#include <LiquidCrystal.h>

LiquidCrystal lcd(5, 6, 7, A3, A2, A1, A0);

#define S0 8

#define S1 9

#define S2 11

#define S3 10

#define sensorOut 12

#define ir 3

#define r1 2

int frequency = 0;

int frequency1 = 0;

int frequency2= 0;

int frequency3 = 0;

int irstatus=0;

int count=0;

void val(unsigned int k)

{

unsigned int l1,l2,l3,l4;

l1=k/100;

l2=k%100;

l3=l2/10;

l4=l2%10;

}

//----------------edit---------------------//

void freq()

{

if((frequency1>=260&&frequency1<=500))//&&(frequency2>=225&&frequency2<=240)&&(frequency3>=215&&frequency1<=225)) 'R'

{

lcd.setCursor(0,1);lcd.print(" UNRIPED");

lcd.setCursor(0,2);lcd.print("SUGAR CONTENT=20%");

}

else if((frequency1>=100&&frequency1<=250))//&&(frequency2>=225&&frequency2<=240)&&(frequency3>=215&&frequency1<=225)) 'R'

{

lcd.setCursor(0,1);lcd.print(" RIPED");

lcd.setCursor(0,2);lcd.print("SUGAR CONTENT=35%");

}

else if((frequency1>=550&&frequency1<=700))//&&(frequency2>=225&&frequency2<=240)&&(frequency3>=215&&frequency1<=225)) 'R'

{

lcd.setCursor(0,1);lcd.print("OVERRIPED");

lcd.setCursor(0,2);lcd.print("SUGAR CONTENT=60%");

}

else { lcd.setCursor(7,3);lcd.print(" ");}

}

void setup() {

lcd.begin(20,4);

pinMode(ir, INPUT);

pinMode(r1, OUTPUT);

pinMode(S0, OUTPUT);

pinMode(S1, OUTPUT);

pinMode(S2, OUTPUT);

pinMode(S3, OUTPUT);

pinMode(sensorOut, INPUT);

digitalWrite(S0,HIGH);

digitalWrite(S1,LOW);

}

void loop() {

digitalWrite(r1,HIGH);

irstatus = digitalRead(ir);

if(irstatus==HIGH&&count<40)

{

digitalWrite(r1,LOW);

count++;

lcd.setCursor(18,1);

lcd.print(count);

digitalWrite(r1,LOW);

digitalWrite(S2,LOW);

digitalWrite(S3,LOW);

frequency1 = pulseIn(sensorOut, LOW);

lcd.setCursor(0,0);

lcd.print("R=");

lcd.setCursor(2,0);

lcd.print(frequency1);

delay(100);

digitalWrite(S2,HIGH);

digitalWrite(S3,HIGH);

frequency2 = pulseIn(sensorOut, LOW);

lcd.setCursor(7,0);

lcd.print("G=");

lcd.setCursor(9,0);

lcd.print(frequency2);

delay(100);

digitalWrite(S2,LOW);

digitalWrite(S3,HIGH);

frequency3 = pulseIn(sensorOut, LOW);

lcd.setCursor(14,0);

lcd.print("B=");

lcd.setCursor(16,0);

lcd.print(frequency3);

delay(100);

freq();

}

else

{

count=0;digitalWrite(r1,HIGH);delay(3000);digitalWrite(r1,HIGH);

}

/\*irstatus = digitalRead(ir);

if(irstatus==LOW)

{

digitalWrite(r1,LOW);

if((frequency1>=110&&frequency1<=120)&&(frequency2>=225&&frequency2<=240)&&(frequency3>=215&&frequency1<=225))

{

lcd.setCursor(7,3);lcd.print("green");

}

// else if((frequency1>=190&&frequency1<=240))//&&(frequency2>=274&&frequency2<=290)&&(frequency3>=246&&frequency1<=266))

//// {

// lcd.setCursor(7,3);lcd.print("green");

// }

delay(5000);digitalWrite(r1,HIGH);delay(4000);

}

else { digitalWrite(r1,HIGH);}\*/

}