Explore Weather Trends Project

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Overview

In this project, I will analyze the Riyadh temperature and global temperature to see the difference between them over the years.

Skills Used

- SQL
- Excel

1. Get Data from Database

First, I searched for all cities in the database then I noticed that Riyadh exists in the database. To do that in SQL I wrote this query to make sure that Riyadh exists:

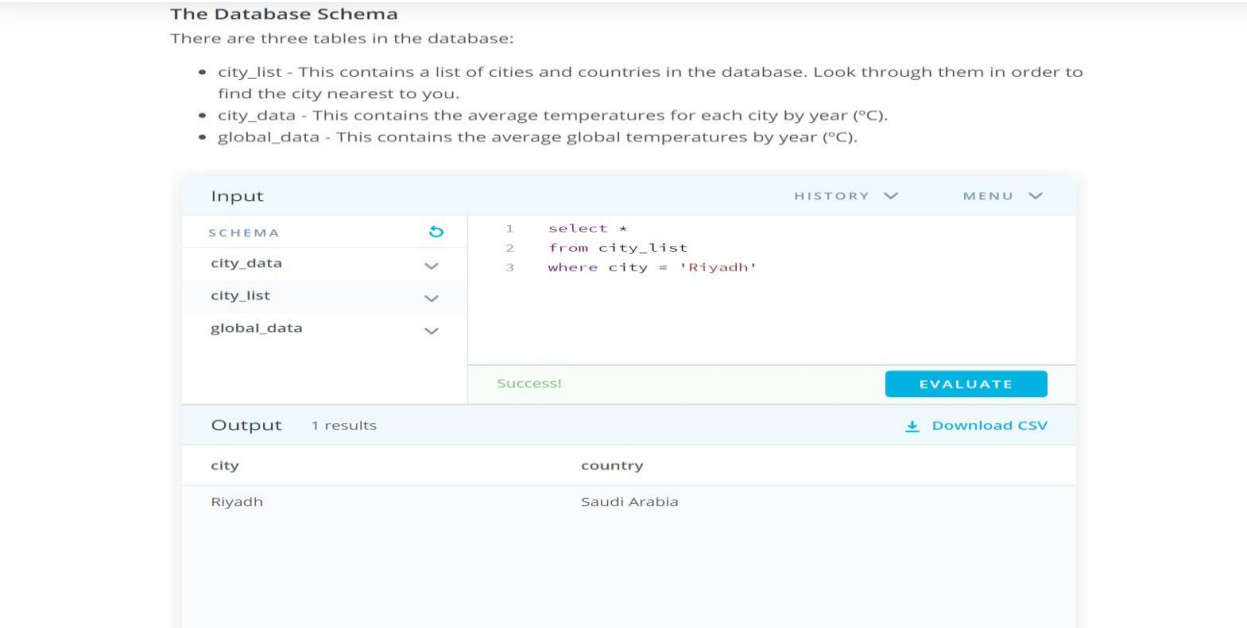

Figure 1: SQL Local City

1.1 Get Riyadh Data

I wrote this query to get the years and the temperature data for Riyadh city:

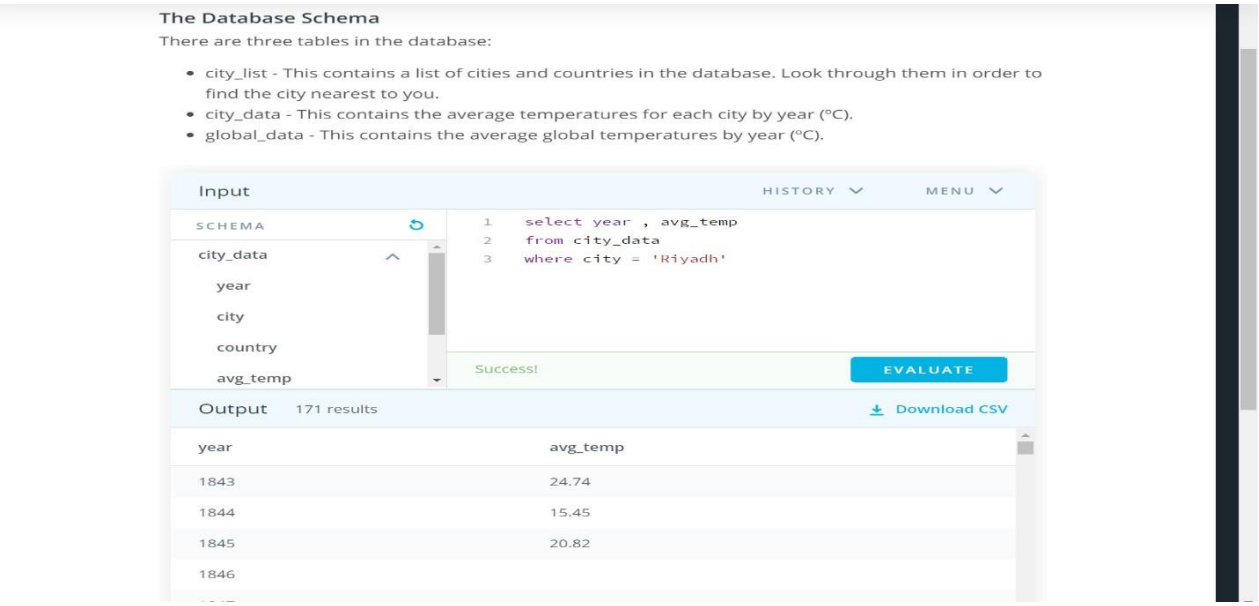

Figure 2: SQL Riyadh Data

1.2 Get Global Data

Similarly, I wrote this query to get global temperature data from the database:

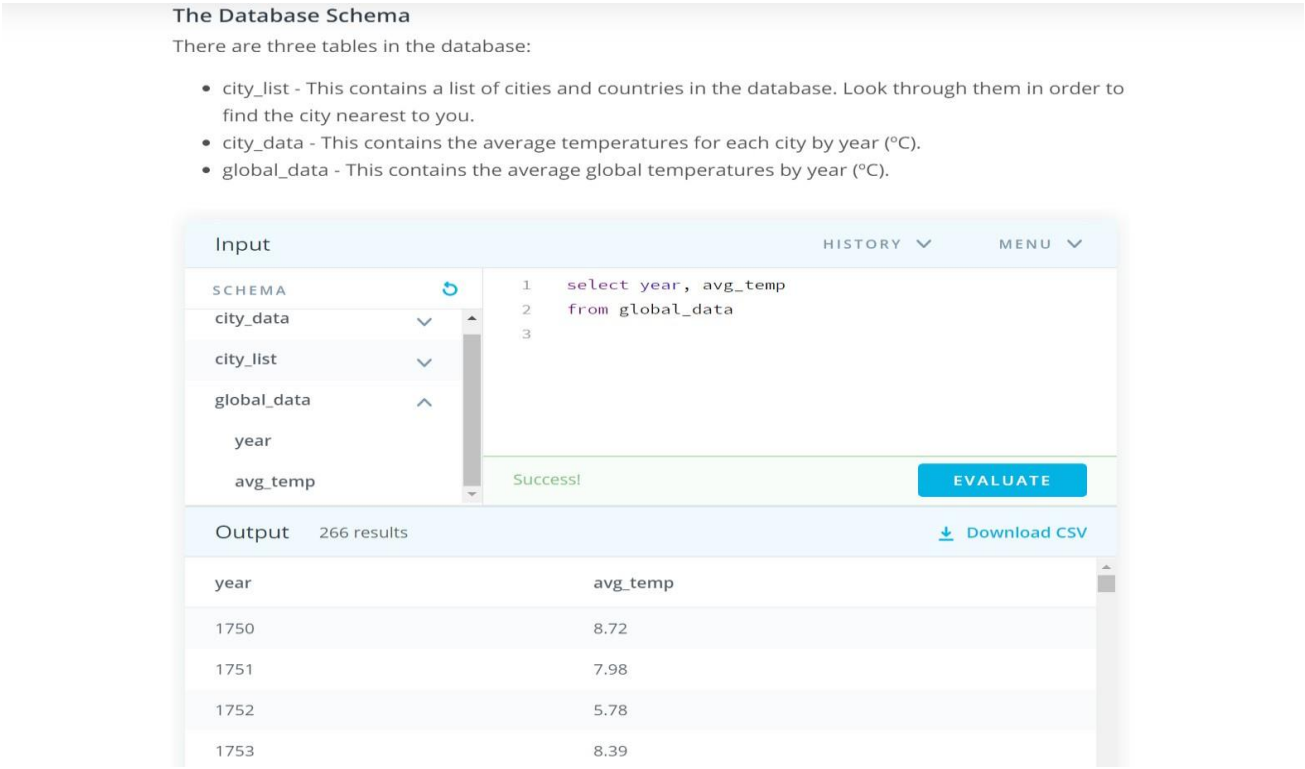

Figure 3: SQL Global Data

2. Moving Average

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. In finance, a moving average (MA) is a stock indicator that is commonly used in technical analysis. The reason for calculating the moving average of a stock is to help smooth out the price data by creating a constantly updated average price. (Moving Average (MA), n.d.)

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 8-year and so on.

3. Data Visualization

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

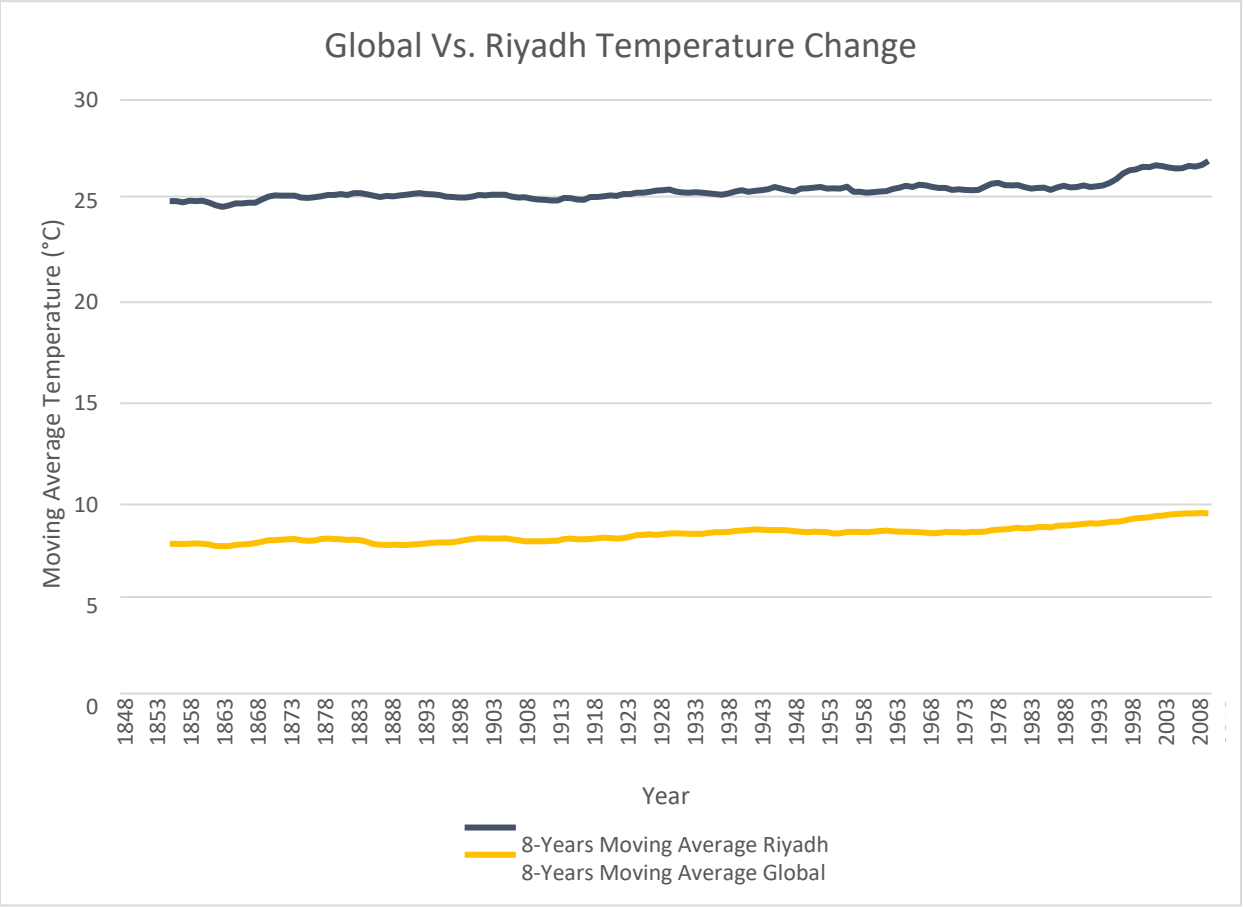

Figure 4: Global Vs. Riyadh Temperature Change

4. Observations

- Riyadh temperature is greater than the global temperature in the past two hundred years.
- The average temperature is gradually increasing throughout the time.
- Huge rise in Riyadh from 1998 to 2013.
- The difference between the years 1855 and 2013 in Riyadh is more than 2 degrees (Increasing).

References

Moving Average (MA). (n.d.). Retrieved from Investopedia: https://www.investopedia.com/terms/m/movingaverage.asp#:~:text=In%20statistics%2C%20a%20moving%20average,commonly%20used%20in%20technical%20analysis.