

پاسخ کوئیز پنجم سیستم دیجیتال ۲

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Include 'M64DEF.INC'
.ORG 0x0000
JMP main
.ORG 0x0020
JMP Timer0_ISR
.ORG 0x0050
main : LDI R16, low(RAMEND)
      OUT SPL, R16
      LDI R16, high(RAMEND)
      OUT SPH, R16
      LDI R16, 0x07
      OUT TCCR0, R16
      LDI R16, 236
      OUT TCNT0, R16
      LDI R16, 0x01
      OUT TIMSK, R16
      LDI R16, 0x0FF
      OUT DDRD, R16
      CLR R17
      CLR R18
      CLR R19
      LDI R16, 50
      LDI R21, 200
      LDI R22, 100
      SEI
Loop : JMP Loop

Timer0_ISR : LDI R16, 236
            OUT TCNT0, R16
            CPI R17, 0
            BRNE next1
            DEC R16
            CPI R16, 0
            BREQ next1
            OUT PORTD, R16
            RETI
next1 : CPI R19, 0
       BRNE next2
       INC R17
       CPI R17, 25
       BREQ next2
       OUT PORTD, R18
       RETI
next2 : CPI R19, 50
       BREQ next3
       OUT PORTD, R21
       OUT PORTD, R16
       INC R19
       RETI
next3 : OUT PORTD, R21
       LDI R16, 50
       OUT PORTD, R16
       CLR R17
       CLR R19
       RETI

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$$f_t = \frac{10/24\text{MHz}}{1024} = 10\text{KHz} \rightarrow T_t = 1/10\text{KHz} = 100\mu\text{sec} \rightarrow \frac{2\text{msec}}{T_t} = 20 \rightarrow 256 - 20 = 236$$

هر 2msec. ، یک رقم کاهش باید در این صورت 2mV کاهش می یابد.