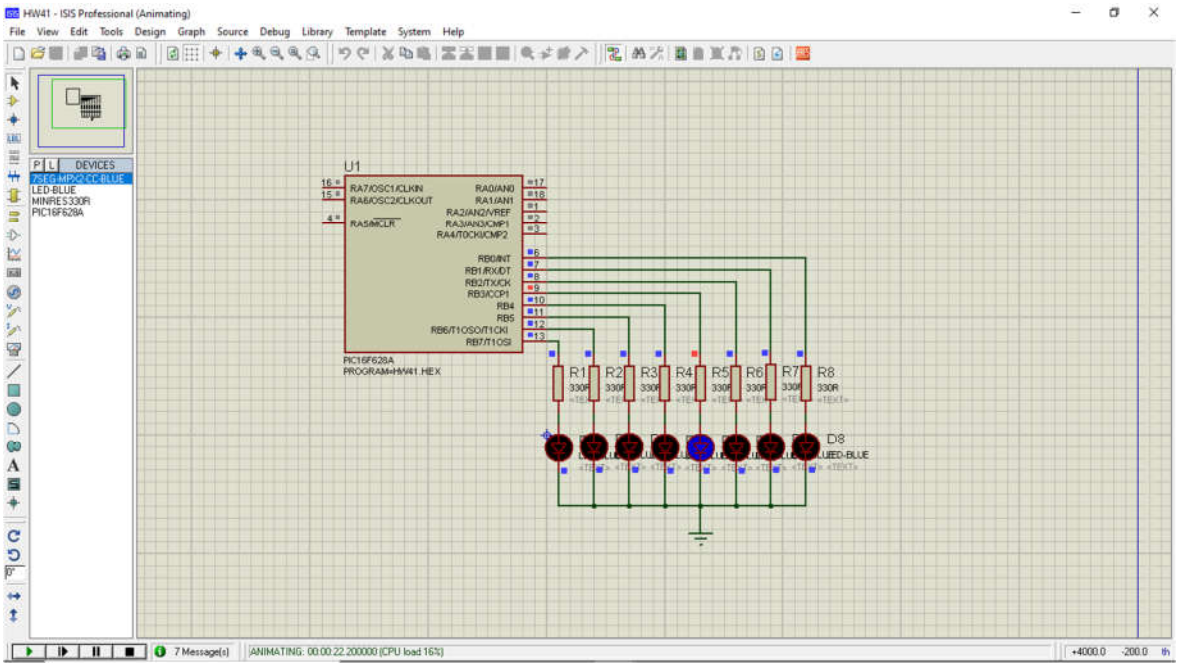



```
;*****************************************
;HW41 ไฟวิ่งซ้ายไปขวา แล้วขวามาซ้าย
;*****************************************
            PROCESSOR PIC16F628
            #include <P16F628.INC>
            __CONFIG    _CP_OFF & _MCLRE_OFF & _HS_OSC & _LVP_OFF &
_WDT_OFF

            cblock      0x20
                  temp
                  count
                  count0
                  count1
                  count2
            endc
            ORG 0x00
            ;init
            movlw .7
            banksel CMCON
            movwf CMCON       ; Disable analog comparator
            banksel     TRISB
            movlw 0x00
            movwf TRISB       ; Set PORTB as an output port
            banksel     PORTB
            clrf  PORTB
            clrf  temp
            bsf   temp,0
Infloop:
            movlw .7
            movwf count
LeftLoop:
            rlf         temp,f
            ;comf temp,w      ; the run led off, the left leds on
            movf  temp,w      ; the run lef on, the left leds off
            movwf PORTB
            call  Delay500mS
            decfsz      count,f
            goto  LeftLoop
```

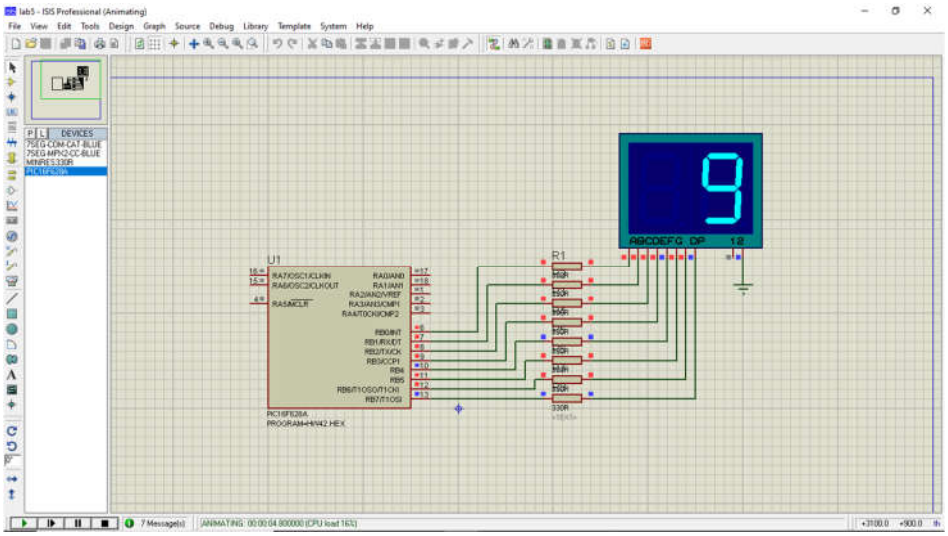
```
            movlw .7
            movwf count
RightLoop:
            rrf         temp,f
            ;comf temp,w      ; the run led off, the left leds on
            movf  temp,w      ; the run lef on, the left leds off
            movwf PORTB
            call  Delay500mS
            decfsz      count,f
            goto  RightLoop
            goto  Infloop


DelaymS:
            movwf count2
            incf  count2,f
            decfsz      count2,f
            goto  $+2
            goto  $+3
            call  Delay1mS
            goto  $-4
            return

Delay1mS:
            movlw .50               ; 1 cyc
            movwf count1            ; 1 cyc
outterloop:
            movlw .5                ; 1 cyc * count1
            nop                           ; 1 cyc * count1
            movwf count0            ; 1 cyc * count1
innerloop:
            decfsz      count0,F    ; 1 cyc * count1 * count0
            goto  innerloop   ; 2 cyc * count1 * count0
            decfsz      count1,F    ; 1 cyc * count1
            goto  outterloop  ; 2 cyc * count1
            return                        ; 1 cyc
            ; total = 3 + (6+3.count0).count1
            ; count0 = 5 , count1 = 50, total = 1053 cyc ??

Delay500mS:
            movlw .250;
            call  DelaymS;
            movlw .250;
            call  DelaymS;
            return

            END
```




```
;*****************************************
;HW42 7sengment run 0 to 9 delay 500ms
;*****************************************
            PROCESSOR PIC16F628
            #include <P16F628.INC>
            __CONFIG    _CP_OFF & _MCLRE_OFF & _HS_OSC & _LVP_OFF &
_WDT_OFF

            cblock      0x20
                  temp
                  temp1
                  count
                  count0
                  count1  vc
                  count2
            endc
            ORG 0x00          ;reset vector

            movlw .7
            banksel CMCON
            movwf CMCON       ; Disable analog comparator
            banksel     TRISB
            movlw 0x00
            movwf TRISB       ; Set PORTB as an output port
            banksel     PORTB

            clrf  PORTB
            clrf  temp
L1:
            movf  temp,w            ;use [Temp] to call 'Table7seg'
            call  Table7seg
            movwf PORTB       ;Send the obtain 7 seg pattern to PORTB

            call  Delay500mS

            incf  temp,f            ;[temp] = [temp] + 1

            movlw .10         ;
            subwf temp,w
            btfss STATUS,Z    ;check if temp=10?
                                    ;we want to display total of 16
patterns
            goto  L1                ;No, go back and do it again
```

```
            clrf  temp        ;Yes, clear 'temp' back to zero
            goto  L1                ;Repeat the infinite loop

;Loopup table for 7segments LED Patterns
Table7seg:
            addwf PCL,F
            ;Segments   .GFEDBA
            retlw B'00111111'       ;Number0
            retlw B'00000110'       ;Number1
            retlw B'01011011'       ;Number2
            retlw B'01001111'       ;Number3
            retlw B'01100110'       ;Number4
            retlw B'01101101'       ;Number5
            retlw B'01111101'       ;Number6
            retlw B'00000111'       ;Number7
            retlw B'01111111'       ;Number8
            retlw B'01101111'       ;Number9
            retlw B'01110111'       ;A
            retlw B'01111100'       ;B
            retlw B'01011000'       ;C
            retlw B'01011110'       ;D
            retlw B'01111001'       ;E
            retlw B'01110001'       ;F
            retlw B'10000000'       ;dot-point


DelaymS:
            movwf count2
            incf  count2,f
            decfsz      count2,f
            goto  $+2
            goto  $+3
            call  Delay1mS
            goto  $-4
            return

Delay1mS:
            movlw .50               ; 1 cyc
            movwf count1            ; 1 cyc
outterloop:
            movlw .5                ; 1 cyc * count1
            nop                           ; 1 cyc * count1
            movwf count0            ; 1 cyc * count1
innerloop:
            decfsz      count0,F    ; 1 cyc * count1 * count0
            goto  innerloop   ; 2 cyc * count1 * count0
            decfsz      count1,F    ; 1 cyc * count1
            goto  outterloop  ; 2 cyc * count1
            return                        ; 1 cyc
            ; total = 3 + (6+3.count0).count1
            ; count0 = 5 , count1 = 50, total = 1053 cyc ??

Delay500mS:
            movlw .250;
            call  DelaymS;
            movlw .250;
            call  DelaymS;
            return

            END
```