

```
#include <LiquidCrystal_I2C.h>
#include <Wire.h>
#include <SoftwareSerial.h>
#include <Adafruit_Fingerprint.h>

SoftwareSerial mySerial(2, 3);
SoftwareSerial serdata(4, 5);

Adafruit_Fingerprint finger = Adafruit_Fingerprint(&serdata);

#define I2C_ADDR 0x3F // <<- Add your address here.
#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);

char state;
uint8_t id;

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

```

pinMode(8, OUTPUT);
pinMode(12, INPUT_PULLUP);

// 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...");

lcd.begin (16,2);
// LCD Backlight ON
lcd.setBacklightPin(BACKLIGHT_PIN,POSITIVE);
lcd.setBacklight(HIGH);
digitalWrite(8,HIGH);

lcd.home (); // go home on LCD
lcd.setCursor (0,0);
lcd.print("Door Lock System");
lcd.setCursor (0,1);
lcd.print("==Cometronica==");
delay(1000);
// lcd.clear();

```

```
}
```

```
void loop() {
```

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

```
  getFingerprintIDez();
```

```
  if ( mySerial.available() > 0 ) {
```

```
    state = mySerial.read();
```

```
    Serial.println(state);
```

```
  }
```

```
  if( state == 'A' || digitalRead(12) == LOW)
```

```
  {
```

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

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

```
    lcd.print("Door Lock System");
```

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

```
    lcd.print("Door Open");
```

```
    digitalWrite(8,LOW);
```

```
    delay(2000);
```

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

```
    lcd.print("Door Lock System");
```

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

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

```
    lcd.print("Door Close");
```

```
    digitalWrite(8,HIGH);
```

```
  }
```

```
}
```

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