



LAMPIRAN II

Program Mikrokontroler



```
//pin sensor kejernihan
int channel0 = A0;
int channel1 = A1;
int channel2 = A2;
int channel3 = A3;

//pin relay
int relay1 = 7;
int relay2 = 8;
int startButton = 9;
int testButton = 10;

//pin sensor ultrasonik
int echoPin = 11;
int trigPin = 12;
int tinggi;
long duration;

int a,b,c,d,x;
int kejernihan;
int persediaan;

void setup ()
{
  Serial.begin(9600);

  pinMode(startButton,INPUT);
  pinMode(testButton,INPUT);
  pinMode(echoPin, INPUT);
```



```
pinMode(relay1,OUTPUT);
pinMode(relay2,OUTPUT);
pinMode(trigPin, OUTPUT);

//set relay OFF
digitalWrite(relay1,LOW);
digitalWrite(relay2,HIGH);
}

void baca_kejernihan()
{
//sensor kejernihan
a = analogRead(channel0);
b = analogRead(channel1);
c = analogRead(channel2);
d = analogRead(channel3);
x = ((a+b+c+d)/4); //mencari nilai rata-rata sensor kejernihan
}

void banding_kejernihan()
{
if (x>825)
{
kejernihan = 1;
}
else
{
kejernihan = 0;
}
}
```

```
}  
  
void baca_ketinggian()  
{  
    //sensor ultrasonik  
    digitalWrite(trigPin, LOW);  
    delayMicroseconds(2);  
    digitalWrite(trigPin, HIGH);  
    delayMicroseconds(10);  
    digitalWrite(trigPin, LOW);  
    duration = pulseIn(echoPin, HIGH);  
    tinggi = (duration/2) / 29.1;  
}  
  
void banding_ketinggian()  
{  
    if (tinggi>21)  
    {  
        persediaan = 1;  
    }  
    else  
    {  
        persediaan = 0;  
    }  
}
```

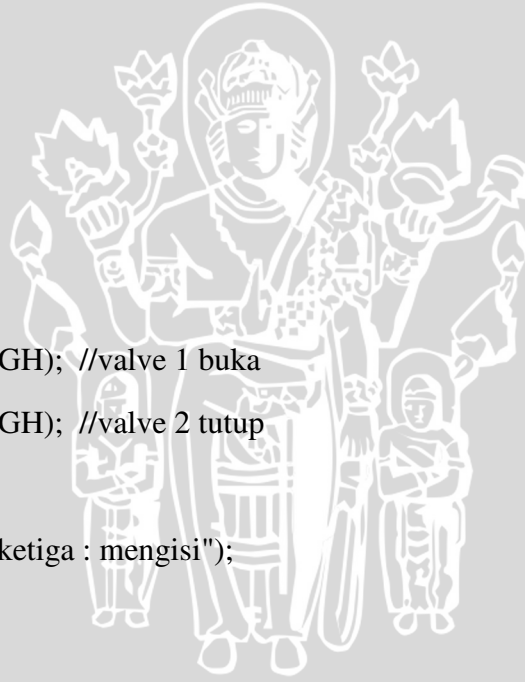


```
//program utama
void loop ()
{
  baca_kejernihan();
  banding_kejernihan();
  baca_ketinggian();
  banding_ketinggian();

  // kondisi pertama
  if (kejernihan==0 && persediaan==0)
  {
    digitalWrite(relay1, LOW); //valve 1 tutup
    digitalWrite(relay2, HIGH); //valve 2 tutup
    Serial.println("kondisi pertama : tidak ada aktifitas");
    Serial.println(tinggi);
    Serial.println(x);
  }

  // kondisi kedua
  else if (kejernihan==0 && persediaan==1)
  {
    while (tinggi!=14)
    {
      digitalWrite(relay1, HIGH); //valve 1 buka
      digitalWrite(relay2, HIGH); //valve 2 tutup
      baca_ketinggian();
      Serial.println("kondisi kedua : mengisi");
      Serial.println(tinggi);
      Serial.println(x);
    }
  }
}
```

```
}  
}  
// kondisi ketiga  
else if (kejernihan==1 && persediaan==0)  
{  
  while (tinggi!=22)  
  {  
    digitalWrite(relay1, LOW); //valve 1 tutup  
    digitalWrite(relay2, LOW); //valve 2 buka  
    baca_ketinggian();  
    Serial.println("kondisi ketiga : menguras");  
    Serial.println(tinggi);  
    Serial.println(x);  
  }  
  while (tinggi!=14)  
  {  
    digitalWrite(relay1, HIGH); //valve 1 buka  
    digitalWrite(relay2, HIGH); //valve 2 tutup  
    baca_ketinggian();  
    Serial.println("kondisi ketiga : mengisi");  
    Serial.println(tinggi);  
    Serial.println(x);  
  }  
}  
  
// kondisi keempat  
else if (kejernihan==1 && persediaan==1)  
{  
  while (tinggi!=22)
```



```
{  
  digitalWrite(relay1, LOW); //valve 1 tutup  
  digitalWrite(relay2, LOW); //valve 2 buka  
  baca_ketinggian();  
  Serial.println("kondisi keempat : menguras");  
  Serial.println(tinggi);  
  Serial.println(x);  
}  
while (tinggi!=14)  
{  
  digitalWrite(relay1, HIGH); //valve 1 buka  
  digitalWrite(relay2, HIGH); //valve 2 tutup  
  baca_ketinggian();  
  Serial.println("kondisi keempat : mengisi");  
  Serial.println(tinggi);  
  Serial.println(x);  
}  
}  
}
```

