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1 //Arduino-serial Tod E. Kurt, tod@todbot.com http://todbot.com/blog/
2 #include <stdio.h> /* Standard input/output definitions */
3 #include <stdlib.h>
4 #include <string.h> /* String function definitions */
5 #include <unistd.h> /* UNIX standard function definitions */
6 #include <fcntl.h> /* File control definitions */
7 #include <termios.h> /* POSIX terminal control definitions */
8
9 int serialport_init(const char* serialport, int baud);
10 int serialport_read_until(int fd, char* buf, char until);
11
12 int main()
13 {
14     int fd = 0;
15     char serialport[256];
16     int baudrate = B115200; // default
17     char buf[256];
18
19     char *optarg = "/dev/ttyUSB1\0";
20     strcpy(serialport,optarg);
21     fd = serialport_init(optarg, baudrate);
22
23     usleep(2000 * 1000 ); // sleep milliseconds
24     serialport_read_until(fd, buf, '\n');
25     printf("read: %s\n",buf);
26
27     exit(EXIT_SUCCESS);
28 } // end main
29
30 int serialport_read_until(int fd, char* buf, char until)
31 {
32     char b[1];
33     int i=0;
34     do {
35         int n = read(fd, b, 1); // read a char at a time
36         if( n==-1) return -1; // couldn't read
37         if( n==0 ) {
38             usleep( 10 * 1000 ); // wait 10 msec try again
39             continue;
40         }
41         buf[i] = b[0]; i++;
42     } while( b[0] != until );
43
44     buf[i] = 0; // null terminate the string
45     return 0;
46 }
47
48 int serialport_init(const char* serialport, int baud)
49 {
50     struct termios toptions;
51     int fd;
52
53     fd = open(serialport, O_RDWR | O_NOCTTY | O_NDELAY);
54     if (fd == -1) {
55         perror("init_serialport: Unable to open port ");
56         return -1;
57     }
58 }
```

```
59  if (tcgetattr(fd, &toptions) < 0) {
60  perror("init_serialport: Couldn't get term attributes");
61  return -1;
62  }
63  speed_t brate = baud;
64  cfsetispeed(&toptions, brate);
65  cfsetospeed(&toptions, brate);
66
67  // 8N1
68  toptions.c_cflag &= ~PARENB;
69  toptions.c_cflag &= ~CSTOPB;
70  toptions.c_cflag &= ~CSIZE;
71  toptions.c_cflag |= CS8;
72  // no flow control
73  toptions.c_cflag &= ~CRTSCTS;
74
75  toptions.c_cflag |= CREAD | CLOCAL; // turn on READ & ignore ctrl lines
76  toptions.c_iflag &= ~(IXON | IXOFF | IXANY); // turn off s/w flow ctrl
77
78  toptions.c_lflag &= ~(ICANON | ECHO | ECHOE | ISIG); // make raw
79  toptions.c_oflag &= ~OPOST; // make raw
80
81  toptions.c_cc[VMIN] = 0;
82  toptions.c_cc[VTIME] = 20;
83
84  if( tcsetattr(fd, TCSANOW, &toptions) < 0) {
85  perror("init_serialport: Couldn't set term attributes");
86  return -1;
87  }
88
89  return fd;
90 }
```