

LAMPIRAN

```
#include <LiquidCrystal.h>
```

```
#include <DistanceSRF04.h>
```

```
LiquidCrystal lcd(8,9,10,11,12,13);
```

```
DistanceSRF04 Dist;
```

```
////////////////////////////////// phsensor
```

```
const int analogInPin = A1;
```

```
int sensorValue = 0;
```

```
unsigned long int avgValue;
```

```
float b, pHValue, pHVol;
```

```
int buf[10],temp;
```

```
////////////////////////////////// srf04
```

```
int distance,pilih,i;
```

```
int keran=6;
```

```
int isi=7;
```

```
void setup() {
```

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

```
    //Serial.begin(9600);
```

```
pinMode(keran, OUTPUT);
```

```
pinMode(isi, OUTPUT);
```

```
digitalWrite(keran, HIGH);
```

```
digitalWrite(isi, HIGH);
```

```
Dist.begin(3,2);
```

```
lcd.begin(16,2);
```

```
lcd.setCursor(0,0);
```

```
lcd.print("BISMILLAH");
```

```
delay(1000);
```

```
lcd.clear();
```

```
}
```

```
void baca_pHsensor() {
```

```
for(int i=0;i<10;i++)
```

```
{
```

```
buf[i]=analogRead(analogInPin);
```

```
delay(10);
```

```
}
```

```
for(int i=0;i<9;i++)
```



```
{
for(int j=i+1;j<10;j++)
{
if(buf[i]>buf[j])
{
temp=buf[i];
buf[i]=buf[j];
buf[j]=temp;
}
}
}
avgValue=0;
for(int i=2;i<8;i++)
avgValue+=buf[i];
phVol=(float)avgValue*5.0/1024/6;
phValue = -5.70 * phVol + 21.34;
lcd.setCursor(0,1);
lcd.print("pH = ");
lcd.setCursor(5,1);
lcd.print(phValue, 2);

//Serial.print("sensor = ");
//Serial.println(phValue);
```

```
//delay(1000);
```

```
}
```

```
void baca_srf(){
```

```
distance = Dist.getDistanceCentimeter();
```

```
//lcd.setCursor(0,1);
```

```
//lcd.print(distance);
```

```
//delay(100);
```

```
//lcd.clear();
```

```
}
```

```
void loop() {
```

```
    // put your main code here, to run repeatedly:
```

```
switch(pilih) {
```

```
case 0: {
```

```
    baca_pHsensor();
```

```
    delay(2000);
```

```
    pilih=1;
```

```
    break;
```

```
}
```



```
case 1: {  
    lcd.setCursor(0,0);  
    lcd.print(" BACA pH AIR ");  
    digitalWrite(isi, HIGH);  
    digitalWrite(keran, HIGH);  
    baca_pHsensor();  
    if(phValue >= 8.5 || phValue <= 5.5) {  
        digitalWrite(keran, LOW);  
        lcd.clear();  
        delay(500);  
        pilih=2;  
        break;  
    }  
    break;  
}
```

```
case 2: {  
    lcd.setCursor(0,0);  
    lcd.print(" KURAS KOLAM ");  
    baca_srf();  
    if(distance > 10) {  
        digitalWrite(keran, HIGH);  
        digitalWrite(isi, LOW);  
    }
```



```
i=1;
}
if(i == 1 && distance < 5) {
    i=0;
    lcd.clear();
    delay(500);
    pilih=0;
    break;
}
break;
}
} //switch
} //loop
```

