```
                ;*******************************************************
                ;
                ; TEST 2
                ;
                ; SLÅR AV LED AV/PÅ....  ADDR. FFFF BIT 080H = 00/FF
                ;
0000                    CPU     "8051.TBL"
0000                    HOF     "INT8"
                ;
                ;*******************************************************
                ;
                ;MCS-51 INTERNAL REGISTERS
                ;
00F0 =          B:      EQU     0F0H    ;B REGISTER
00E0 =          ACC:    EQU     0E0H    ;ACCUMULATOR
00D0 =          PSW:    EQU     0D0H    ;PROGRAM STATUS WORD
00B8 =          IPC:    EQU     0B8H    ;INTERRUPT PRIORITY
00B0 =          P3:     EQU     0B0H    ;PORT 3
00A8 =          IEC:    EQU     0A8H    ;INTERRUPT ENABLE
00A0 =          P2:     EQU     0A0H    ;PORT 2
0099 =          SBUF:   EQU     99H     ;SEND BUFFER
0098 =          SCON:   EQU     98H     ;SERIAL CONTROL
0090 =          P1:     EQU     90H     ;PORT 1
008D =          TH1:    EQU     8DH     ;TIMER 1 HIGH
008C =          TH0:    EQU     8CH     ;TIMER 0 HIGH
008B =          TL1:    EQU     8BH     ;TIMER 1 LOW
008A =          TL0:    EQU     8AH     ;TIMER 0 LOW
0089 =          TMOD:   EQU     89H     ;TIMER MODE
0088 =          TCON:   EQU     88H     ;TIMER CONTROL
0087 =          PCON:   EQU     87H     ;POWER CONTROL REGISTER
0083 =          DPH:    EQU     83H     ;DATA POINTER HIGH
0082 =          DPL:    EQU     82H     ;DATA POINTER LOW
0081 =          SP:     EQU     81H     ;STACK POINTER
0080 =          P0:     EQU     80H     ;PORT 0
                ;
                ;MCS-51 INTERNAL BIT ADDRESSES
                ;
00D7 =          CY:     EQU     0D7H    ;CARRY FLAG
00D6 =          AC:     EQU     0D6H    ;AUXILIARY-CARRY FLAG
00D5 =          F0:     EQU     0D5H    ;USER FLAG 0
00D4 =          RS1:    EQU     0D4H    ;REGISTER SELECT MSB
00D3 =          RS0:    EQU     0D3H    ;REGISTER SELECT LSB
00D2 =          OV:     EQU     0D2H    ;OVERFLOW FLAG
00D0 =          P:      EQU     0D0H    ;PARITY FLAG
00BC =          PS:     EQU     0BCH    ;PRIORITY SERIAL PORT
00BB =          PT1:    EQU     0BBH    ;PRIORITY TIMER 1
00BA =          PX1:    EQU     0BAH    ;PRIORITY EXTERNAL 1
00B9 =          PT0:    EQU     0B9H    ;PRIORITY TIMER 0
00B8 =          PX0:    EQU     0B8H    ;PRIORITY EXTERNAL 0
00AF =          EA:     EQU     0AFH    ;ENABLE ALL INTERRUPT
00AC =          ES:     EQU     0ACH    ;ENABLE SERIAL INTERRUPT
00AB =          ET1:    EQU     0ABH    ;ENABLE TIMER 1 INTERRUPT
00AA =          EX1:    EQU     0AAH    ;ENABLE EXTERNAL 1 INTERR
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```
00A9 =      ET0:    EQU     0A9H    ;ENABLE TIMER 0 INTERRUPT
00A8 =      EX0:    EQU     0A8H    ;ENABLE EXTERNAL 0 INTERR
009F =      SM0:    EQU     09FH    ;SERIAL MODE 0
009E =      SM1:    EQU     09EH    ;SERIAL MODE 1
 9D =       SM2:    EQU     09DH    ;SERIAL MODE 2
009C =      REN:    EQU     09CH    ;SERIAL RECEPTION ENABLE
009B =      TB8:    EQU     09BH    ;TRANSMITT BIT 8
009A =      RB8:    EQU     09AH    ;RECEIVE BIT 8
0099 =      TI:     EQU     099H    ;TRANSMIT INTERRUPT FLAG
0098 =      RI:     EQU     098H    ;RECEIVE INTERRUPT FLAG
008F =      TF1:    EQU     08FH    ;TIMER 1 OVERFLOW FLAG
008E =      TR1:    EQU     08EH    ;TIMER 1 RUN CONTROL BIT
008D =      TF0:    EQU     08DH    ;TIMER 0 OVERFLOW FLAG
008C =      TR0:    EQU     08CH    ;TIMER 0 RUN CONTROL BIT
008B =      IE1:    EQU     08BH    ;EXT INTERR. 1 EDGE FLAG
008A =      IT1:    EQU     08AH    ;EXT INTERR. 1 TYPE FLAG
0089 =      IE0:    EQU     089H    ;EXT INTERR. 0 EDGE FLAG
0088 =      IT0:    EQU     088H    ;EXT INTERR. 0 TYPE FLAG

            ;*******************************************************
            ;
4100                ORG     04100H
            ;
            ; DEFINITION OF VARIABLE
            ;
00FF =      LED_ST: EQU     0FFH        ;STATUS LED
            ;
            ;  TOGGLE LEDS
            ;
4100 E5FF   TOGGLE: MOV     A,LED_ST    ;LED STATUS TO ACCU
4102 65FF           XRL     A,0FFH      ;TOGGLE LED
4104 F5FF           MOV     LED_ST,A    ;LED BACK TO VARIABLE
4106 90FFFF         MOV     DPTR, #0FFFFH ;LED ADDR TIL DATAPOINTER
4109 F0             MOVX    @DPTR,A     ;LED STATUS TO DATA POINTER
            ;
            ; WAITING LOOPS
            ;
000F =      I_OUTER: EQU    0FH
000F =      I_INNER: EQU    0FH
            ;
410A E50F   INNER:  MOV     A,I_INNER   ;INDEX TO ACCU
410C 14             DEC     A           ;I_INNER --
410D F50F           MOV     I_INNER,A   ;SAVE INDEX
410F 70F9           JNZ     INNER       ;IF I_INNER != 0 => CONTINUE
            ;
4111 E50F   OUTER:  MOV     A,I_OUTER   ;INDEX TO ACCU
4113 14             DEC     A           ;I_OUTER --
4114 F50F           MOV     I_OUTER,A   ;SAVE INDEX
4116 70F2           JNZ     INNER       ;IF I_OUTER != 0 => CONTINUE
4118 80E6           SJMP    TOGGLE      ;ELSE TOGGLE LED

0000                END
```

00D6 AC
00E0 ACC
00F0 B
00D7 CY
0083 DPH
0082 DPL
00AF EA
00AC ES
00A9 ET0
00AB ET1
00A8 EX0
00AA EX1
00D5 F0
0089 IE0
008B IE1
00A8 IEC
410A INNER
00B8 IPC
0088 IT0
008A IT1
000F I_INNER
000F I_OUTER
00FF LED_ST
4111 OUTER
00D2 OV
00D0 P
0080 P0
0090 P1
00A0 P2
00B0 P3
0087 PCON
00BC PS
00D0 PSW
00B9 PT0
00BB PT1
00B8 PX0
00BA PX1
009A RB8
009C REN
0098 RI
00D3 RS0
00D4 RS1
0099 SBUF
0098 SCON
009F SM0
009E SM1
009D SM2
0081 SP
009B TB8
0088 TCON
008D TF0
008F TF1
008C TH0
008D TH1
0099 TI
008A TL0
008B TL1
0089 TMOD
4100 TOGGLE
008C TR0
008E TR1