```
#include "mbed.h"
#include "pinout.h"
#include "to_7seg.h"

// seven segment display anodes
// when in a int8_t, they are 0b-GFEDCBA
BusOut      g_seven_seg(SGA_PIN, SGB_PIN, SGC_PIN, SGD_PIN,
                        SGE_PIN, SGF_PIN, SGG_PIN);

// display cathodes
DigitalOut  g_dsr(DSR_PIN);
DigitalOut  g_dsl(DSL_PIN);

// leds
BusOut      g_leds(LDR_PIN, LDM_PIN, LDL_PIN);

//Interrupcion
static InterruptIn swm(SWM_PIN);
static bool volatile swm_fall_evnt;
static void swm_fall_isr (void){
  swm_fall_evnt = true;
}

//rebotes SWM
static Timeout tout_swm;
static bool volatile tout_swm_evnt;
static void tout_swm_isr (void){
  tout_swm_evnt = true;
}

//LUZ DEL LED
static Ticker tick_1s;
static bool volatile tick_1s_evnt;
static void tick_1s_isr (void){
  tick_1s_evnt = true;
}

//Tiempo de apagar el led
static Timeout tout_1s;
static bool volatile tout_1s_evnt;
static void tout_1s_isr (void){
  tout_1s_evnt = true;
}

//MULTIPLEXACION DISPLAYS
static Ticker tick_4ms;
static bool volatile tick_4ms_evnt;
static void tick_4ms_isr (void){
  tick_4ms_evnt = true;
}

//INCREMENTO
static Ticker tick_10s;
static bool volatile tick_10s_evnt;
static void tick_10s_isr (void){
  tick_10s_evnt = true;
}


static int16_t cnt_led = 0;


int main (void) {

  bool mux = false;
  int8_t cnt_display = 96;
  g_dsl = 1;
  g_dsr = 1;

  g_seven_seg = to_7seg(cnt_display);

  tick_1s.attach_us(tick_1s_isr, 2000000);
  tick_4ms.attach_us(tick_4ms_isr, 4000);
  tick_10s.attach_us(tick_10s_isr, 10000000);

  swm.mode(PullUp);
  swm.fall(swm_fall_isr);

  for (;;) {

    //incremento cuenta
    if(tick_10s_evnt){
      tick_10s_evnt = false;
      cnt_display = cnt_display + 4;
```

```
85          cnt_display = (cnt_display >= 98) ? 98 : cnt_display;
86        }
87
88        //Multiplexacion
89        if(tick_4ms_evnt){
90          tick_4ms_evnt = false;
91          mux = !mux;
92
93          if(mux){
94            g_dsl = 0;
95            g_dsr = 1;
96            g_seven_seg = to_7seg(cnt_display%10);
97
98          }else{
99            g_dsl = 1;
100           g_dsr = 0;
101           g_seven_seg = to_7seg(cnt_display/10);
102         }
103       }
104
105       //PULSO DE SWM
106       if(swm_fall_evnt){
107         swm_fall_evnt = false;
108         tout_swm.attach_us(tout_swm_isr, 4000);
109       }
110
111       if(tout_swm_evnt){
112         tout_swm_evnt = false;
113
114         if(swm == 0){
115           cnt_display = (cnt_display == 0) ? 98 : (cnt_display-2);
116           g_seven_seg = to_7seg(cnt_display);
117         }
118       }
119
120       //BRILLO LEDS
121       if(tick_1s_evnt){
122         tick_1s_evnt = false;
123         g_leds = 2;
124         tout_1s.attach_us(tout_1s_isr, 1000000);
125         cnt_led++;
126       }
127
128       if(tout_1s_evnt){
129         tout_1s_evnt = false;
130         g_leds = 0;
131       }
132
133       __disable_irq();
134       if(!swm_fall_evnt && !tout_swm_evnt && !tick_1s_evnt && !tout_1s_evnt){
135         __WFI();
136       }
137       __enable_irq();
138
139     } // for (;;)
140   } // main()
141
```