

Temperature Sensing with the ds18b20

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Problem

- Random icicles in freezer
- Re-frozen (?) ice clogging ice maker that one time
- Is the temperature dipping?





Solution

- Seriously, what meetup is this.

Enter... the ds18b20

- OneWire type sensor
- 5-pack on Amazon for \$11.92
- Operating temperature range: -67F to 257F
- Just over 3ft in length
- Easy to manage multiple sensors if you want



Set up for Arduino



- Straightforward to make and code
- Included LCD to see temperatures on the spot
- Pro: portable and fast
- Con: length of power cord (could use battery)

Set up for Raspberry Pi

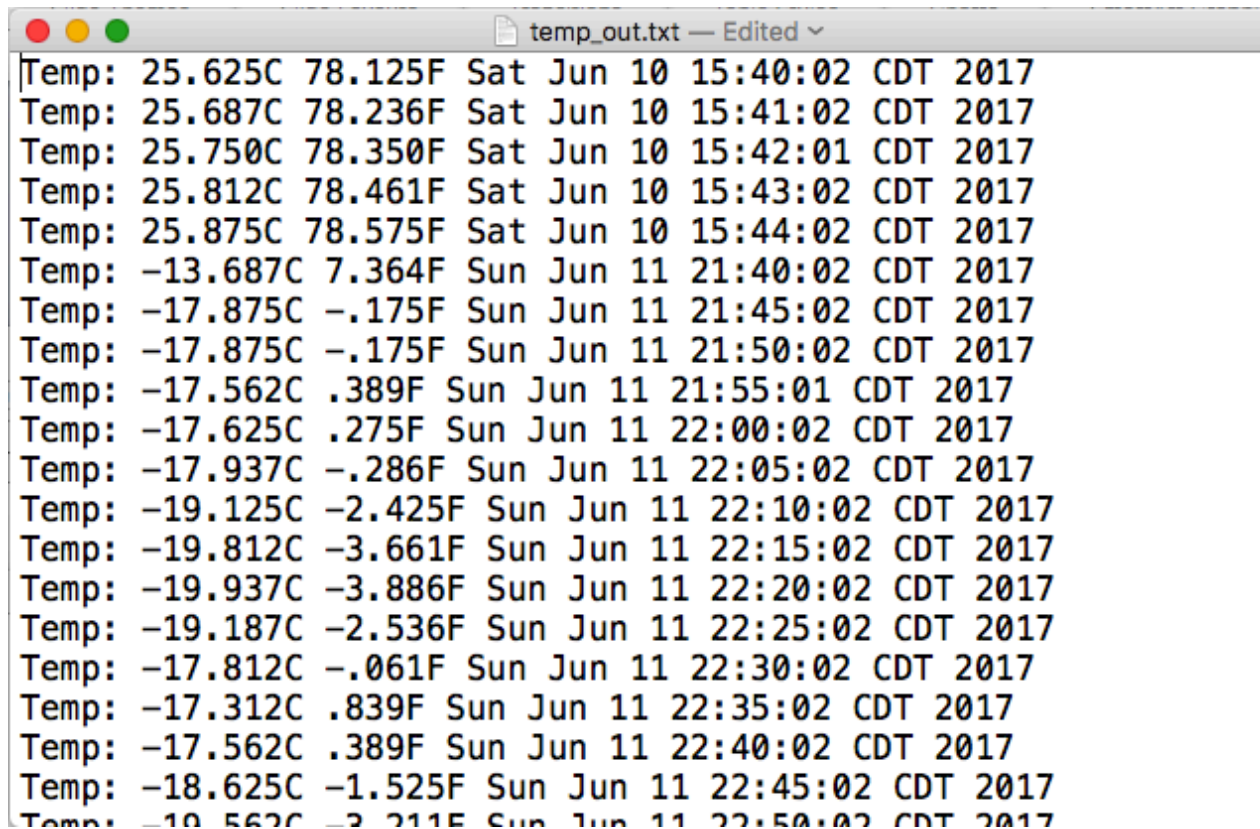
- Code in python or bash
- Circuit even simpler than Arduino
- Helpful pdf:

<https://cdn-learn.adafruit.com/downloads/pdf/adafruits-raspberry-pi-lesson-11-ds18b20-temperature-sensing.pdf>

- Useful for recording data



How I'm recording the data



```
temp_out.txt — Edited
Temp: 25.625C 78.125F Sat Jun 10 15:40:02 CDT 2017
Temp: 25.687C 78.236F Sat Jun 10 15:41:02 CDT 2017
Temp: 25.750C 78.350F Sat Jun 10 15:42:01 CDT 2017
Temp: 25.812C 78.461F Sat Jun 10 15:43:02 CDT 2017
Temp: 25.875C 78.575F Sat Jun 10 15:44:02 CDT 2017
Temp: -13.687C 7.364F Sun Jun 11 21:40:02 CDT 2017
Temp: -17.875C -.175F Sun Jun 11 21:45:02 CDT 2017
Temp: -17.875C -.175F Sun Jun 11 21:50:02 CDT 2017
Temp: -17.562C .389F Sun Jun 11 21:55:01 CDT 2017
Temp: -17.625C .275F Sun Jun 11 22:00:02 CDT 2017
Temp: -17.937C -.286F Sun Jun 11 22:05:02 CDT 2017
Temp: -19.125C -2.425F Sun Jun 11 22:10:02 CDT 2017
Temp: -19.812C -3.661F Sun Jun 11 22:15:02 CDT 2017
Temp: -19.937C -3.886F Sun Jun 11 22:20:02 CDT 2017
Temp: -19.187C -2.536F Sun Jun 11 22:25:02 CDT 2017
Temp: -17.812C -.061F Sun Jun 11 22:30:02 CDT 2017
Temp: -17.312C .839F Sun Jun 11 22:35:02 CDT 2017
Temp: -17.562C .389F Sun Jun 11 22:40:02 CDT 2017
Temp: -18.625C -1.525F Sun Jun 11 22:45:02 CDT 2017
Temp: -18.562C -2.211F Sun Jun 11 22:50:02 CDT 2017
```

Preliminary Results

Sun 9:40PM ~ Mon 10:15PM

