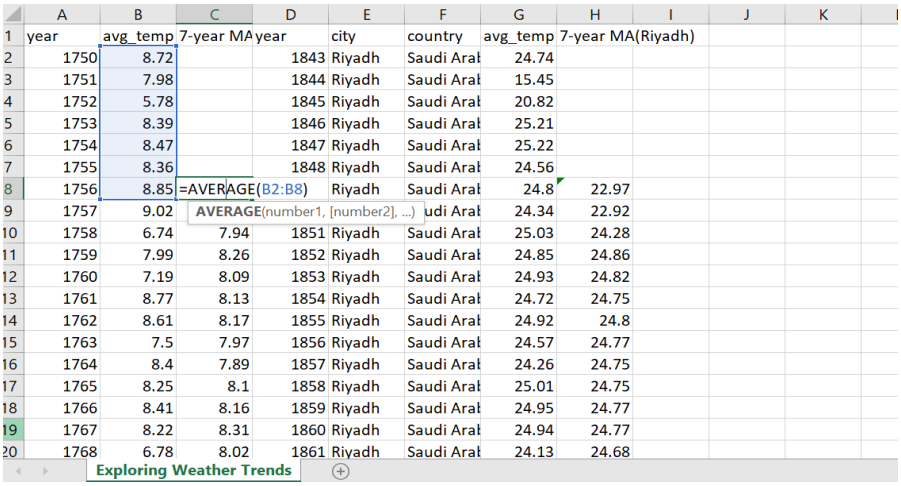
Outline:

I used the SQL queries to extract the data then imported it to the excel sheet to visualize the data on a line chart.

Before creating the chart, I calculated the moving averages as a 7-year MA to smoothen the chart.

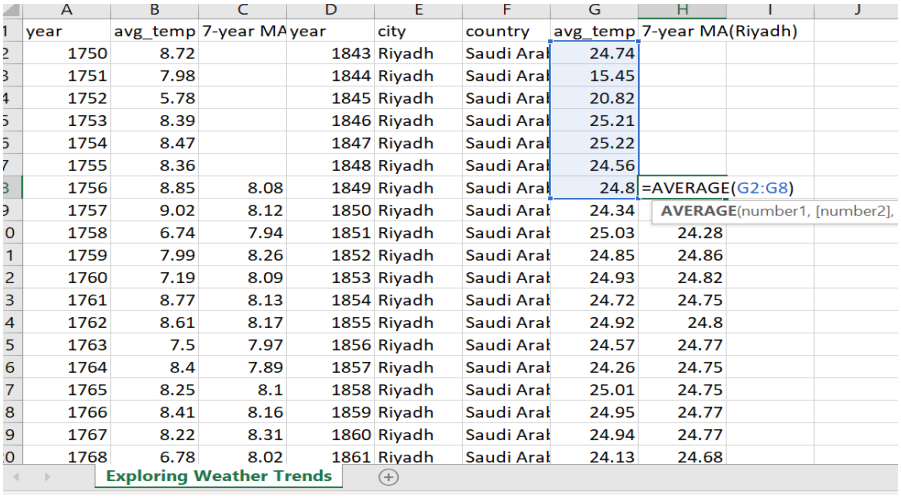
I visualized the Global trends and Riyadh trends in one chart to make the visualization and comparison clearer and more comprehensible.

The Moving average was calculated using Excel tool by Average function for each 7-year scale as shown in the screenshots bellow:



	A	B	C	D	E	F	G	H	I	J	K
1	year	avg_temp	7-year MA	year	city	country	avg_temp	7-year MA(Riyadh)			
2	1750	8.72		1843	Riyadh	Saudi Arał	24.74				
3	1751	7.98		1844	Riyadh	Saudi Arał	15.45				
4	1752	5.78		1845	Riyadh	Saudi Arał	20.82				
5	1753	8.39		1846	Riyadh	Saudi Arał	25.21				
6	1754	8.47		1847	Riyadh	Saudi Arał	25.22				
7	1755	8.36		1848	Riyadh	Saudi Arał	24.56				
8	1756	8.85	=AVERAGE(B2:B8)		Riyadh	Saudi Arał	24.8	22.97			
9	1757	9.02	AVERAGE(number1, [number2], ...)			udi Arał	24.34	22.92			
10	1758	6.74	7.94	1851	Riyadh	Saudi Arał	25.03	24.28			
11	1759	7.99	8.26	1852	Riyadh	Saudi Arał	24.85	24.86			
12	1760	7.19	8.09	1853	Riyadh	Saudi Arał	24.93	24.82			
13	1761	8.77	8.13	1854	Riyadh	Saudi Arał	24.72	24.75			
14	1762	8.61	8.17	1855	Riyadh	Saudi Arał	24.92	24.8			
15	1763	7.5	7.97	1856	Riyadh	Saudi Arał	24.57	24.77			
16	1764	8.4	7.89	1857	Riyadh	Saudi Arał	24.26	24.75			
17	1765	8.25	8.1	1858	Riyadh	Saudi Arał	25.01	24.75			
18	1766	8.41	8.16	1859	Riyadh	Saudi Arał	24.95	24.77			
19	1767	8.22	8.31	1860	Riyadh	Saudi Arał	24.94	24.77			
20	1768	6.78	8.02	1861	Riyadh	Saudi Arał	24.13	24.68			

Exploring Weather Trends



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Exploring Weather Trends

Extraction of the data:

- **Write a SQL query to extract the city level data. Export to CSV.**

  select * from city_list

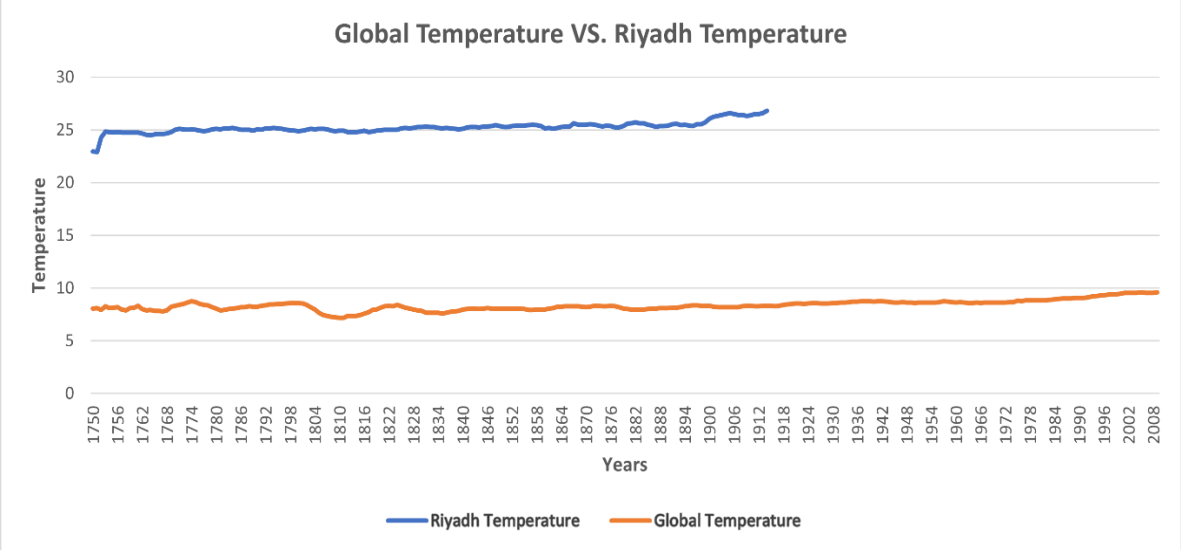
  select * from city_data where city = 'Riyadh'

- **Write a SQL query to extract the global data. Export to CSV.**

  select * from global_data

Crate the graph:

- **Create a line chart that compares your city's temperatures with the global temperatures.**



Make observations

According to the Graph above there is huge differences between the global averages and Riyadh averages in which Riyadh temperature averages are significantly hotter than the world's averages and the difference has been consistent over years.

The changes in Riyadh temperature are more constant than in the world averages that differs from year to year.

In the first few years the averages of Riyadh were decreased then slightly increased to be steady over time, while in the global averages it was fluctuating then it has been steady over time.

The overall trend seems to be hotter and has been consistent over the last few hundred years.