*** Ejercicio DAC_FER ***

Core = 61Mhz fm = 11914 Hz Fm ADC = 200K

$T = \frac{1}{61M}(PR+1)(MR+1)$ $T = \frac{1}{f} = 83,93\,\mu s$

PR = 0

M = 5119 $\xrightarrow{\times 2}$ 2560 para cumplir la fm de 11914 Hz

Timer para el minuto

$60s = \frac{1}{61M}(PR+1)(MR+1)$ MR = 3659999999 → Para que pase 1 min

PR = 0

Codigo:

```
#include "LPC17xx.h"
#include "lpc17xx_adc.h"
#include "lpc17xx_pinsel.h"

void set_adc (void);
void set_tmR0 (void);
void set_tmR1 (void);
void set_pin (void);

int main () {
    set_pin ();
    set_timer0 ();
    set_timer1 ();
    set_ADC ();
    ADC_StartCmd (LPC_ADC, ADC_START_ON_MAT01);

void set_adc (void) {

ADC_Init (LPC_ADC, 200000);
ADC_ChannelCmd (LPC_ADC, ADC_CHANNEL_0, ENABLE);
ADC_EdgeStartConfig (LPC_ADC, ADC_START_ON_FALLING);
ADC_IntConfig (LPC_ADC, ADC_ADINTEN0, ENABLE);
ADC_BurstCmd (LPC_ADC, ENABLE);
NVIC_EnableIRQ (ADC_IRQn);
}

void set_timer0 (void) {
LPC_SC → PCONP |= (1<<1);
LPC_SC → PCLKSEL0 |= (1<<2);
LPC_TIM0 → MR1 = 2560;
LPC_TIM0 → MCR |= (1<<4);
LPC_TIM0 → EMR |= (3<<6);
LPC_TIM0 → TCR = 3;
LPC_TIM0 → TCR &= ~(1<<1);
LPC_TIM0 → IR |= (1<<1);   limpio flag
```

```
void Set_timer1 (void) {
 LPC_SC -> PCONP |= (1<<2);
 LPC_SC -> PCLKSELO |= (1<<4);
 LPC_TIM1 -> MRO = 3659999999;
 LPC_TIM1 -> MCR |= (3<<2);
 LPC_TIM1 -> TCR = 3;
 LPC_TIM1 -> TCR &= ~(1<<1);
 LPC_TIM1 -> IR |= (1<<0);
 NVIC_EnableIRQ (TIMER1_IRQn);

}

void Set_pin (void) {

 PINSEL_CFG_Type pinconf, adcconf;

pinconf.Portnum = 1;
pinconf.Pinnum = 29;
pinconf.Funcnum = 3;
pinconf.Pinmode = 2;
pinconf.OpenDrain = 0;
adcconf.Portnum = 0;
adcconf.Pinnum = 23;
adcconf.Funcnum = 2;
adcconf.Pinmode = 2;
adcconf.OpenDrain = 0;

 PINSEL_ConfigPin (&pinconf);
 PINSEL_ConfigPin (&adcconf);

}

void TIMER1_IRQHandler (void) {

 LPC_TIMO -> MR1 = 5119;
 LPC_TIMO -> TCR = 3;
 LPC_TIMO -> TCR &= ~(1<<1);
 LPC_TIM1 -> IR |= (1<<0);

}
```