```
/*
 * T1compare.c
 *
 * Created: 27/05/2013 16:04:27
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 *
 ================================================================================
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 *
 * Description
 * ---------------------------------------------------
 * Timer C1 in compare mode and interrupt.
      The program generates an square signal of 3906 Hz on pin C0

      Timer C1 increments at 1us rate. To do so,
      the clock (default 2Mhz) is divided by 2.
      TOP value is loaded at PER registers.
      When CNT = PER a compare interruption is
      executed (every 128us) and it toggles pin C0
 */


#define __AVR_ATxmega128A3U
#include <avr/io.h>
#include <avr/interrupt.h>

unsigned int ccavalue;

// ---------------------------------------- Interrupt function
// Compare vector
ISR(TCC1_CCA_vect)
{
      // Toggles bit C0
      PORTC_OUTTGL = 0b00000001;
}

// ---------------------------------------- Main
int main(void)
{
      // Defines pin C0 as output
      PORTC_DIR = 0x01;

      // Enable global interrupts
      SREG = CPU_I_bm;
      // Enable medium level interrupts
      PMIC.CTRL = PMIC_MEDLVLEN_bm;

      // TOP value (128) associated at PER register
      ccavalue = 128;
      TCC1.PER = ccavalue;

      // Div by 2, waveform generation mode normal, byte mode normal
      // 2 Mhz / 2 = 1 Mhz. Timer increments at 1us
      TCC1.CTRLA = TC_CLKSEL_DIV2_gc;
      TCC1.CTRLB = TC_WGMODE_NORMAL_gc;
      TCC1.CTRLE = TC_BYTEM_NORMAL_gc;
      // Compare A medium interrupt level
      TCC1.INTCTRLB = TC_CCAINTLVL_MED_gc;

// ---------------------------------------- Program
    while(1)
    {
    }
}
```