UDACITY

أكاديمية مسك
MISK ACADEMY

Project #1

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Explore Weather Trends

***Excel tool was used.**

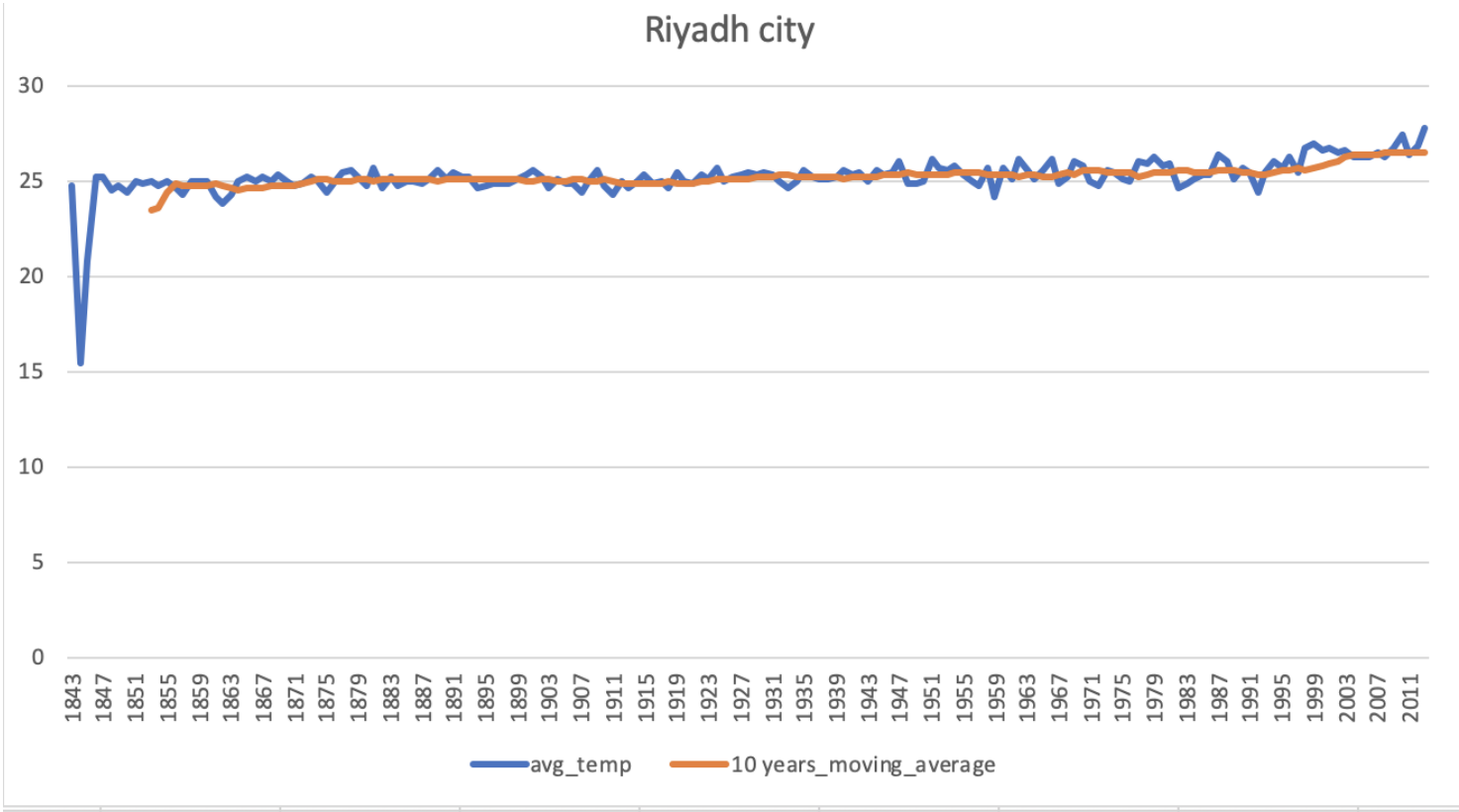
city_data

Firstly, I chose Riyadh city since it the nearest form the city_list.
I extract Riyadh city data using the following SQL query:

```
SELECT *
FROM city_data
WHERE city= 'Riyadh'
```

Then, I notice that there is two missing value in year 1846 and 1847 so, I handle it using average function for the rest of the data = "25.214142".

After that, I calculated 10 years_moving_avarge for all of the data and finally, I created the chart shown below.

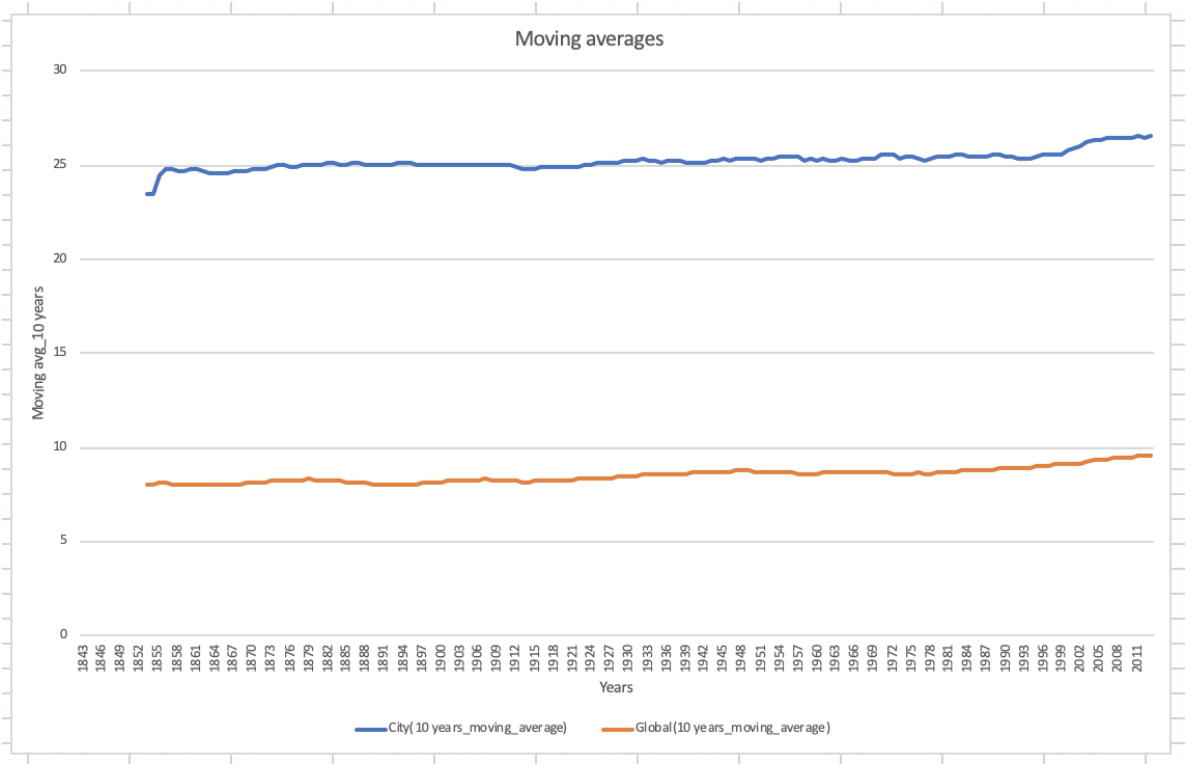


global_data

For the global data, I extract the data using the following SQL query:

```
SELECT *
FROM global_data
```

Also, I calculated 10 years_moving_avarge from year 1843 to 2013 to be compatible with Riyadh data and I created the chart shown below.



The chart shown below is about the moving average for both city and global.

observations

I notice that my city hotter on average than global. Over time, the difference was constant. The changes in my city approximately from 1843 to 1847 there was a decrease on the other hand, globally there was a little bit decrease between 1843 to 1849. The trend looks for the world is getting hotter more and more.

key consideration

My key considerations for moving average was 10 I chose it because it in middle to illustrate, small number will give me noisy data (outlier) and large number lack of details which is will not help.

* Since we have numeric attributes, I calculated the correlation coefficient as follows:

- $\sum(A * B) = 36857.6023$
- $Number\ of\ records = 171$
- Standard division
  -city=1.0408
  -global=0.464
- Mean
  -city=25.214
  -global=8.537

  Final answer=0.5997 > 0 that means it's positively correlated
  *The higher value the stronger correlation