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ECE 375

Lab#7 PreLab

*1. List the correct sequence of AVR assembly instructions needed to store the contents of registers R25:R24 into Timer/Counter1’s 16-bit register, TCNT1. (You may assume that registers R25:R24 have already been initialized to contain some 16-bit value.)*

OUT TCNT1H, R25

OUT TCNT1L, R24

*2. List the correct sequence of AVR assembly instructions needed to load the contents of Timer/Counter1’s 16-bit register, TCNT1, into registers R25:R24.*

IN R24, TCNT1L

IN R25, TCNT1H

*3. Suppose Timer/Counter0 (an 8-bit timer) has been configured to operate in Normal mode, and with no prescaling (i.e., clkT0 = clkI/O = 16 MHz). The decimal value “128” has just been written into Timer/Counter0’s 8-bit register, TCNT0. How long will it take for the TOV0 flag to become set? Give your answer as an amount of time, not as a number of cycles.*



MAX = FF = 255

value = 128

clkT0 = 16 MHz = 16,000,000 cycles/s = 1/62.5ns = 6.25e-8s

Delay = (255 – 128) \* 6.25e-8 = 7.9375 μs