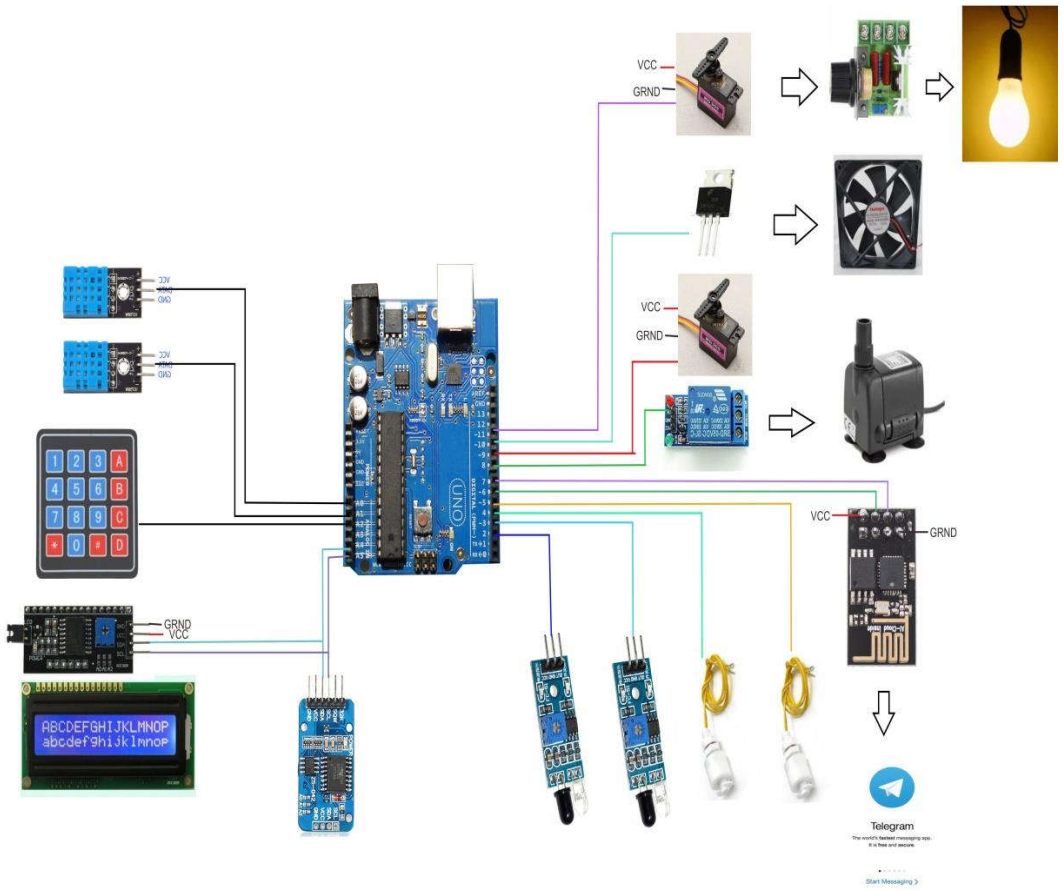
LAMPIRAN

Skematik Rangkaian



Program Telegram

```
#include <ESP8266WiFi.h>

#include <WiFiClientSecure.h>

#include <UniversalTelegramBot.h>

char ssid[] = "soren";

char password[] = "asikasikjos";
```

```
#define BOTtoken
"856265609:AAFaCzpu6x3dVGeJ8GITkNYqmEVXJDTJhok"

String chat_id = "889605519" ;

WiFiClientSecure client;

UniversalTelegramBot bot(BOTtoken, client);

String data;

void setup() {

  // Open serial communications and wait for port to open:

  Serial.begin(115200);

   // pinMode(0, OUTPUT);

   WiFi.mode(WIFI_STA);

  WiFi.disconnect();

  delay(100);

  // Attempt to connect to Wifi network:

  Serial.print("Connecting Wifi: ");

  Serial.println(ssid);

  WiFi.begin(ssid, password);

  while (WiFi.status() != WL_CONNECTED) {

    Serial.print(".");

    delay(500);

  }

  Serial.println("");

  Serial.println("WiFi connected");

  Serial.print("IP address: ");

  Serial.println(WiFi.localIP());

   delay(2000);
```

```
   bot.sendMessage(chat_id,"TELEGRAM KANDANG AYAM SIAP");
}
void loop() { // run over and over
  while(Serial.available()>0) {
    //Serial.write(Serial.read());
    delay(100);
 char C=Serial.read();
  data+= C;
  }
  if (data.length()>0){
    String welcome ="";
    welcome += data;
    bot.sendMessage(chat_id,welcome);
    data="";
  }
}
```

Program Sistem Kandang Pintar Keseluruhan

```
#include <SoftwareSerial.h>
SoftwareSerial serial(7,6);
////////////////////////////////////////////////////////////////////////////////////////////
#include "OnewireKeypad.h" // OneWireKeypad Library
char KEYS[] =   // Define keys' values of Keypad
```

```
{
 '1', '2', '3', 'A',
 '4', '5', '6', 'B',
  '7', '8', '9', 'C',
  '*', '0', '#', 'D'
};
/* Define Library :
OnewireKeypad <Print, #of buttons>
Keypad(Serial, Char values, #Rows, #Cols, Arduino Pin, Row_resistor, Columns_resistor) */
OnewireKeypad <Print, 16 > Keypad(Serial, KEYS, 4, 4, A2, 4700, 1000);
long longSA=0,longSB=0;
int axSA=0,axSB=0;
long infuss, lembab;
long set1, set2, set3, set4, set5, set6, KL1, KL2, KL3, KL4;
String angka,angka2;
int k1=0,k2,k3,k4,k5,k6;
int data;
//int pin=12;
int sp;
//int count ;
byte dowo=0;
////////////////////////////////////////////////////////////////////////////////////////
#include "DHT.h"
#define DHTPIN1 A0
#define DHTPIN2 A1
```

```
#define DHTTYPE DHT11
DHT dht1 (DHTPIN1, DHTTYPE);
DHT dht2 (DHTPIN2, DHTTYPE);

float suhu1 ;
float suhu2 ;
float kelembaban1 ;
float kelembaban2 ;
float rata2suhu ;
float rata2kelembapan ;
////////////////////////////////////////////////////////////////////////////////////
#include <Wire.h>
#include <LiquidCrystal_PCF8574.h>
LiquidCrystal_PCF8574 lcd(0x27);
////////////////////////////////////////////////////////////////////////////////////
#include <DS3231.h>
// Init the DS3231 using the hardware interface
DS3231  rtc(SDA, SCL);
Time  t;
////////////////////////////////////////////////////////////////////////////////////
#include <Servo.h>
Servo myservo1;
Servo myservo2;
////////////////////////////////////////////////////////////////////////////////////
const int pinmakanan = 2;
```

```
const int pinairminum = 3;
const int pintandonairminum = 4;
const int pintandonmakanan = 5;

int makanan = 0;
int airminum = 0;
int tandonairminum = 0;
int tandonmakanan = 0;
////////////////////////////////////////////////////////////////////////////////
#define pompatandoair 8
#define servotandomakanan 9
#define KIPAS 11
#define LAMPU 10
////////////////////////////////////set yg di ganti ////////////////////////////////////
#define kelembabanawal 0
#define kelembabantengah 60
#define kelembabanakhir1 70
#define kelembabanakhir2 100
////////////////////// set suhu tahap 1 ////////////////////////////////////////////////
#define suhuawal1 0
#define suhutengah1 32
#define suhutengah11 33
#define suhutengah111 34
#define suhuakhir1 35
#define suhu1akhir2 40
```

```
//////////////////////// set suhu tahap 2 ////////////////////////////////////////////////////

#define suhuawal2 0

#define suhutengah2 29

#define suhutengah22 30

#define suhutengah222 31

#define suhutengah2222 32

#define suhutengah22222 33

#define suhuakhir2 34

#define suhuakhir22 50

//////////////////////////////////////// set hari ////////////////////////////////////////////////////

#define tanggalawaltahap1 1

#define tanggalakhirtahap1 3

#define tanggalawaltahap2 6

#define tanggalakhirtahap2 30

//////////////////////////////////set waktu pengiriman telegram
////////////////////////////////////////////////////////

#define waktu 20000

//////////////////////////////// set kecepatan kipas
//////////////////////////////////////////////////////////////////

#define pwmkipas1 255

#define pwmkipas2 100

#define pwmkipas3 0

//////////////////////////////// SET SERVO LAMPU TAHAP 1
////////////////////////////////////////////////////////////
```

```
#define servolampu1 180

#define servolampu2 144

#define servolampu3 108

#define servolampu4 72

#define servolampu5 0

//////////////////////////////// SET SERVO LAMPU TAHAP 2
////////////////////////////////////////////////////////////

#define servo2lampu1 180

#define servo2lampu2 154

#define servo2lampu3 128

#define servo2lampu4 102

#define servo2lampu5 76

#define servo2lampu6 50

#define servo2lampu7 0

//////////////////////////////// set servo set manual suhu
////////////////////////////////////////////////////////////

#define nol 0

#define setservolampu1 180

#define setservolampu2 120

#define setservolampu3 60

#define setservolampu4 0

void setup() {

  // put your setup code here, to run once:

Serial.begin(115200);

serial.begin(115200);

lcd.begin(20, 4);
```

```
lcd.setBacklight(255);
lcd.clear();
rtc.begin();
// rtc.setDate(7, 8, 2019);   // Set the date to January 1st, 2014
dht1.begin();
dht2.begin();
  pinMode(pinmakanan,INPUT);
  pinMode(pinairminum ,INPUT);
  pinMode(pintandonairminum,INPUT);
  pinMode(pintandonmakanan,INPUT);
pinMode(pompatandoair, OUTPUT);
pinMode( KIPAS , OUTPUT);
myservo1.attach(LAMPU);
myservo2.attach(servotandomakanan);
  myservo1.write(180);
  myservo2.write(20);
  digitalWrite(pompatandoair, HIGH);
  digitalWrite(KIPAS, LOW);
  lcd.setCursor(2,0);
  lcd.print("MUHAMAD SURENG B");
  lcd.setCursor(6,1);
  lcd.print("17520486");
  delay (3000);
  lcd.clear();
//serial.print("TANDON MAKANAN KONDISI HABIS");
```

```
}
void loop() {
  // put your main code here, to run repeatedly:
//SUHUSET();
if(k1==0){
  delay(500);
  lcd.clear();
  lcd.setCursor(5,0);
  lcd.print("TEKAN MENU");
  lcd.setCursor(0,1);
  lcd.print("TOMBOL A=UMR 0-3");
  lcd.setCursor(0,2);
  lcd.print("TOMBOL B=UMR 4-7");
  lcd.setCursor(0,3);
  lcd.print("TOMBOL C=SET MANUAL");
  menu1();}
if(k1==1){SUHUSET(); }
if(k1==2){KELEMBAPANSET();}
if(k1==3){jalansuhumanual();}
///if(k1==4){jalansuhumanual();}
}
void menu1(){
  char key0=Keypad.Getkey();
if (key0=='A'){
  lcd.clear();
```

```
while(key0=='A'){ t = rtc.getTime();
tahap1();
logikamakanminum();}
      }
  if(key0!='A'||key0!='A') {k1=0;}
  if (key0=='B'){
  lcd.clear();
   while(key0=='B'){ t = rtc.getTime();
tahap2();
logikamakanminum();}
      }
  if(key0!='B'||key0!='B') {k1=0;}
   if (key0=='C'){
  lcd.clear();
  //lcd.setCursor(0,0);
  lcd.print("SET SUHU= ");
    k1=1;
      }
  if(key0!='C'||key0!='C') {k1=0;}
  }
void SUHUSET(){
 char keySA = Keypad.Getkey();
 if (keySA){if(keySA!='*'||keySA!='#'){
  Keypad.SetHoldTime(100);  // Key held time in ms
  Keypad.SetDebounceTime(100); // Key Debounce time in ms
```

```
  if ((Keypad.Key_State() == 3))    // not pressed = 0, pressed = 1, released = 2,
held = 3

  {

    char keySA= Keypad.Getkey();  // put value of key pressed in variable
'keypress'

                          angka = keySA;

                          axSA = angka.toInt();

                          longSA=(longSA*10)+axSA;

                         infuss=longSA/10;

                          lcd.print(axSA);

   while ((Keypad.Key_State())) {} // Stay here while Key is held down

  }

                          }

if (keySA=='#'){ set2=infuss;

      lcd.clear();

           lcd.print("SET kelembaban= ");

           k1=2;

         SUHUSET();

           set2=infuss;

           }

if (keySA=='*'){axSA=0;longSA=0;infuss=0;lcd.clear();lcd.print("SET SUHU=
");}

         }

}

void KELEMBAPANSET(){

 char keySA1 = Keypad.Getkey();

 if (keySA1){if(keySA1!='*'||keySA1!='#'){
```

```
  Keypad.SetHoldTime(100);  // Key held time in ms
  Keypad.SetDebounceTime(50); // Key Debounce time in ms
  if ((Keypad.Key_State() == 3))    // not pressed = 0, pressed = 1, released = 2,
held = 3
  {
    char keySA1= Keypad.Getkey();  // put value of key pressed in variable
'keypress'
                          angka2 = keySA1;
                          axSB = angka2.toInt();
                          longSB=(longSB*10)+axSB;
                          lembab=longSB/10;
                          lcd.print(axSB);
   while ((Keypad.Key_State())) {} // Stay here while Key is held down
  }
                          }
if (keySA1=='#'){
   KL2=lembab;
   lcd.clear();
            k1=3;
        KELEMBAPANSET();
          // set2=infuss;
            }
if (keySA1=='*'){axSB=0;longSB=0;lembab=0;lcd.clear();lcd.print("SET
kelembaban= ");}

        }
}
```

```
void jalansuhumanual()
{t = rtc.getTime();
  manualsuhu();
 logikamakanminum();
}
void manualsuhu()
{  set1=nol;
   set2=infuss;
   set3=set2+2;
   set4=set3+2;
   set5=set4+50;
  // set6=set5+50;
  KL1=nol;
  KL2=lembab;
  KL3=lembab+10;
  KL4=100;
/*
  delay(500);
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print(infuss);
  lcd.setCursor(10,0);
  lcd.print(set1);
```

```
  lcd.setCursor(10,1);
  lcd.print(set2);
  lcd.setCursor(10,2);
  lcd.print(set3);
  lcd.setCursor(10,3);
  lcd.print(set40);
*/
  bacasensor3();
  if ((rata2kelembapan>=KL1)&&(rata2kelembapan<=
KL2)&&(rata2suhu>=set1)&&(rata2suhu<=set2))       // 1
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(setservolampu1);
    return;
  }
   if ((rata2kelembapan>=KL1)&&(rata2kelembapan<=
KL2)&&(rata2suhu>=set2)&&(rata2suhu<=set3))    // 2
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(setservolampu2);
    return;
  }
  if ((rata2kelembapan>=KL1)&&(rata2kelembapan<=
KL2)&&(rata2suhu>=set3)&&(rata2suhu<=set4))   //3
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(setservolampu3);
```

```
    return;
  }
  if ((rata2kelembapan>=KL1)&&(rata2kelembapan<=
KL2)&&(rata2suhu>=set4)&&(rata2suhu<=set5))     // 4
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(setservolampu4);
    return;
  }
////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////
  if ((rata2kelembapan>=
KL2)&&(rata2kelembapan<=KL3)&&(rata2suhu>=set1)&&(rata2suhu<=set2))
// 1
  {
     analogWrite(KIPAS, pwmkipas2);
     myservo1.write(setservolampu1);
    return;
  }
   if ((rata2kelembapan>=
KL2)&&(rata2kelembapan<=KL3)&&(rata2suhu>=set2)&&(rata2suhu<=set3))
// 2
  {
    analogWrite(KIPAS, pwmkipas2);
    myservo1.write(setservolampu2);
    return;
  }
```

```
  if ((rata2kelembapan>=
KL2)&&(rata2kelembapan<=KL3)&&(rata2suhu>=set3)&&(rata2suhu<=set4))
// 3
  {
    analogWrite(KIPAS, pwmkipas2);
    myservo1.write(setservolampu3);
    return;
  }
  if ((rata2kelembapan>=
KL2)&&(rata2kelembapan<=KL3)&&(rata2suhu>=set4)&&(rata2suhu<=set5))
// 4
  {
    analogWrite(KIPAS, pwmkipas2);
    myservo1.write(setservolampu4);
    return;
  }
////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////////
  if
((rata2kelembapan>=KL3)&&(rata2kelembapan<=KL4)&&(rata2suhu>=set1)&
&(rata2suhu<=set2))        // 1
  {
     analogWrite(KIPAS, pwmkipas3);
     myservo1.write(setservolampu1);
     return;
  }
```

```
  if
((rata2kelembapan>=KL3)&&(rata2kelembapan<=KL4)&&(rata2suhu>=set2)&
&(rata2suhu<=set3))      // 2
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(setservolampu2);
    return;
  }
  if
((rata2kelembapan>=KL3)&&(rata2kelembapan<=KL4)&&(rata2suhu>=set3)&
&(rata2suhu<=set4))      // 3
  {
   analogWrite(KIPAS,pwmkipas3);
    myservo1.write(setservolampu3);
    return;
  }
  if
((rata2kelembapan>=KL3)&&(rata2kelembapan<=KL4)&&(rata2suhu>=set4)&
&(rata2suhu<=set5))      // 4
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(setservolampu4);
    return;
  }
}
void tahap1()
{   bacasensor1();
```

```
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhuawal1)&&(rata2suhu<=suhutengah1))        // 1

  {

    analogWrite(KIPAS,pwmkipas1);

    myservo1.write(servolampu1);

    return;

  }

   if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah1)&&(rata2suhu<=suhutengah11))    // 2

  {

   analogWrite(KIPAS,pwmkipas1);

   myservo1.write(servolampu2);

   return;

  }

  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah11)&&(rata2suhu<=suhutengah111))   //3

  {

   analogWrite(KIPAS,pwmkipas1);

   myservo1.write(servolampu3);

   return;

  }
```

```
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah111)&&(rata2suhu<=suhuakhir1))     // 4
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servolampu4);
    return;
  }
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhuakhir1)&&(rata2suhu<=suhu1akhir2))       // 5
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servolampu5);
    return;
  }
////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////////
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhuawal1)&&(rata2suhu<=suhutengah1))      // 1
  {
     analogWrite(KIPAS, pwmkipas2);
     myservo1.write(servolampu1);
    return;
  }
   if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhutengah1)&&(rata2suhu<=suhutengah11))  // 2
```

```
  {
   analogWrite(KIPAS, pwmkipas2);
   myservo1.write(servolampu2);
   return;
  }
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhutengah11)&&(rata2suhu<=suhutengah111))   // 3
  {
   analogWrite(KIPAS, pwmkipas2);
   myservo1.write(servolampu3);
   return;
  }
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhutengah111)&&(rata2suhu<=suhuakhir1))   // 4
  {
   analogWrite(KIPAS, pwmkipas2);
   myservo1.write(servolampu4);
   return;
  }
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhuakhir1)&&(rata2suhu<=suhu1akhir2))     // 5
  {
   analogWrite(KIPAS, pwmkipas2);
   myservo1.write(servolampu5);
   return;
```

```
  }
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////////////

  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhuawal1)&&(rata2suhu<=suhutengah1))         // 1
  {
     analogWrite(KIPAS, pwmkipas3);
     myservo1.write(servolampu1);
     return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah1)&&(rata2suhu<=suhutengah11))       // 2
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servolampu2);
    return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah11)&&(rata2suhu<=suhutengah111))      // 3
  {
   analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servolampu3);
    return;
  }
```

```
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah111)&&(rata2suhu<=suhuakhir1))      // 4
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servolampu4);
    return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhuakhir1)&&(rata2suhu<=suhu1akhir2))         // 5
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servolampu5);
    return;
  }
}
void tahap2 ()
{  bacasensor2();
 if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhuawal2)&&(rata2suhu<=suhutengah2))           // 1
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servo2lampu1);
    return;
  }
```

```
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah2)&&(rata2suhu<=suhutengah22))          // 2
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servo2lampu2);
    return;
  }
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah22)&&(rata2suhu<=suhutengah222))        // 3
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servo2lampu3);
    return;
  }
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah222)&&(rata2suhu<=suhutengah2222))      // 4
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servo2lampu4);
    return;
  }
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah2222)&&(rata2suhu<=suhutengah22222))    // 5
  {
```

```
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servo2lampu5);
    return;
  }
  if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhutengah22222)&&(rata2suhu<=suhuakhir2 ))       // 6
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servo2lampu6);
    return;
  }
   if
((rata2kelembapan>=kelembabanawal)&&(rata2kelembapan<=kelembabantengah
)&&(rata2suhu>=suhuakhir2)&&(rata2suhu<=suhuakhir22))          // 7
  {
    analogWrite(KIPAS,pwmkipas1);
    myservo1.write(servo2lampu7);
    return;
  }
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////////
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhuawal2)&&(rata2suhu<=suhutengah2))           // 1
  {
    analogWrite(KIPAS,pwmkipas2);
    myservo1.write(servo2lampu1);
```

```
    return;
  }
  if ((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhir1)&&(rata2suhu>=suhutengah2)&&(rata2suhu<=suhutengah22))          // 2
  {
     analogWrite(KIPAS,pwmkipas2);
     myservo1.write(servo2lampu2);
     return;
  }
  if ((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhir1)&&(rata2suhu>=suhutengah22)&&(rata2suhu<=suhutengah222))        // 3
  {
    analogWrite(KIPAS,pwmkipas2);
    myservo1.write(servo2lampu3);
    return;
  }
  if ((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhir1)&&(rata2suhu>=suhutengah222)&&(rata2suhu<=suhutengah2222))      // 4
  {
    analogWrite(KIPAS,pwmkipas2);
    myservo1.write(servo2lampu4);
    return;
  }
```

```
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhutengah2222)&&(rata2suhu<=suhutengah22222))    // 5
  {
    analogWrite(KIPAS,pwmkipas2);
    myservo1.write(servo2lampu5);
    return;
  }
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhutengah22222)&&(rata2suhu<=suhuakhir2 ))      // 6
  {
    analogWrite(KIPAS,pwmkipas2);
    myservo1.write(servo2lampu6);
    return;
  }
  if
((rata2kelembapan>=kelembabantengah)&&(rata2kelembapan<=kelembabanakhi
r1)&&(rata2suhu>=suhuakhir2)&&(rata2suhu<=suhuakhir22 ))         // 7
  {
    analogWrite(KIPAS,pwmkipas2);
    myservo1.write(servo2lampu7);
    return;
  }
////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////////
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhuawal2)&&(rata2suhu<=suhutengah2))              // 1
```

```
  {
 analogWrite(KIPAS,pwmkipas3);
   myservo1.write(servo2lampu1);
   return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah2)&&(rata2suhu<=suhutengah22))          // 2
  {
   analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servo2lampu2);
    return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah22)&&(rata2suhu<=suhutengah222))       // 3
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servo2lampu3);
    return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah222)&&(rata2suhu<=suhutengah2222))      // 4
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servo2lampu4);
    return;
```

```
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah2222)&&(rata2suhu<=suhutengah22222))     // 5
  {
   analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servo2lampu5);
    return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhutengah22222)&&(rata2suhu<=suhuakhir2))         // 6
  {
    analogWrite(KIPAS,pwmkipas3);
    myservo1.write(servo2lampu6);
    return;
  }
  if
((rata2kelembapan>=kelembabanakhir1)&&(rata2kelembapan<=kelembabanakhir
2)&&(rata2suhu>=suhuakhir2)&&(rata2suhu<=suhuakhir22))             // 7
  {
   analogWrite(KIPAS,pwmkipas3);
     myservo1.write(servo2lampu7);
     return;
  }
}
void bacasensor1()
{
```

```
 //t = rtc.getTime();
  lcd.setCursor(0,1);
  lcd.print("UMR=0-3");
  lcd.setCursor(10,1);
  lcd.print(rtc.getDateStr());
kelembaban1=dht1.readHumidity();
 suhu1 =(dht1.readTemperature());
  kelembaban2=dht2.readHumidity();
 suhu2=(dht2.readTemperature());
rata2suhu=(suhu1+suhu2)/2;
rata2kelembapan=(kelembaban1+kelembaban2)/2;
  lcd.setCursor(0,0);
  lcd.print("SH:");
  lcd.setCursor(3,0);
  lcd.print(rata2suhu);
  lcd.setCursor(11,0);
  lcd.print("KL:");
  lcd.setCursor(14,0);
  lcd.print(rata2kelembapan);
}
void bacasensor2()
{
 //t = rtc.getTime();
  lcd.setCursor(0,1);
  lcd.print("UMR=4-7");
```

```
  lcd.setCursor(10,1);
  lcd.print(rtc.getDateStr());



 kelembaban1=dht1.readHumidity();
 suhu1 =(dht1.readTemperature());
  kelembaban2=dht2.readHumidity();
 suhu2=(dht2.readTemperature());
rata2suhu=(suhu1+suhu2)/2;
rata2kelembapan=(kelembaban1+kelembaban2)/2;
  lcd.setCursor(0,0);
  lcd.print("SH:");
  lcd.setCursor(3,0);
  lcd.print(rata2suhu);
  lcd.setCursor(11,0);
  lcd.print("KL:");
  lcd.setCursor(14,0);
  lcd.print(rata2kelembapan);
}
void bacasensor3()
{
 //t = rtc.getTime();
  lcd.setCursor(0,1);
  lcd.print("S=");
```

```
  lcd.setCursor(2,1);
  lcd.print(set2);
  lcd.setCursor(5,1);
  lcd.print("K=");
  lcd.setCursor(7,1);
  lcd.print(lembab);
  lcd.setCursor(10,1);
  lcd.print(rtc.getDateStr());
 kelembaban1=dht1.readHumidity();
 suhu1 =(dht1.readTemperature());
  kelembaban2=dht2.readHumidity();
 suhu2=(dht2.readTemperature());
rata2suhu=(suhu1+suhu2)/2;
rata2kelembapan=(kelembaban1+kelembaban2)/2;
  lcd.setCursor(0,0);
  lcd.print("SH:");
  lcd.setCursor(3,0);
  lcd.print(rata2suhu);
  lcd.setCursor(11,0);
  lcd.print("KL:");
  lcd.setCursor(14,0);
  lcd.print(rata2kelembapan);
}
void logikamakanminum()
{
```

```
  baca();

  if ((makanan== HIGH)&&(tandonmakanan== HIGH)&&( airminum == HIGH)&&( tandonairminum ==HIGH))

  // 0000  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )

  {

     lcd.setCursor(0,2);

     lcd.print("MKN=HBS");

     lcd.setCursor(11,2);

     lcd.print("MNM=HBS");

     lcd.setCursor(0,3);

     lcd.print("T.MKN=HBS");

     lcd.setCursor(11,3);

     lcd.print("T.MNM=HBS");

    for (long x=0; x <waktu; x++) {

      delay(1);

       //Serial.println(x);

     if (x==1500) {

       serial.print(" TANDON MINUM DAN TANDON MAKANAN KONDISI HABIS ");

     }

    }

   return;

  }

   if ((makanan== HIGH)&&(tandonmakanan== HIGH)&&( airminum == HIGH)&&( tandonairminum == LOW))
```

```
  // 0001  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )
  {
     lcd.setCursor(0,2);
     lcd.print("MKN=HBS");
     lcd.setCursor(11,2);
     lcd.print("MNM=HBS");
     lcd.setCursor(0,3);
     lcd.print("T.MKN=HBS");
     lcd.setCursor(11,3);
     lcd.print("T.MNM=PNH");
    for (long x=0; x <waktu; x++) {
      delay(1);
      //Serial.println(x);
     if (x==1500) {
      serial.print("TANDON MAKANAN KONDISI HABIS ");
     }
    }
isiminuman();
  }
   if ((makanan== HIGH)&&(tandonmakanan== HIGH)&&( airminum == LOW)&&( tandonairminum ==HIGH))
   // 0010  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )
  {
     lcd.setCursor(0,2);
     lcd.print("MKN=HBS");
```

```
      lcd.setCursor(11,2);
      lcd.print("MNM=PNH");
      lcd.setCursor(0,3);
      lcd.print("T.MKN=HBS");
      lcd.setCursor(11,3);
      lcd.print("T.MNM=HBS");
       for (long x=0; x <waktu; x++) {
        delay(1);
        //Serial.println(x);
      if (x==1500) {
        serial.print(" TANDON MINUM DAN TANDON MAKANAN KONDISI
HABIS ");
      }
    }
  }
   if ((makanan== HIGH)&&(tandonmakanan== HIGH)&&( airminum ==
LOW)&&( tandonairminum == LOW))
   // 0011  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum
habis = HIGH && airminum penuh = LOW )
  {
      lcd.setCursor(0,2);
      lcd.print("MKN=HBS");
      lcd.setCursor(11,2);
      lcd.print("MNM=PNH");
      lcd.setCursor(0,3);
      lcd.print("T.MKN=HBS");
      lcd.setCursor(11,3);
```

```
      lcd.print("T.MNM=PNH");
      for (long x=0; x <waktu; x++) {
        delay(1);
        //Serial.println(x);
      if (x==1500) {
        serial.print("TANDON MAKANAN KONDISI HABIS ");
      }
     }
  }
    if ((makanan== HIGH)&&(tandonmakanan== LOW)&&( airminum ==HIGH)&&( tandonairminum ==HIGH))
    // 0100   ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )
  {
      lcd.setCursor(0,2);
      lcd.print("MKN=HBS");
      lcd.setCursor(11,2);
      lcd.print("MNM=HBS");
      lcd.setCursor(0,3);
      lcd.print("T.MKN=PNH");
      lcd.setCursor(11,3);
      lcd.print("T.MNM=HBS");
      for (long x=0; x <waktu; x++) {
        delay(1);
        //Serial.println(x);
      if (x==1500) {
```

```
      serial.print(" TANDON MINUM KONDISI HABIS ");
     }
    }
    isimakanan();

  }
   if ((makanan== HIGH)&&(tandonmakanan== LOW)&&( airminum ==HIGH)&&( tandonairminum == LOW))
   // 0101   ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )
  {
    lcd.setCursor(0,2);
    lcd.print("MKN=HBS");
    lcd.setCursor(11,2);
    lcd.print("MNM=HBS");
    lcd.setCursor(0,3);
    lcd.print("T.MKN=PNH");
    lcd.setCursor(11,3);
    lcd.print("T.MNM=PNH");
   isimakanan();
   isiminuman();
  }
   if ((makanan== HIGH)&&(tandonmakanan==LOW)&&( airminum == LOW)&&( tandonairminum ==HIGH))
   // 0110  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )
  {
```

```
    lcd.setCursor(0,2);
    lcd.print("MKN=HBS");
    lcd.setCursor(11,2);
    lcd.print("MNM=PNH");
    lcd.setCursor(0,3);
    lcd.print("T.MKN=PNH");
    lcd.setCursor(11,3);
    lcd.print("T.MNM=HBS");
    for (long x=0; x <waktu; x++) {
      delay(1);
      //Serial.println(x);
    if (x==1500) {
      serial.print(" TANDON MINUM KONDISI HABIS ");
    }
    }
    isimakanan();
  }
   if ((makanan== HIGH)&&(tandonmakanan==LOW)&&( airminum ==
LOW)&&( tandonairminum == LOW))
   // 0111  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum
habis = HIGH && airminum penuh = LOW )
  {
    lcd.setCursor(0,2);
    lcd.print("MKN=HBS");
    lcd.setCursor(11,2);
    lcd.print("MNM=PNH");
```

```
    lcd.setCursor(0,3);
    lcd.print("T.MKN=PNH");
    lcd.setCursor(11,3);
    lcd.print("T.MNM=PNH");
   isimakanan();
  }
   if ((makanan==LOW)&&(tandonmakanan== HIGH)&&( airminum
==HIGH)&&( tandonairminum ==HIGH))
   // 1000  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum
habis = HIGH && airminum penuh = LOW )
  {
    lcd.setCursor(0,2);
    lcd.print("MKN=PNH");
    lcd.setCursor(11,2);
    lcd.print("MNM=HBS");
    lcd.setCursor(0,3);
    lcd.print("T.MKN=HBS");
    lcd.setCursor(11,3);
    lcd.print("T.MNM=HBS");
     for (long x=0; x <waktu; x++) {
      delay(1);
      //Serial.println(x);
    if (x==1500) {
      serial.print(" TANDON MINUM DAN TANDON MAKANAN KONDISI
HABIS ");
    }
   }
```

```
  }
  if ((makanan==LOW)&&(tandonmakanan== HIGH)&&( airminum ==HIGH)&&( tandonairminum == LOW))


  // 1001   ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )
  {
     lcd.setCursor(0,2);
     lcd.print("MKN=PNH");
     lcd.setCursor(11,2);
     lcd.print("MNM=HBS");
     lcd.setCursor(0,3);
     lcd.print("T.MKN=HBS");
     lcd.setCursor(11,3);
     lcd.print("T.MNM=PNH");
      for (long x=0; x <waktu; x++) {
       delay(1);
       //Serial.println(x);
     if (x==1500) {
       serial.print("TANDON MAKANAN KONDISI HABIS ");
     }
    }
  isiminuman();
  }
   if ((makanan==LOW)&&(tandonmakanan== HIGH)&&( airminum == LOW)&&( tandonairminum ==HIGH))
```

```
   // 1010  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )

  {

     lcd.setCursor(0,2);

     lcd.print("MKN=PNH");

     lcd.setCursor(11,2);

     lcd.print("MNM=PNH");

     lcd.setCursor(0,3);

     lcd.print("T.MKN=HBS");

     lcd.setCursor(11,3);

     lcd.print("T.MNM=HBS");

      for (long x=0; x <waktu; x++) {

       delay(1);

       //Serial.println(x);

      if (x==1500) {

       serial.print(" TANDON MINUM DAN TANDON MAKANAN KONDISI HABIS ");

      }

     }

  }

   if ((makanan==LOW)&&(tandonmakanan== HIGH)&&( airminum == LOW)&&( tandonairminum == LOW))

   // 1011  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum habis = HIGH && airminum penuh = LOW )

  {

     lcd.setCursor(0,2);

     lcd.print("MKN=PNH");
```

```
      lcd.setCursor(11,2);
      lcd.print("MNM=PNH");
      lcd.setCursor(0,3);
      lcd.print("T.MKN=HBS");
      lcd.setCursor(11,3);
      lcd.print("T.MNM=PNH");
        for (long x=0; x <waktu; x++) {
        delay(1);
        //Serial.println(x);
      if (x==1500) {
        serial.print("TANDON MAKANAN KONDISI HABIS ");
      }
     }
  }
    if ((makanan==LOW)&&(tandonmakanan==LOW)&&( airminum
==HIGH)&&( tandonairminum ==HIGH))
    // 1100  ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum
habis = HIGH && airminum penuh = LOW )
  {
      myservo2.write(20);
      lcd.setCursor(0,2);
      lcd.print("MKN=PNH");
      lcd.setCursor(11,2);
      lcd.print("MNM=HBS");
      lcd.setCursor(0,3);
      lcd.print("T.MKN=PNH");
```

```
    lcd.setCursor(11,3);
    lcd.print("T.MNM=HBS");
    for (long x=0; x <waktu; x++) {
      delay(1);
      //Serial.println(x);
    if (x==1500) {
      serial.print(" TANDON MINUM KONDISI HABIS ");
    }
   }
  }
   if ((makanan==LOW)&&(tandonmakanan==LOW)&&( airminum
==HIGH)&&( tandonairminum == LOW))
   // 1101   ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum
habis = HIGH && airminum penuh = LOW )
  {
    myservo2.write(20);
    lcd.setCursor(0,2);
    lcd.print("MKN=PNH");
    lcd.setCursor(11,2);
    lcd.print("MNM=HBS");
    lcd.setCursor(0,3);
    lcd.print("T.MKN=PNH");
    lcd.setCursor(11,3);
    lcd.print("T.MNM=PNH");
   isiminuman();
  }
```

```
   if ((makanan==LOW)&&(tandonmakanan==LOW)&&( airminum ==
LOW)&&( tandonairminum ==HIGH))

   // 1110   ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum
habis = HIGH && airminum penuh = LOW )

  {

     myservo2.write(20);

     lcd.setCursor(0,2);

     lcd.print("MKN=PNH");

     lcd.setCursor(11,2);

     lcd.print("MNM=PNH");

     lcd.setCursor(0,3);

     lcd.print("T.MKN=PNH");

     lcd.setCursor(11,3);

     lcd.print("T.MNM=HBS");

      for (long x=0; x <waktu; x++) {

      delay(1);

       //Serial.println(x);

     if (x==1500) {

       serial.print(" TANDON MINUM KONDISI HABIS ");

     }

    }

  }

   if ((makanan==LOW)&&(tandonmakanan==LOW)&&( airminum ==
LOW)&&( tandonairminum == LOW))

   // 1111   ( MAKAN habis =HIGH && MAKAN penuh = LOW )---(  airminum
habis = HIGH && airminum penuh = LOW )

  {
```

```
      myservo2.write(20);
      lcd.setCursor(0,2);
      lcd.print("MKN=PNH");
      lcd.setCursor(11,2);
      lcd.print("MNM=PNH ");
      lcd.setCursor(0,3);
      lcd.print("T.MKN=PNH");
      lcd.setCursor(11,3);
      lcd.print("T.MNM=PNH");
    return;
  }
}
void isimakanan()
{
myservo2.write(50);
delay(10000);
baca();
if(makanan==LOW){
myservo2.write(20);
return;
}
isimakanan();
}
void isiminuman()
{
```

```
digitalWrite(pompatandoair, LOW);
myservo2.write(20);
baca();
if(airminum ==LOW){
digitalWrite(pompatandoair, HIGH);

return;
}
isiminuman();
}
void baca()
{
  makanan = digitalRead(pinmakanan);
  airminum = digitalRead(pinairminum);
  tandonairminum = digitalRead(pintandonairminum);
  tandonmakanan = digitalRead(pintandonmakanan);
}
```