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CS 5780

CS 5780 Lab 3 - PreLab

1. List two things you can learn from a peripheral's functional description in the peripheral reference manual? There is a variety of information that can be gleaned from the peripheral’s function description. First is that you can gain a excellent definition of what the purpose of the peripheral is and a high level look into how it does its job. It also describes what you need to set certain registers too in order to perform certain typical scenarios. It also gives a small description on certain important registers.
2. What is the title of the first sub-section in the functional description of timers 2 and 3?
   1. Not mentioned in lab manual, look it up!

TIM2 and TIM3 introduction

1. What is the purpose of the Prescaler (PSC) register?

                  It is used to divide the input clock frequency to the timer.

1. What is the purpose of the Auto-Reload (ARR) register?

                  It is the trigger point where the timer resets and begins to count a new period.

1. What is the purpose of the Capture/Compare (CCRx) register while the timer is operating in Output Compare mode? This mode directly modifies the output of a GPIO pin whenever the timer counter matches the value stored in the CCRx register. It also creates arbitrary digital waveforms on the output.
2. What does the duty-cycle of a PWM signal represent?

It represents the analog voltage ranging between the low and high voltages of the digital signal.

1. What is the purpose of the Alternate Function mode for a GPIO pin?

Its purpose is to allow a pin to connect directly to internal peripherals of the STM32F0.

1. In what document can you find the documentation for what GPIO pins have which alternate functions? Chip Dataset Manual (the 27 page one)