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/* RS232 Test
   For an Atmega 48 88 or 168
   by Tom_L

   Atmega168 DIP TX PD1 (pin3)
   Atmega168 DIP RX PD0 (pin2) */
#include <avr\io.h>           // Most basic include files
#include <avr\interrupt.h>   // Add the necessary ones
#include <avr\signal.h>     // here

#define F_CPU 16000000UL

#define UBRR_9600 102       // for 16Mhz with .2% error

// #define UBRR_1200 51
// #define UBRR_2400 25     // for 1Mhz

// #define UBRR_2400 207    // for 8Mhz with .2% error
// #define UBRR_9600 51     // for 8Mhz with .2% error
// #define UBRR_19200 25    // for 8Mhz with .2% error
void USART_init( unsigned int ubrr ) {

    UBRR0H = (unsigned char)(ubrr>>8);
    UBRR0L = (unsigned char)ubrr;
    UCSR0B = (1 << TXEN0);    // Enable receiver, transmitter & RX interrupt
    UCSR0C = (3 << UCSZ00); //asynchronous 8 N 1
}

/* Send some data to the serial port */

void USART_tx_string( char *data ) {
    while ((*data != '\0')) {
        while (!(UCSR0A & (1 << UDRE0)));
        UDR0 = *data;
        data++;
        //      asm volatile ("nop");
    }
}

void setup() {
    USART_init(UBRR_9600);

    delay(250);
    USART_tx_string("\r\nConnected!\r\n");
    delay(250);
}

void loop() {
    USART_tx_string("U");//show me the test

    delay(250); // wait .25 seconds

    USART_tx_string("T");

    delay(250); // wait .25 seconds
}
```