

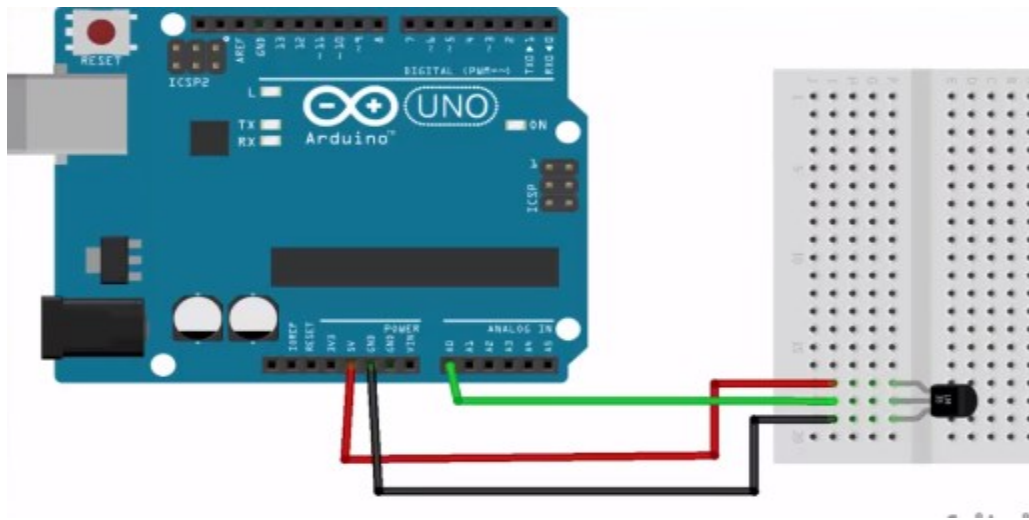
CSCI U509 – Introduction to Internet of Things

IoT In-class Project-3

Demo Video due on Tuesday, April 14, 2020 at 5PM in Blackboard

Note: You need to make a demo video for the output for each of the circuit below and submit the video on Blackboard on Tuesday, April 14. Please explain the output when you make the demo video.

- **Build a weather station using Arduino**
 - A **weather station** is a device that collects data related to the weather and environment using many different sensors. In this project, we will measure the temperature only.



Circuit 1: Reading temperature from temperature sensor

Use the following formula to calculate the temperature:

$$\text{Temp} = \frac{(5.0 \times \text{analogRead(TemperaturePin)})}{1024} \times 100$$

Temperature Sensor LM35

Features (Datasheet)

- ▶ Calibrated Directly in Celsius (Centigrade)
- ▶ Linear + 10-mV/°C Scale Factor
- ▶ 0.5°C Ensured Accuracy (at 25°C)
- ▶ Rated for Full -55°C to 150°C Range
- ▶ Suitable for Remote Applications
- ▶ Low-Cost Due to Wafer-Level Trimming
- ▶ Operates From 4 V to 30 V
- ▶ Less Than 60-μA Current Drain

You can use different temperature sensor. But, make sure you are using correct formula to calculate the temperature using Arduino.