EXPERIMENT 5.2

Delay of 4 seconds and toggle the bit P1.0 using 8 bit auto reload timer mode

Code:

```
1  ; 4 SEC delay using mode 2 timer 0
2
3  ; TH = 0 implies 256 loops
4  ; 4 SEC / 256*0.5425 us = 28800
5  ; 0.5425 is used as its 24MHz
6  ; 28800 = 144 ( 90H ) * 200 ( CD H )
7
8              ORG 0000H
9              MOV TMOD , #02H ; TIMER 0 MODE 2
10             MOV TH0  , #00H ; 256 loops
11       LOOP: MOV R5   , #90H
12             ACALL DELAY
13             CPL P1.0        ; compliment value
14             SJMP LOOP
15
16     DELAY: MOV R4   , #0CDH
17        L1: SETB TR0         ;start timer
18      BACK: JNB  TF0, BACK   ;check status
19             CLR TR0         ;stop timer
20             CLR TF0         ;reset timer
21             DJNZ R4, L1
22             DJNZ R5, DELAY  ; 4 sec delay
23             RET
24
25             END
```

Output:

TMOD REG:

The port toggles between these two states every 4 s.