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Lab 2
ECE 5780

1. Yes, we read the lab.
2. Because then it makes it annoying for other people to change the workspace.
3. The STM32051R8 has 8kB of RAM and 64kB of flash.
4. 0xAD | 0xC7 = (1010 1101) | (1100 0111) = 1110 1111 = 0xEF
   0xAD & C7 = (1000 0101) = 0x85
   0xAD & ~(0xC7) = (1010 1101) & (0011 1000) = 0010 1000 = 0x28
   0xAC ^ 0xC7 = 0110 1010 = 0x6A
5. You would clear the 5th and 6th bits (leaving the others intact) by ANDing the register with the bit mask ~(0011 0000) = 1100 1111 = 0xCF. (Set the bits that you want to clear to one, then invert the mask).
6. The GPIO has 11 registers.
7. The OSPEEDR register sets the speed of the register in order to better control the power consumption by the pins the lower the speed, the lower the power consumption. The slowest setting has a speed of 125ns rise/fall times. The maximum speed has a rise/fall time of 5ns.
8. You have to enable the peripherals the RCC because when there is a clock on the peripheral, it will use more energy. If a peripheral is not being used, then there is no point in wasting the power by giving it a clock. The clock allows the pins to rise from low to high, and high to low.
9. To enable the the clock for TIMER1, use register APB2ENR.
10. Need to tag the busy loop as volatile because if it isn't, then the the compiler might optimize out the counter. The volatile keyword will make sure that the compiler doesn't touch that variable.
11. I'm feeling pretty good about it so far. I like the encoder setting for one of the timers (haven't looked into it too much yet, but if it helps with encoder timing, then I like it).