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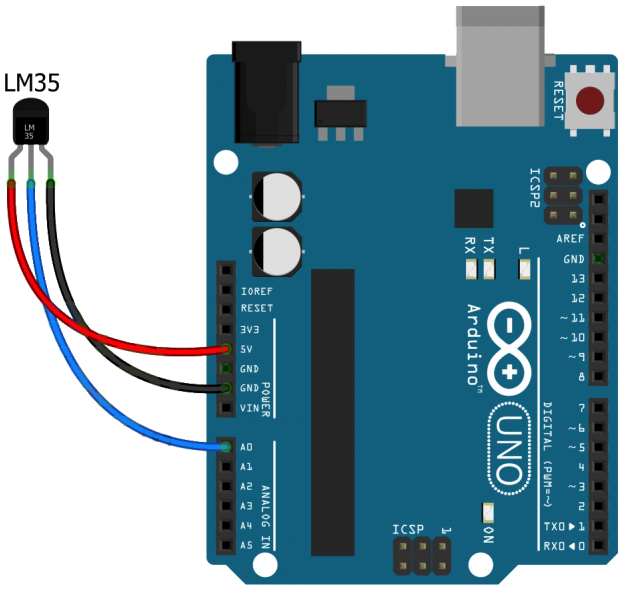
LM35 Temperature Sensor

LM35 is a precision IC temperature sensor which gives an output proportional to the temperature in °C.
It is calibrated directly in degrees Celsius.
It's measuring ranges from -55 to 150 ° C.
The output voltage is proportional to temperature where 1 ° C equals 10mV. [Take note of this!]

Diagram



Library

No Library needed.

Code

```
void setup(){
  Serial.begin(9600);
}
```

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```
    int rawData = analogRead(A0);
    float vcc = 5.0;
    float voltage = rawData * (vcc / 1024.0);
    float temperature = voltage * 100;
    Serial.print("Temperature: ");
    Serial.print(temperature);
    Serial.println(" *C");
    delay(500);
}
```

How this code works

Let the Arduino read raw temperature from LM35 on analog pin.

```
int rawData = analogRead(A0);
```

Let's convert that raw Data into voltage by taking into account the VCC of 5V supplying the sensor.

```
float vcc = 5.0;
float voltage = rawData * (vcc / 1024.0);
```

Let's then convert the voltage into temperature.

```
 float temperature = voltage * 100;
```

Let's print the temperature data to the Serial Monitor.

```
Serial.print("Temperature: ");
Serial.print(temperature);
Serial.println(" *C");
```

Then wait a half second between readings

```
delay(500);
```

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second .

In further expansion to this we'll add LCD to display values.