EXPLORE WEATHER TRENDS

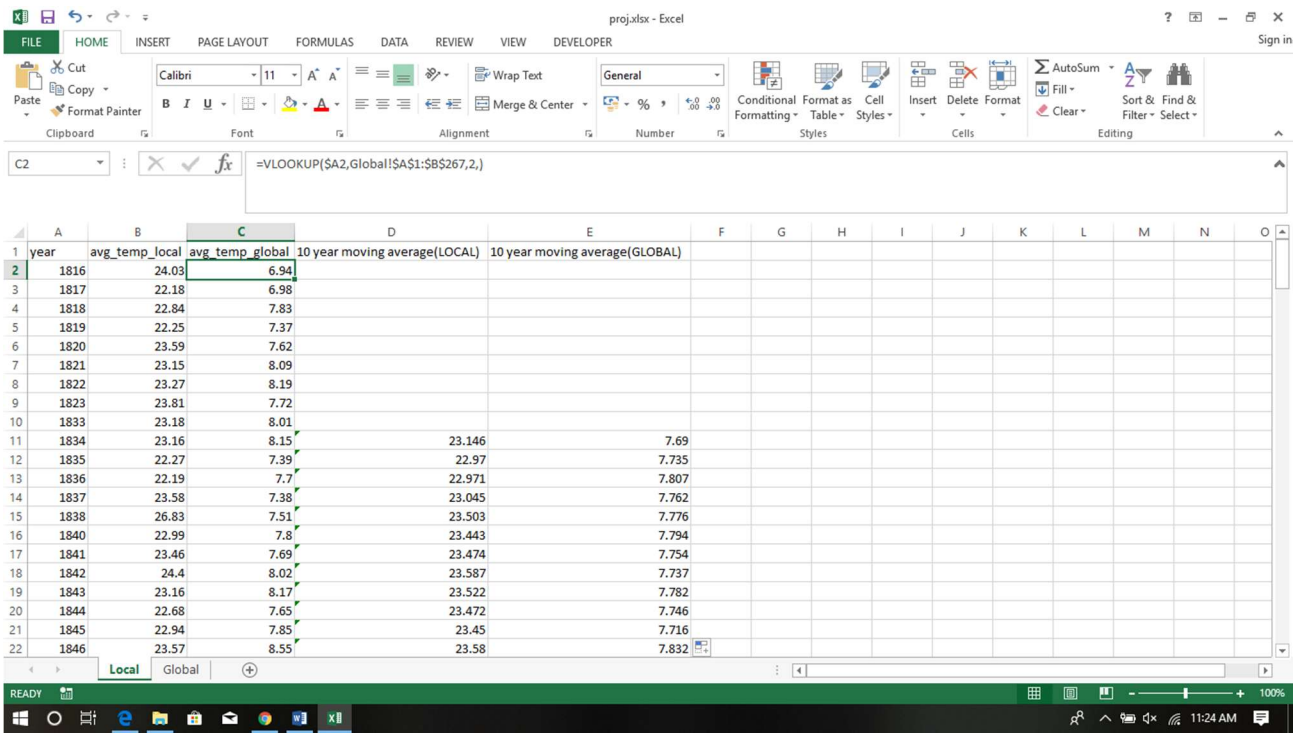
I have written the following SQL queries to extract the data and then I have downloaded it in .CSV

- ➔ SELECT * FROM city_list ;
  (I searched the city nearest to my hometown and it was “Ludhiana” in “India”
- ➔ SELECT year,avg_temp FROM city_data WHERE city='Ludhiana' AND (avg_temp>=0 OR avg_temp<=0) ORDER BY year;
  (All the local data was retrieved by this command except the null values)
- ➔ SELECT * FROM global_data;
  (All the global data was retrieved by this command)

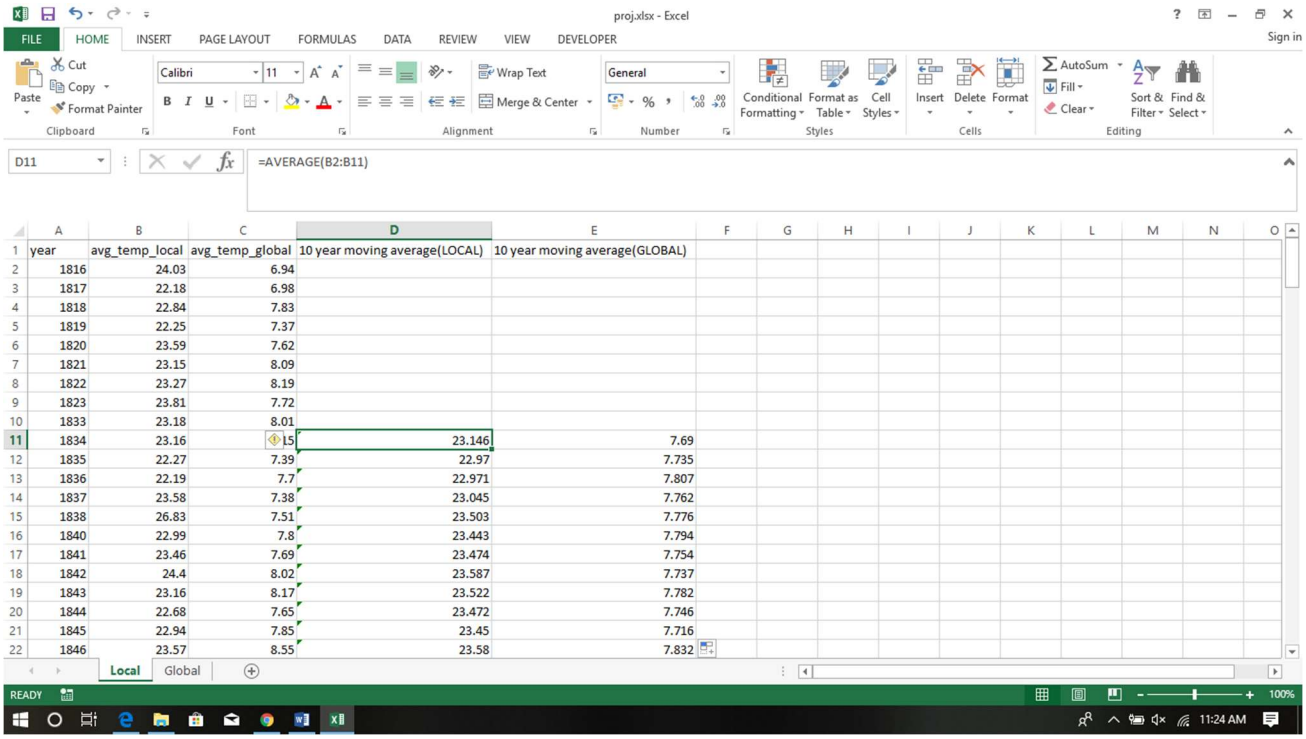
Then I have used Excel to open CSV files and perform operations on it .

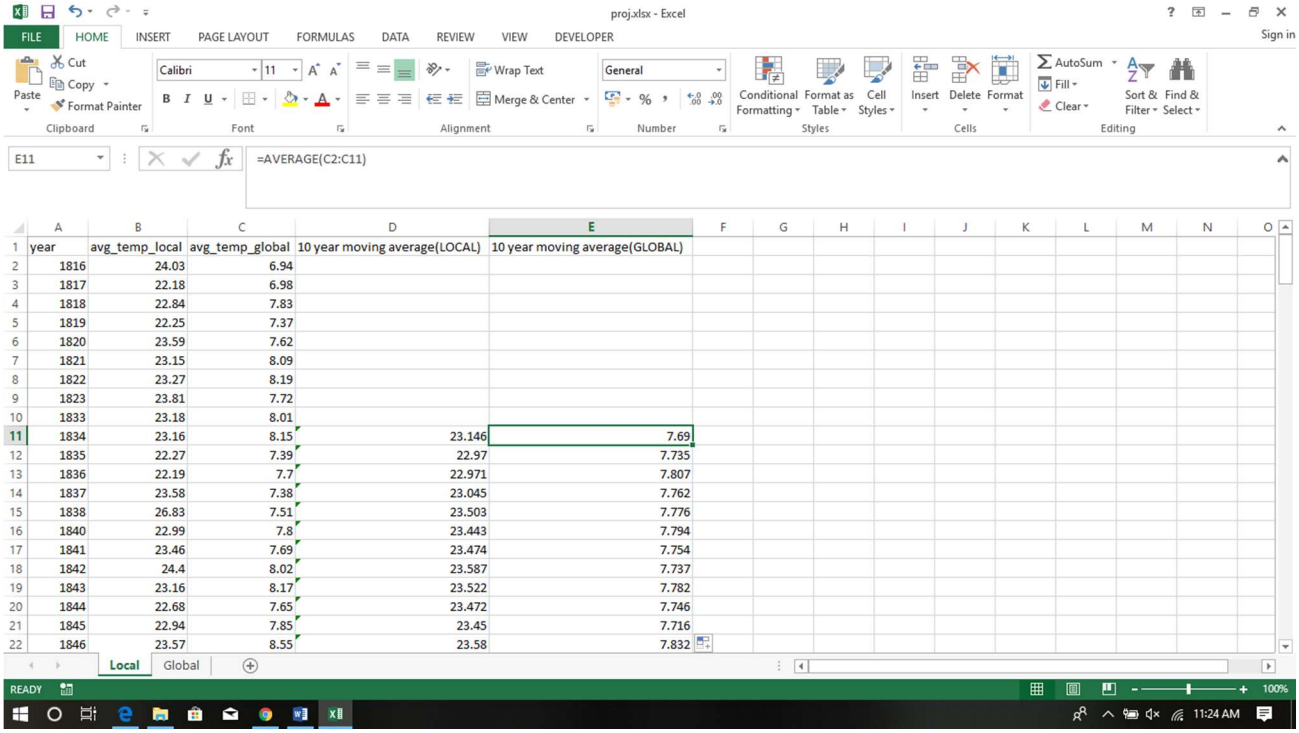
- ➔ First ,I combined the local and global data with respective years

- ➔ Then I calculated the moving average for both local and global data.(I have taken an interval of previous 10 years as a parameter to calculate the moving average) and have dragged down the formula.



year	avg_temp_local	avg_temp_global	10 year moving average(LOCAL)	10 year moving average(GLOBAL)
1816	24.03	6.94		
1817	22.18	6.98		
1818	22.84	7.83		
1819	22.25	7.37		
1820	23.59	7.62		
1821	23.15	8.09		
1822	23.27	8.19		
1823	23.81	7.72		
1833	23.18	8.01		
1834	23.16	8.15	23.146	7.69
1835	22.27	7.39	22.97	7.735
1836	22.19	7.7	22.971	7.807
1837	23.58	7.38	23.045	7.762
1838	26.83	7.51	23.503	7.776
1840	22.99	7.8	23.443	7.794
1841	23.46	7.69	23.474	7.754
1842	24.4	8.02	23.587	7.737
1843	23.16	8.17	23.522	7.782
1844	22.68	7.65	23.472	7.746
1845	22.94	7.85	23.45	7.716
1846	23.57	8.55	23.58	7.832





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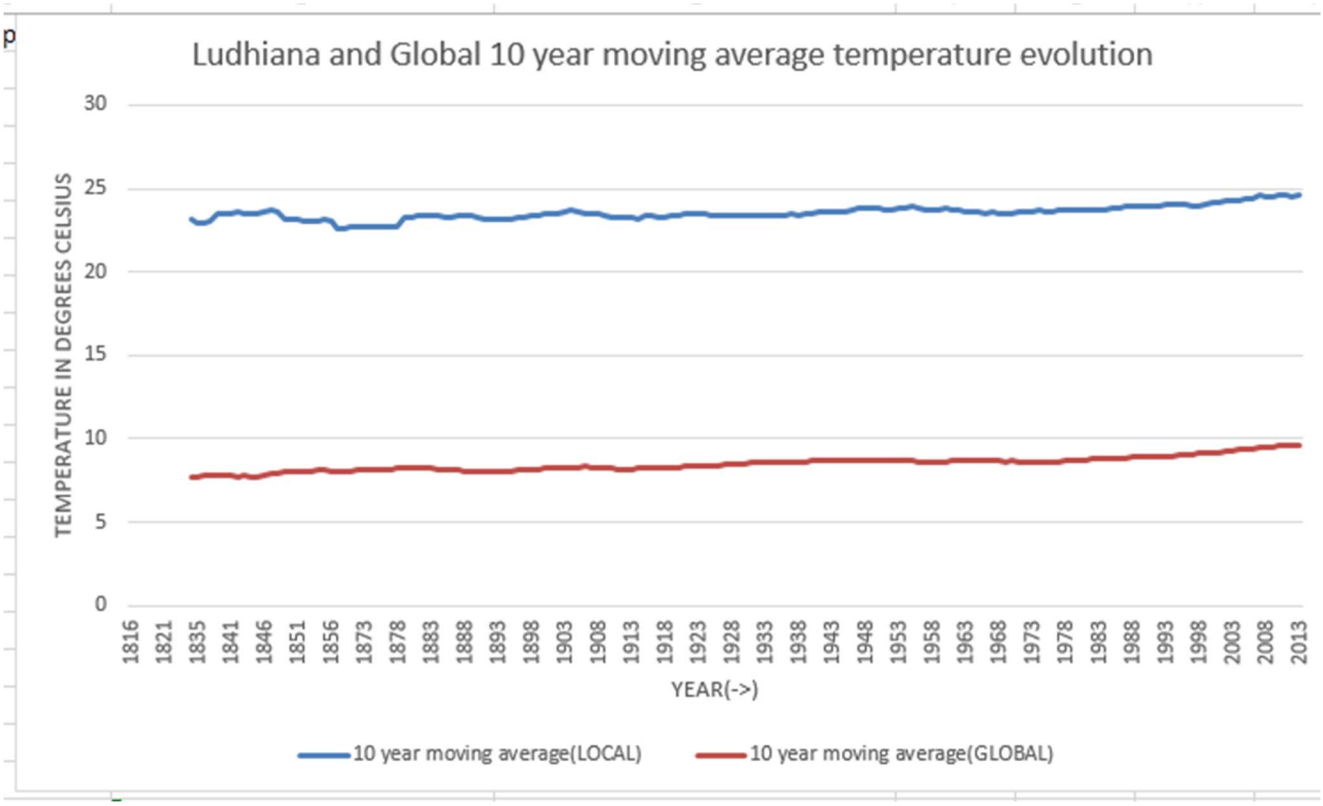
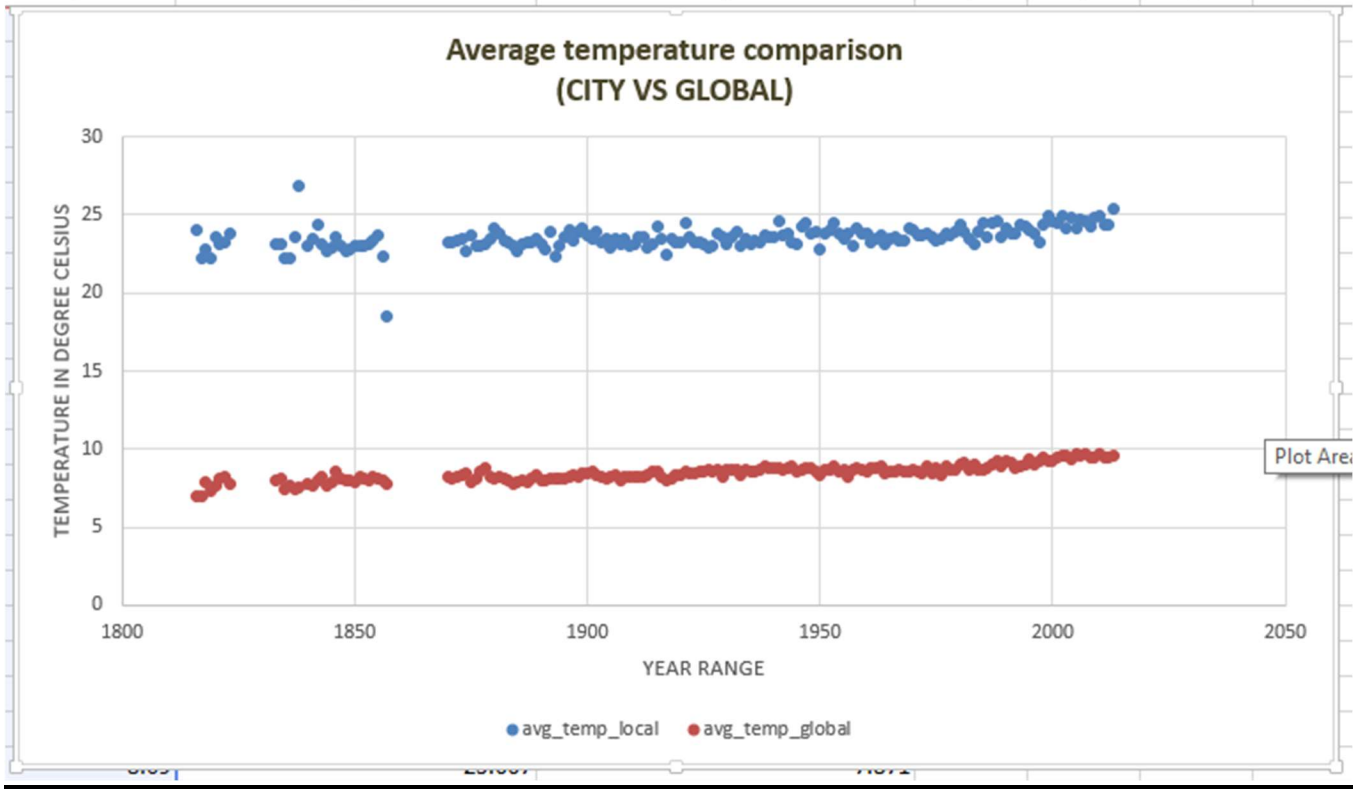
➔Then I have plotted the following graph on that data.



(Here temperature(In degrees) is plotted on y-axis and the time variation Is plotted on x-axis).

Local VS Global Average Yearly Temperature Over Time :-



Observations :-

- ➔ Local area is hotter as compared to the rest of world.
- ➔ Temperature in the world is rising .So the world is getting hotter every year .
- ➔ For the past 40 years, the increase in temperature is high in global world as compared to the my local city.
- ➔ The trend in the local area and world is consistent for the past 100 years.
- ➔ The average world temperature is slightly increased by 1.5 to 2 degrees Celsius.
- ➔ From the second graph , I also analysed that the average yearly temperature was increased rapidly in the late 1840's and suddenly decreased in 1860's.