

```

/*
 * external_xtal.c
 *
 * Created: 11/06/2013 17:16:21
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 *
=====
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=====
 *
 * Description
 * -----
    Configure an external 10Mhz crystal oscillator
    Bit D0 toggles after a delay created by a for loop
 */

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

int main(void)
{
    PORTD_DIR = 0x01;

    // 10 Mhz oscillator and start up time
    OSC_XOSCCTRL = OSC_FRQRANGE_9TO12_gc | OSC_XOSCSEL_XTAL_1KCLK_gc;
    // Enable external oscillator
    OSC_CTRL |= OSC_XOSCEN_bm;
    // Wait to stabilize clock
    while(!(OSC_STATUS & OSC_XOSCRDY_bm)) {}
    // Selects clock system as external clock
    // through change protection mechanism
    CCP = CCP_IOREG_gc;
    CLK_CTRL = CLK_SCLKSEL_XOSC_gc;

    while(1)
    {
        for (unsigned int i=0; i<10000;i++)
        {}
        PORTD_OUTTGL = 0x01;
    }
}

```