Homework #4

1. TIM4 is an Alternate function connected to GPIOB. Write the full configuration to turn on the clock for TIM4 and enable the alternate function.

* RCC>APB1ENR|= (1<<2); //enable clock to timer TIM4
* RCC> APB2ENR |=(1)|(1<<3); //enables and the GPIO clock
* AFIO-MAPR |= (1<<12); //enables the alternate function

1. Pins of the STM32 microcontroller have different functions. The standard functions refer to GPIO, General Purpose Input/Output. What feature would you use to map the pins to other functions such as USART, PWM, ADC, etc.

* Alternate functions

1. What register(s) would you use to configure a timer pin as an output?

* TIMx\_PSC
* TIMx\_ARR
* Timx\_CCR1
* AFIO\_MAPR

1. What is the size (# of bits) of the auto reload counter register?

* 16 bits

1. What is the size (# of bits) of the pre-scaler register?

* 16 bits

1. How many channels do the STM32 timers have? Name them

* Typically, a max of 4 channels each for timers 1,2,3,4,5,8 – 6 and 7 isnt described in detail in the reference Manuel
* They are the
  + Input capture
  + Output capture
  + PWM generation
  + One-pulse mode output