Sample Code: A/D Converter for MSP430

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The code below will continuously sample a voltage on channel A0 on the MSP430 and display the 10-bit result in 16-bit format (ie, 0x0000-0x03FF) on the LCD screen. See UF_LCD tutorial for wiring of the LCD screen.

```c
#include <msp430x22x2.h>
#include <UF_LCD.h>

void main(void)
{
    WDTCTL = WDTPW + WDTHOLD; // disable watch dog timer
    DCOCTL = CALDCO_16MHZ; // set internal oscillator at 16MHz
    BCSCCTL1 = CALBC1_16MHZ; // set internal oscillator at 16MHz

    ADC10CTL1 |= CONSEQ1; // continuous sample mode, MUST BE SET FIRST!
    ADC10CTL0 |= ADC10SHT_2 + ADC10ON + MSC; // sample and hold time, adc on, cont. sample
    ADC10AE0 |= 0x01; // select channel A0
    ADC10CTL0 |= ADC10SC + ENC; // start conversions

    lcd_init(); // get the lcd booted up
    lcd_char('0'); // only need to write this once
    lcd_char('x'); // only need to write this once

    while(42){ // infinite loop (with meaning)
        lcd_byte((ADC10MEM >> 8) & 0x0003); // write upper byte
        lcd_byte(ADC10MEM & 0x00FF); // write lower byte
        lcd_command(0x82); // place cursor back at position 2
    }
}
```

*note: lcd_byte(char) is a function that must be written by the programmer!!*