```
; T3CON setup:
;               TMR3ON = 0
;               TMR3CS = 1
;               T1SYNC = 0
;               T3CKPS = 00
;               T3CCP = 00
;               RD16 =0


 ; T0CON setup:
;               TMR0ON = 0
;               T08BIT = 0
;               T0CS = 1
;               T0SE = 0
;               PSA = 1
;               T0PS = 000
;T3CON = 0x80
;T0CON = 0x28


;TMR3H&TMR3L:  RegValue =
;32kHz/4 = 8kHz
;1s= (1/(8khz))*(FFFF)-init ➔ 1000000 * 0,000125=FFFF-init
;init=65536-125=65410  = FF82
hilo equ 0x20
 org 0x0
   goto start


 org 0x08
   goto ISR


ISR:
  ;check which is making the interrupt
```

```asm
    ;1second is up go to interrupt for 3
    btfsc PIR2,TMR3IF
    bra timer3isr
    ;interrupt for timer0 womething went wrong? start over
    btfss INTCON,TMR0IF
    bra start
    retfie


timer3isr:
    ;stop timers for duration of sending values to leds
    bcf INTCON,GIE
    bcf T3CON, TMR3ON
    bcf T0CON, TMR0ON
    ;testi which value should be sent 0=High 1=low
    btfss hilo, 0
    bra lowbyte
    ;send first lowbyte the high byte
    movff TMR0L,PORTD
    movff TMR0H,PORTD
    ;setting hilo for next round
    bsf hilo,0
    bra ending
lowbyte:
                ;only lowbyte needs to be sent
                movff TMR0L,PORTD
                ;setting hilo for next round
                bcf hilo,0
ending:
    ;restart the values on timers to do it again
                bcf PIR2, TMR3IF
                bsf INTCON,GIE
```

```asm
            movlw 0xff

            movwf TMR3H

            movlw 0x82

            movwf TMR3L

            clrf TMR0H

            clrf TMR0L

            ;Start timers again

            bsf T3CON,TMR3ON

            bsf T0CON,TMR0ON

    retfie


intsetup:

    ;set ports

    clrf TRISD

    bsf TRISA,4

    ;timer1 values need to be set for timer3

    bsf T1CON,TMR1CS

    ;clear values for timer 0 to begin counting

    clrf TMR0H

    clrf TMR0L

    ;interrupt setup

    bcf T0CON, TMR0IF

    bsf INTCON,TMR0IE

    bcf PIR2, TMR3IF

    bsf PIE2, TMR3IE

    bsf INTCON, PEIE

    bsf INTCON, GIE

    ;initial values for counter and timer

    movlw 0x28

    movwf T0CON

    movlw 0x80
```

```
        movwf T3CON

        movlw 0xff

        movwf TMR3H

        movlw 0x82

        movwf TMR3L

        return
start:

    clrf hilo

    call intsetup

    ;turn on counters and stay on busy loop interrupts should handle the value resets

    bsf T0CON,TMR0ON

    bsf T3CON,TMR3ON

    bra $

    end
```