Project 1: Explore Weather Trends

#1 Extract the data

In this step, I used SQL for exporting CSV.

```
SELECT city.year as cyear, city.avg_temp as toronto_avg_temp,
global.avg_temp as global_avg_temp
FROM city_data city, global_data global
WHERE city.year = global.year
AND city.city = 'Toronto';
```

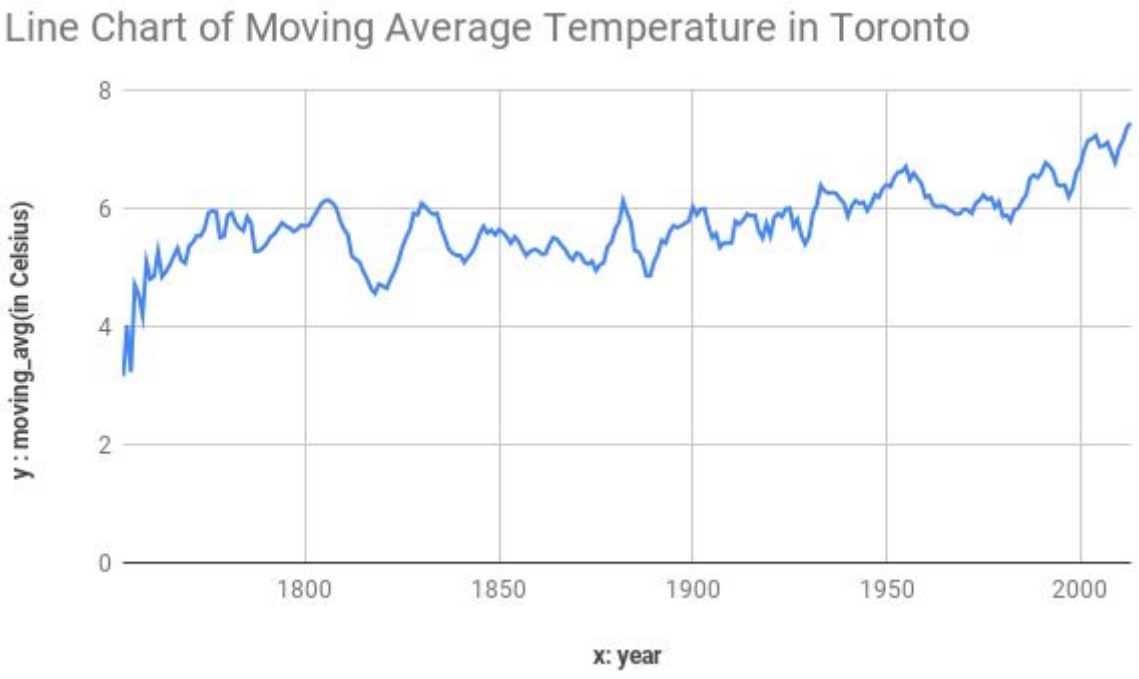
#2 Calculating moving average

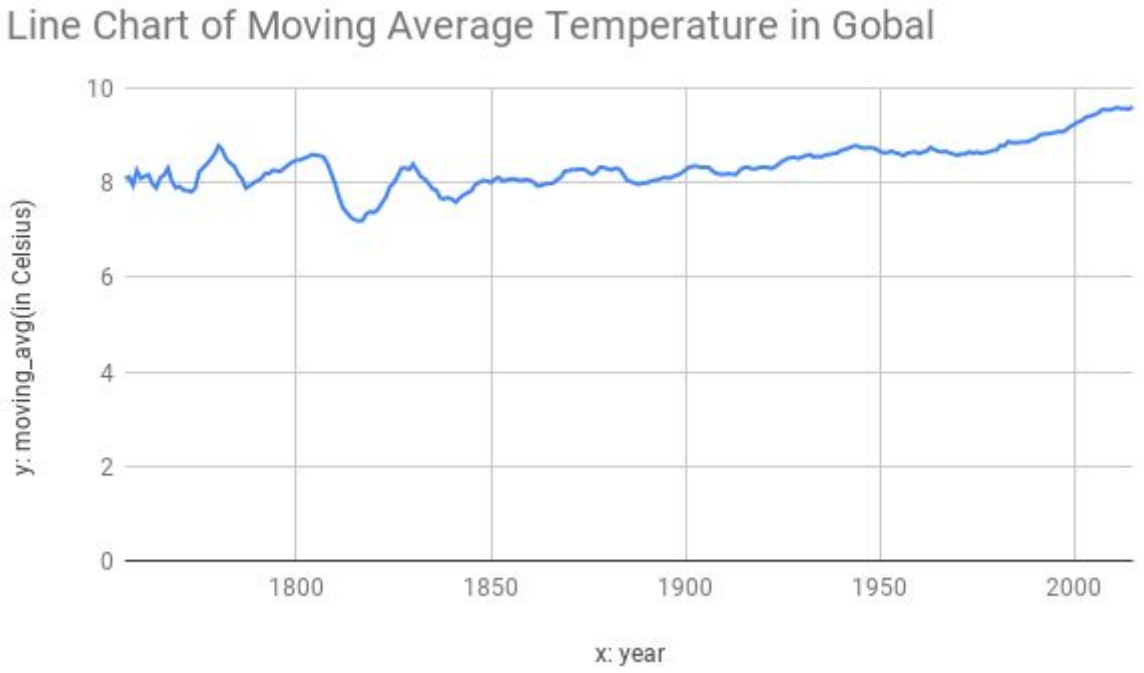
In this step, I used google spear sheet.
The average I calculated is 7 years moving average.
Select the first seven years and average temperature, use the following code, then drag to the bottom.

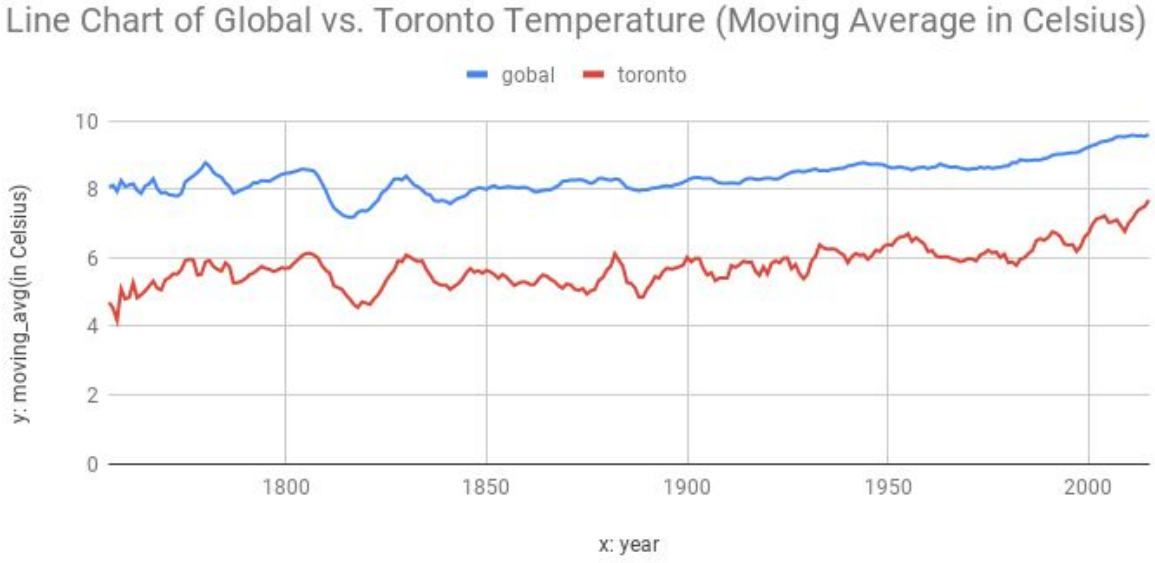
```
=AVERAGE(B2:B8)
```

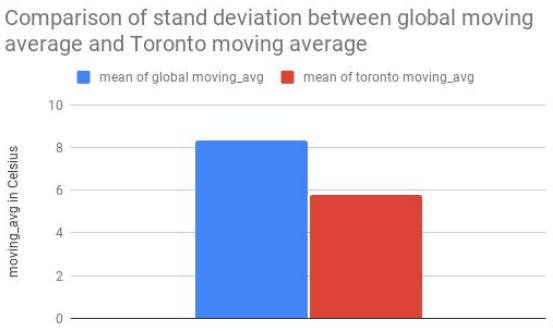
#3 Interpreting a data visualization.

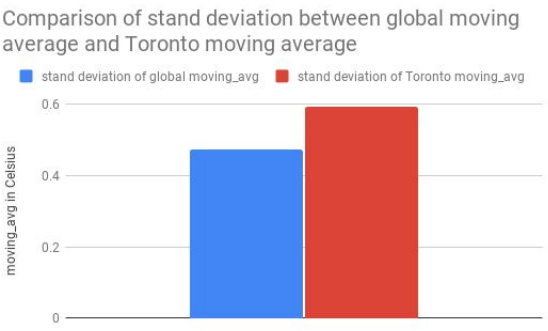
I chose to do three linear charts for visualization.











Observation I have:

- Both global and toronto average temperature go up during time
- They have similar fluctuations at the same time.
- Global temperature has a flatter fluctuation while Toronto has a more rapid fluctuation. From the column chart, the standard deviation of global temperature is about less than Toronto's temperature.
- Global temperature has a higher average in general. From the column chart, the mean of global temperature is higher than Toronto's temperature.