Lcd code in assembly

```
LIST P=16F877A
#include <P16F877A.INC>


; -------- Variables --------
COUNT   EQU 0x20

; -------- Reset Vector --------
ORG 0x00
GOTO MAIN

; -------- MAIN PROGRAM --------
MAIN
    ; --- I/O Setup ---
    BSF STATUS, RP0
    CLRF TRISD       ; PORTD as output (LCD data)
    CLRF TRISC       ; RC0=RS, RC1=EN
    BCF STATUS, RP0

    ; --- Initialize LCD ---
    CALL LCD_INIT

    ; --- Write 6,0,1,2 on LCD ---
    MOVLW '6'
    CALL LCD_DATA
    MOVLW '0'
    CALL LCD_DATA
    MOVLW '1'
    CALL LCD_DATA
    MOVLW '2'
    CALL LCD_DATA

LOOP
    GOTO LOOP

; ========================
; --- LCD Subroutines -----
; ========================

; LCD Command
LCD_CMD
    BCF PORTC, 0        ; RS=0
    MOVWF PORTD         ; Put cmd on data bus
    BSF PORTC, 1        ; EN=1
    NOP
    BCF PORTC, 1        ; EN=0
    CALL LCD_DELAY
    RETURN

; LCD Data
LCD_DATA
    BSF PORTC, 0        ; RS=1
    MOVWF PORTD         ; Put data on data bus
    BSF PORTC, 1        ; EN=1
    NOP
    BCF PORTC, 1        ; EN=0
    CALL LCD_DELAY
    RETURN
```

```
; LCD Initialization
LCD_INIT
    MOVLW 0x38
    CALL LCD_CMD
    MOVLW 0x0C
    CALL LCD_CMD
    MOVLW 0x06
    CALL LCD_CMD
    MOVLW 0x01
    CALL LCD_CMD
    RETURN

; Simple delay
LCD_DELAY
    MOVLW D'250'
    MOVWF COUNT
DELAY_LOOP
    NOP
    DECFSZ COUNT, f
    GOTO DELAY_LOOP
    RETURN

END
```