### Explore Weather Trends

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# Overview

In this project, we analyze local and global temperature data by using SQL to extract data from the temperatures database, And Excel worksheet to calculate the moving averages, Create a line chart. Then we will compare the temperature and trends in specific city to overall global temperature and trends.

# Data

For our analysis, we have used data from the Udacity temperature Database [[1]](#_Bibliography). This database contains 3 schemas: city\_list, city\_data and global\_data. We extract the data by writing these queries:

select \* from city\_list where country= 'Saudi Arabia';

select year, avg\_temp from city\_data where city = 'Riyadh';

select \* from global\_data where year BETWEEN 1843 AND 2013;

To find the nearest city, retrieve the average temperatures for Riyadh city by year, And the average global temperatures by the same years. Then we download the result to CSV files.

# Calculation

After pulling the intended data to Excel sheet, the 7 years moving averages are calculated in a new column to be used in the line chart, starting from the seventh year 1849 and by using the function AVERAGE ().

# Visualization

**After** calculating the moving averages, we created a line chart that shows the years for the x axis and the temperatures for the Y axis, the red color represents the Riyadh moving average and blue for global average.

A screenshot of a social media post

Description automatically generated

Figure 1: Temperatures in Riyadh city vs global temperatures, 1849–2013

# Observations

This graph show that Riyadh city temperatures is higher than global temperatures.

Riyadh temperature was the hottest between 2001-2013 by reaching more than 27.00°C.

The global temperature is likely range from a low around 7°C to a high of around 9°C.

Both of Riyadh and globally averaged temperatures have been rising over the time.

# Bibliography

1. https://www.udacity.com/