```
;*****************************************
;int_tog_led interrupt toggle led
;*****************************************
        PROCESSOR PIC16F628
        #include <P16F628.INC>
        __CONFIG    _CP_OFF & _MCLRE_OFF & _HS_OSC & _LVP_OFF & _WDT_OFF

        cblock  0x20
            temp
            temp1
            count
            count0
            count1
            count2
            w_temp
            OPTION_REG_temp
            STATUS_temp
        endc
        ORG 0x00        ;reset vector
        goto main

        ORG 0x04        ;interrupt vector
        goto EXT_ISR        ;exit Interrupt Service Routine

;---push pop---
        PUSH    MACRO
        movwf   w_temp      ;   w_temp = w
        swapf   w_temp,f    ;   swap them, ใช้ swap เพราะ movf มีโอกาสที่จะไปเปลี่ยน zero
        flag ใน status register
        banksel TRISA       ;   select bank1
        swapf   OPTION_REG,w;   w= OPTION_REG
        movwf   OPTION_REG_temp;OPTION_REG_temp= w
        banksel PORTA       ;   select bank0
        swapf   STATUS,W    ;   w= STATUS
        MOVWF   STATUS_temp ;   STATUS_temp= w
        ENDM

        POP MACRO
        SWAPF   STATUS_temp,w
        MOVWF   STATUS
        banksel TRISA       ;   select bank1
        swapf   OPTION_REG_temp,w
        movwf   OPTION_REG
        banksel PORTA       ;   select bank0
        swapf   w_temp,w
        ENDM
;---end push pop---

main:
        ;---Port Config---
        movlw   .7
        banksel CMCON       ; select Bank0 (CMCON อยู่ Bank0)
        movwf   CMCON       ; Disable analog comparator
        banksel TRISB       ; select Bank1
        bcf     TRISA,0     ; Port RA0 is an output pin
        bsf     TRISB,0     ; Port RB0 is an input pin
        banksel PORTB       ; select Bank0
        ;---End Port Config---
        ;---Interrupt Config---
        bsf     INTCON,GIE  ; enable global interrupt
        bsf     INTCON,INTE ; enable external interrupt, INT = external
        interrupt, E=enable
        bcf     INTCON,INTF ; clear external interrupt flag , F = flag
        ;; Or using movlw instead of bsf, bcf
        ;;   BIT: 7654 3219
        ;movlw  B'1001 0000'; GIE(bit7), INTE(bit4)
        ;movwf  INTCON      ;
        ;---End Interrupt Config---
```

```
67          ;---Option Config---
68          banksel OPTION_REG
69          bcf     OPTION_REG,INTEDG; INTEDG=0 interrupt on falling edge of
            RB0/INT pin
70          ;bsf    OPTION_REG,INTEDG; INTEDG=1 interrupt on rising edge of
            RB0/INT pin
71          ;---End Option Config---
72          banksel PORTA       ; select Bank0 (can use CMCON instead of PORTA)
73
74  inf_loop:
75          goto inf_loop
76
77
78  ;---interrupt---
79  EXT_ISR:
80          PUSH
81          bcf     INTCON,INTF
82          btfss   PORTA,0
83          goto    SET_ON
84  SET_OFF:
85          bcf     PORTA,0
86          goto    SET_DONE
87  SET_ON: bsf     PORTA,0
88  SET_DONE:
89          POP
90          RETFIE
91  ;---end interrupt---
92
93
94
95          END
96
```