

پاسخ کویز پنجم ریزپردازنده

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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, 246
      OUT TCNT0, R16
      LDI R16, 0x01
      OUT TIMSK, R16
      LDI R16, 0xFF
      OUT DDRD, R16
      CLR R16
      CLR R17
      SEI
Loop : JMP Loop

Timer0_ISR : LDI R16, 246
            OUT TCNT0, R16
            CPI R17, 0
            BRNE next2
            INC R16
            CPI R16, 101
            BRSH next1
            OUT PORTD, R16
            RETI
next1 : DEC R16
       CPI R16, 200
       BREQ next2
       INC R16
       INC R16
       OUT PORTD, R16
       RETI
next2 : INC R17
       CPI R17, 100
       BREQ next3
       OUT PORTD, R16
       RETI
next3 : CLR R16
       CLR R17
       OUT PORTD, R16
       RETI

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$$f_t = \frac{10/24 \text{ MHz}}{1024} = 10 \text{ KHz} \rightarrow T_t = 1/10 \text{ sec} \rightarrow \frac{1 \text{ m sec}}{T_t} = 10 \rightarrow 256 - 10 = 246$$