

Introduction to Arduino

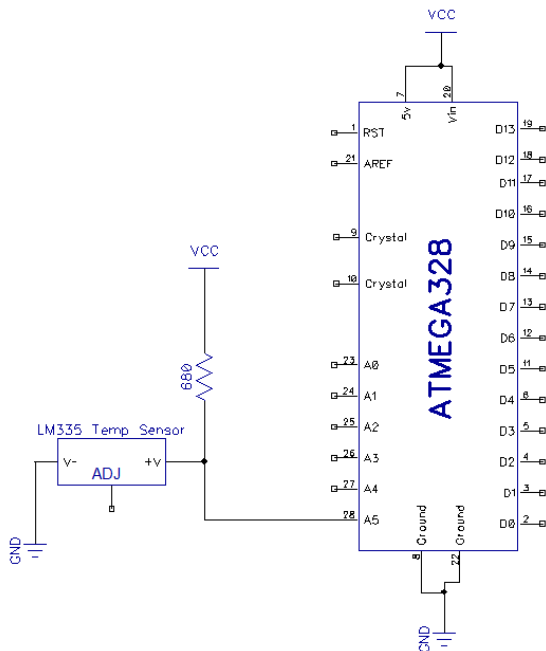
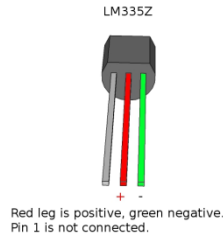
Temperature Sensor

Name: _____

Mark /10

Note: Marks will be taken off for incorrect answers or messy breadboarding

1. In this lab you are going to work with an LM335Z Temperature sensor.
2. Breadboard the following circuit and upload the code to the right.



```

int sensePin = A0; // Pin that sensor is on
float sensorValue = 0; //Sensor value as a floating number
float kelvinValue = 0;
float celsiusValue = 0;
float fahrenheitValue = 0;

void setup()
{
  Serial.begin(9600);
  pinMode(sensePin, INPUT);
}

void loop() {
  int sensorValue = analogRead(sensePin);

  // convert Value to Kelvin
  kelvinValue = ((sensorValue / 1023.0) * 5.0) * 100.0;

  // convert Kelvin to Celsius
  celsiusValue = kelvinValue - 273.0;

  // convert Celsius to Fahrenheit
  fahrenheitValue = (celsiusValue) * (9.0/5.0) + 32.0;

  Serial.print("Temperature is: ");
  Serial.print(fahrenheitValue);
  Serial.print(" Fahrenheit ");
  Serial.print("OR ");
  Serial.print(celsiusValue);
  Serial.println(" Celsius");
  Serial.println("-----");

  delay (3000);
}

```