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1
2 AVRASM ver. 2.2.7 E:\ESE_280\MyDocuments$\Atmel Studio\7.0\lab_7
  \table_lookup_seg_check\table_lookup_seg_check\main.asm Tue Oct 20 20:27:01
  2020
3
4 E:\ESE_280\MyDocuments$\Atmel Studio\7.0\lab_7\table_lookup_seg_check
  \table_lookup_seg_check\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\table_lookup_seg_check
  \table_lookup_seg_check\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 ; table_lookup_seg_check.asm
9 ;
10 ; Created: 10/20/2020 7:48:20 PM
11 ; Author : hp
12 ;
13
14 .list
15
16 start:
17 000000 e000 ldi r16, $00
18 000001 ef1f ldi r17, $FF
19 000002 b900 out VPORTA_DIR, r16
20 000003 b91c out VPORTD_DIR, r17
21 000004 9a47 sbi VPORTC_DIR, 7
22 000005 9a4f sbi VPORTC_OUT, 7
23
24 main_loop:
25 000006 b102 in r16, VPORTA_IN
26 000007 b91d out VPORTD_OUT, r17
27 000008 e010 ldi r17, $00
28 000009 e028 ldi r18, $08
29
30 reverse_bits:
31 00000a 9507 ror r16
32 00000b 1f11 rol r17
33 00000c 952a dec r18
34 00000d f7e1 brne reverse_bits
35
36 hex_to_7seg:
37 00000e 701f andi r17, 0x0F ;clear ms
  nibble
38 00000f e0f0 ldi ZH, HIGH(hextable * 2) ;set Z to
  point to start of table
39 000010 e2ec ldi ZL, LOW(hextable * 2)
40 000011 e000 ldi r16, $00 ;add offset to
  Z pointer

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41 000012 0fe1          add ZL, r17
42 000013 1ff0          adc ZH, r16
43 000014 9114          lpm r17, Z          ;load byte  ↗
    from table pointed to by Z
44 000015 cff0          rjmp main_loop
45
46                      ;Table of segment values to display digits  ↗
    0 - F
47                      ;!!! seven values must be added - verify  ↗
    all values

48 000016 4f01
49 000017 0612
50 000018 244c
51 000019 0f20
52 E:\ESE_280\$MyDocuments$\Atmel Studio\7.0\lab_7\table_lookup_seg_check  ↗
    \table_lookup_seg_check\main.asm(44): warning: .cseg .db misalignment -  ↗
    padding zero byte

53
54
55 RESOURCE USE INFORMATION
56 -----
57
58 Notice:
59 The register and instruction counts are symbol table hit counts,
60 and hence implicitly used resources are not counted, eg, the
61 'lpm' instruction without operands implicitly uses r0 and z,
62 none of which are counted.
63
64 x,y,z are separate entities in the symbol table and are
65 counted separately from r26..r31 here.
66
67 .dseg memory usage only counts static data declared with .byte
68
69 "ATmega4809" register use summary:
70 x : 0 y : 0 z : 1 r0 : 0 r1 : 0 r2 : 0 r3 : 0 r4 : 0
71 r5 : 0 r6 : 0 r7 : 0 r8 : 0 r9 : 0 r10: 0 r11: 0 r12: 0
72 r13: 0 r14: 0 r15: 0 r16: 6 r17: 8 r18: 2 r19: 0 r20: 0
73 r21: 0 r22: 0 r23: 0 r24: 0 r25: 0 r26: 0 r27: 0 r28: 0
74 r29: 0 r30: 2 r31: 2
75 Registers used: 6 out of 35 (17.1%)
76
77 "ATmega4809" instruction use summary:
78 .lds : 0 .sts : 0 adc : 1 add : 1 adiw : 0 and : 0
79 andi : 1 asr : 0 bclr : 0 bld : 0 brbc : 0 brbs : 0
80 brcc : 0 brcs : 0 break : 0 breq : 0 brge : 0 brhc : 0
81 brhs : 0 brid : 0 brie : 0 brlo : 0 brlt : 0 brmi : 0
82 brne : 1 brpl : 0 brsh : 0 brtc : 0 brts : 0 brvc : 0
83 brvs : 0 bset : 0 bst : 0 call : 0 cbi : 0 cbr : 0
84 clc : 0 clh : 0 cli : 0 cln : 0 clr : 0 cls : 0

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85 clt   : 0 clv   : 0 clz   : 0 com   : 0 cp    : 0 cpc   : 0
86 cpi   : 0 cpse  : 0 dec   : 1 des   : 0 eor   : 0 fmul  : 0
87 fmul  : 0 fmul  : 0 icall : 0 ijmp  : 0 in    : 1 inc   : 0
88 jmp   : 0 ld    : 0 ldd   : 0 ldi   : 7 lds   : 0 lpm   : 2
89 lsl   : 0 lsr   : 0 mov   : 0 movw  : 0 mul   : 0 muls  : 0
90 mulsu : 0 neg   : 0 nop   : 0 or    : 0 ori   : 0 out   : 3
91 pop   : 0 push  : 0 rcall : 0 ret   : 0 reti  : 0 rjmp  : 1
92 rol   : 1 ror   : 1 sbc   : 0 sbci  : 0 sbi   : 2 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: 13 out of 114 (11.4%)

99

100 "ATmega4809" memory use summary [bytes]:

Segment	Begin	End	Code	Data	Used	Size	Use%
[.cseg]	0x000000	0x000036	44	10	54	49152	0.1%
[.dseg]	0x002800	0x002800	0	0	0	6144	0.0%
[.eseg]	0x000000	0x000000	0	0	0	256	0.0%

106

107 Assembly complete, 0 errors, 1 warnings

108