//8MHZ fre. of MCU and 9600 baud rate value of UBRR is 51

#include <avr/io.h>

#include<avr/delay.h>

#include <compat/deprecated.h>

#define rs PB0

#define rw PB1

#define en PB2

#define dataport PORTA

void LCD\_DisplayString (const unsigned char \*string)

{

//LCD\_Cursor (row, column);

while (\*string)

wrdata(\*string++);

}

void LCD\_init(void)

{

wrcomm(0x38); //initialize LCD 2 lines, 5x7 matrix

wrcomm(0x06);//Clear LCD

wrcomm(0x0E); //Display on Cursor Blinking

wrcomm(0x01);//Cursor at line 1, position 1

wrcomm(0x80); //Shift Entire Display To Right

}

void wrcomm(unsigned char Command)

{

cbi(PORTB,rs);

dataport = Command;

sbi(PORTB,en);

\_delay\_ms(1);

cbi(PORTB,en);

\_delay\_ms(1);

}

void wrdata(unsigned char Data)

{

sbi(PORTB,rs);

dataport = Data;

sbi(PORTB,en);

\_delay\_ms(1) ;

cbi(PORTB,en);

\_delay\_ms(1) ;

}

void USART\_Init( unsigned char ubrr)

{

/\* Set baud rate \*/

UBRRH = 0;

UBRRL = ubrr;

/\* Enable receiver and transmitter \*/

UCSRB|= (1<<RXEN)|(1<<TXEN);

/\* Set frame format: 8data---ucsz0=1,ucsz1=1, 1stop bit ---usbs=0\*/

UCSRC |= (1 << URSEL)|(3<<UCSZ0);

}

//RX

unsigned char USART\_Receive( void )

{

/\* Wait for data to be received \*/

while ( !(UCSRA & (1<<RXC)))

;

/\* Get and return received data from buffer \*/

return UDR;

}

void DOOR()

{

//DOOR OPEN

PORTC=0B00001111;\_delay\_ms(50000);\_delay\_ms(20000);

//STOP

PORTC=0B11111111;\_delay\_ms(50000);\_delay\_ms(50000);\_delay\_ms(50000);

//DOWN

PORTC=0B11110000;\_delay\_ms(50000);\_delay\_ms(50000);

//STOP

PORTC=0B11111111;\_delay\_ms(50000);\_delay\_ms(50000);\_delay\_ms(50000);

}

void main (void)

{

DDRA=0xFF;

DDRB=0xFF;

DDRC=0xFF;

DDRD=0xFF;

LCD\_init();

USART\_Init(51);

\_delay\_ms(10);

unsigned char arr[15];

unsigned char ReceivedByte=0,s=0,i=0;

//memset(0,&arr,sizeof(arr));

while(1) // Loop forever

{

wrcomm(0x80);

LCD\_DisplayString (" SWIPE UR CARD. ");

for (s=0;s<12;s++)

{

arr[s]=USART\_Receive();

}

LCD\_init();

\_delay\_ms(40000);

wrcomm(0xc0);

for (s=0;s<12;s++)

wrdata(arr[s]);

if(arr[10]=='F' && arr[11]=='E')

{ wrcomm(0x80);

LCD\_DisplayString (" CARD 1 ");

DOOR();

}

else if(arr[10]=='E' && arr[11]=='4')

{ wrcomm(0x80);

LCD\_DisplayString (" CARD 2 ");

DOOR();

}

else if(arr[10]=='4' && arr[11]=='5')

{ wrcomm(0x80);

LCD\_DisplayString (" CARD 3 ");

DOOR();

}

else

{ wrcomm(0x80);

LCD\_DisplayString (" ACCESS DENIED ");

}

\_delay\_ms(60000);LCD\_init();\_delay\_ms(10000);

}

}