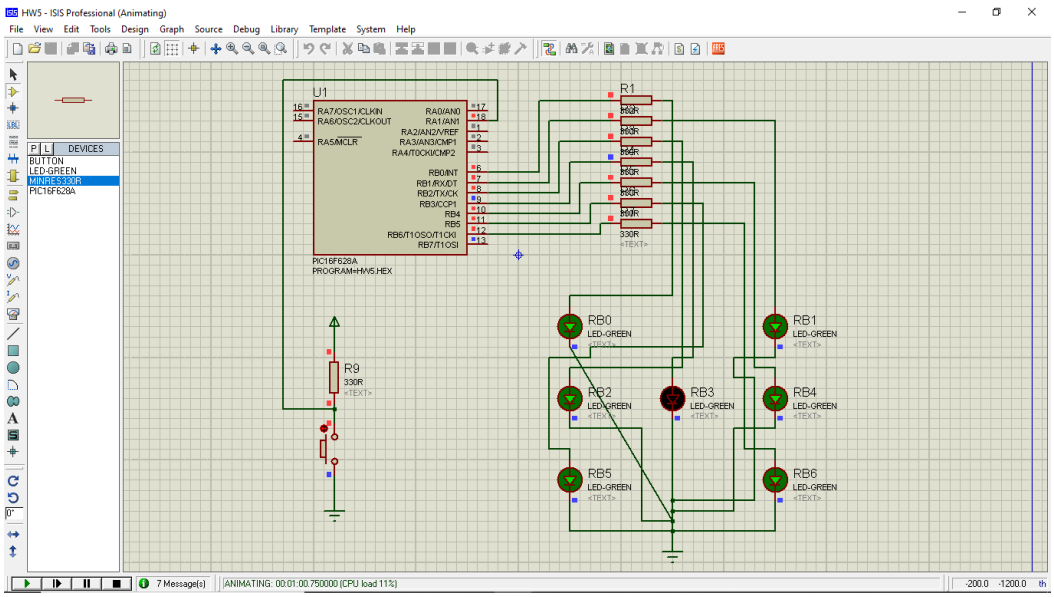


```
;*****************************************
;HW5 press switch random, release to show dice output.asm
;*****************************************
            PROCESSOR PIC16F628
            #include <P16F628.INC>
            __CONFIG    _CP_OFF & _MCLRE_OFF & _HS_OSC & _LVP_OFF &
_WDT_OFF

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

            movlw .7
            banksel CMCON
            movwf CMCON       ; Disable analog comparator
            banksel     TRISB       ; select Bank1
            BSF         TRISA,1           ; Port RA1 is an Input pin
            movlw 0x00        ; w=0
            movwf TRISB       ; TRISB = 0x00 ,Set PORTB as an output port
            banksel     PORTB       ; select Bank0

            clrf  PORTB
            movlw .1
            movwf temp        ; temp=1

L1:
            btfss PORTA,1           ; Active low, use BTFSS (if active
high, use BTFSC)
            goto  button_is_pressed
            goto  button_is_not_pressed

button_is_pressed:
            movf  temp,w            ;use [Temp] to call 'DICE_FACES'
            call  DICE_FACES
            movwf PORTB       ;Send the obtain 7 seg pattern to PORTB
            call  Delay500mS
```

```
            clrf   PORTB
            goto   L1

button_is_not_pressed:
            incf   temp,f              ;[temp] = [temp] + 1
            movlw  .7           ;
            subwf  temp,w
            btfss  STATUS,Z     ;check if temp=7?
            goto   L1                  ;No, go back and do it again

            movlw  .1
            movwf  temp         ;Yes, temp =1
            goto   L1                  ;Repeat the infinite loop

;Loopup table for 7segments LED Patterns
DICE_FACES:
            addwf  PCL,F
            ;RB     76543210
            retlw  B'00000000'         ;Number0
            retlw  B'00001000'         ;Number1
            retlw  B'00100010'         ;Number2
            retlw  B'00101010'         ;Number3
            retlw  B'01100011'         ;Number4
            retlw  B'01101011'         ;Number5
            retlw  B'01110111'         ;Number6


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
```