```
// These variables store the flash pattern
// and the current state of the LED

unsigned long previousMillis = 0;        // will store last time LED was updated
long OnTime = 50;           // milliseconds of on-time
long OffTime = 200;          // milliseconds of off-time

int timer;
int count;
int tampil;
int ThermistorPin_a = 0;
int ThermistorPin_b = 1;
int Vo_a;
int j;
float R1_a = 10000;
float logR2_a, R2_a, T_a, Tc_a, Tf_a;
float c1_a = 1.009249522e-03, c2_a = 2.378405444e-04, c3_a = 2.019202697e-07;
int Vo_b;
float R1_b = 10000;
float logR2_b, R2_b, T_b, Tc_b, Tf_b;
float c1_b = 1.009249522e-03, c2_b = 2.378405444e-04, c3_b = 2.019202697e-07;
float kal=0;
float u_a,u_b,u_c,u_d,u_e;
float Tc_t =13;
int pwm;

#define elemen 9
// include the library code:
#include <LiquidCrystal.h>
// initialize the library with the numbers of the interface pins
LiquidCrystal lcd(7, 6, 5, 4, 3, 2);

#include <SPI.h>
#include <Pixy.h>
//#include <UTFT.h>

// UTFT myGLCD(Model,SDA,SCL,CS,RST,RS)
// adjust the model parameter to suit the display module!
extern   uint8_t   SmallFont[];
uint8_t    ScrRatio;

Pixy pixy;

char sbuf[240];
#define maxblocks  64
uint8_t    blockS[maxblocks];
uint8_t    blockX[maxblocks];
uint8_t    blockY[maxblocks];
uint8_t    blockW[maxblocks];
uint8_t    blockH[maxblocks];
```

```
void setup()
{
  Serial.begin(9600);
  Serial.print("Starting...\n");
  pixy.init();
  Serial.begin(9600);
  Serial.print("Starting...\n");
  pixy.init();
  // set up the LCD's number of columns and rows:
  lcd.begin(16, 2);
Serial.begin(9600);
pinMode(elemen, OUTPUT);
analogWrite (elemen,0);

lcd.setCursor(0,1);
lcd.print(" SELAMAT MEMASAK    ");
pinMode(A5,INPUT);
pinMode(A4,INPUT);
pinMode(A3,INPUT);
digitalWrite(A5,HIGH);
digitalWrite(A4,HIGH);
digitalWrite(A3,HIGH);
delay(1000);
lcd.clear();

}

int k=0;
int l=0;
int jen;
int t_max;

void loop() {

if(k==3){
digitalWrite(elemen,0);
lcd.setCursor(0,0);
lcd.print("kue sudah matang");
lcd.print("selamat menikmati");
delay(500);

jen=0;
l=0;
  }

//prepare
if(k==0){
suhu();
if(Tc_t<45){
analogWrite(elemen,250);
```

```
lcd.setCursor(0,1);
  lcd.print("Pre heating     ");
}

if(Tc_t>=45){
Tc_t=45;
analogWrite(elemen,0);
lcd.setCursor(0,1);
  lcd.print("Pre heat selesai");
delay(1500);
k=1;
}

lcd.setCursor(0,0);
  lcd.print("Temp: ");
  lcd.print(Tc_t);
  lcd.println(" C      ");
}
//running

if(k==2 && jen==1){ Mode_1();}
if(k==2 && jen==2){  Mode_2();}
if(k==2 && jen==3){  Mode_3();}

if(k==1){
analogWrite(elemen,0);
lcd.setCursor(0,0);
  lcd.print("Input jenis kue ");
int sw1=digitalRead (A5);
int sw2=digitalRead (A4);
int sw3=digitalRead (A3);

if (sw1==LOW) {
lcd.clear();

  lcd.setCursor(0,0);
  lcd.print("Jenis Kue 1     ");
lcd.setCursor(0,1);
  lcd.print("Kue Lidah Kucing");
jen=1;
k=2;
delay(2000);
lcd.clear();
}

if (sw2==LOW) {
lcd.clear();

  lcd.setCursor(0,0);
  lcd.print("Jenis Kue 2     ");
```

```
  lcd.setCursor(0,1);
  lcd.print("Kue Greentea ");
  jen=2;
  k=2;
delay(2000);
lcd.clear();
}

if (sw3==LOW) {
lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("Jenis Kue 3     ");
lcd.setCursor(0,1);
  lcd.print("Kue Sagu Keju   ");
 jen=3;
  k=2;
delay(2000);
lcd.clear();
  }
}
}

void suhu()
{
  Vo_a = analogRead(ThermistorPin_a);
  R2_a = R1_a * (1023.0 / (float)Vo_a - 1.0);
  logR2_a = log(R2_a);
  T_a = (1.0 / (c1_a + c2_a*logR2_a + c3_a*logR2_a*logR2_a*logR2_a));
  Tc_a = T_a - 273.15;
  Tf_a = (Tc_a * 9.0)/ 5.0 + 32.0;
  Vo_b = analogRead(ThermistorPin_b);
  R2_b = R1_b * (1023.0 / (float)Vo_b - 1.0);
  logR2_b = log(R2_b);
  T_b = (1.0 / (c1_b + c2_b*logR2_b + c3_b*logR2_b*logR2_b*logR2_b));
  Tc_b = T_b - 273.15;
  Tf_b = (Tc_b * 9.0)/ 5.0 + 32.0;
 Tc_t = float((Tc_a+Tc_b)/2);
 Tc_t = float(Tc_t-kal);
  Serial.print("Temperature a: ");
  Serial.print(Tc_a);
  Serial.println(" C");

 Serial.print("Temperature b: ");
  Serial.print(Tc_b);
  Serial.println(" C");

lcd.setCursor(0,0);

}
```

```
void Mode_1()
{
suhu();
Serial.print("Mode 1:");

timer= map(Tc_t,45,170,75,25);

t_max=140;
 lcd.print("Temp: ");
  lcd.print(Tc_t);
  lcd.println(" C             ");

//if(Tc_t<80 ){
pwm = map(Tc_t,  45, 110, 255,240);     // scale it to use it with the servo (value between
0 and 180)
//}
//if(Tc_t>=80){
// pwm = map(Tc_t,  45, 150, 180, 150);     // scale it to use it with the servo (value
between 0 and 180)
//}

deffuzi();
}

  void Mode_2()
{

Serial.print("Mode 2:");
suhu();
timer= map(Tc_t,45,170,75,25);

t_max=150;

lcd.print("Temp: ");
  lcd.print(Tc_t);
  lcd.println(" C             ");

//if(Tc_t<80){
pwm = map(Tc_t,  45, 120, 255,240);     // scale it to use it with the servo (value between
0 and 180)
//}
//if(Tc_t>=80){
// pwm = map(Tc_t,  45, 150, 180, 150);     // scale it to use it with the servo (value
between 0 and 180)
//}
deffuzi();
}
```

```
void Mode_3()
{

Serial.print("Mode 3:");
suhu();
//j=1 , lk, 140  ==  time =  45  -   140    //   50%       0 %
//j=2 , cp, 150
//j=3 , sk, 160

timer= map(Tc_t,45,180,75,25);

t_max=160;

lcd.print("Temp: ");
  lcd.print(Tc_t);
  lcd.println(" C            ");

//if(Tc_t<80){
pwm = map(Tc_t,  45, 130 ,255,240);     // scale it to use it with the servo (value between
0 and 180)
//}

//if(Tc_t>=80 ){
//pwm = map(Tc_t,  45, 160,180, 150);     // scale it to use it with the servo (value
between 0 and 180)
//}

deffuzi();
}

int skala;
int persen;
int mem;

void deffuzi()

{

//pwm=255;

//pwm=230;

//delay

for(count=0;count<10000;count++)
{

tampil++;
delay(1);
```

```
if(persen<0){persen=0;}
if(Tc_t>=t_max){timer=0;}
if(timer<0){timer=0;}
persen=(timer*10000)/100;

if(count<=persen){
  delay(1);

if(jen==1 && Tc_t<110 ){
analogWrite(elemen,pwm);
}

if(jen==2 && Tc_t<120){
analogWrite(elemen,pwm);
}

if(jen==3 && Tc_t<130){
analogWrite(elemen,pwm);
}

if(tampil>=100){
  lcd.clear();
lcd.setCursor(0,0);
  lcd.print("Temp: ");
  lcd.print(Tc_t);
  lcd.println(" C    ");
lcd.setCursor(0,1);
lcd.print("pwm : ");
lcd.print(pwm);
lcd.print("   ");
//Serial.println(timer);
//Serial.print("on");
delay(10);

tampil=0;
}

}


if(count>persen){
lcd.setCursor(0,1);
  analogWrite(elemen,0);

if(jen==1 && Tc_t>=110 ){Tc_t=110;}//analogWrite(elemen,0);}
if(jen==2 && Tc_t>=120){Tc_t=120;}//analogWrite(elemen,0);}
if(jen==3 && Tc_t>=130){Tc_t=130;}//analogWrite(elemen,0);}
```

```
if(tampil>=100){
  lcd.clear();
lcd.setCursor(0,0);
  lcd.print("Temp: ");
  lcd.print(Tc_t);
  lcd.println(" C    ");

lcd.setCursor(0,1);
lcd.print("pwm : ");
lcd.print(pwm);
lcd.print("   ");

//Serial.println(timer);
//Serial.print("on");
delay(10);

tampil=0;
}
}
delay(1);

//suhu();

  Vo_a = analogRead(ThermistorPin_a);
  R2_a = R1_a * (1023.0 / (float)Vo_a - 1.0);
  logR2_a = log(R2_a);
  T_a = (1.0 / (c1_a + c2_a*logR2_a + c3_a*logR2_a*logR2_a*logR2_a));
  Tc_a = T_a - 273.15;
  Tf_a = (Tc_a * 9.0)/ 5.0 + 32.0;
  Vo_b = analogRead(ThermistorPin_b);
  R2_b = R1_b * (1023.0 / (float)Vo_b - 1.0);
  logR2_b = log(R2_b);
  T_b = (1.0 / (c1_b + c2_b*logR2_b + c3_b*logR2_b*logR2_b*logR2_b));
  Tc_b = T_b - 273.15;
  Tf_b = (Tc_b * 9.0)/ 5.0 + 32.0;
 Tc_t = float((Tc_a+Tc_b)/2);
 Tc_t = float(Tc_t-kal);

int j_blok;
int b_s1=0;
int b_s2=0;
int b_s3=0;
static int i = 0;
  int j;
  uint16_t   nblocks;
  uint8_t    x1, y1, x2, y2;
  nblocks = pixy.getBlocks();
```

```
 if (nblocks)
 {
  i++;
  if (i % 10 == 0)
  {

    sprintf(sbuf, "Detected %d:\n", nblocks);
 //   Serial.print(sbuf);
    for (j = 0; j < min(nblocks, maxblocks); j++)
    {

      sprintf(sbuf, "  block %d: ", j);
 //     Serial.print(sbuf);
      pixy.blocks[j].print();

      blockS[j] = pixy.blocks[j].signature;
      blockX[j] = pixy.blocks[j].x;
      blockY[j] = pixy.blocks[j].y;
      blockW[j] = pixy.blocks[j].width;
      blockH[j] = pixy.blocks[j].height;

//       sigcolor(blockS[j]);

      x1 = blockX[j] - blockW[j] / 2;
      x2 = blockX[j] + blockW[j] / 2;
      y1 = blockY[j] - blockH[j] / 2;
      y2 = blockY[j] + blockH[j] / 2;

if (nblocks && blockS[j]==1){b_s1 ++;}

if (nblocks && blockS[j]==2){b_s2 ++;}

if (nblocks && blockS[j]==3){b_s3 ++;}

      sprintf(sbuf, "%d", blockS[j]);

    }

 /*
   Serial.print("blok s j= ");
  Serial.println(blockS[j]);

  Serial.print("blok s 1= ");
  Serial.println(b_s1);

  Serial.print("blok s 2= ");
  Serial.println(b_s2);

  Serial.print("blok s 3= ");
  Serial.println(b_s3);
```

```
  Serial.print("jenis=");
  Serial.println(jen);
*/

if(b_s1>=6 && jen==1  && blockW[j]>=30)
{
lcd.clear();
lcd.setCursor(0,0);
lcd.print("kue sudah matang");
lcd.setCursor(0,1);
lcd.print("selamat menikmati");
analogWrite(elemen,0);

          j=0;
          k=3;
          l=0;
          jen=0;
          delay(13000);
        delay(13000);
        delay(13000);
        delay(13000);

    count=6000;
kunci();
} // color=VGA_YELLOW;   // just yellow ;)

if(b_s2>=2 && jen==2  && blockW[j]>=20)
{

lcd.setCursor(0,0);
lcd.print("kue sudah matang");
lcd.setCursor(0,1);
lcd.print("selamat menikmati");
analogWrite(elemen,0);

          j=0;
          k=3;
          l=0;
          jen=0;
         delay(13000);
        delay(13000);
        delay(13000);
        delay(13000);

  count=6000;
 //    Serial.println("KUE MATANG");
kunci();
} // color=VGA_YELLOW;   // just yellow ;)
```

```
if(b_s3>=3 && jen==3 && blockW[j]>=45 && blockH[j]>=65 ){   //Serial.print("SAGU
KEJU BULAN MATANG");
lcd.setCursor(0,0);
lcd.print("kue sudah matang");
lcd.setCursor(0,1);
lcd.print("selamat menikmati");
analogWrite(elemen,0);

          j=0;
          k=3;
          l=0;
          jen=0;

       delay(13000);
        delay(13000);
        delay(13000);
        delay(13000);

  count=6000;
   //  Serial.println("KUE MATANG");
kunci();
} // color=VGA_YELLOW;   // just yellow ;)

b_s3=0;
b_s2=0;
b_s1=0;
}
    }
  }
    }

void kunci(){
digitalWrite(elemen,0);

}
```