4 interrupts every 3 seconds with a 2MHz clock? If not, what is the closest you can come to and what is the error?

4. What does D/A stand for? Draw a circuit that represents one way to build one of them? Can you use Pulse Width Modulation to do something similar? How?