

```

1  #include "mbed.h"
2  #include "pinout.h"
3  #include "to_7seg.h"
4
5  // seven segment display anodes
6  // when in a int8_t, they are 0b-GFEDCBA
7  BusOut      g_seven_seg(SGA_PIN, SGB_PIN, SGC_PIN, SGD_PIN,
8                        SGE_PIN, SGF_PIN, SGG_PIN);
9
10 // display cathodes
11 DigitalOut  g_dsr(DSR_PIN);
12 DigitalOut  g_dsl(DSL_PIN);
13
14 // leds
15 BusOut      g_leds(LDR_PIN, LDM_PIN, LDL_PIN);
16
17 //multiplexacion dsr
18 static Ticker tick_500ms_dsr;
19 static bool volatile tick_500ms_dsr_evnt;
20 static void tick_500ms_dsr_isr (void) {
21     tick_500ms_dsr_evnt = true;
22 }
23
24 //multiplexacion dsl
25 static Ticker tick_250ms_dsl;
26 static bool volatile tick_250ms_dsl_evnt;
27 static void tick_250ms_dsl_isr (void) {
28     tick_250ms_dsl_evnt = true;
29 }
30
31 //incremento de la cuenta
32 static Ticker tick_1s;
33 static bool volatile tick_1s_evnt;
34 static void tick_1s_isr (void) {
35     tick_1s_evnt = true;
36 }
37
38 int main (void) {
39
40     bool mux_dsr = false;
41     bool mux_dsl = true;
42     uint8_t cnt_display = 0;
43     int8_t cnt_disp = 0;
44
45     g_dsl = 1;
46     g_dsr = 1;
47     g_seven_seg = to_7seg(cnt_display);
48
49     tick_1s.attach_us(tick_1s_isr, 1000000);
50     tick_500ms_dsr.attach_us(tick_500ms_dsr_isr, 500000);
51     tick_250ms_dsl.attach_us(tick_250ms_dsl_isr, 250000);
52
53     for (;;) {
54
55         //incrementa cuenta
56         if(tick_1s_evnt){
57             tick_1s_evnt = false;
58             cnt_display = (cnt_display == 59) ? 0 : (cnt_display+1);
59         }
60
61         //multiplexacion dsr
62         if(tick_500ms_dsr_evnt){
63             tick_500ms_dsr_evnt = false;
64
65             if(mux_dsr and !mux_dsl){
66                 mux_dsr = false;
67                 mux_dsl = true;
68                 g_dsr = 1;
69                 g_dsl = 0;
70                 g_seven_seg = to_7seg(cnt_display%10);
71             }
72         }
73         if(tick_250ms_dsl_evnt){
74             tick_250ms_dsl_evnt = false;
75
76             if(mux_dsl and !mux_dsr){
77                 mux_dsl = false;
78                 mux_dsr = true;
79                 g_dsr = 0;
80                 g_dsl = 1;
81                 g_seven_seg = to_7seg(cnt_display/10);
82             }
83         }
84     }

```

```
85      //multiplexacion dsl
86
87
88      } // for (;;)
89      } // main()
90
```