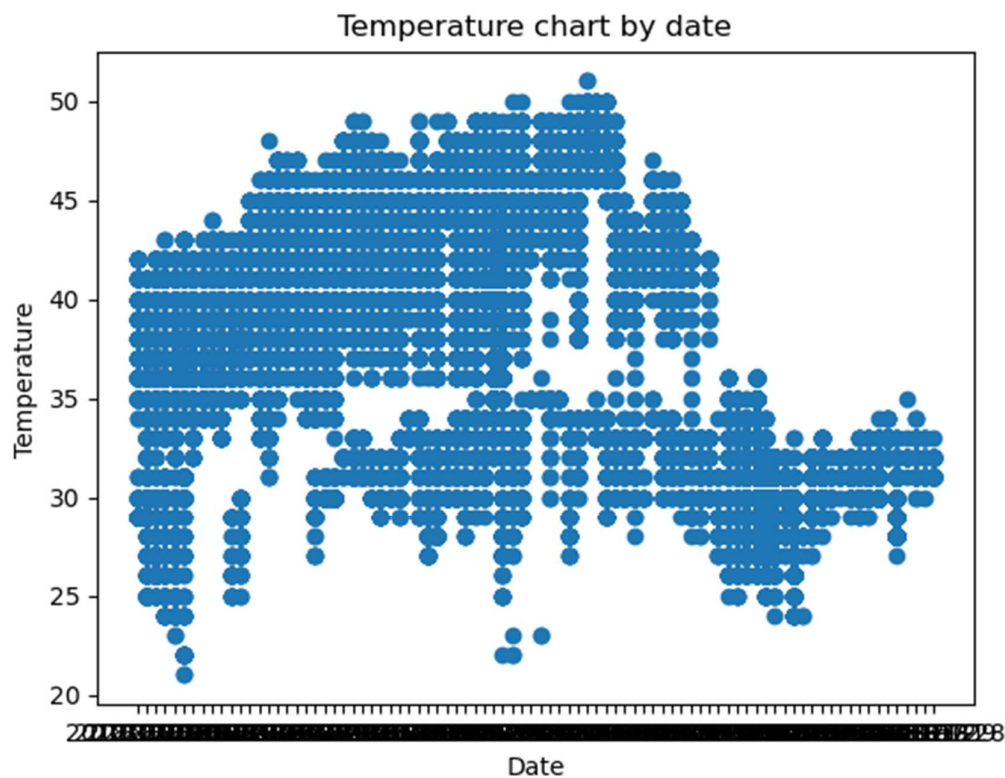


Temperature Readings : IOT Devices

This dataset has 5 columns and there are 97606 data without any missing value in the columns

I used its 4 columns ('room_id/id', 'noted_date', 'temp', 'out/in')

General plot of temperature and date data:



Based on the above data sensed by the sensors:

- 1) The highest temperature is 51 degrees
- 2) The lowest temperature is 21 degrees
- 3) Most of the data are between 30 and 40 degrees

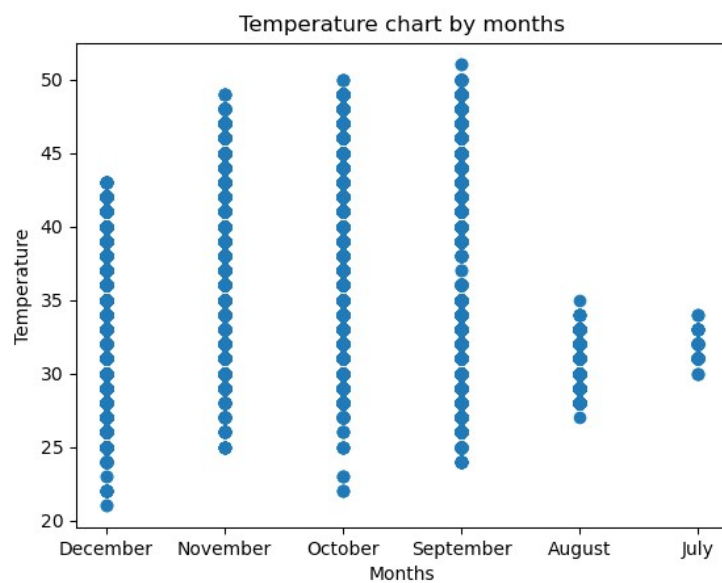
The total number of data was 97,1606 and the temperature of 39 degrees is the most repeated, it was repeated about 10,203 times. The output sensor also had the highest ratio of temperature, which was 77,261. The most repetition was on 12 September 2018, which was repeated the most, 65 times.

```
3]: df2.describe()
```

```
3]:
```

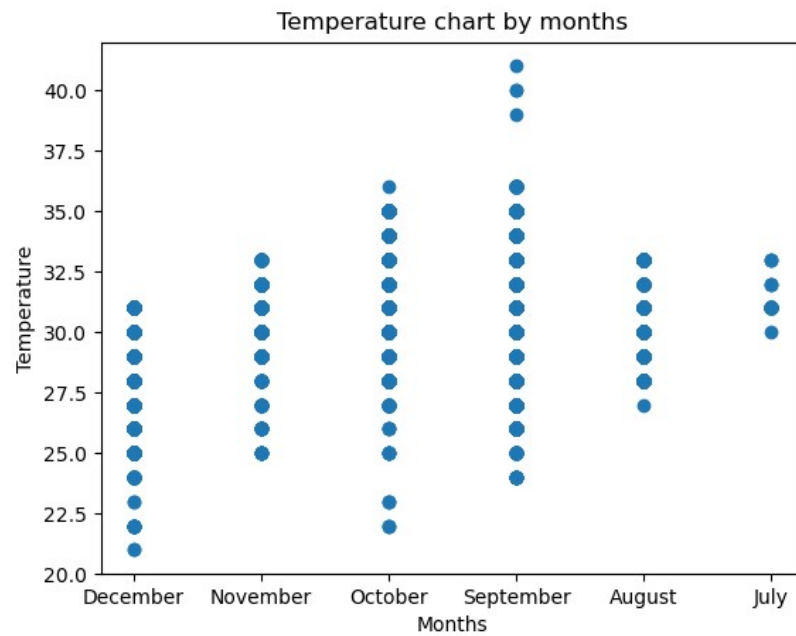
	room_id/id	noted_date	temp	out/in
count	97606	97606	97606	97606
unique	1	27920	31	2
top	Room Admin	12-09-2018 03:09	39	Out
freq	97606	65	10203	77261

Plots taken from the output of two sensors inside and outside the room, which show the incompleteness of the data from the sensors:



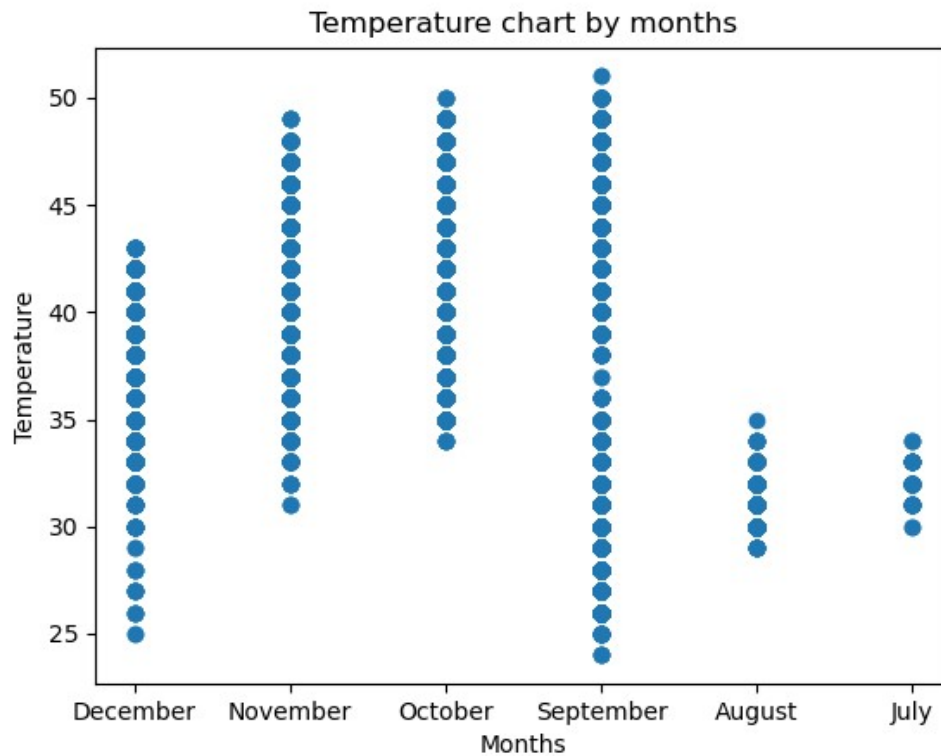
The data above 40 degrees have been sensed better, it is clear that the device did not have any problems during the test

Sensor output inside the room and outside the room:

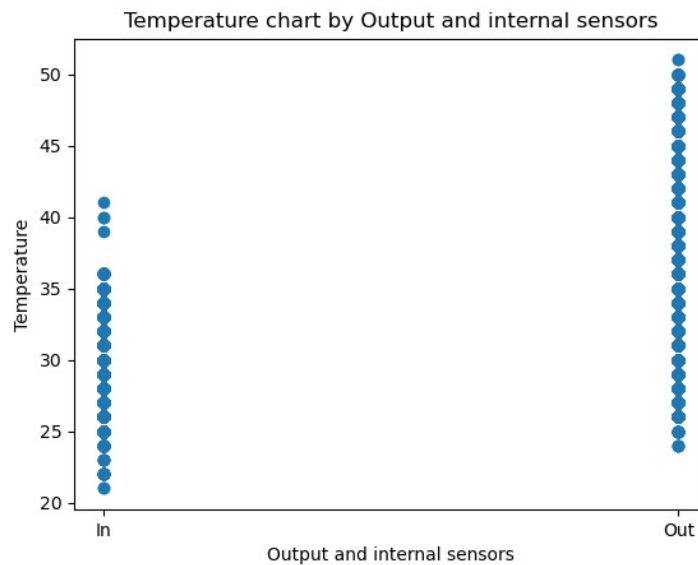


According to the plots that were taken, the available data is incomplete, the owner of Dataset said in the explanation that the device was placed in the intended space for testing, some sensors were removed or turned off, but it is clear in the above data that only the sensor is outside the room in the month. September was able to record all the data, but it was incomplete in the rest of the months

Sensor output outside the room:



Temperature chart based on the output data column from sensors inside the room and outside the room:



Based on the above data, the external sensor provides us with better data, although the data is incomplete

Sensor inside of room

39	10202
40	7796
28	6725
37	5723
29	4424
41	4353
31	4089
30	3957
36	3908
38	3867
27	3479
42	3447
43	2004
32	1820
44	1774
33	1704
45	1508
34	1494
46	1201
47	1044
48	971
35	962
49	401
26	321
50	55
25	26
24	4
51	2

Name: temp, dtype: int64

sensor outside of room

32	3588
29	3498
31	3147
30	2657
28	2106
33	1733
27	1152
34	1119
35	620
26	378
25	198
24	62
36	57
22	19
23	5
21	2
40	2
39	1
41	1

Name: temp, dtype: int64

As mentioned, the sensors outside the room performed better than the sensor inside the room and provided us with more data.

The internal sensor has a temperature range between 21 and 40 degrees, and the external sensor has a temperature range between 24 and 51 degrees.