Weather Trends

Extracting Data:

The city level data for my city i.e Lahore is extracted using following SQL query.

a) select * from city_data where city='Lahore'

Tools:

Python language was used for the analytical analysis of the data. Pandas library was utilized for reading the csv file and data frames to separate the data. For visualization of data, matplotlib library was utilized.

Moving Average:

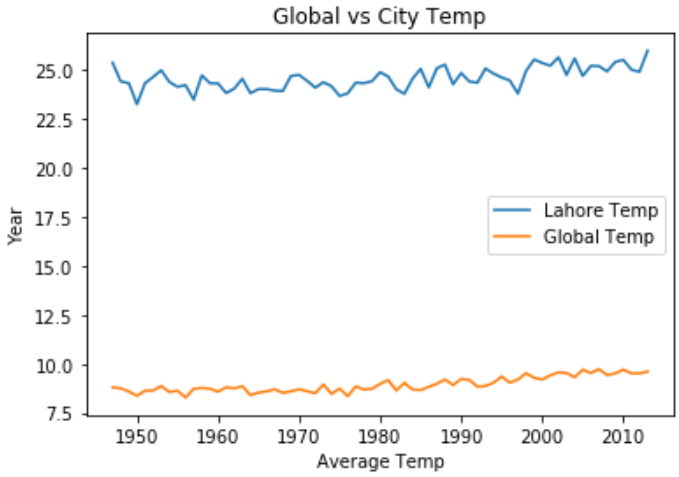
Moving average is calculated using the pandas built in functionality for the moving window of 9 years.

Considerations:

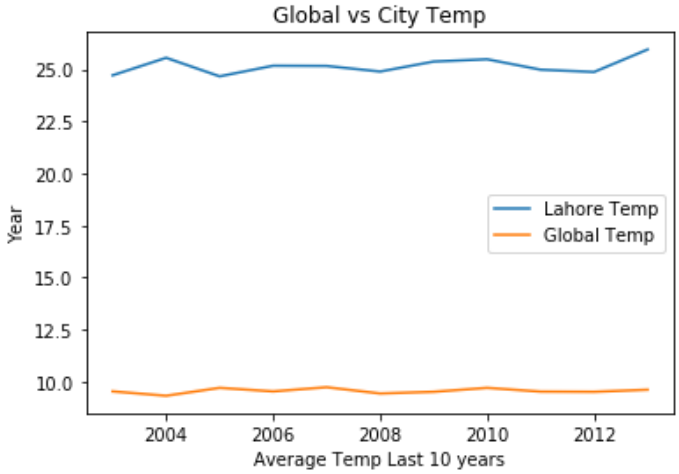
We can get the best out of temperature dataset based on its timeline so my key consideration was to focus on how temperature is changing according to the passage of time. As my country was founded in 1947, I had to take into account the missing data; thus, preprocessing was done and the considered data ranged from the year 1947 to 2013.

Line Chart:

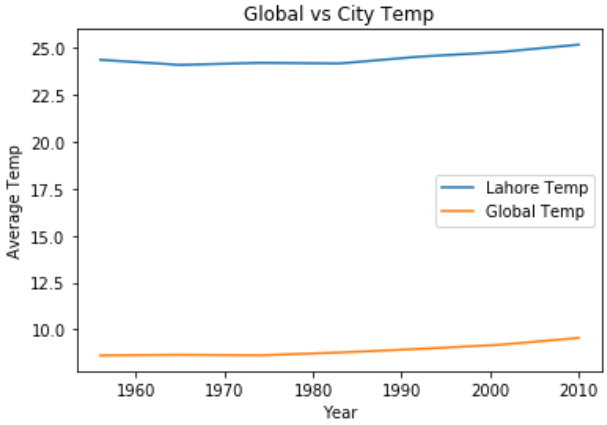
This is the line chart is for overall distribution of temperature.



This line chart is only for the past 10 years.



Moving Average line chart with window of 9 years.



	year	ravg	ravg
1	1956	24.372	8.612
2	1965	24.099	8.644
3	1974	24.210	8.617
4	1983	24.176	8.765
5	1992	24.539	8.957
6	2001	24.781	9.176
7	2010	25.178	9.543

Observations:

a) Global temperature is very low as compared to the temperature in Lahore.
b) The change in temperature of Lahore is more observable then the world average temperature variations.
c) The average temperature of Lahore has never been recorded less than 20 degree Celsius whereas the world average never rises above 10 degrees Celsius.
d) Temperature of the world is gradually increasing. The statics show that the average temperature was 8.8 degrees in 1947 which has now risen to 9.83. On contrary, no constant variation has been observed in the temperature of Lahore.