Exercises

1. If an interrupt is generated at 19199 Hz and the bus clock frequency is 24 MHz, what is the max value of the counter?

TIMER\_CNT\_PERIOD = (24 MHz/19199 Hz) - 1 = 1249.

1. If the max value of the counter is 0x00394391 and the bus clock frequency is 24 MHz, what is the interrupt period?

Period = (0x03194391+1)/24 MHz = 2.16614 seconds

1. Specify how the interrupt timer control registers must be configured so that an interrupt is generated with a frequency of 315 Hz, a clock speed of 24 MHz. What is the actual frequency generated?

Enable the module clock and enable a timer(e.g. Timer 3)

TIM3\_ARR = (24MHz/315Hz)-1=76190

Duty cycle = 58%

TIM3\_CCR1 = 76190\*50%=38095

Enable counter