

CS 273 HW 9

5) Timer 1 supports the highest prescaler value of $1:1024$

10) $TCCR0A = 0b00000000$ $TCCR0B = 00000001$

11) b) $XTAL = 16 \text{ MHz} = \text{Frequency}$

$$\text{Period} = 1/16 \text{ MHz} = 0.0625 \mu\text{s}$$

d) $XTAL = 10 \text{ MHz} = \text{Frequency}$

$$\text{Period} = 1/10 \text{ MHz} = 0.1 \mu\text{s}$$

14) When $TOVx$ flag is raised for :

a) Timer 0, Normal : When $TCNT0$ overflows from $0xFF$ to $0x00$

b) Timer 2, Normal : When $TCNT2H$ overflows from $0xFF$ to $0x00$

(The timer can count up to $0xFFFF$, but $TOV2$ will only set off from $TCNT2H$)

19) $XTAL = 1 \text{ MHz}$, Time delay of 2.5 ms , normal mode, no prescaler

$$1 \text{ MHz} = 1 \mu\text{s} = 1000 \text{ cycles per } \mu\text{s}$$

$$= 2500 \text{ cycles total}$$

$$2500 = 0x9C4 \text{ cycles delay}$$

$$\begin{array}{r} \text{FFFF} \\ - 09C4 \\ \hline \text{F63B} \end{array}$$

$$TCNT1H = 0xFF$$

$$TCNT1L = 0x3C$$