# PROJECT 1:

# EXPLORING WEATHER TRENDS

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**Data Analyst Nanodegree**

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## OVERVIEW:

In this project local and global temperature data has been analyzed and compared the temperature of Riyadh city to overall global temperature trends.

## OBJECTIVE:

- Extract the temperature data from the database and export it.
- Manipulate the temperature data visualize line chart.
- Observing the average temperature line chart.

# DATA EXTRACTION

Temperature Riyadh city and global data has been extracted by writing SQL Script and exported to CSV format :

```
SELECT
    A.YEAR,
    A.CITY,
    A.AVG_TEMP AS CITY_AVG,
    B.AVG_TEMP AS GLOBAL_AVG
FROM CITY_DATA A
JOIN GLOBAL_DATA B
    ON A.YEAR = B.YEAR
WHERE A.CITY = 'Riyadh'
```

# DATA MANIPULATION

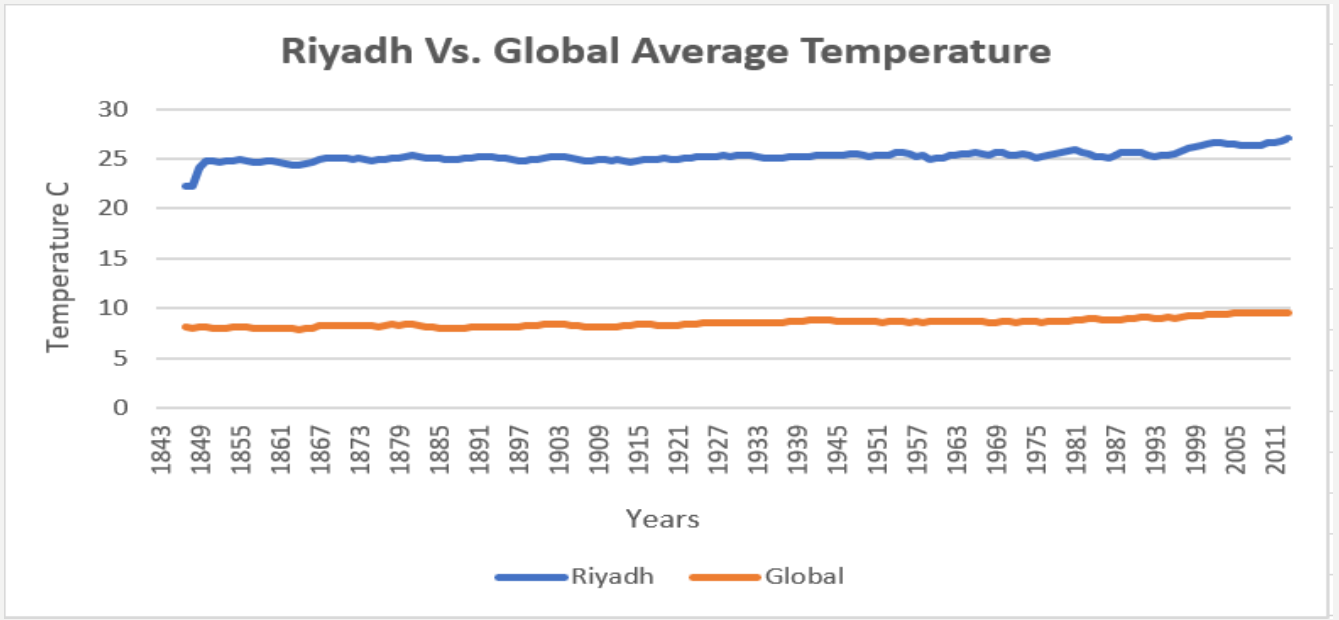
Temperature Riyadh city and global data has been manipulated in MS Excel by calculate the moving average per 5 years:

E6 =AVERAGE(C2:C6)

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | year | city | city_avg | global_avg | Riyadh | Global |
| 2 | 1843 | Riyadh | 24.74 | 8.17 | | |
| 3 | 1844 | Riyadh | 15.45 | 7.65 | | |
| 4 | 1845 | Riyadh | 20.82 | 7.85 | | |
| 5 | 1846 | Riyadh | 25.21 | 8.55 | | |
| 6 | 1847 | Riyadh | 25.21 | )9 | 22.286 | 8.062 |
| 7 | 1848 | Riyadh | 24.56 | 7.98 | 22.25 | 8.024 |
| 8 | 1849 | Riyadh | 24.8 | 7.98 | 24.12 | 8.09 |
| 9 | 1850 | Riyadh | 24.34 | 7.9 | 24.824 | 8.1 |

# DATA VISUALIZATION

Temperature Riyadh city and global data has been visualized in MS Excel using line chart :



# Data Observation:

1. It is clear from line chart that Riyadh city has higher degree of average temperature compared with the global average temperature in general, this difference has been steady throughout the period.
2. Riyadh city and global average temperature illustrated similar pattern. Both average temperature increase gradually nearly by 0.70 degree and 0.50 degree respectively.
3. Generally the trends show the global is slightly getting hottest in last decades.
4. By the end of interval 2013 , the average temperature degree in Riyadh city its peak at 27 degree which was largest temperature.