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| EXPLORE WEATHER TRENDS  Data Analyst – Nanodegree | New 5G Wireless Deal Threatens Accurate Weather Forecasts ...  Prepared by: Lamia Alshawi |



**Overview:**

In this project I analyzed local and global temperature data and compare the temperature trends where I live (Riyadh, Saudi Arabia) to overall global temperature trends. The goal was to create a visualization and describe the similarities and differences between global temperature trends and Riyadh temperature trends

**Tools used:**

I used Excel to calculate the moving average and create the Line Chart.

**Extracting the data:**

We have three tables in the database:

* city\_list - This contains a list of cities and countries in the database. Look through them in order to find the city nearest to you.
* city\_data - This contains the average temperatures for each city by year (ºC).
* global\_data - This contains the average global temperatures by year (ºC).

To extract the data I needed, I used these SQL query:

* SELECT c.year, c.avg\_temp

FROM city\_data c

WHERE city = 'Riyadh';

* SELECT \*

FROM global\_data;

After downloading the datasets, I proceeded to calculate the moving average.

**Moving average:**

I calculated 10-year moving average, this is because I thought 10-year moving average will give a smooth and easy to understand line chart. I started by using the AVERAGE function on the B3 to B12 cells and then I added the ROUND function to round the numbers to 2 decimal places and dragged the formula down. I also did the same thing on the Riyadh moving average calculation which was (ROUND(AVERAGE(E3:E12),2)).

A screenshot of a cell phone

Description automatically generated

**Line chart:**

**A screenshot of text

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**Observations:**

We can observe by this line chart that there is a significate difference between the global temperature and the temperature in Riyadh.

* Riyadh average is hotter than the global average this is because Riyadh is in the desert so of course it is going to be hotter.
* We can see Riyadh average temperature increases over time from 2000-2013 the temperature has increased from being 25.8 °C to 26.6 °C.
* The global temperature is also increasing over time from 1995-2013 the temperature has increased from 8.9 °C to 9.5 °C.
* Both the global and Riyadh averages started at a low temperature and has been increasing at a consistent rate over the years.
* Overall, the world seems to get hotter as the years pass.