#include<avr/io.h>

#define F\_CPU 1000000

#include<util/delay.h>

#include<stdlib.h>

#define enable 5

#define regesterselection 7

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

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

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

int main(void)

{

DDRB=0xFF;

DDRC=0xFF;

DDRA=0x00;

DDRD=0xFF;

\_delay\_ms(50);

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

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

send\_a\_string("Smartbridge");

send\_a\_command(0x80+0x40+0);

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

send\_a\_command(0x80+0x40+8);

itoa(COUNTA,SHOWA,10);

send\_a\_string(SHOWA);

send\_a\_string(" ");

if(COUNTA<201)

{

PORTB=0x01;

PORTB=0x02;

}

else if(COUNTA>200 && COUNTA<401)

{

PORTB=0x03;

PORTB=0x04;

}

else if(COUNTA>400 && COUNTA<801)

{

PORTB=0x05;

PORTB=0x06;

}

else if(COUNTA>800 && COUNTA<1024)

{

PORTB=0x07;

PORTB=0x08;

}

}

}

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

{

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

{

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

}

}

void send\_a\_character(unsigned char character)

{

PORTC=character;

PORTD|=1<<regesterselection;

PORTD|=1<<enable;

\_delay\_ms(20);

PORTD&=~1<<enable;

PORTC=0;

}

void send\_a\_command(unsigned char command)

{

PORTC=command;

PORTD&=~1<<regesterselection;

PORTD|=1<<enable;

\_delay\_ms(50);

PORTD&=~1<<enable;

PORTC=0;

}