

Test 2. Turn on the LEDs connected to various lines of port B

Program code:

```
; *****
; * T2 *   Turning on the LEDs, connected to
;   bit 1 and bit 7 of PORT B by setting RA1
;   and RA7 to high.
;   Internal clock frequency 37 kHz, Tcm = 108 µs
; *****

list p=16f628, r=hex      ; declare processor,
                          ; specifying the radix
#include p16f628.inc      ; include register label
                          ; definitions
__config h'3f10'          ; configuration
                          ; information
                          ; for selected processor
errorlevel -302           ; turn off banking
                          ; message

movlw h'07'               ; 07 -> w
movwf cmcon               ; w->cmcon, comparators off
clrf porta                ; clear PORTA output latches
clrf portb                ; initializes PORTB
bsf  status, rp0          ; bank 1
bcf  pcon, oscf           ; internal gen. 32 kHz,
                          ; Tcm=108µs

clrf trisa                ; PORTA for output
clrf trisb                ; PORTB for output

bcf  status, rp0          ; bank 0
```

```
    bsf portb, 0          ; LED 0 on
    bsf portb, 7          ; LED 7 on
    goto $               ; go to self
                           ; loop here forever

end
; *****
```

Note:

The LED on RA5 is turned on despite of initializing port A and port B with 0x00:

```
    clrf porta          ; clear PORTA output latches
    clrf portb          ; initializes PORTB
```

because it is \sim MCLR line.

RB0 and EB7 lines are set to high with the instructions:

```
    bsf portb, 0          ; LED 0 on
    bsf portb, 7          ; LED 7 on
```

Another way for turning selected LEDs on will be copying the bitmap mask to portB. It will be subject of test 3.