#ifndef F\_CPU

#define F\_CPU 16000000UL

#endif

#include <util/delay.h>

#include <avr/io.h>

#define enable 5

#define registerselection 7

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

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

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

void LCD();

void dcmotor();

int main(void)

{

PORTB = 0x00;

DDRB = 0x01;

DDRA = 0xFF;

DDRC=0XFF;

DDRD=0XFF;

while (1)

{

if((PINB & 0x02) != 0)

{

PORTB |= 0b00000001;

LCD();

dcmotor();

}

else

{

PORTB &= 0b11111110;

send\_a\_command(0x01);

send\_a\_command(0x38);

send\_a\_command(0x0E);

send\_a\_string("CLEAR PATH");

}

}

}

void LCD()

{

send\_a\_command(0x01);

send\_a\_command(0x38);

send\_a\_command(0x0E);

send\_a\_string("OBJECT DETECTED");

}

void dcmotor()

{

PORTA=0x01;

\_delay\_ms(4000);

PORTA=0x00;

\_delay\_ms(4000);

PORTA=0x02;

\_delay\_ms(4000);

PORTA=0x00;

\_delay\_ms(4000);

}

void send\_a\_command(unsigned char command)

{

PORTC=command;

PORTD&=~(1<<registerselection);

PORTD|=(1<<enable);

\_delay\_ms(50);

PORTD&=~(1<<enable);

PORTC=0;

}

void send\_a\_character(unsigned char character)

{

PORTC=character;

PORTD|=(1<<registerselection);

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++);

}

}