**/Volumes/DongyunLee/ESE280 Lab/Lab10/task2/task2/main.asm**

```
1
2  start:
3      ; Configure I/O ports
4      cbi VPORTC_DIR, 0   ;PORTC input
5      ldi r16, 0x0F       ;make initial count value 0
6      out VPORTC_DIR, r16
7      ldi r16, 0xFF
8      out VPORTD_DIR, r16 //output bargraph
9      ldi r16, 0xFF
10     out VPORTD_OUT, r16
11
12     ;Configure interrupt request
13     lds r16, PORTE_PIN0CTRL ;set ISC for PE0 to rising edge
14     ori r16, 0x02       ;ISC = 2 for rising edge
15     sts PORTE_PIN0CTRL, r16
16
17 main_loop:      ;main program loop
18     ;Determine if PE0's INTF is set
19     lds r16, PORTE_INTFLAGS ;check for PE0 IRQ flag set
20     sbrc r16, 0
21     rcall output_bar            ;execute subroutine for PE0
22     rjmp main_loop
23
24 ;Subroutine called for PE0 INTF set
25 output_bar:     ;PE0's task to be done
26
27     in r18, VPORTC_IN   // gets the input from DIP switch and keypad
28
29     lsr r18
30     lsr r18
31     lsr r18
32     lsr r18
33
34     com r18         // complement r19 for display
35     out VPORTD_OUT, r18 // display
36
37     // just like clearing flip flop
38     ldi r16, PORT_INT0_bm   ;clear IRQ flag for PE0
39     sts PORTE_INTFLAGS, r16
40     ret
41
```