```
1: #include <Wire.h>
2: #include <LiquidCrystal_I2C.h>
3: #include <Keypad.h>
4:
5: LiquidCrystal_I2C lcd1(0x27,16,2);
6: LiquidCrystal_I2C lcd2(0x26,16,2);
7:
8: #include "DHT.h"
9: #define DHTPIN 2     // what pin we're connected to
10: #define DHTTYPE DHT22   // DHT 22  (AM2302)
11:
12: DHT dht(DHTPIN, DHTTYPE);
13:
14: const int ROW_NUM = 4; //four rows
15: const int COLUMN_NUM = 3; //three columns
16:
17: char keys[ROW_NUM][COLUMN_NUM] = {
18:   {'1','2','3'},
19:   {'4','5','6'},
20:   {'7','8','9'},
21:   {'*','0','#'}
22: };
23:
24: byte pin_rows[ROW_NUM] = {9, 8, 7, 6}; //connect to the row pinouts of the keypad
25: byte pin_column[COLUMN_NUM] = {5, 4, 3}; //connect to the column pinouts of the keypad
26:
27: Keypad keypad = Keypad( makeKeymap(keys), pin_rows, pin_column, ROW_NUM, COLUMN_NUM );
28: const String password = "1234"; // change your password here
29: String input_password;
30:
31: int ana_A3 = A3; //analog input for digital contact
32: int val_A3 = 0;
33: int ana_A2 = A2; //analog input for digital contact
34: int val_A2 = 0;
35: int ana_A1 = A1; //analog input for digital contact
36: int val_A1 = 0;
37: int alarm_blink = 0;
38: int counter = 0;
39:
40: void setup()
41: {
42:  lcd1.init();
43:  lcd2.init();
44:  dht.begin();
45:
46:  input_password.reserve(32); // maximum input characters is 33, change if needed
47:  digitalWrite(10, LOW); pinMode(10, OUTPUT);    // lamp 01
48:  digitalWrite(11, LOW); pinMode(11, OUTPUT);    // lamp 02
49:  digitalWrite(12, LOW); pinMode(12, OUTPUT);    // lamp 03
50:  digitalWrite(13, LOW); pinMode(13, OUTPUT);    // alarmlamp
51:
52:  lcd1.setCursor(0,1);
53:  lcd1.print("Alarm aan");
54:  alarm_blink = 1;
55: }
56:
57: void loop()
58: {
59:
60:  float h = dht.readHumidity();
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```
61:    float t = dht.readTemperature();
62:    float hi = dht.computeHeatIndex(t, h);
63:    char key = keypad.getKey();
64:    val_A3 = analogRead(ana_A3);   // read the input pin
65:    val_A2 = analogRead(ana_A2);   // read the input pin
66:    val_A1 = analogRead(ana_A1);   // read the input pin
67:
68:
69:    lcd1.backlight();
70:    lcd1.setCursor(0,0);
71:    lcd1.print("alarm code: ");
72:
73:    lcd2.backlight();
74:    lcd2.setCursor(0,0);
75:    lcd2.print("Hum. : ");
76:    lcd2.print(h);
77:    lcd2.print(" %");
78:    lcd2.setCursor(0,1);
79:    lcd2.print("Temp.: ");
80:    lcd2.print(t);
81:    lcd2.print(" *C ");
82:
83: if (val_A3 > 650 && alarm_blink == 1){
84: counter = counter + 1;
85: delay(20);
86:      }
87:
88: if (counter >10 ){
89:  digitalWrite(13, HIGH);
90: }
91:
92: if (counter <10){
93: digitalWrite(13, LOW);
94: }
95:
96: if (counter > 20){
97:    counter =0;
98: }
99:
100: //lampjes
101: if (val_A2 > 650){
102: digitalWrite(11, HIGH);
103: }
104: if (val_A2 < 650){
105: digitalWrite(11, LOW);
106: }
107: //lampjes
108: if (val_A1 > 650){
109: digitalWrite(10, HIGH);
110: digitalWrite(12, HIGH);
111: }
112: if (val_A1 < 650){
113: digitalWrite(10, LOW);
114: digitalWrite(12, LOW);
115: }
116:
117:    if (key){
118:     lcd1.print(key);
119:
120:       if(key == '*') {
```

```
121:        input_password = ""; // clear input password
122:         lcd1.setCursor(0,1);
123:        lcd1.print("Alarm aan");
124:        alarm_blink = 1;
125:       }
126:
127:      else if(key == '#') {
128:        if(password == input_password) {
129:            lcd1.setCursor(0,1);
130:     lcd1.print("Alarm uit");
131:     alarm_blink = 0;
132:     counter =0;
133:        }
134:
135:       else {
136:        lcd1.setCursor(0,1);
137:     lcd1.print("Alarm aan");
138:     alarm_blink = 1;
139:        }
140:
141:      input_password = ""; // clear input password
142:    } else {
143:      input_password += key; // append new character to input password string
144:    }
145:
146:     }
147:
148:   }
```