

## Listing Program Keypad

```
//Program utama keypad

void keypad_input()

    lcd.setCursor (0,0); //baris 1 kolom 1

    lcd.print("Password:"); //tampilan baris 1

    lcd.setCursor (0,1); //baris ke 2 kolom 1

    lcd.print("Input Password"); // tampilan baris 2

    customKey = customKeypad.getKey();

    if (customKey)

    {

        Data[data_count] = customKey;

        lcd.setCursor(data_count+10,0);

        lcd.print("*"); // tampilan saat menginputkan password

//  lcd.print(customKey);

        data_count++;

    }

    if(data_count == Password_Lenght-1) // panjang password saat di inputkan

    {

        lcd.clear();

//  lcd.setCursor(0, 0);

//  lcd.print("Password ");

        if(!strcmp(Data, Master)) // jika data passors sama

        {
```

```

lcd.print("Password Benar"); // tampilan di LCD baris 1
lcd.setCursor(0,1);
lcd.print("Silahkan Masuk"); // tampilan di LCD baris 2
pass = true;
delay(1000); // solenoid terbuka
lcd.clear();
}
else if (!strcmp(Data, In_data))
{
lcd.setCursor(0,0);
lcd.print("Ready to enroll ");
lcd.setCursor(0,1);
lcd.print("Input ID : ");

do{
user = customKeypad.getKey();
if (user)
{
User_id[user_count] = user;
lcd.setCursor(user_count+12,1);
// lcd.print(user);
lcd.print("*");
user_count++;
}
}
}

```

```
while(user_count != user_Lenght-1);

id = user;

Serial.println(id);

if (id == 0) { // ID #0 not allowed, try again!

    return;

}

lcd.setCursor(0,0);

lcd.print("Enrolling ID # ");

lcd.print(id);

while (getFingerprintEnroll() );

}

else{

    lcd.setCursor(0, 0);

    lcd.print("Password ");lcd.print("Salah");// tampilan jika password tidak sesuai

    lcd.setCursor(0,1);

    lcd.print("Harap Coba Lagi"); // tampilan di LCD baris 2

    pass = false;

    sidik = true;

    delay(1000);

    lcd.clear();

}

clearData();

clearUser();

}

}
```

```
void clearData()
{
    while(data_count !=0)
    { // This can be used for any array size,
        Data[data_count--] = 0; //clear array for new data
    }
    return;
}
void clearUser()
{
    while(user_count !=0)
    { // This can be used for any array size,
        User_id[user_count--] = 0; //clear array for new data
    }
    return;
}
```

## Listing Program Keseluruhan

```
#include <LiquidCrystal_I2C.h>
#include <Wire.h>
#include <Keypad.h>
#include <Adafruit_Fingerprint.h>
#include <SoftwareSerial.h>
SoftwareSerial mySerial(2, 3);
//coding di atas merupakan function –function yang digunakan
#define I2C_ADDR 0x3F // definisi penegnanan pin yang terpakai di mikrokontroler
#define Rs_pin 0
#define Rw_pin 1
#define En_pin 2
#define BACKLIGHT_PIN 3
#define D4_pin 4
#define D5_pin 5
#define D6_pin 6
#define D7_pin 7

LiquidCrystal_I2C lcd(I2C_ADDR,En_pin,Rw_pin,Rs_pin,D4_pin,D5_pin,D6_pin,D7_pin);

#define Password_Lenght 7 //definisi panjang password pada keypad
#define user_Lenght 4
char Data[Password_Lenght]; // karakter pada keypad berupa angka
char User_id[user_Lenght];
```

```
char Master[Password_Lenght] = "123456"; // password yang sudah ditentukan untuk mengakses doorlock
```

```
char In_data[Password_Lenght] = "456789";
```

```
byte data_count = 0;
```

```
byte user_count = 0;
```

```
bool pass = false;
```

```
bool sidik = false;
```

```
char customKey;
```

```
char user;
```

```
int dat;
```

```
char id;
```

```
const byte ROWS = 4; //4 baris
```

```
const byte COLS = 4; //4 kolom
```

```
// definisi simbol tombol pada keypad
```

```
char hexaKeys[ROWS][COLS] = {
```

```
    {'1','2','3','A'},
```

```
    {'4','5','6','B'},
```

```
    {'7','8','9','C'},
```

```
    {'*','0','#','D'}
```

```
};
```

```
byte rowPins[ROWS] = {7, 6, 5, 4}; //pin tersebut connect dengan baris pada keypad
```

```
byte colPins[COLS] = {A0, A1, A2, A3}; //pin tersebut connect dengan kolom pin keypad
```

```
//initialize an instance of class NewKeypad
```

```
Keypad customKeypad = Keypad( makeKeymap(hexaKeys), rowPins, colPins, ROWS, COLS); //penalanan key
```

```
Adafruit_Fingerprint finger = Adafruit_Fingerprint(&mySerial);

void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
  Wire.begin();

  // set the data rate for the sensor serial port
  finger.begin(57600);
  if (finger.verifyPassword()) {
    // Serial.println("Found fingerprint sensor!");
  } else {
    // Serial.println("Did not find fingerprint sensor :(");
    while (1) { delay(1); }
  }
  finger.getTemplateCount();
  // Serial.print("Sensor contains "); Serial.print(finger.templateCount); Serial.println("
  templates");
  // Serial.println("Waiting for valid finger...");
  pinMode(8,OUTPUT);
  pinMode(12,INPUT_PULLUP);
  digitalWrite(8,HIGH);
  lcd.begin (16,2);
  // LCD Backlight ON
  lcd.setBacklightPin(BACKLIGHT_PIN,POSITIVE);
```

```
lcd.setBacklight(HIGH);

lcd.home (); // go home on LCD

lcd.setCursor (0,0);

lcd.print("Door Lock System");// tampilan awal baris 1 pada LCD

lcd.setCursor (0,1);

lcd.print("Poltek Sriwijaya"); // tampilan awal baris 2 pada LCD

delay(1000);

lcd.clear();

}

void loop() {

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

    // getFingerprintIDez();

    // delay(50);

    // keypad_input();

    lcd.setCursor (0,0);

    lcd.print("1.Akses Masuk");// tampilan ke 2 pada LCD

    lcd.setCursor (0,1);

    lcd.print("2.Daftar User");

    customKey = customKeypad.getKey();

    if (customKey)

    {

        Data[data_count] = customKey;

        lcd.setCursor(data_count+10,0);
```



```
// lcd.print("*");
// lcd.print(customKey);
    data_count++;
}
if(customKey == '1'){
    lcd.clear();
    clearData();
    clearUser();
    do{
//    lcd.setCursor (0,0);
//    lcd.print(" Scan Jari atau ");
//    lcd.setCursor(0,1);
//    lcd.print(" Input Password ");
        getFingerprintIDez();
        delay(50);
        keypad_input();
    }
    while(pass == false);
    pass = true;
}

if(customKey == '2'){
    lcd.clear();
    clearData();
    clearUser();
```

```
do{  
    keypad_input();  
}  
while(pass == false);  
pass = true;  
lcd.clear();  
}
```

```
if (pass == true){  
    pass = false;  
    lcd.clear();  
    lcd.print("Password Benar");  
    lcd.setCursor(0,1);  
    lcd.print("Silahkan Masuk");  
    digitalWrite(8,LOW);  
    delay(2000);  
    digitalWrite(8,HIGH);  
    lcd.clear();  
}
```

```
// if (sidik == true){  
//   lcd.clear();  
//   do{  
//     getFingerprintIDez();  
//     delay(50);
```

```
// lcd.setCursor (0,0);
// lcd.print(" Silahkan Scan");
// lcd.setCursor (0,1);
// lcd.print(" Jari Anda ");
// }

// while(sidik == true);
// pass = false;
// digitalWrite(8,LOW);
// delay(2000);
// digitalWrite(8,HIGH);
// lcd.clear();

// codingan push button
if(digitalRead(12) == LOW){
    digitalWrite(8,LOW);
    delay(2000);
    digitalWrite(8,HIGH);
}
}
```

