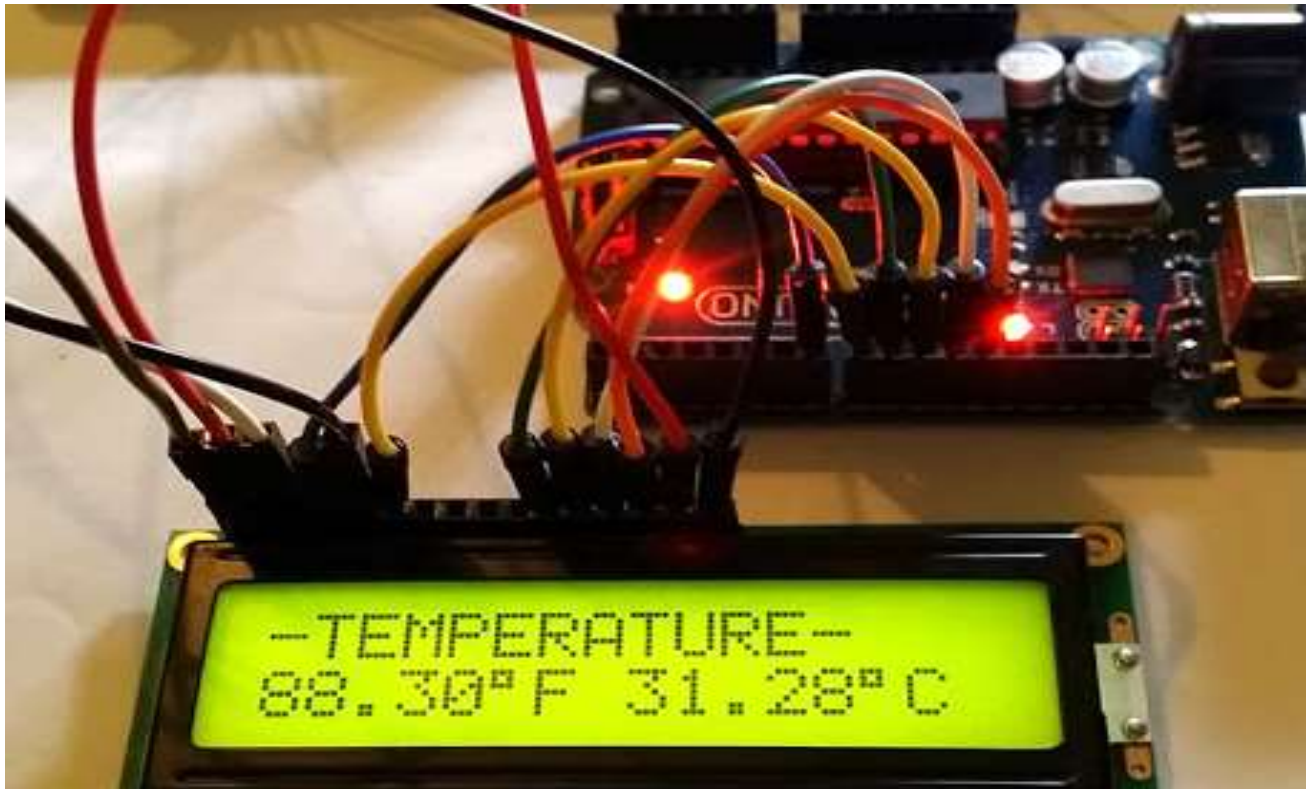
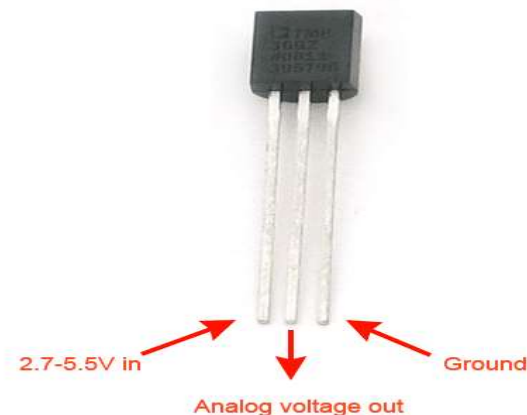


Displaying temperature on LCD using LM35 Sensor



LM35 Temperature Sensor

LM35 is an integrated analog **temperature sensor** whose electrical output is proportional to Degree Centigrade. **LM35 Sensor** does not require any external calibration or trimming to provide typical accuracies. The LM35's low output impedance, linear output, and precise inherent calibration make interfacing to readout or control circuitry especially easy.



LCD (Liquid Crystal Display)

Liquid crystal displays (LCDs) are a commonly used to display data in devices such as calculators, microwave ovens, and many other electronic devices.

Now, we will learn how to use a 16x2 LCD with Arduino UNO. As shown in the table below, eight of the pins are data lines (pins 7-14), two are for power and ground (pins 1 and 16), three are used to control the operation of LCD (pins 4-6), and one is used to adjust the LCD screen brightness (pin 3). The remaining two pins (15 and 16) power the backlight.



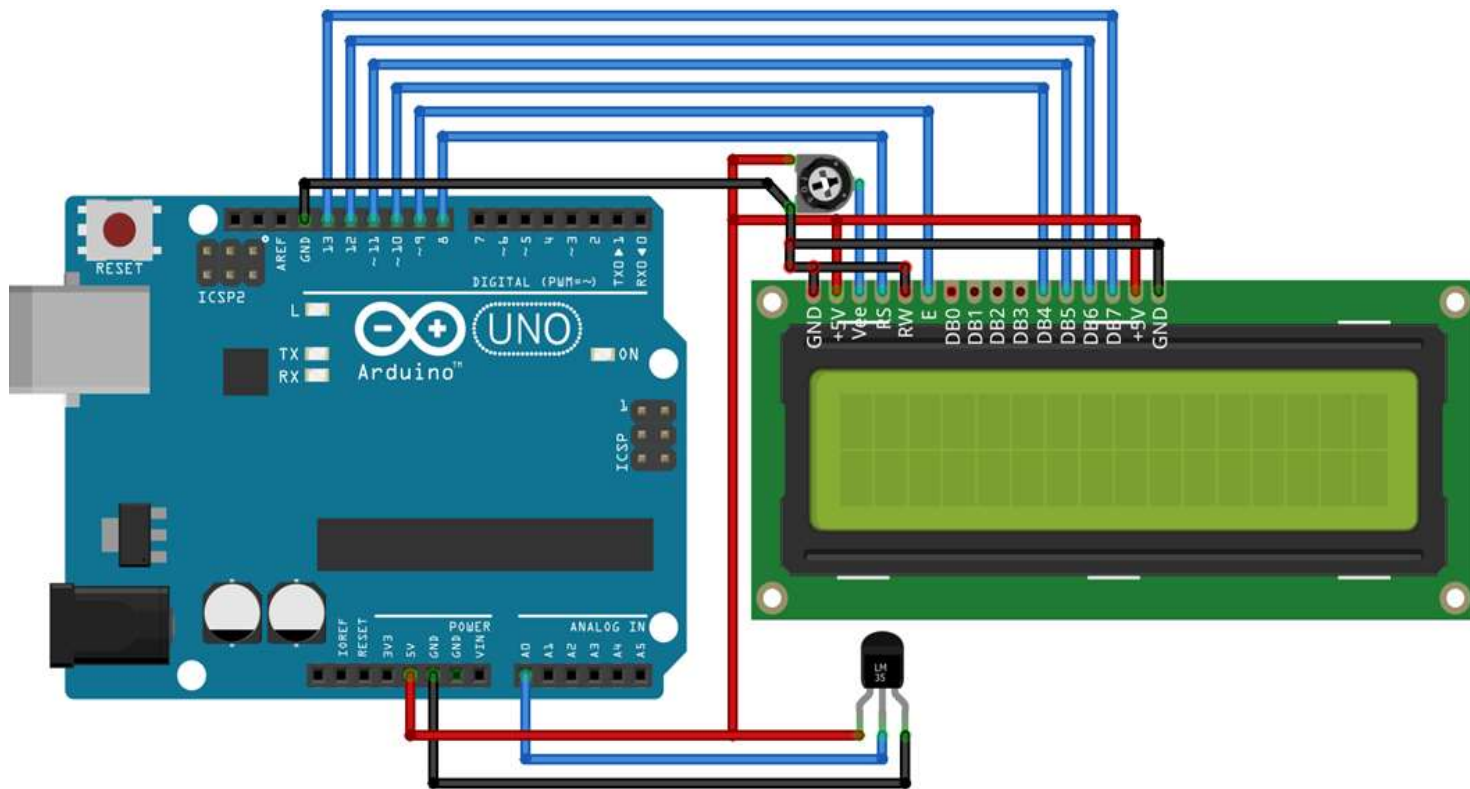
Working of project

- In this project, a complete design of Arduino **LM35 Temperature Sensor with LCD display** has been discussed.
- LM35 temperature sensor senses temperature from environment and is displaying it on LCD (Liquid Crystal Display).
- Also, this project can be used as **LCD Thermometer**.

Components Required

- Arduino UNO
- LM35 Temperature Sensor
- LCD Display
- Potentiometer [10k]
- Jumper wires
- Breadboard

Connection Diagram



Connections for LCD :

- PIN1 or Vss to ground
- PIN2 or Vdd or Vcc to +5V power
- PIN3 or Vee to potentiometer (gives maximum contrast best for a beginner)
- PIN4 or RS (Register Selection) to 8 pin of Arduino
- PIN5 or RW (Read/Write) to ground
- PIN6 or E (Enable) to 9 pin of Arduino
- PIN11 or D4 to 10 pin of Arduino
- PIN12 or D5 to 11 pin of Arduino
- PIN13 or D6 to 12 pin of Arduino
- PIN14 or D7 to 13 pin of Arduino
- PIN15 or A to +5V of Arduino
- PIN16 or K to GND of Arduino

Connections for LM35 Temperature Sensor

1. Connect **OUT** of **LM35** with **A0** pin of Arduino.
2. Connect **Vcc** of **LM35** with **+5V** pin of Arduino.
3. Connect **GND** of **LM35** with **GND** pin of Arduino.

Project Link : <https://youtu.be/71evCZgqs7Y>