2020

Explore Weather Trends Project

PRESENTED BY:
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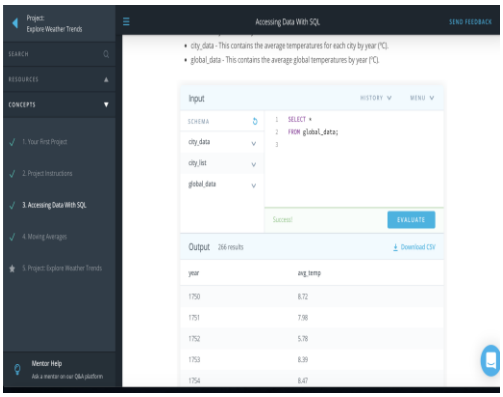
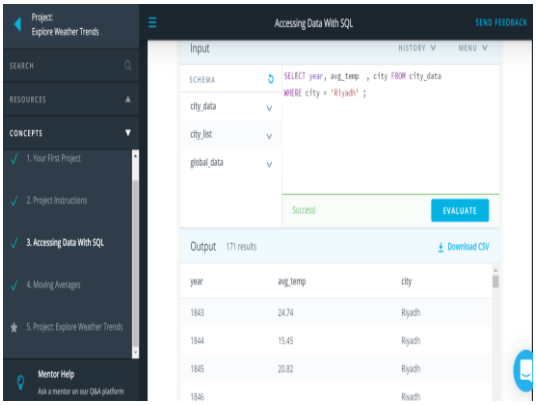
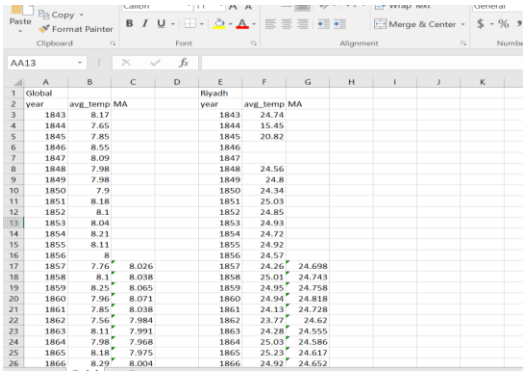


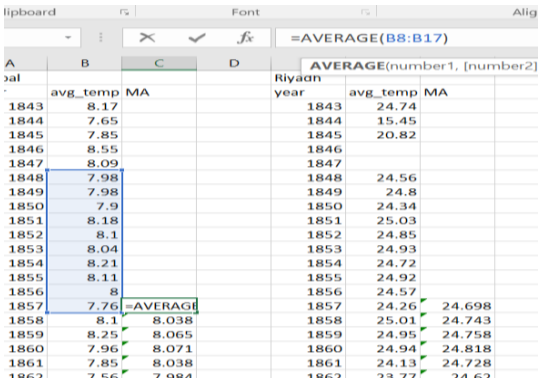


Firstly, I extract both Global and Riyadh data's from the database using SQL.



	A	B	C	D	E	F	G
1	Global				Riyadh		
2	year	avg_temp	MA		year	avg_temp	MA
3	1843	8.17			1843	24.74	
4	1844	7.65			1844	15.45	
5	1845	7.85			1845	20.82	
6	1846	8.55			1846		
7	1847	8.09			1847		
8	1848	7.98			1848	24.56	
9	1849	7.98			1849	24.8	
10	1850	7.9			1850	24.34	
11	1851	8.18			1851	25.03	
12	1852	8.1			1852	24.85	
13	1853	8.04			1853	24.93	
14	1854	8.21			1854	24.72	
15	1855	8.11			1855	24.92	
16	1856	8			1856	24.57	
17	1857	7.76	8.026		1857	24.26	24.698
18	1858	8.1	8.038		1858	25.01	24.743
19	1859	8.25	8.065		1859	24.95	24.758
20	1860	7.96	8.071		1860	24.94	24.818
21	1861	7.85	8.038		1861	24.13	24.728
22	1862	7.56	7.984		1862	23.77	24.62
23	1863	8.11	7.991		1863	24.28	24.555
24	1864	7.98	7.968		1864	25.03	24.586
25	1865	8.18	7.975		1865	25.23	24.617
26	1866	8.29	8.004		1866	24.92	24.652

Secondly, Excel spreadsheet was used.



	A	B	C	D	E	F	G
					Riyadh		
		avg_temp	MA		year	avg_temp	MA
1843		8.17			1843	24.74	
1844		7.65			1844	15.45	
1845		7.85			1845	20.82	
1846		8.55			1846		
1847		8.09			1847		
1848		7.98			1848	24.56	
1849		7.98			1849	24.8	
1850		7.9			1850	24.34	
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1852		8.1			1852	24.85	
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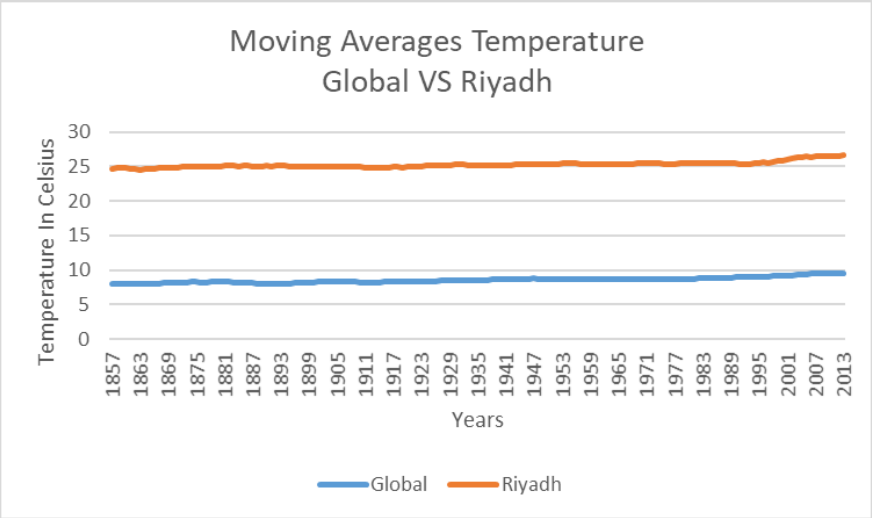
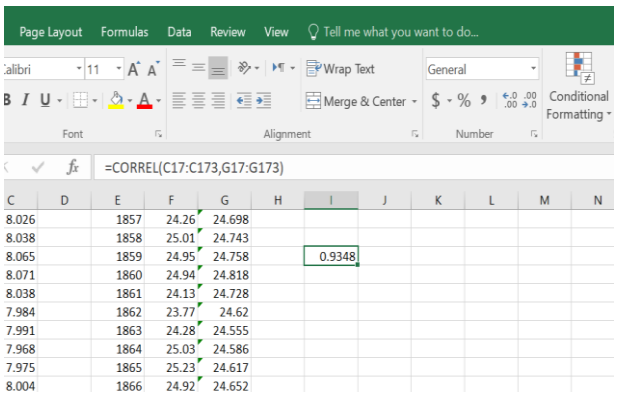
1854		8.21			1854	24.72	
1855		8.11			1855	24.92	
1856		8			1856	24.57	
1857		7.76	=AVERAGE		1857	24.26	24.698
1858		8.1	8.038		1858	25.01	24.743
1859		8.25	8.065		1859	24.95	24.758
1860		7.96	8.071		1860	24.94	24.818
1861		7.85	8.038		1861	24.13	24.728

In addition, Moving Averages are calculated per 10 years period, as analyst I observed 10 years is the perfect period to calculate a moving average, due to every 10 years a new decade begin. Decade is a long period that many changes can happens to the climate.



Report:

Starting from 1857 to end in 2013 moving averages where calculated. Both Global and Riyadh's temperature were steady until the recent years Riyadh's climate start to change as in 2013 it hits it peak, the temperature was 26.65 °C. Riyadh 26.65 °C temperature considered the hottest in around 60 years. Besides, there is a huge difference between Global moving averages and Riyadh moving averages, Global cites is cooler on average. The world is getting hotter nowadays; because of global warming which considered a big problem facing the world in the current years. Finally, overall all the results reflected shows that 2013 is the hottest for both Global cities temperatures and Riyadh city temperature.



C	D	E	F	G	H	I	J	K	L	M	N	
8.026		1857	24.26	24.698								
8.038		1858	25.01	24.743								
8.065		1859	24.95	24.758		0.9348						
8.071		1860	24.94	24.818								
8.038		1861	24.13	24.728								
7.984		1862	23.77	24.62								
7.991		1863	24.28	24.555								
7.968		1864	25.03	24.586								
7.975		1865	25.23	24.617								
8.004		1866	24.92	24.652								

Correlation Coefficient:

The correlation coefficient of Global temperature and Riyadh temperature was 0.9348, which is in between the range of -1.0 to 1.0 and it considered a strong and positive correlation.