#include <LiquidCrystal.h>

LiquidCrystal lcd(2,3,4,5,6,7);

int tempPin = A0; // pin allocated to temperature sensor LM35

int fan = 10; // pin allocated for 12 V DC FAN

int led = 8; // pin allocated for led

int temp;

int TMin = 20; // minimum temperature/fan is stopped

int TMax = 35; // maximum temperature/fan is at full speed

int Speed;

int Lcd;

void setup()

{

pinMode(fan, OUTPUT);

pinMode(led, OUTPUT);

pinMode(tempPin, INPUT);

lcd.begin(16,2);

Serial.begin(9600);

}

int readTemp()

{

// read the temperature from LM35 and convert it to celsius

temp = analogRead(tempPin);

int constant= 0.48828125; // temperature is converted to celsius using constant value

return (temp \* constant);

}

void loop()

{

temp = readTemp(); // reading temperature value from temperature sensor

Serial.print( temp );

if(temp < TMin) // if temperature is less than minimum temperature

{

Speed = 0; // fan is stationary

analogWrite(fan, Speed);

Lcd=0;

digitalWrite(fan, LOW);

}

if((temp >= TMin) && (temp <= TMax)) // if temperature is more than minimum temperature

{

Speed = temp;

//map(temp, TMin, Tmax, 0, 100);

//the actual speed of fan//map(temp, TMin, TMax, 32, 255);

Speed=1.5\*Speed;

Lcd = map(temp, TMin, TMax, 0, 100); // speed of fan is displayed on LCD100

analogWrite(fan, Speed); // spin the fan at the Speed value

}

if(temp > TMax) // if temperature is more than maximum temperature

{

digitalWrite(led, HIGH); // led switch on

}

else

{

digitalWrite(led, LOW); // else led switch off

}

lcd.print("TEMP: ");

lcd.print(temp); // show the temperature on Lcd

lcd.print("C ");

lcd.setCursor(0,1); // skip cursor next line

lcd.print("FANS: ");

lcd.print(Lcd); // display speed of fan on Lcd

lcd.print("%");

delay(200);

lcd.clear();

}