#include <SoftwareSerial.h>

#include <LiquidCrystal.h>

String inputString = "";

String S1 = "OFF";

String S2 = "OFF";

String S3 = "OFF";

String S4 = "OFF";

String S5 = "OFF";

String S6 = "OFF";

String S7 = "OFF";

String S8 = "OFF";

boolean stringComplete = false;

String incomingString ="";

int startIndex = 0;

int endIndex = 0;

int s1 = 6;

int s2 = 7;

int s3 = 8;

int s4 = 9;

int s5 = 10;

int s6 = A3;

int s7 = A0;

int s8 = A1;

const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

void setup() {

Serial.begin(9600);

lcd.begin(16,2);

pinMode(s1, OUTPUT);

pinMode(s2, OUTPUT);

pinMode(s3, OUTPUT);

pinMode(s4, OUTPUT);

pinMode(s5, OUTPUT);

pinMode(s6, OUTPUT);

pinMode(s7, OUTPUT);

pinMode(s8, OUTPUT);

digitalWrite(s1,HIGH);

digitalWrite(s2,HIGH);

digitalWrite(s3,HIGH);

digitalWrite(s4,HIGH);

digitalWrite(s5,HIGH);

digitalWrite(s6,HIGH);

digitalWrite(s7,HIGH);

digitalWrite(s8,HIGH);

lcd.setCursor(5,0);

lcd.print("WELCOME");

delay(3000);

lcd.clear();

lcd.setCursor(5,0);

lcd.print("PROJECT");

lcd.setCursor(1,1);

lcd.print("HOME AUTOMATION");

delay(3000);

lcd.clear();

lcd.setCursor(4,0);

lcd.print("MADE BY - ");

lcd.setCursor(2,1);

lcd.print("HARSHIT SAGAR");

delay(3000);

lcd.clear();

lcd.setCursor(1,0);

lcd.print("S1 S2 S3 S4");

lcd.setCursor(1,1);

lcd.print("OFF");

lcd.setCursor(5,1);

lcd.print("OFF");

lcd.setCursor(9,1);

lcd.print("OFF");

lcd.setCursor(13,1);

lcd.print("OFF");

delay(1000);

lcd.clear();

lcd.setCursor(1,0);

lcd.print("S5 S6 S7 S8");

lcd.setCursor(1,1);

lcd.print("OFF");

lcd.setCursor(5,1);

lcd.print("OFF");

lcd.setCursor(9,1);

lcd.print("OFF");

lcd.setCursor(13,1);

lcd.print("OFF");

delay(1000);

inputString.reserve(200);

Serial.print("AT+CMGF=1\r");

delay(1000);

Serial.print("AT+CMGDA=\"");

Serial.println("DEL ALL\"");

delay(1000);

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(1000);

Serial.print("HARSHIT SAGAR YOUR DEVICE IS CONNECTED NOW YOU CAN USE IT.\r");

delay(1000);

Serial.write(0x1A);

delay(1000);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(1000);

}

void loop() {

lcd.clear();

lcd.setCursor(0,0);

lcd.print(" S1 S2 S3 S4");

lcd.setCursor(1,1);

lcd.print(S1);

lcd.setCursor(5,1);

lcd.print(S2);

lcd.setCursor(9,1);

lcd.print(S3);

lcd.setCursor(13,1);

lcd.print(S4);

delay(1000);

lcd.clear();

lcd.setCursor(0,0);

lcd.print(" S5 S6 S7 S8");

lcd.setCursor(1,1);

lcd.print(S5);

lcd.setCursor(5,1);

lcd.print(S6);

lcd.setCursor(9,1);

lcd.print(S7);

lcd.setCursor(13,1);

lcd.print(S8);

delay(1000);

if (stringComplete && inputString!="") {

inputString.toLowerCase();

if(inputString=="@s1 on#")

{

digitalWrite(s1, LOW);

S1="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-1 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s1 off#")

{

digitalWrite(s1,HIGH);

S1="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-1 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s2 on#")

{

digitalWrite(s2, LOW);

S2="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-2 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s2 off#")

{

digitalWrite(s2,HIGH);

S2="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-2 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s3 on#")

{

digitalWrite(s3, LOW);

S3="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-3 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s3 off#")

{

digitalWrite(s3,HIGH);

S3="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-3 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s4 on#")

{

digitalWrite(s4, LOW);

S4="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-4 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s4 off#")

{

digitalWrite(s4, HIGH);

S4="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-4 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s5 on#")

{

digitalWrite(s5, LOW);

S5="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-5 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s5 off#")

{

digitalWrite(s5,HIGH);

S5="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-5 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s6 on#")

{

analogWrite(s6,0);

S6="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-6 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s6 off#")

{

analogWrite(s6,1023);

S6="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-6 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s7 on#")

{

analogWrite(s7,0);

S7="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-7 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s7 off#")

{

analogWrite(s7,1023);

S7="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-7 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s8 on#")

{

analogWrite(s8,0);

S8="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-8 IS ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@s8 off#")

{

analogWrite(s8,1023);

S8="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("SWITCH-8 IS OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@all off#")

{

digitalWrite(s1, HIGH);

S1="OFF";

digitalWrite(s2, HIGH);

S2="OFF";

digitalWrite(s3, HIGH);

S3="OFF";

digitalWrite(s4, HIGH);

S4="OFF";

digitalWrite(s5, HIGH);

S5="OFF";

digitalWrite(s6, HIGH);

S6="OFF";

digitalWrite(s7, HIGH);

S7="OFF";

digitalWrite(s8, HIGH);

S8="OFF";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("ALL SWITCHES ARE OFF\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@all on#")

{

digitalWrite(s1, LOW);

S1="ON";

digitalWrite(s2, LOW);

S2="ON";

digitalWrite(s3, LOW);

S3="ON";

digitalWrite(s4, LOW);

S4="ON";

digitalWrite(s5, LOW);

S5="ON";

digitalWrite(s6, LOW);

S6="ON";

digitalWrite(s7, LOW);

S7="ON";

digitalWrite(s8, LOW);

S8="ON";

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print("ALL SWITCHES ARE ON\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

else if(inputString=="@status#")

{

Serial.print("AT+CMGS=\"+918287752883\"\r");

delay(500);

Serial.print(" STATUS ");

Serial.print("\nSWITCH-1 IS ");

Serial.print(S1);

Serial.print("\nSWITCH-2 IS ");

Serial.print(S2);

Serial.print("\nSWITCH-3 IS ");

Serial.print(S3);

Serial.print("\nSWITCH-4 IS ");

Serial.print(S4);

Serial.print("\nSWITCH-5 IS ");

Serial.print(S5);

Serial.print("\nSWITCH-6 IS ");

Serial.print(S6);

Serial.print("\nSWITCH-7 IS ");

Serial.print(S7);

Serial.print("\nSWITCH-8 IS ");

Serial.print(S8);

Serial.print("\r");

delay(500);

Serial.write(0x1A);

delay(500);

Serial.print("AT+CNMI=2,2,0,0,0\r");

delay(500);

}

Serial.print("AT+CMGDA=\"");

Serial.println("DEL ALL\"");

delay(1000);

inputString = "";

stringComplete = false;

}

}

void serialEvent()

{

if(stringComplete == false)

{

incomingString = Serial.readString();

if(incomingString!="")

{

startIndex = incomingString.indexOf("@");

endIndex = incomingString.indexOf("#");

if(startIndex>0 && endIndex>0)

{

inputString = incomingString.substring(startIndex,endIndex+1);

stringComplete = true;

}

}

}

}