```
 1
 2  AVRASM ver. 2.2.7  E:\ESE_280\$MyDocuments$\Atmel Studio\7.0\lab_5
      \pb_sqwe_debounce_count_bin\pb_sqwe_debounce_count_bin\main.asm Tue Oct 06
      19:14:35 2020
 3
 4  E:\ESE_280\$MyDocuments$\Atmel Studio\7.0\lab_5\pb_sqwe_debounce_count_bin
      \pb_sqwe_debounce_count_bin\main.asm(9): Including file 'C:/Program Files
      (x86)\Atmel\Studio\7.0\Packs\atmel\ATmega_DFP\1.3.300\avrasm\inc
      \m4809def.inc'
 5  E:\ESE_280\$MyDocuments$\Atmel Studio\7.0\lab_5\pb_sqwe_debounce_count_bin
      \pb_sqwe_debounce_count_bin\main.asm(9): Including file 'C:/Program Files
      (x86)\Atmel\Studio\7.0\Packs\atmel\ATmega_DFP\1.3.300\avrasm\inc
      \m4809def.inc'
 6
 7
 8                                    ; pb_sftwe_debounce_count_bin.asm
 9                                    ;
10                                    ; Created: 10/6/2020 5:50:12 PM
11                                    ; Author : hp
12                                    ;
13
14                                    .list
15
16
17                                    ; Replace with your application code
18                                    start:
19  000000 e000                          ldi r16, $00
20  000001 ef1f                          ldi r17, $FF
21  000002 bb00                          out VPORTE_DIR, r16
22  000003 b91c                          out VPORTD_DIR, r17
23  000004 b90d                          out VPORTD_OUT, r16
24  000005 e010                          ldi r17, $00
25  000006 e021                          ldi r18, $01    ; delay = 0.1 * r18, set
      r18 to desired delay
26
27                                    zero_loop:
28  000007 b302                          in r16, VPORTE_IN
29  000008 7001                          andi r16, $01
30  000009 3001                          cpi r16, $01
31  00000a f009                          breq one_loop
32  00000b cffb                          rjmp zero_loop
33
34                                    one_loop:
35  00000c b302                          in r16, VPORTE_IN
36  00000d 3000                          cpi r16, $00
37  00000e f009                          breq outer_loop
38  00000f cffc                          rjmp one_loop
39
40                                    outer_loop:
```

```
000010 e63e                         ldi r19, 110

                                inner_loop:
000011 953a                         dec r19
000012 f7f1                         brne inner_loop
000013 952a                         dec r18
000014 f7d9                         brne outer_loop

                                output:
000015 9510                         com r17
000016 b91d                         out VPORTD_OUT, r17
000017 9510                         com r17


RESOURCE USE INFORMATION
------------------------

Notice:
The register and instruction counts are symbol table hit counts,
and hence implicitly used resources are not counted, eg, the
'lpm' instruction without operands implicitly uses r0 and z,
none of which are counted.

x,y,z are separate entities in the symbol table and are
counted separately from r26..r31 here.

.dseg memory usage only counts static data declared with .byte

"ATmega4809" register use summary:
x  :   0 y  :   0 z  :   0 r0 :   0 r1 :   0 r2 :   0 r3 :   0 r4 :   0
r5 :   0 r6 :   0 r7 :   0 r8 :   0 r9 :   0 r10:   0 r11:   0 r12:   0
r13:   0 r14:   0 r15:   0 r16:   8 r17:   6 r18:   2 r19:   2 r20:   0
r21:   0 r22:   0 r23:   0 r24:   0 r25:   0 r26:   0 r27:   0 r28:   0
r29:   0 r30:   0 r31:   0
Registers used: 4 out of 35 (11.4%)

"ATmega4809" instruction use summary:
.lds  :   0 .sts  :   0 adc   :   0 add   :   0 adiw  :   0 and   :   0
andi  :   1 asr   :   0 bclr  :   0 bld   :   0 brbc  :   0 brbs  :   0
brcc  :   0 brcs  :   0 break :   0 breq  :   2 brge  :   0 brhc  :   0
brhs  :   0 brid  :   0 brie  :   0 brlo  :   0 brlt  :   0 brmi  :   0
brne  :   2 brpl  :   0 brsh  :   0 brtc  :   0 brts  :   0 brvc  :   0
brvs  :   0 bset  :   0 bst   :   0 call  :   0 cbi   :   0 cbr   :   0
clc   :   0 clh   :   0 cli   :   0 cln   :   0 clr   :   0 cls   :   0
clt   :   0 clv   :   0 clz   :   0 com   :   2 cp    :   0 cpc   :   0
cpi   :   2 cpse  :   0 dec   :   2 des   :   0 eor   :   0 fmul  :   0
fmuls :   0 fmulsu:   0 icall :   0 ijmp  :   0 in    :   2 inc   :   0
jmp   :   0 ld    :   0 ldd   :   0 ldi   :   5 lds   :   0 lpm   :   0
lsl   :   0 lsr   :   0 mov   :   0 movw  :   0 mul   :   0 muls  :   0
```

```
 90  mulsu :   0 neg   :   0 nop   :   0 or    :   0 ori   :   0 out   :   4
 91  pop   :   0 push  :   0 rcall :   0 ret   :   0 reti  :   0 rjmp  :   3
 92  rol   :   0 ror   :   0 sbc   :   0 sbci  :   0 sbi   :   0 sbic  :   0
 93  sbis  :   0 sbiw  :   0 sbr   :   0 sbrc  :   0 sbrs  :   0 sec   :   0
 94  seh   :   0 sei   :   0 sen   :   0 ser   :   0 ses   :   0 set   :   0
 95  sev   :   0 sez   :   0 sleep :   0 spm   :   0 st    :   0 std   :   0
 96  sts   :   0 sub   :   0 subi  :   0 swap  :   0 tst   :   0 wdr   :   0
 97
 98  Instructions used: 10 out of 114 (8.8%)
 99
100  "ATmega4809" memory use summary [bytes]:
101  Segment   Begin    End      Code   Data   Used    Size   Use%
102  ----------------------------------------------------------------
103  [.cseg] 0x000000 0x000032     50      0     50   49152   0.1%
104  [.dseg] 0x002800 0x002800      0      0      0    6144   0.0%
105  [.eseg] 0x000000 0x000000      0      0      0     256   0.0%
106
107  Assembly complete, 0 errors, 0 warnings
108
```