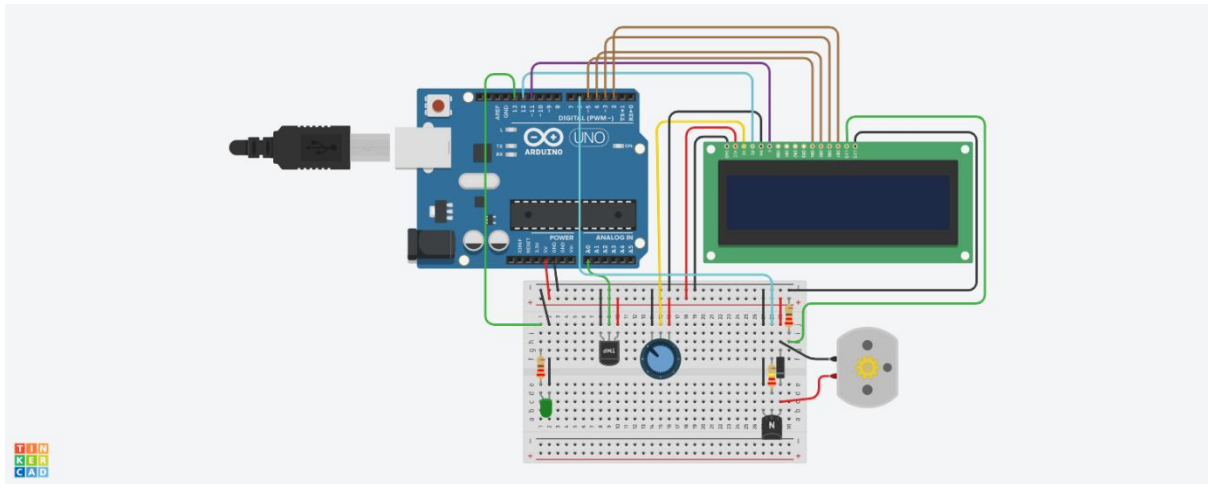


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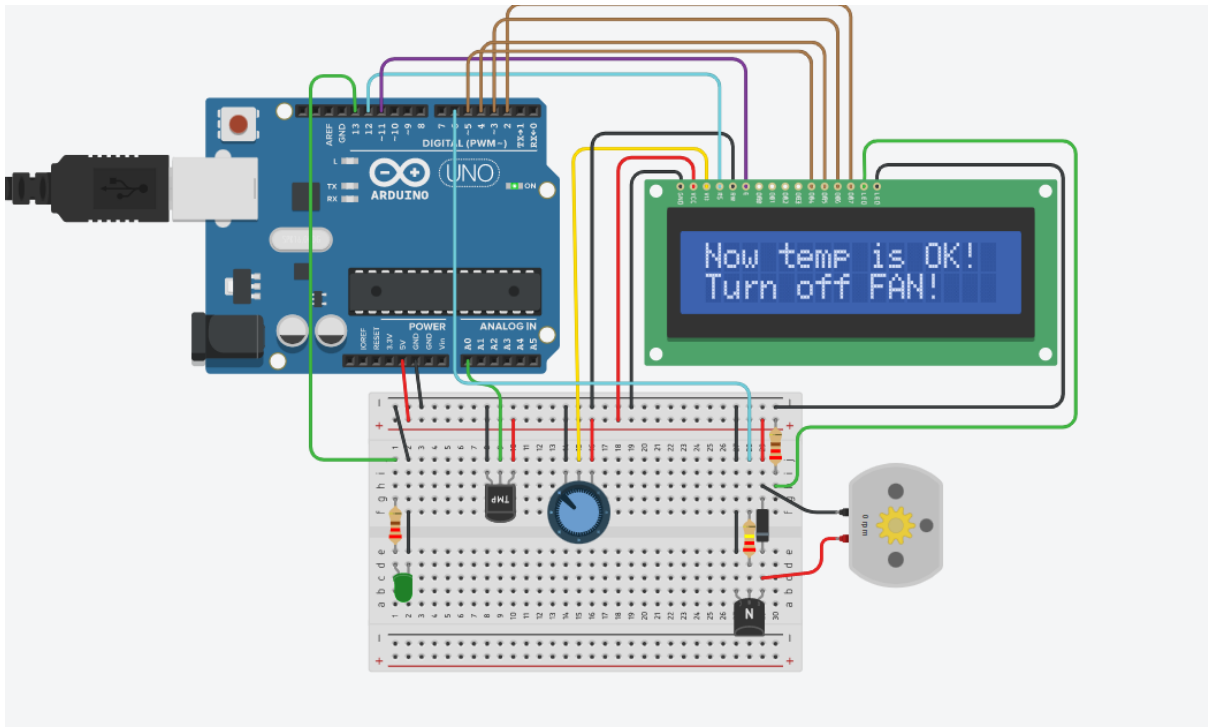
Ephrim Holyson

950819106705

Before simulation



After simulation



Code

```
const int temp_trans_pin = A0, Heater_pin = 13, FAN_pin = 6;

float MinTemp = 20, MaxTemp = 25;

#include <LiquidCrystal.h>

LiquidCrystal LCD(12, 11, 5, 4, 3, 2);

void setup() {

    LCD.begin(16, 2);

    pinMode(Heater_pin, OUTPUT);

    pinMode(FAN_pin, OUTPUT);


    LCD.print("Room temp(C):");

    LCD.setCursor(2,1);

    LCD.print(MinTemp); LCD.print("-");LCD.print(MaxTemp);


    delay(2000);

}

void loop() {

    float Eqv_volt, SensorTemp;

    Eqv_volt = analogRead(temp_trans_pin) * 5.0 / 1023;

    SensorTemp = 100.0 * Eqv_volt-50.0;

    LCD.clear();

    LCD.print("Sensor reading:");

    LCD.setCursor(2,1);

    LCD.print(SensorTemp); LCD.print(" C");


    delay(2000);

    if(SensorTemp > MaxTemp){
```

```

LCD.clear();

LCD.print("temp is HIGHER!");

LCD.setCursor(0, 1);LCD.print("Turn on FAN!");

for( int i = 0; i <= 255; i++ ) {
    analogWrite(FAN_pin, i);
}

delay(2000);


LCD.clear();

LCD.print("Now temp is OK!");

LCD.setCursor(0, 1);

LCD.print("Turn off FAN!");

for( int i = 255; i >= 0; i-- ) {
    analogWrite(FAN_pin, i);
}

delay(2000);
}

else if(SensorTemp < MinTemp){

    LCD.clear();

    LCD.print("temp is LOWER!");//Less than the mini

    LCD.setCursor(0, 1);

    LCD.print("Turn on HEATER!");

    digitalWrite(Heater_pin, HIGH);


    delay(3000);


    LCD.clear();

    LCD.print("Now temp is OK!");

    LCD.setCursor(0, 1);

```

```

LCD.print("Turn off HEATER!");

delay(1000);

digitalWrite(Heater_pin, LOW);
LCD.clear();
}
else if(SensorTemp > MinTemp && SensorTemp < MaxTemp){
LCD.clear();
LCD.print("Temp is NORMAL!");LCD.setCursor(2,1);
LCD.print("Turn off all!");

delay(1000);
LCD.clear();
}
else {
LCD.clear();
LCD.print("Something went");
LCD.setCursor(2,1); LCD.print("WRONG in the ckt");
delay(1000);
LCD.clear();
}
delay(1000);
}

```

Tinkercad link

https://www.tinkercad.com/things/6u6TVn3okiz-ibm/editel?sharecode=mXgTIFpDTsshrXyNAXyxhh_2dB66hMOuTCOP_AarjLHo