**Task 8: TO INTERFACE THE LM35 TEMPERATURE SENSOR WITH THE ARDUINO UNO TO SENSE THE TEMPERATURE AND PRINT IT ON THE SERIAL MONITOR.**

**Aim:**

To interface DS18B20 temperature sensor with Arduino.

**Components Required:**

1. Arduino
2. Bread Board
3. LM35
4. Jumper Wires

**Procedure:**

Step 1: Connect the Arduino with Temperature sensor using jumper wires.
Step 2: Give the connections from Arduino board to temperature sensor by

Vcc& GND pins of sensor --> Arduino GND

Signal (middle pin) --> Arduino Pin 2

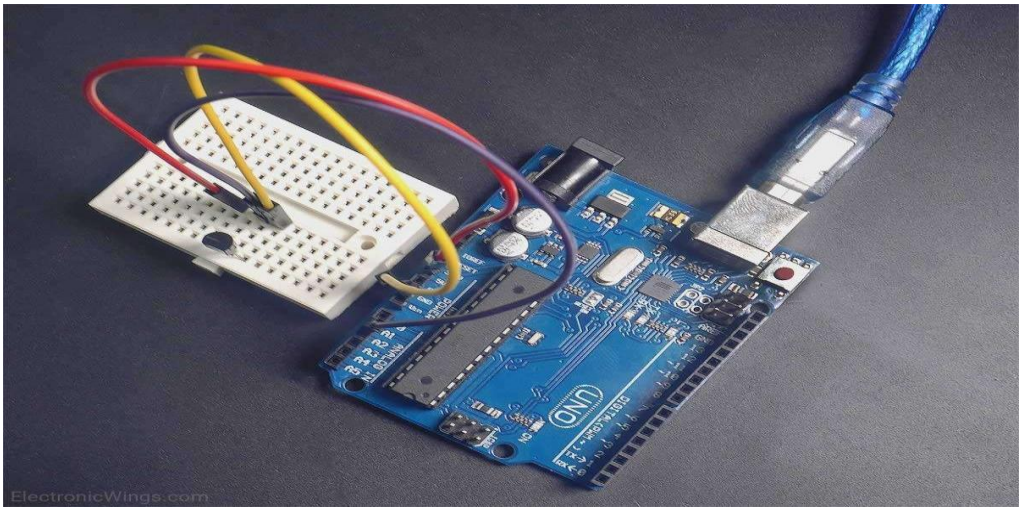
4.7K Resistor between signal pin and 5V pin

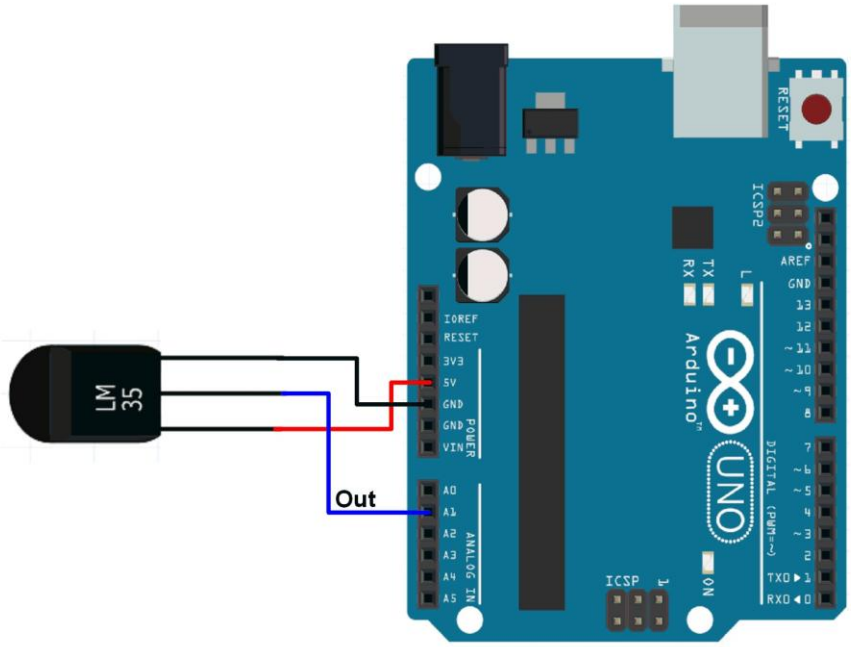
Step 3: After giving the connections as per schematic diagram, the USB port power cable of Arduino could be connected to PC or laptop.

Step 4: In the laptop Arduino IDE is opened and run the program.

Step 5: After the program is uploaded to Arduino board the temperature sensor is checked whether it is working or not by using serial monitor.

**Circuit Diagram:**

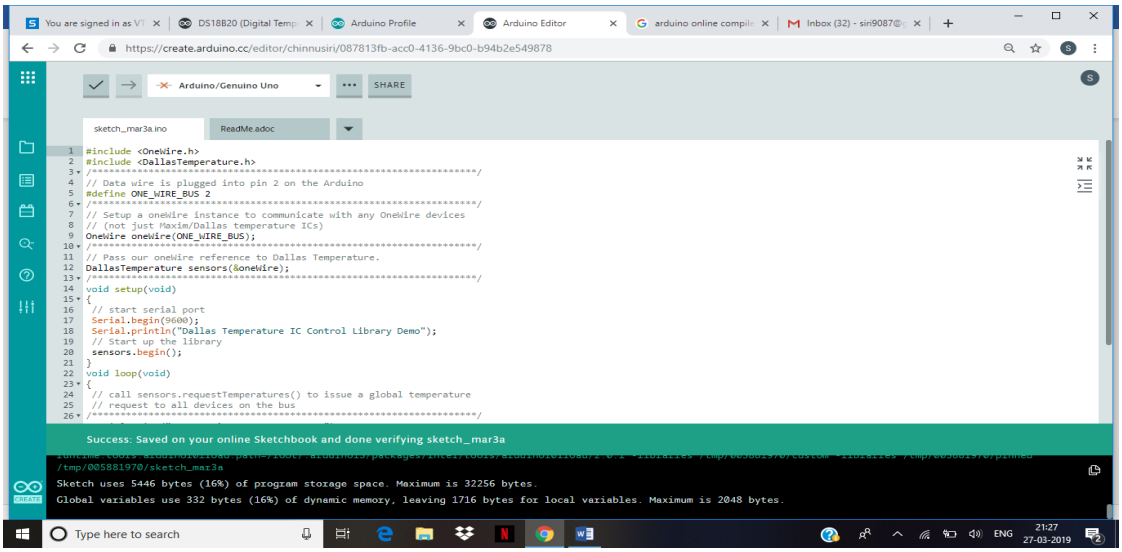


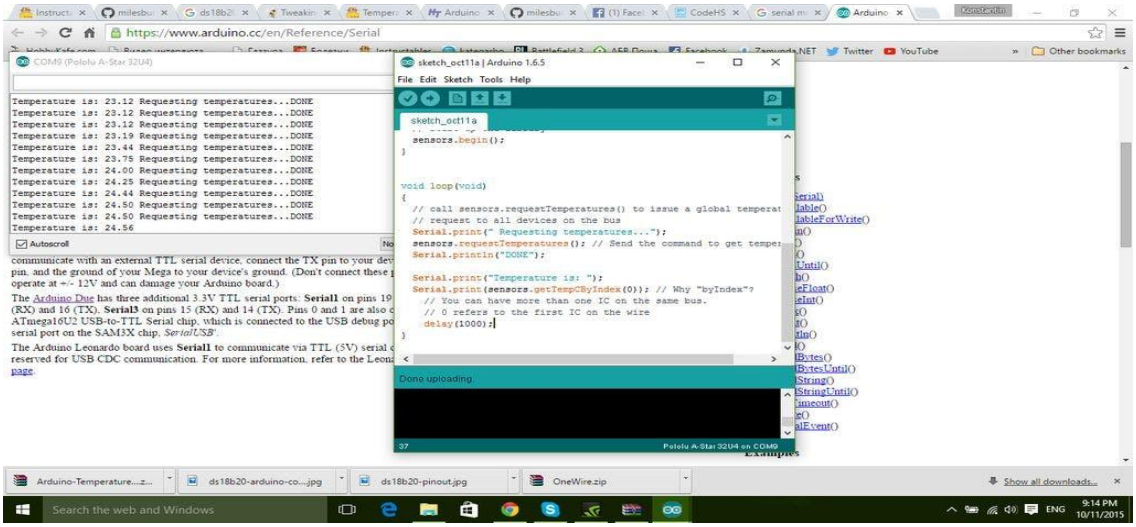



**Code:**

```
const int lm35_pin = A1;        /* LM35 O/P pin */
void setup()
{
  Serial.begin(9600);
}
void loop()
{
  int temp_adc_val;
  float temp_val;
  temp_adc_val = analogRead(lm35_pin);      /* Read Temperature */
  temp_val = (temp_adc_val * 4.88);  /* Convert adc value to equivalent voltage */
  temp_val = (temp_val/10);   /* LM35 gives output of 10mv/°C */
  Serial.print("Temperature = ");
  Serial.print(temp_val);
  Serial.print(" Degree Celsius\n");
  delay(1000);
}
```

## Screenshots:




## Result:

Thus, the above experiment has been executed successfully.