```
 1
 2  AVRASM ver. 2.2.7  E:\ESE_280\$MyDocuments$\Atmel Studio\7.0\lab_7\lab_7\lab_7
      \main.asm Tue Oct 20 19:46:25 2020
 3
 4  E:\ESE_280\$MyDocuments$\Atmel Studio\7.0\lab_7\lab_7\lab_7\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_7\lab_7\lab_7\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                                  ; segment_and_digit_test.asm
 9                                  ;
10                                  ; Created: 10/20/2020 6:49:26 PM
11                                  ; Author : Judah Ben-Eliezer
12                                  ;
13
14                                  .list
15
16                                  #define F_CPU 8000000UL
17
18                                  start:
19  000000 ef0f                         ldi r16, $FF
20  000001 b90c                         out VPORTD_DIR, r16
21  000002 b908                         out VPORTC_DIR, r16
22  000003 e000                         ldi r16, $00
23  000004 e810                         ldi r17, $80
24  000005 e220                         ldi r18, $20
25
26                                  main_loop:
27  000006 fd13                         sbrc r17, 3     ; sets mask to first bit 7
      only if bit 3 is set
28  000007 e810                         ldi r17, $80
29  000008 b919                         out VPORTC_OUT, r17
30  000009 b90d                         out VPORTD_OUT, r16
31
32                                  delay_1_s:      ; not sure yet if 1 s
33                                  outer_loop:
34  00000a ef3a                         ldi r19, $FA
35                                  inner_loop:
36  00000b 953a                         dec r19
37  00000c f7f1                         brne inner_loop
38  00000d 952a                         dec r18
39  00000e f7d9                         brne outer_loop
40
41                                  ror_r17:
42  00000f 9517                         ror r17
43  000010 cff5                         rjmp main_loop
```

```
44
45
46
47
48  RESOURCE USE INFORMATION
49  ------------------------
50
51  Notice:
52  The register and instruction counts are symbol table hit counts,
53  and hence implicitly used resources are not counted, eg, the
54  'lpm' instruction without operands implicitly uses r0 and z,
55  none of which are counted.
56
57  x,y,z are separate entities in the symbol table and are
58  counted separately from r26..r31 here.
59
60  .dseg memory usage only counts static data declared with .byte
61
62  "ATmega4809" register use summary:
63  x  :   0 y  :   0 z  :   0 r0 :   0 r1 :   0 r2 :   0 r3 :   0 r4 :   0
64  r5 :   0 r6 :   0 r7 :   0 r8 :   0 r9 :   0 r10:   0 r11:   0 r12:   0
65  r13:   0 r14:   0 r15:   0 r16:   5 r17:   5 r18:   2 r19:   2 r20:   0
66  r21:   0 r22:   0 r23:   0 r24:   0 r25:   0 r26:   0 r27:   0 r28:   0
67  r29:   0 r30:   0 r31:   0
68  Registers used: 4 out of 35 (11.4%)
69
70  "ATmega4809" instruction use summary:
71  .lds  :   0 .sts  :   0 adc   :   0 add   :   0 adiw  :   0 and   :   0
72  andi  :   0 asr   :   0 bclr  :   0 bld   :   0 brbc  :   0 brbs  :   0
73  brcc  :   0 brcs  :   0 break :   0 breq  :   0 brge  :   0 brhc  :   0
74  brhs  :   0 brid  :   0 brie  :   0 brlo  :   0 brlt  :   0 brmi  :   0
75  brne  :   2 brpl  :   0 brsh  :   0 brtc  :   0 brts  :   0 brvc  :   0
76  brvs  :   0 bset  :   0 bst   :   0 call  :   0 cbi   :   0 cbr   :   0
77  clc   :   0 clh   :   0 cli   :   0 cln   :   0 clr   :   0 cls   :   0
78  clt   :   0 clv   :   0 clz   :   0 com   :   0 cp    :   0 cpc   :   0
79  cpi   :   0 cpse  :   0 dec   :   2 des   :   0 eor   :   0 fmul  :   0
80  fmuls :   0 fmulsu:   0 icall :   0 ijmp  :   0 in    :   0 inc   :   0
81  jmp   :   0 ld    :   0 ldd   :   0 ldi   :   6 lds   :   0 lpm   :   0
82  lsl   :   0 lsr   :   0 mov   :   0 movw  :   0 mul   :   0 muls  :   0
83  mulsu :   0 neg   :   0 nop   :   0 or    :   0 ori   :   0 out   :   4
84  pop   :   0 push  :   0 rcall :   0 ret   :   0 reti  :   0 rjmp  :   1
85  rol   :   0 ror   :   1 sbc   :   0 sbci  :   0 sbi   :   0 sbic  :   0
86  sbis  :   0 sbiw  :   0 sbr   :   0 sbrc  :   1 sbrs  :   0 sec   :   0
87  seh   :   0 sei   :   0 sen   :   0 ser   :   0 ses   :   0 set   :   0
88  sev   :   0 sez   :   0 sleep :   0 spm   :   0 st    :   0 std   :   0
89  sts   :   0 sub   :   0 subi  :   0 swap  :   0 tst   :   0 wdr   :   0
90
91  Instructions used: 7 out of 114 (6.1%)
92
```

```
 93  "ATmega4809" memory use summary [bytes]:
 94  Segment   Begin    End      Code   Data   Used    Size   Use%
 95  ----------------------------------------------------------------
 96  [.cseg] 0x000000 0x000022     34      0     34   49152   0.1%
 97  [.dseg] 0x002800 0x002800      0      0      0    6144   0.0%
 98  [.eseg] 0x000000 0x000000      0      0      0     256   0.0%
 99
100  Assembly complete, 0 errors, 0 warnings
101
```