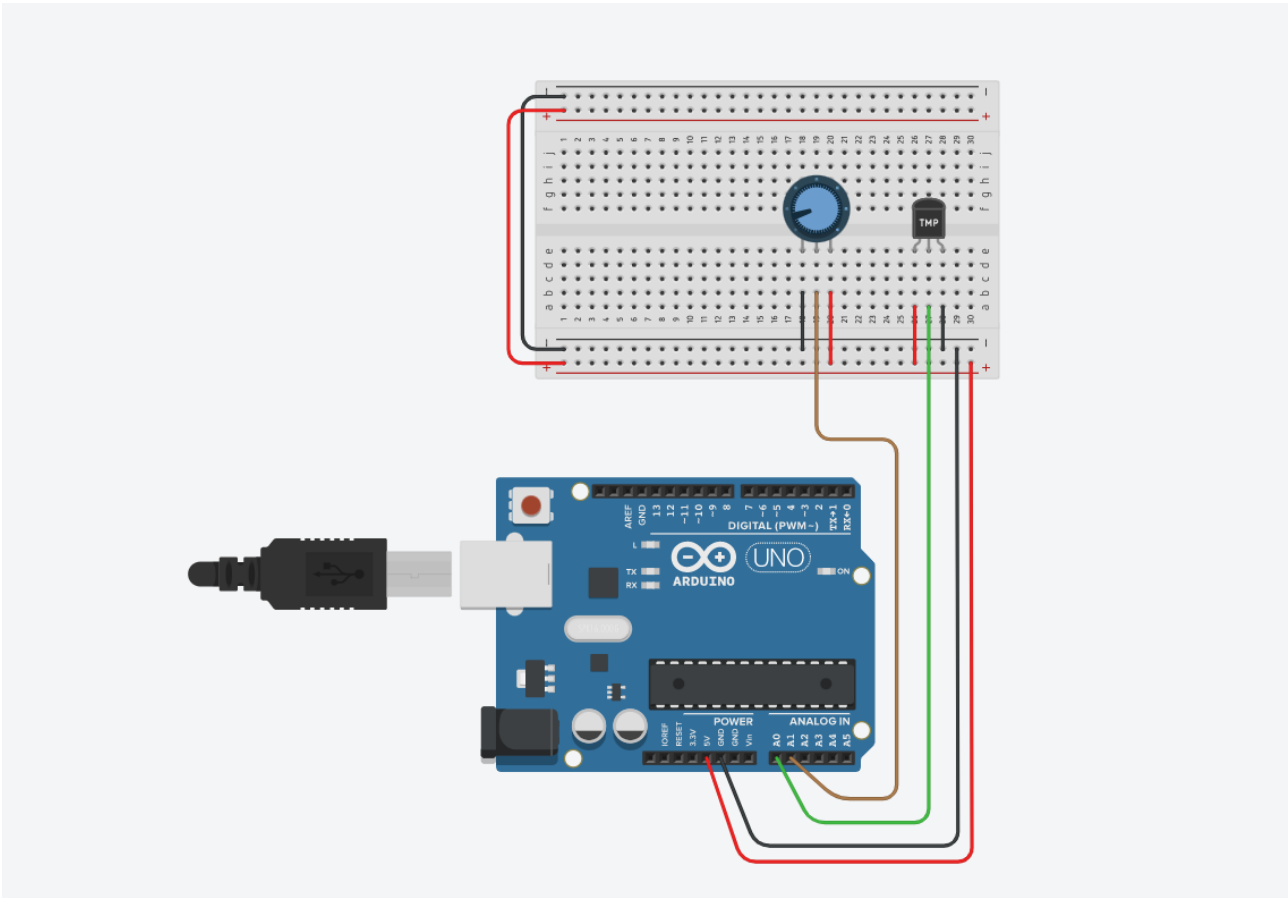


TEMPERATURE AND HUMIDITY SENSOR FOR CROP PROTECTION



Code:

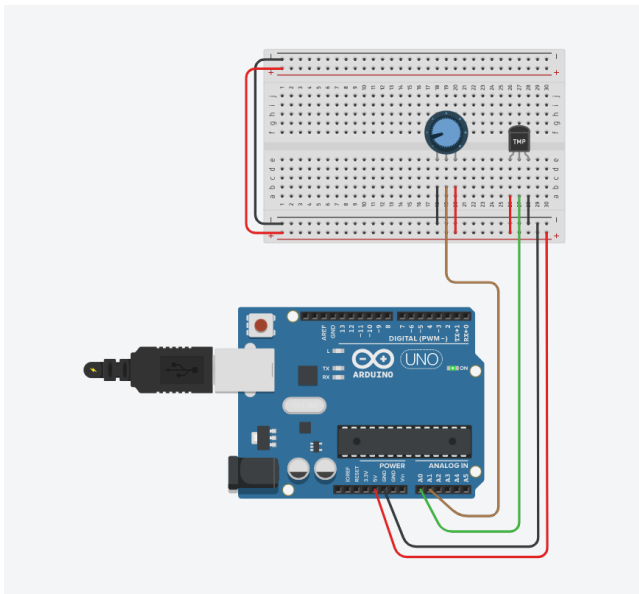
```
int humiditysensorOutput = 0;
// Defining Variables
int RawValue= 0;
double Voltage = 0;
double tempC = 0;
double tempF = 0;

void setup() {
  Serial.begin(9600);
  pinMode(A1, INPUT);
}

void loop() {

  RawValue = analogRead(analogIn);
  Voltage = (RawValue / 1023.0) * 5000; // 5000 to get millivots.
  tempC = (Voltage-500) * 0.1; // 500 is the offset
  tempF = (tempC * 1.8) + 32; // convert to F
  Serial.print("Raw Value = ");
  Serial.print(RawValue);
  Serial.print("\t milli volts = ");
  Serial.print(Voltage,0); //
  Serial.print("\t Temperature in C = ");
  Serial.print(tempC,1);
  Serial.print("\t Temperature in F = ");
  Serial.println(tempF,1);
  humiditysensorOutput = analogRead(A1);
  Serial.print("Humidity: "); // Printing out Humidity Percentage
```

Output :



The image shows the physical implementation of the code. An Arduino Uno R3 is connected to a breadboard. A potentiometer is connected to the breadboard's 5V and GND rails. The wiper of the potentiometer is connected to Arduino pin A1. The Arduino is connected to the breadboard's power and ground rails. A USB cable is plugged into the Arduino's USB port.

The right side of the image shows the Arduino IDE interface. The code is loaded into the editor, and the Serial Monitor is open, displaying the output of the program. The output shows the raw value, voltage, and temperature in both Celsius and Fahrenheit, along with the humidity percentage.

Raw Value	milli volts	Temperature in C	Temperature in F	Humidity
153	748	24.8	76.6	15%
153	748	24.8	76.6	15%
153	748	24.8	76.6	15%
153	748	24.8	76.6	15%
153	748	24.8	76.6	15%