#include <avr/io.h>

#define *F\_CPU* 1000000

#include <util/delay.h>

#include <stdlib.h>

#define enable 5

#define register 7

void send\_a\_command(unsigned char command);

void send\_a\_character(unsigned char character);

void send\_a\_string(char\*string\_of\_characters);

int main(void)

{

DDRB=0X00;

DDRC=0XFF;

DDRA=0X00;

DDRD=0XFF;

*\_delay\_ms*(50);

ADMUX|=(1<<REFS0)|(1<<REFS1);

ADCSRA|=(1<<ADEN)|(1<<ADATE)|(1<<ADPS0)|(1<<ADPS1)|(1<<ADPS2);

*int16\_t* COUNTA=0;

char SHOWA[3];

send\_a\_command(0X01);

*\_delay\_ms*(50);

send\_a\_command(0X38);

*\_delay\_ms*(50);

send\_a\_command(0b00001111);

*\_delay\_ms*(50);

ADCSRA|=(1<<ADSC);

while (1)

{ COUNTA=ADC/4;

if ((PINB&(1<<PB0))==0)

{

send\_a\_string("SMARTBRIDGE");

send\_a\_command(0X80+0X40+0);

send\_a\_string("TEMP(C)=");

send\_a\_command(0X80+0X40+8);

*itoa*(COUNTA,SHOWA,10);

send\_a\_string(SHOWA);

send\_a\_string(" ");

send\_a\_command(0X80+0);

if (COUNTA>40)

PORTB=0xFF;

}

}

}

void send\_a\_command(unsigned char command)

{

PORTC=command;

PORTD&=~(1<<register);

PORTD|=(1<<enable);

*\_delay\_ms*(50);

PORTD&=~(1<<enable);

PORTC=0;

}

void send\_a\_character(unsigned char character)

{

PORTC=character;

PORTD|=(1<<register);

PORTD|=(1<<enable);

*\_delay\_ms*(50);

PORTD&=~(1<<enable);

PORTC=0;

}

void send\_a\_string(char\*string\_of\_characters)

{

while(\*string\_of\_characters>0)

{

send\_a\_character(\*string\_of\_characters++);

}

}