Exploring Weather Trends Project

Abstract

This report is an overview of my Exploring Weather Project. I was given database and I had to extract the data in a visual format and state my observations.

Steps Taken

- Data Extraction
- Data Manipulation
- Data Visualization
- Observations

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Data Extraction

In this project I used SQL to extract data from the database. Microsoft Excel for analysing the data and drawing the graphs. The queries I used are:

Query 1:

SELECT year, city, avg_temp FROM city_data where city in ('Riyadh', 'Berlin');

In this query I choose Riyadh because it is the nearest city to me and Berlin to make things more interesting. The year, city and average temp were selected because they are the most important data for this project.

Query 2:

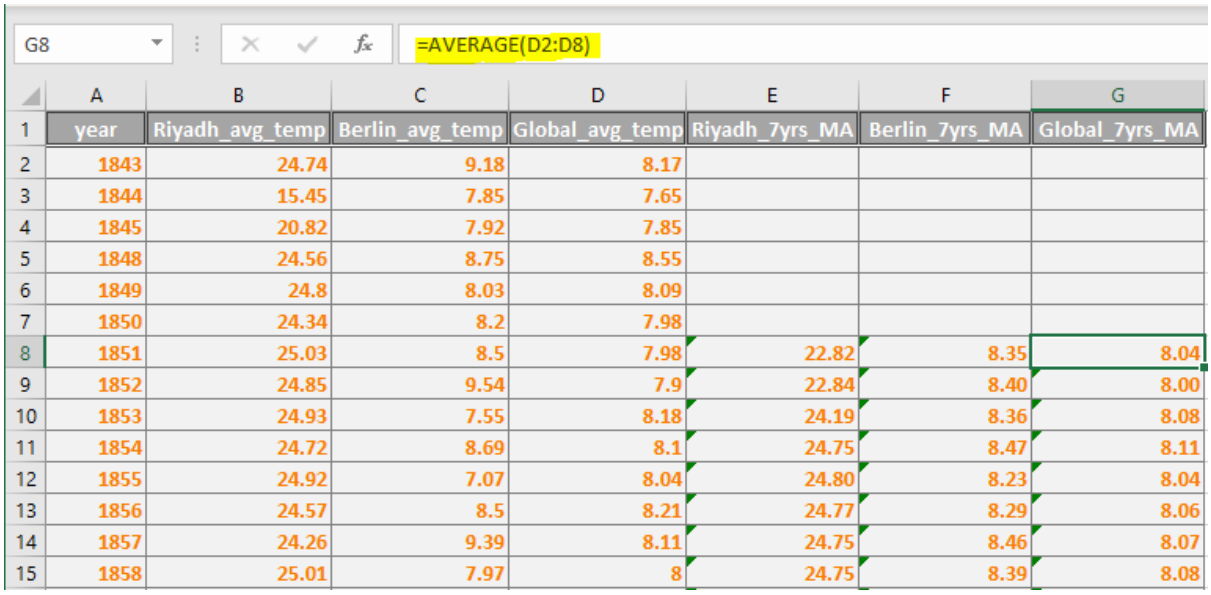
SELECT * FROM global_data;

This query to fetch all data from global_data table.

Data Manipulation

Some data from the given database were missing so they were deleted. I calculated 7 years moving average for all the data for smoother look and better display.

Figure 1 1: the picture below shows the table used to create line chart.

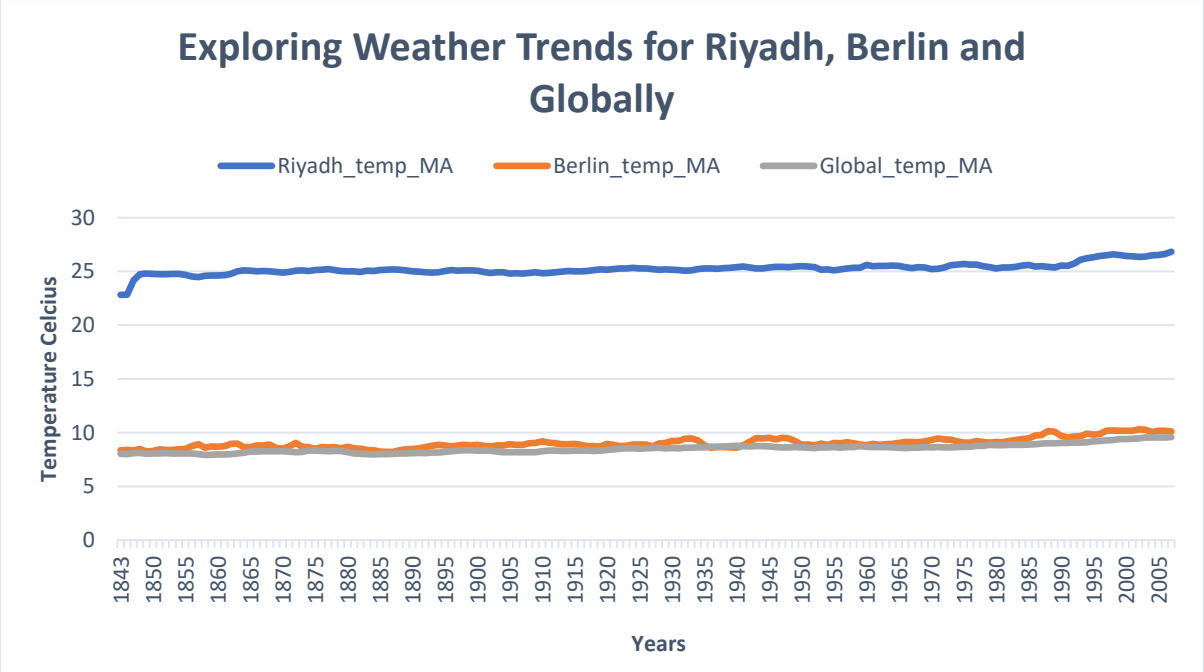


	A	B	C	D	E	F	G
1	year	Riyadh_avg_temp	Berlin_avg_temp	Global_avg_temp	Riyadh_7yrs_MA	Berlin_7yrs_MA	Global_7yrs_MA
2	1843	24.74	9.18	8.17			
3	1844	15.45	7.85	7.65			
4	1845	20.82	7.92	7.85			
5	1848	24.56	8.75	8.55			
6	1849	24.8	8.03	8.09			
7	1850	24.34	8.2	7.98			
8	1851	25.03	8.5	7.98	22.82	8.35	8.04
9	1852	24.85	9.54	7.9	22.84	8.40	8.00
10	1853	24.93	7.55	8.18	24.19	8.36	8.08
11	1854	24.72	8.69	8.1	24.75	8.47	8.11
12	1855	24.92	7.07	8.04	24.80	8.23	8.04
13	1856	24.57	8.5	8.21	24.77	8.29	8.06
14	1857	24.26	9.39	8.11	24.75	8.46	8.07
15	1858	25.01	7.97	8	24.75	8.39	8.08

Data Visualization

The line graph was chosen to represent the data. On the Y-axis the temperature moving average was plotted and on the X-axis the years for Riyadh, Berlin and Globally.

Figure 1 2: describes how the graph plotted and labels.



Observations

- The graph shows Riyadh hotter than Berlin and Globally and the difference is almost constant. This due to the geographical location of Riyadh.
- Over the time Riyadh shows increasing in the temperature while in Berlin and the Global the increases are very small compared to Riyadh.
- Overall, the temperature of the world is increasing more and more, the increasing is more noticeable from 2005 and on.
- The temperature of Berlin and the Global was almost the same for about two decades unlike Riyadh which kept increasing.