Sample Code: A/D Converter for AVR

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The code below will continuously sample a voltage on Channel 4 of the AVR, and display the 10-bit result in 16-bit format (ie, 0x0000-0x03FF). See the UF_LCD tutorial for wiring instructions for the LCD screen.

```c
#include <avr/io.h>
#include <UF_LCD.h>

void main(void)
{
    ADMUX = 0x04;    //select channel 4
    ADCSRA = 0x80;   //enable the A/D

    lcd_init();     //fire up the LCD
    lcd_char('0');  //only need to print this once
    lcd_char('x');  //only need to print this once

    while (42)
    {
        ADCSRA |= 0x40; //start conversion
        while (ADCSRA & 0x40); //wait till conversion is done
        lcd_byte((ADC>>8) & 0x03); //write the upper byte
        lcd_byte(ADC & 0xFF);    //write the lower byte
        lcd_command(0x82);       //set cursor back to position 2
    }
}
```

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