Lab E
Bit Addressing, Inputs, Port 0

1. Create, assemble, make appropriate comments and save the following program:

```
;Initial skip
            ORG     00H
            AJMP    Main

;Main body
            ORG     100H
Main:       NOP
            MOV     P1,#00H     ;Port 1 LEDS off
            SETB    P0.1        ;make port 0 bit 1 an input
Loop:       NOP
Watch:      NOP
            MOV     P1,#00H     ;port 0 all leds off
            JNB     P0.1,Watch  ;stay in loop if bit is low
            ACALL   Display
            SJMP    Loop


;Display subroutine
            ORG     200H
Display:    NOP
            MOV     A,#0FFH
            MOV     P1,A
            ACALL   Delay
            CPL     A
            MOV     P1,A
            ACALL   Delay
            RET
;Delay subroutine
            ORG     250H
Delay:      NOP
            MOV     R3,#0FFH
OUTER:      MOV     R2,#0FFH
INNER:      NOP
            DJNZ    R2,INNER
            DJNZ    R3,OUTER
            RET
            END
```

2. Simulate the program using Debug and observe the operation of the port bits as opposed to the pin inputs.

3. Execute the program and observe the operation. Notice that the switches operate in reverse.

4. Modify the program so that Port 0 bit 6 is monitored. When bit 6 is “high” then all LEDS must blink 3 times.

5. New commands:

SETB	set bit high, this causes the bit to act as an input
JNB	jump if no bit, a jump will occur if the bit is low