```
 1          j   start
 2          add $zero, $zero, $zero
 3          add $zero, $zero, $zero
 4          add $zero, $zero, $zero
 5          add $zero, $zero, $zero
 6          add $zero, $zero, $zero
 7          add $zero, $zero, $zero
 8          add $zero, $zero, $zero
 9  start:  nor $1,$0,$0      #r1=0xFFFFFFFF
10          add $3,$1,$1      #r3=0xFFFFFFFE
11          add $3,$3,$3      #r3=0xFFFFFFFC
12          add $3,$3,$3      #r3=0xFFFFFFF8
13          add $3,$3,$3      #r3=0xFFFFFFF0
14          add $3,$3,$3      #r3=0xFFFFFFE0
15          add $3,$3,$3      #r3=0xFFFFFFC0
16          nor $20,$3,$0     #r20=0x0000003F
17          add $3,$3,$3      #r3=0xFFFFFF80
18          add $3,$3,$3      #r3=0xFFFFFF00
19          add $3,$3,$3      #r3=0xFFFFFE00
20          add $3,$3,$3      #r3=0xFFFFFC00
21          add $3,$3,$3      #r3=0xFFFFF800
22          add $3,$3,$3      #r3=0xFFFFF000
23          add $3,$3,$3      #r3=0xFFFFE000
24          add $3,$3,$3      #r3=0xFFFFC000
25          add $3,$3,$3      #r3=0xFFFF8000
26          add $3,$3,$3      #r3=0xFFFF0000
27          add $3,$3,$3      #r3=0xFFFE0000
28          add $3,$3,$3      #r3=0xFFFC0000
29          add $3,$3,$3      #r3=0xFFF80000
30          add $3,$3,$3      #r3=0xFFF00000
31          add $3,$3,$3      #r3=0xFFE00000
32          add $3,$3,$3      #r3=0xFFC00000
33          add $3,$3,$3      #r3=0xFF800000
34          add $3,$3,$3      #r3=0xFF000000
35          add $3,$3,$3      #r3=0xFE000000
36          add $3,$3,$3      #r3=0xFC000000
37          add $6,$3,$3      #r6=0xF8000000
38          add $3,$6,$6      #r3=0xF0000000
39          add $4,$3,$3      #r4=0xE0000000
40          add $13,$4,$4     #r13=0xC0000000
41          add $8,$13,$13    #r8=0x80000000
42          slt $2,$0,$1      #r2=0x00000001 unsigned slt
43          add $14,$2,$2     #r14=0x2
44          add $14,$14,$14   #r14=0x4
45          nor $10,$0,$0     #r10=0xFFFFFFFF
46          add $10,$10,$10   #r10=0xFFFFFFFE
47          sw  $6,4($3)      #counter port:f0000004,r6=0xF8000000
48          lw  $5,0($3)      #{counter0_out,counter1_out,counter2_out,led_out[12:0], SW};
49          add $5,$5,$5
50          add $5,$5,$5
51          sw  $5,0($3)      #{GPIOf0[13:0],LED,counter_set}, port:f0000000
52          add $9,$9,$2      #r9 uninitilized, r9 = 1
53          sw  $9,0($4)      #r9送r4=0xE0000000七段码端口
54          lw  $13,0x14($0)    #r13=0xFFF7000
55  loop:   lw  $5,0($3)      #{counter0_out,counter1_out,counter2_out,led_out[12:0], SW}
56          add $5,$5,$5
57          add $5,$5,$5
58          sw  $5,0($3)      #{GPIOf0[13:0],LED,counter_set}, port:f0000000
59          lw  $5,0($3)      #{counter0_out,counter1_out,counter2_out,led_out[12:0], SW}
60          and $11,$5,$8     #取r5最高位
61          add $13,$13,$2    #r13=0xFFF7001
62          beq $13,$0,next
63  Disp:   lw  $5,0($3)
64          add $18,$14,$14
```

```
65            add $22,$18,$18  #r22=0x10
66            add $18,$18,$22  #r18=0x18
67            and $11,$5,$18
68            beq $11,$0,L00   #SW[4:3]=0x00,移位
69            beq $11,$18,L11  #SW[4:3]=0x11，显示七段图形
70            add $18,$14,$14  #r18=0x8
71            beq $11,$18,L01  #SW[4:3]=0x01,显示7段预置数字
72            sw  $9,0($4)     #SW[4:3]=0x10，显示r9
73            j   loop
74   L00:     beq $10,$1,L4    #r1=0xFFFFFFFF
75            j   L3
76   L4:      nor $10,$0,$0    #r10=0xFFFFFFFF
77            add $10,$10,$10  #r10=0xFFFFFFFE
78   L3:      sw  $10,0($4)    #7段图形显示r10
79            j   loop
80   L11:     lw  $9,0x60($17)
81            sw  $9,0($4)     #7段图形显示$9
82            j   loop
83   L01:     lw  $9,0x20($17)
84            sw  $9,0($4)     #7段文本显示S9
85            j   loop
86   next:    lw  $13,0x14($0)     #r13=0xFFF7000
87            add $10, $10, $10
88            or  $10, $10, $2
89            add $17, $17, $14    #访存地址加4
90            and $17, $17, $20    #r20=0x0000003F
91            add $9, $9, $2  #r9=r9+1
92            beq $9, $1, L2  #r1=0xFFFFFFFF
93            j   L5
94   L2:      add $9, $0, $14 #r9=0x4
95            add $9, $9, $2  #r9=0x5
96   L5:      lw  $5, 0($3)   #{counter0_out,counter1_out,counter2_out,led_out[12:0], SW}
97            add $11, $5, $5
98            add $11, $11, $11
99            sw  $11, 0($3)  #{GPIOf0[13:0],LED,counter_set}, port:f0000000
100           sw  $6, 4($3)   #counter port:f0000004,r6=0xF8000000
101           lw  $5, 0($3)   #{counter0_out,counter1_out,counter2_out,led_out[12:0], SW}
102           and $11, $5, $8 #取r5最高位
103           j   Disp
```