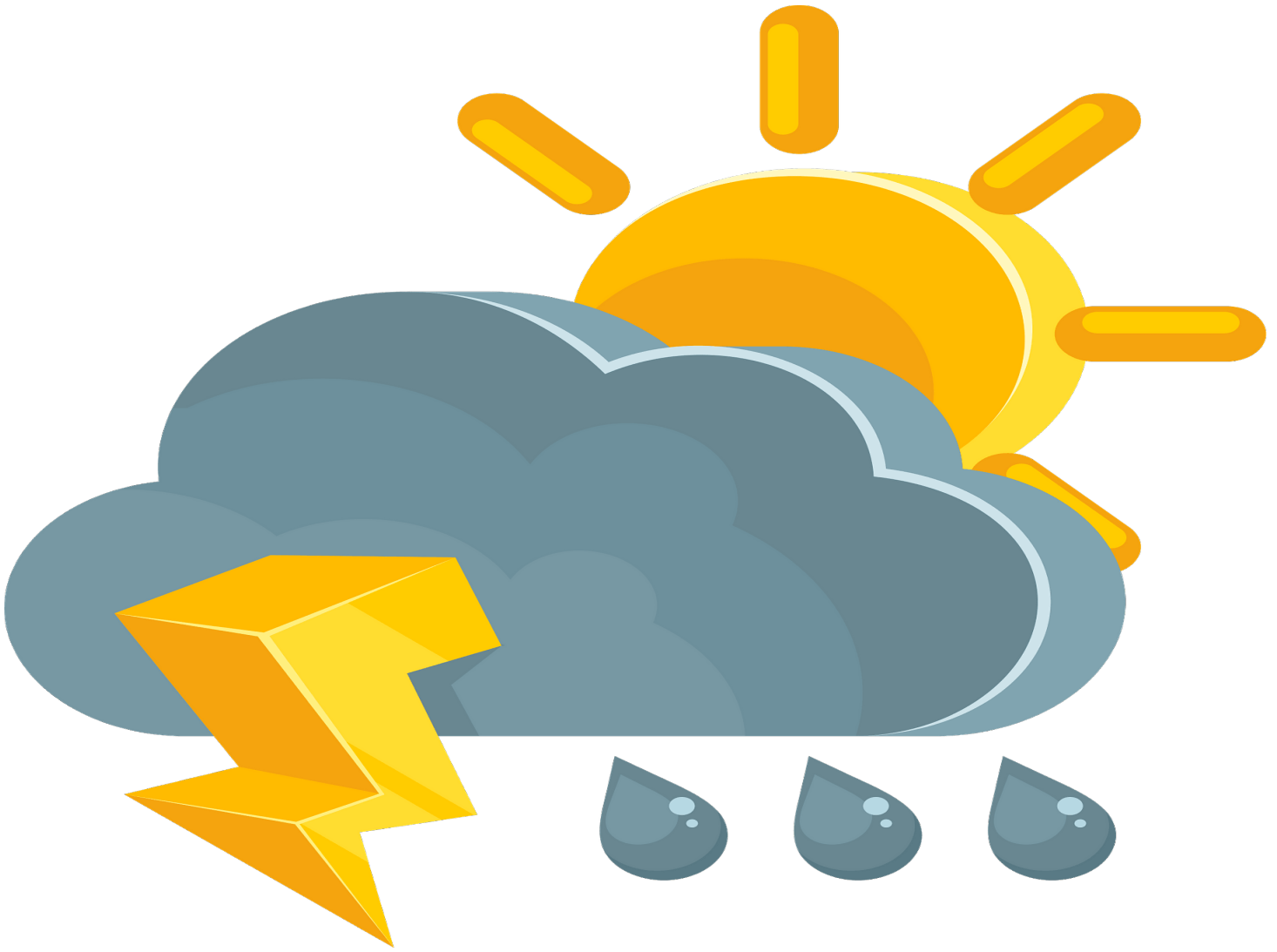# Project
Exploring Weathr

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Overview :

I have been provided the temperature database for extracted the data related to global temperature and my city temperature So I will analyze my city (Riyadh) temperature and global temperature to see the difference between them over the years.

Tools Used :

- SQL
- Excel

1.Extract the data :

I extracted the data I needed from the database through the Sql tool , the database contained a group of cities with years and temperatures for each city as well as global temperatures with years in order to compare them With your city.

So, I Wrote this query to get the years temperature data for Riyadh City and global temperature.
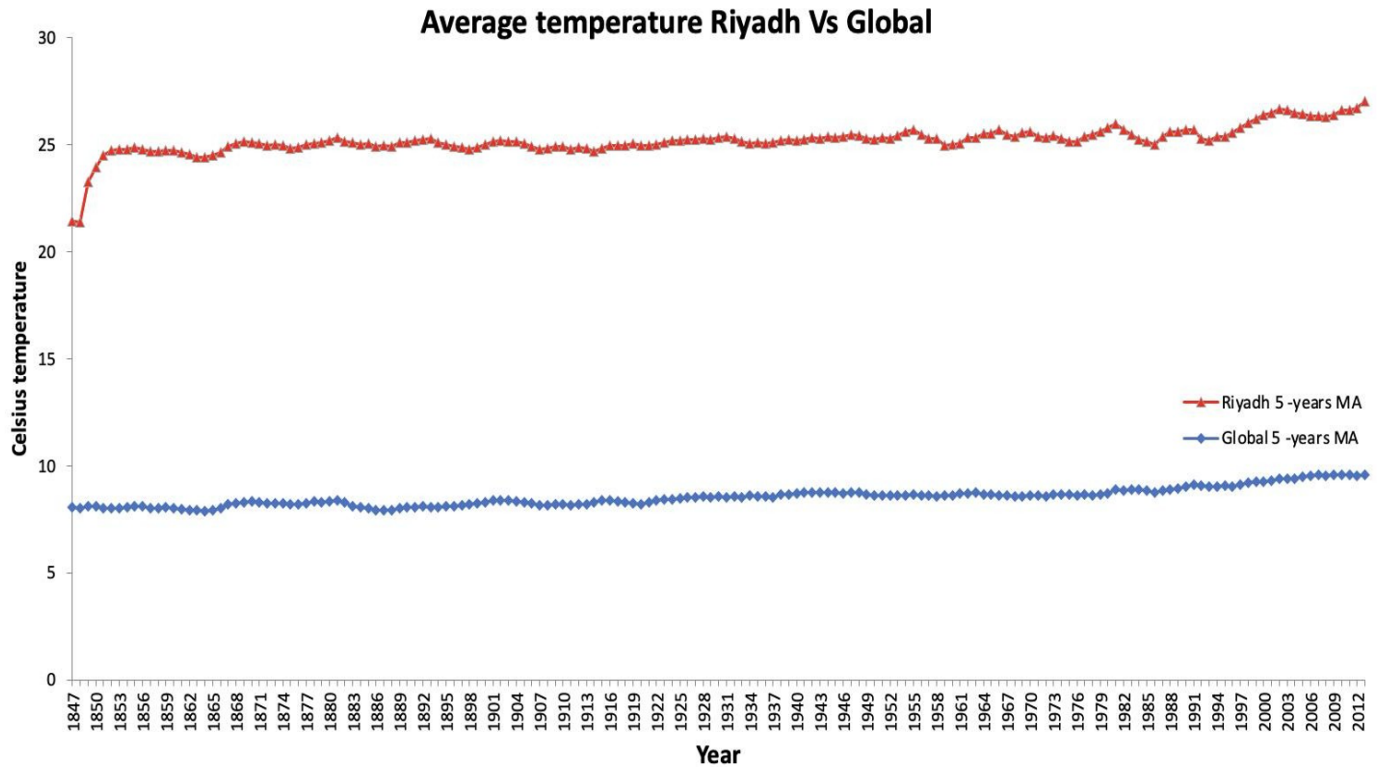
Input		HISTORY ⌄	MENU ⌄

SCHEMA ⟳	1 Select c.year,c.city,c.avg_temp As Riyadh_avg_temp,g.avg_temp As global_avg_temp
city_data ⌄	2 from city_data As c,global_data As g
city_list ⌄	3 where c.city='Riyadh' And c.year=g.year
global_data ⌄	

Success!   EVALUATE

Output 171 results   ⬇ Download CSV

year	city	riyadh_avg_temp	global_avg_temp
1843	Riyadh	24.74	8.17
1844	Riyadh	15.45	7.65
1845	Riyadh	20.82	7.85
1846	Riyadh		8.55
1847	Riyadh		8.09
1848	Riyadh	24.56	7.98
1849	Riyadh	24.80	7.98
1850	Riyadh	24.34	7.90

2.Moving Averages :

Moving averages are used to smooth out data to make it easier to observe long term trends and not get lost in daily fluctuations and In statistics, a moving average is a calculation used to analyze data points by creating a series of averages of different subsets of the full data set. For example, let's say you wanted to visualize the sales trend at a clothing retail store. You start with daily data, and your chart looks too volatile to interpret because more people shop on the weekends, so sales spike on those days. I applied the moving average on an 8-year basis using excel. Done by calculating the first 8- year average temperature for Global and Riyadh data then calculating the next 5-year and so on.

3. Data Visualization :

After I calculated the moving average Now I can plot a line chart to see the difference between Riyadh average temperature and Global average temperature, Shown in the figure below.

Average temperature Riyadh Vs Global

4.The Observations :

1. About average temperature in my city of Riyadh From the plot it is clear that my city Riyadh, is hotter than the global. My city Riyadh had an average temperature of approximately 25 degrees Celsius,and the average temperature of the global was approximately 8 degrees Celsius.

2. About average temperature in global , it is clear from plot the average temperature of the global was approximately 8 degrees Celsius, It is a very low average temperature from my city Riyadh.

3. Let's talk about the difference in the average temperature, the difference is very large in the average temperature, and it is very clear through the plot and also through the two points above, my city Riyadh the temperature in it is stronger than in the globa, the average temperature of my city of Riyadh is 25 degrees Celsius, and the globa has an average temperature 9 ° C is a very big difference.

4. We notice by plting in the average temperature of my city Riyadh that as the years progressed, an average temperature was constant, but during the last years i mean from year 1997 to year 2012 the average temperature seemed to increase.

5. We notice by plting in the average global temperature that with the advancement of years the average temperature constant , but during the last years i mean from year 1988 to year 2012 the average temperature seemed to increase slightly.