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/*****
 * File: serial.c          Project by: David Hodgdon *
 * Class: ECE476          Instructor: Bruce Land   *
 *****/
#ifdef ATME1
#include "serial.h"
#include "lcd.h"
#include <Mega32.h>
#include <stdio.h>
static char charReceived;
static char pointerOnCode=1;

void initialize_uart() {
    int i;
    #if 0
        //set up timer 0
        TIMSK=0x12;          //turn on timer 0 cmp match ISR
        OCR0 = 250;         //set the compare re to 250 time ticks
        //prescalar to 64 and turn on clear-on-match
        TCCR0=0b00001101; // prescalar

        // set up timer 1
        // 2^24
        OCR1A = 0;//65536-15625; // 2^24 / 2^10 = 2^14
        TCCR1A = 0b10000000; // 1024 prescalar
        TCCR1B = 0b00000100;
        TCNT1 = 0;
    #endif
    //crank up the ISRs
    #asm
        sei
    #endasm
    UCSRB = 0x10 + 0x08 ; // set up uart
    UBRR1 = 103;
}

char SerialUseCode() {
    pointerOnCode=1;
}
char SerialUseDATA() {
    pointerOnCode=0;
}

char SerialGetChar() {
    char c;
    if(pointerOnCode)    putchar(SerialNextChar);
    else                putchar(SerialNextCharDATA);
    c=getchar();
    switch(c) {
        case '\r': c='\n';
    }
    return c;
}

/*****
 * We'll send the open file command, the number of characters, *
 * then the actual characters *
 * returns: 0 if worked, -1 if not
 *****/
#ifdef ATME1
#if 0
char SerialFOpen(flash char * filename) {
#else

```

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char SerialFOpen(char * filename) {
#ifdef ATME1
#else
char SerialFOpen(char * filename) {
#endif
    char c,len,i;
    for(len=0;filename[len]!='\0';len++)//len=strlen(fname);
    putchar(SerialOpenFile);
    putchar(len);
    for(i=0;i<len;i++) {
        putchar(filename[i]);
    }
    c=getchar();
    if(c==SerialFailureOpeningFile) {
        sprintf(lcd_buffer, "Error Opening File\n");
        LCDPrintString(lcd_buffer);
        while(1);
    }
    return 0;
}

void SerialReopenFile(int num) {
    putchar(SerialResetPointer);
    putchar((num>>8 )&0xff);
    putchar((num    )&0xff);
}

void SerialReopenFileDATA(int num) {
    putchar(SerialResetPointerDATA);
    putchar((num>>8 )&0xff);
    putchar((num    )&0xff);
}

#endif

```