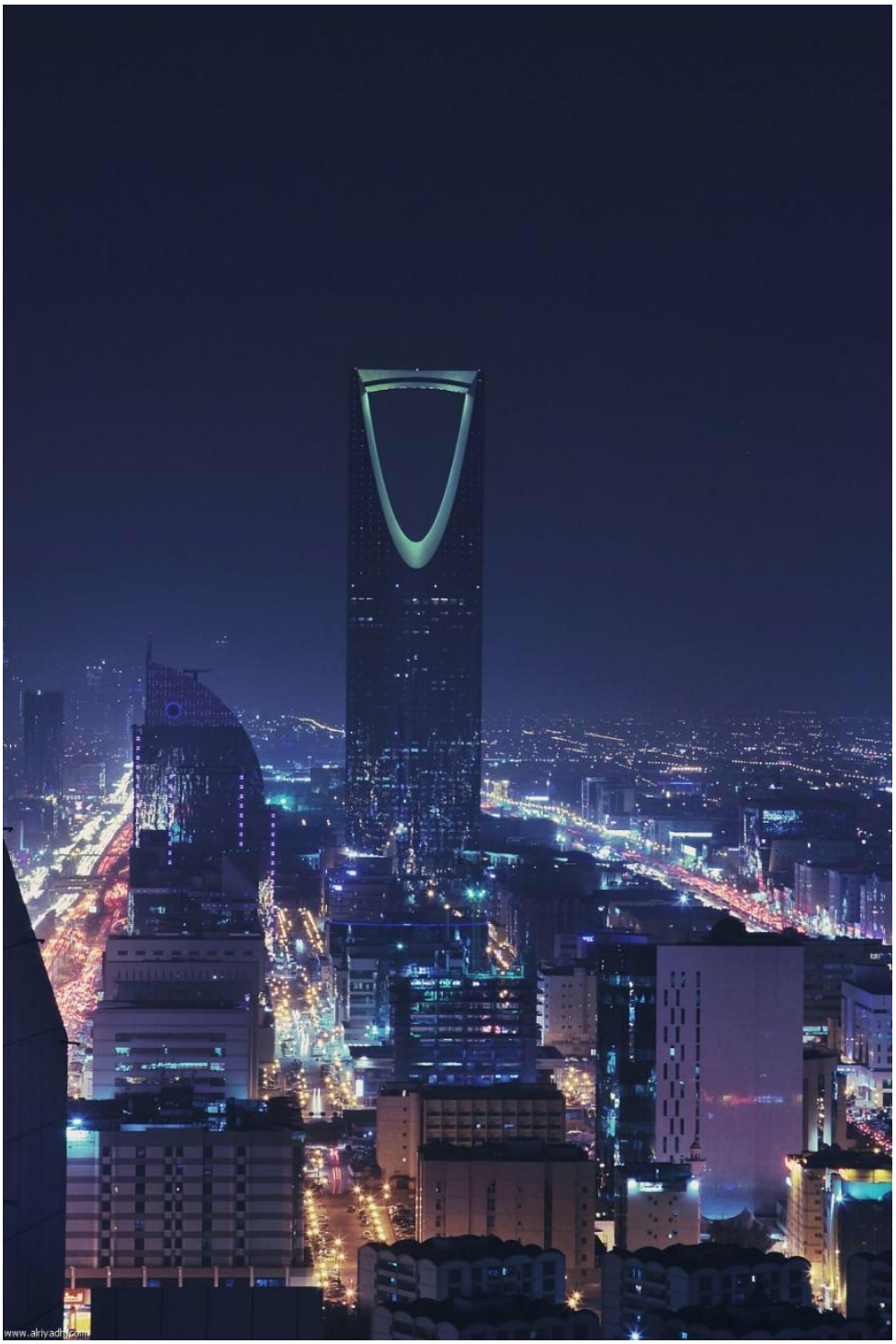


Project 1: Explore Weather Trends

By: Banan Alluhidah

- **The tools did I used for each step :**

SQL : was used to extract data from database
EXCEL : was used to calculate the moving average

- **Sql query used :**

```
SELECT city_data.avg_temp as avg_temp_Riyadh , global_data.avg_temp as avg_temp_Global , city_data.year, global_data.year

FROM global_data JOIN city_data

ON global_data.year= city_data.year

WHERE city_data.city LIKE 'Riyadh'

And city_data.year>=1900 And global_data.year<=2013
```

Input HISTORY MENU

SCHEMA

city_data

city_list

global_data

```
1 SELECT city_data.avg_temp as avg_temp_Riyadh ,
  global_data.avg_temp as avg_temp_Global ,
  city_data.year, global_data.year
2 FROM global_data JOIN city_data
3 ON global_data.year= city_data.year
4 WHERE city_data.city LIKE 'Riyadh'
5 And city_data.year>=1900 And global_data.year<=2013
```

Success! EVALUATE

Output 114 results Download CSV

avg_temp_riyadh	avg_temp_global	year
25.29	8.50	1900
25.55	8.54	1901
25.25	8.30	1902
24.64	8.22	1903

- **How did I calculate moving average :**

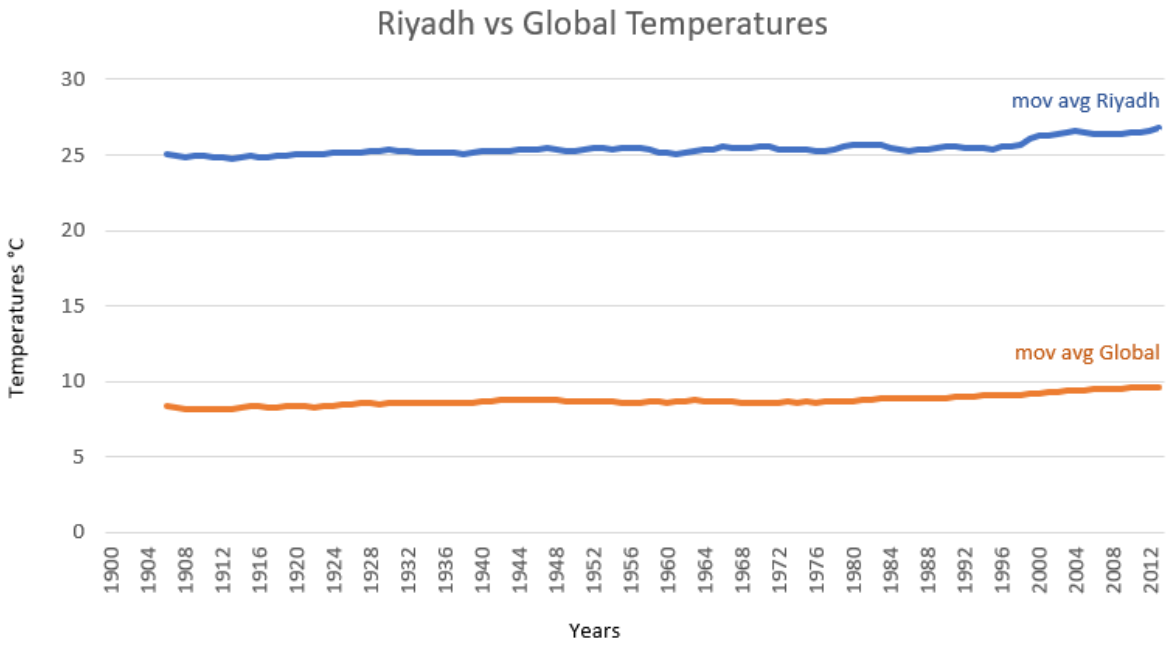
I calculated the moving average of 7 years by using the command
=average(a2:a8) and then dragging down till the last value .
For tow columns : avg_temp_riyadh and avg_temp_global
New columns : mov_avg_Riyadh and mov_avg_Global

	A	B	C	D	E	F	G	H
1	year	avg_temp_riyadh	mov_avg_Riyadh	year	avg_temp_global	mov_avg_Global		
2	1900	25.29		1900	8.5			
3	1901	25.55		1901	8.54			
4	1902	25.25		1902	8.3			
5	1903	24.64		1903	8.22			
6	1904	25.07		1904	8.09			
7	1905	24.87		1905	8.23			
8	1906	24.85	25.07428571	1906	8.38	8.322857143		
9	1907	24.44	24.95285714	1907	7.95	8.244285714		
10	1908	24.95	24.86714286	1908	8.19	8.194285714		
11	1909	25.57	24.91285714	1909	8.18	8.177142857		
12	1910	24.75	24.92857143	1910	8.22	8.177142857		
13	1911	24.24	24.81	1911	8.18	8.19		
14	1912	24.96	24.82285714	1912	8.17	8.181428571		
15	1913	24.63	24.79142857	1913	8.3	8.17		
16	1914	24.94	24.86285714	1914	8.59	8.261428571		
17	1915	25.38	24.92428571	1915	8.59	8.318571429		
18	1916	24.85	24.82142857	1916	8.23	8.325714286		
19	1917	25.03	24.86142857	1917	8.02	8.297142857		
20	1918	24.66	24.92142857	1918	8.13	8.29		
21	1919	25.39	24.98285714	1919	8.38	8.32		
22	1920	24.94	25.02714286	1920	8.36	8.328571429		
23	1921	24.84	25.01285714	1921	8.57	8.325714286		
24	1922	25.35	25.00857143	1922	8.41	8.3		
25	1923	25.1	25.04428571	1923	8.42	8.327142857		
26	1924	25.69	25.13857143	1924	8.51	8.397142857		
27	1925	25	25.18714286	1925	8.53	8.454285714		
28	1926	25.19	25.15857143	1926	8.73	8.504285714		
29	1927	25.29	25.20857143	1927	8.52	8.527142857		

- **The key considerations when I deciding how to visualize the trends :**

My key consideration was to observe an increase or decrease in moving average temperature .
Choosing 7 years will leads to less noise in the graph and shows the important details in the graph.

- **The line chart :**



- **OBSERVATIONS:**

1. The average temperature in Riyadh is higher than the Global average temperature.
2. The average temperature increased significantly in Riyadh and in the Global after 1996
3. The average temperature in Riyadh in most years was 25
4. In the early years, average temperatures in Riyadh were much lower