sql project

April 23, 2019

1 SQL Code:

Using SQL query we have downloaded the city_list and city_data through the following code :
city_list and city_data:
select*
from city_list
where country = 'India' and city = 'Bangalore';
select*
from city_data;
Using SQL query we have downloaded the global_data through the following code :
#global_data:
select*
from global_data;

2 Gathering:

```
In [1]: import numpy as np
        import pandas as pd
        import matplotlib.pyplot as plt
        %matplotlib inline

In [2]: city_data=pd.read_csv('city_data.csv')
        global_data=pd.read_csv('global_data.csv')

In [3]: city_clean=city_data.copy()
        global_clean=global_data.copy()
```

3 Accessing:

```
In [4]: city_clean.head()

Out[4]:    year     city          country  avg_temp
        0  1849  Abidjan  Côte D'Ivoire     25.58
        1  1850  Abidjan  Côte D'Ivoire     25.52
        2  1851  Abidjan  Côte D'Ivoire     25.67
        3  1852  Abidjan  Côte D'Ivoire       NaN
        4  1853  Abidjan  Côte D'Ivoire       NaN
```

```
In [5]: global_clean.head()

Out[5]:    year  avg_temp
        0  1750      8.72
        1  1751      7.98
        2  1752      5.78
        3  1753      8.39
        4  1754      8.47

In [6]: city_clean.shape

Out[6]: (71311, 4)

In [7]: global_clean.shape

Out[7]: (266, 2)
```

4 Cleaning:

```
In [8]: city_clean.avg_temp.isnull().value_counts()

Out[8]: False    68764
        True      2547
        Name: avg_temp, dtype: int64

In [9]: city_clean.dropna(inplace=True)

In [10]: city_clean.avg_temp.isnull().value_counts()

Out[10]: False    68764
         Name: avg_temp, dtype: int64

In [11]: city_clean.head()

Out[11]:    year     city           country  avg_temp
         0  1849  Abidjan  Côte D'Ivoire     25.58
         1  1850  Abidjan  Côte D'Ivoire     25.52
         2  1851  Abidjan  Côte D'Ivoire     25.67
         7  1856  Abidjan  Côte D'Ivoire     26.28
         8  1857  Abidjan  Côte D'Ivoire     25.17
```

5 Comparison of Indian cities temperature with global temperature:
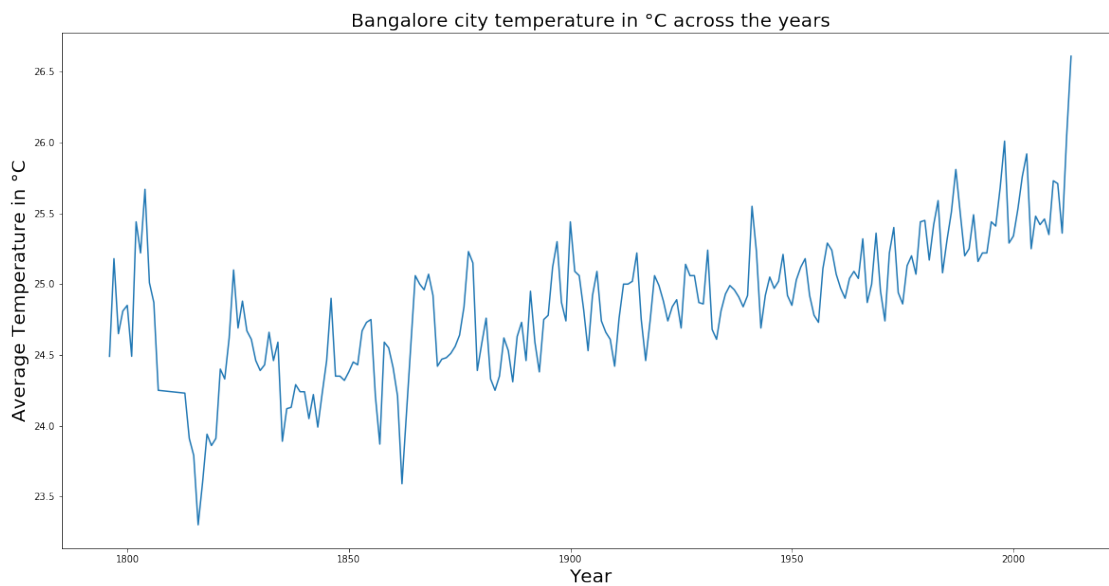
6 Global Tempereature line chart across the years:

```
In [25]: plt.figure(figsize=(20,10));
         plt.plot(global_clean.year,global_clean.avg_temp);
         plt.xlabel('Year',fontsize=20);
         plt.ylabel('average temperature in řC',fontsize=20);
         plt.title('Global temperature in řC across the years',fontsize=20);
```

Global temperature in °C across the years
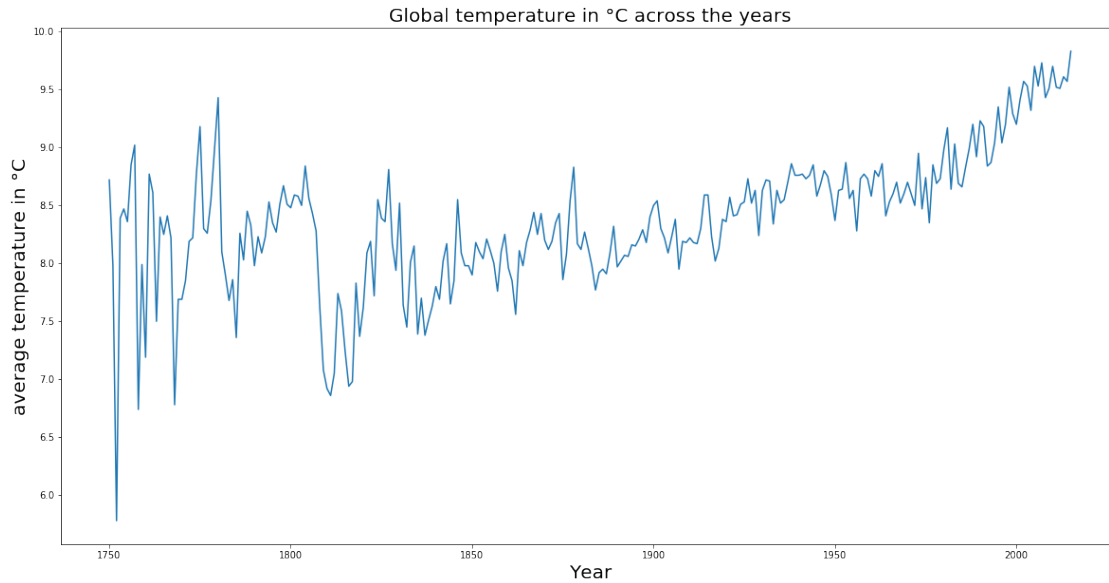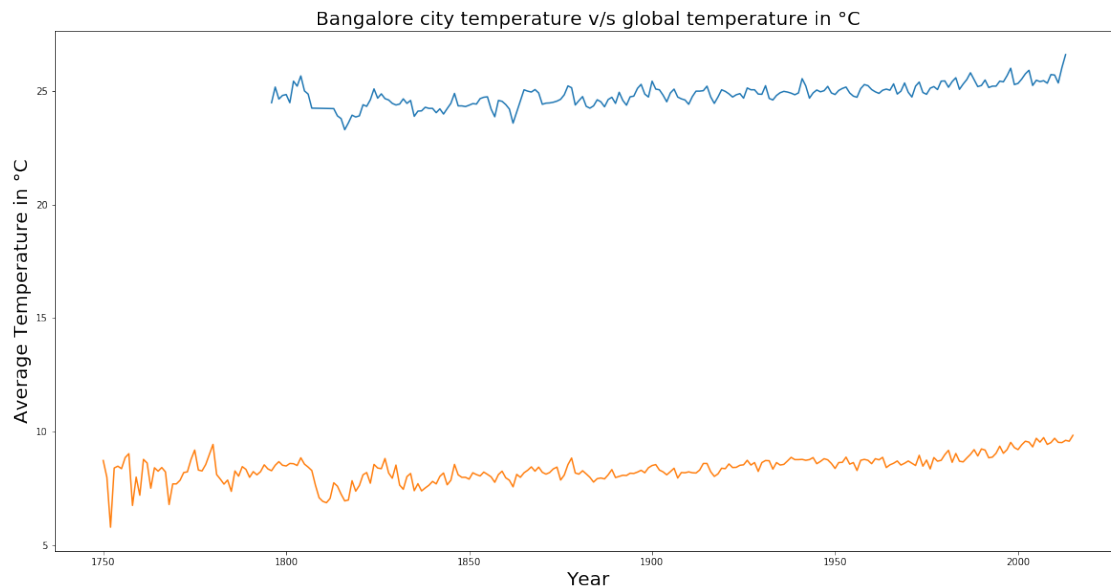
7 Bangalore city Temperature across the years:

```
In [24]: plt.figure(figsize=(20,10));
         plt.plot(city_clean[city_clean['city']=='Bangalore']['year'],city_clean[city_clean['cit
         plt.xlabel('Year',fontsize=20);
         plt.ylabel('Average Temperature in řC',fontsize=20);
         plt.title('Bangalore city temperature in řC across the years',fontsize=20);
```


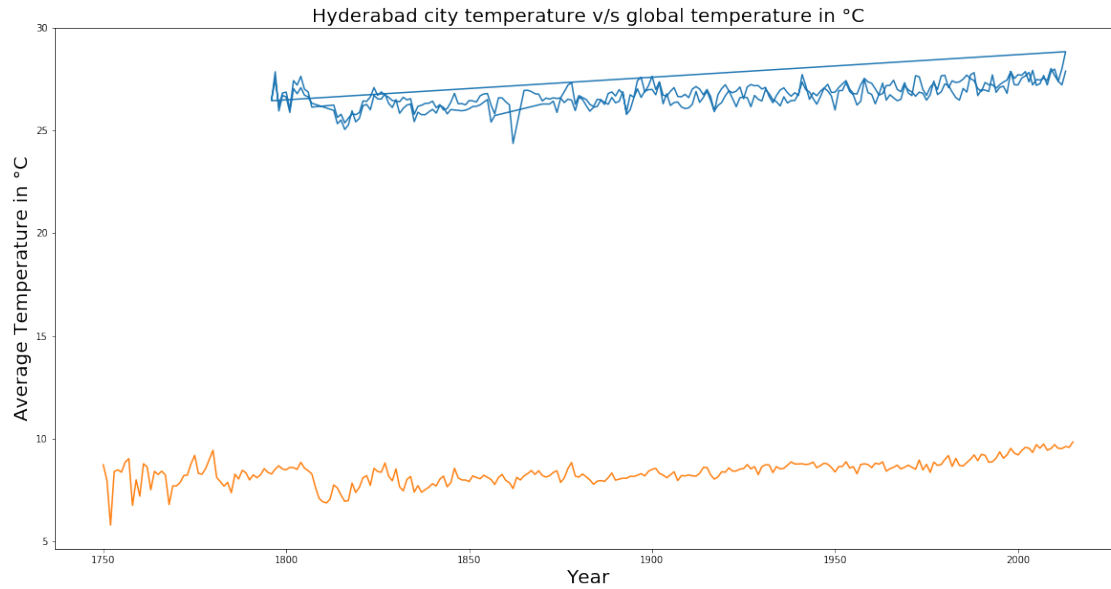Bangalore city temperature in °C across the years

8 Bangalore city Temperature v/s Global Temperature:

```
In [13]: plt.figure(figsize=(20,10));
         plt.plot(city_clean[city_clean['city']=='Bangalore']['year'],city_clean[city_clean['cit
         plt.plot(global_clean.year,global_clean.avg_temp);
         plt.xlabel('Year',fontsize=20);
         plt.ylabel('Average Temperature in řC',fontsize=20);
         plt.title('Bangalore city temperature v/s global temperature in řC',fontsize=20);
```
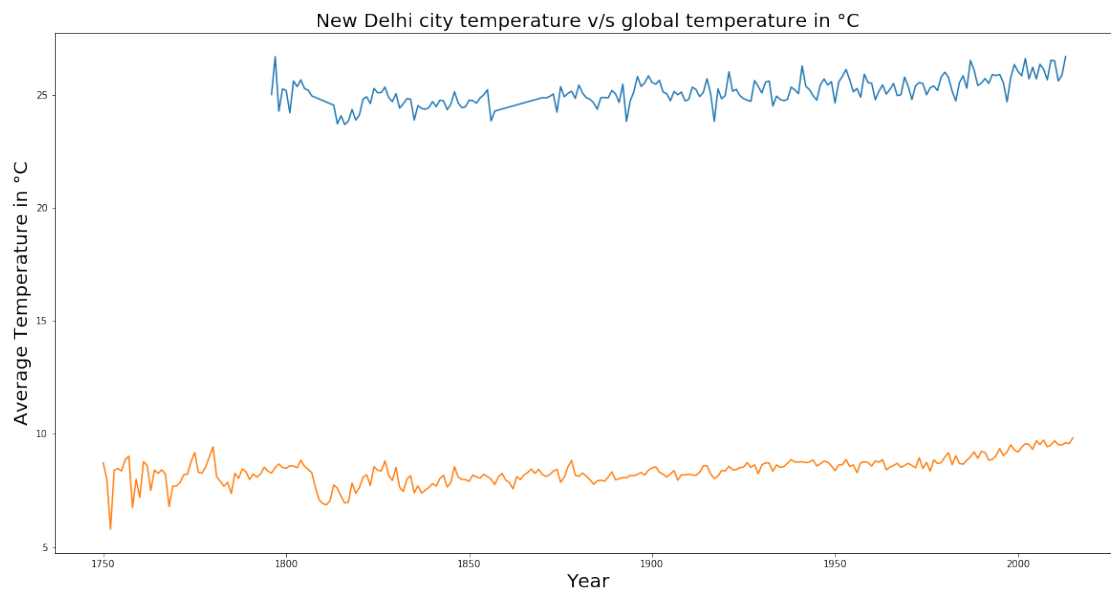

9 Hyderabad city Temperature v/s Global Temperature:

```
In [14]: plt.figure(figsize=(20,10));
         plt.plot(city_clean[city_clean['city']=='Hyderabad']['year'],city_clean[city_clean['cit
         plt.plot(global_clean.year,global_clean.avg_temp);
         plt.xlabel('Year',fontsize=20);
         plt.ylabel('Average Temperature in řC',fontsize=20);
         plt.title('Hyderabad city temperature v/s global temperature in řC',fontsize=20);
```

Hyderabad city temperature v/s global temperature in °C

10   New Delhi city Temperature v/s Global Temperature:

```
In [15]: plt.figure(figsize=(20,10));
         plt.plot(city_clean[city_clean['city']=='New Delhi']['year'],city_clean[city_clean['cit
         plt.plot(global_clean.year,global_clean.avg_temp);
         plt.xlabel('Year',fontsize=20);
         plt.ylabel('Average Temperature in řC',fontsize=20);
         plt.title('New Delhi city temperature v/s global temperature in řC',fontsize=20);
```


New Delhi city temperature v/s global temperature in °C

11 Pune city Temperature v/s Global Temperature:

```
In [16]: plt.figure(figsize=(20,10));
         plt.plot(city_clean[city_clean['city']=='Pune']['year'],city_clean[city_clean['city']==
         plt.plot(global_clean.year,global_clean.avg_temp);
         plt.xlabel('Year',fontsize=20);
         plt.ylabel('Average Temperature in řC',fontsize=20);
         plt.title('Pune city temperature v/s global temperature in řC',fontsize=20);
```


Pune city temperature v/s global temperature in °C
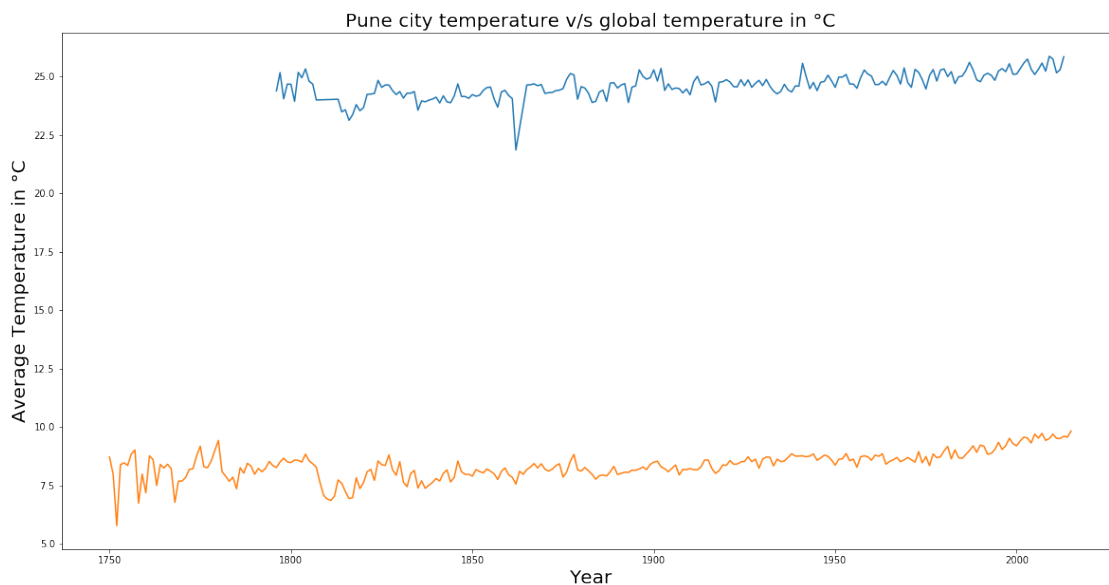
12 Conclusion:

The cities in India have different temperature in every year. That means Local Cities within the India will have different temperature. And the comparison made between the gobal temperature and local cities temperature are also diffrent from each other.

12.1 What trends do you see in the local city average temperature line chart across the years? Is it increasing, decreasing or somewhat constant?

Bangalore is the city where i leave. While looking at the line chart of the city between the year 1800-1850 the temperature is below 23.5řC. after that the temparature is between 24řC to 26řC. that means the weather condition in the city was not at constant rate there was a increase and decrease in weather condition.

12.2 What trends do you see in the global average temperature line chart across the years? Is it increasing, decreasing or somewhat constant?

looking at the line chart of Global Temparature there was a sudden decrease which is below 6řC between the year 1750-1800.after that we can look a constant increase and decrease of the weather

6

condition.

12.3 Can you see any similarities/differences between the local and global temperatures in the line chart? What are they exactly?

The answer is YES.i would like to put my observation from the cities where i have compared some of the Indian cities with the Global Temparature:

1-Bangalore city: when we look at the line chart, the city temperature is different from the global temperature. as city temperature is rapdiy increasing and decrasing the temperature.

2-Hyderabad city: when we look at the line chart, the city temperature is different from the global temperature. as city temperature is not good.

3-New Delhi city: when we look at the line chart, the city temperature is different from the global temperature. looking at the city temperature we can observe that at some point there is a constant increase and constant decrease in the temperature, And commomly there is a increse and decrease in temperature.

4-Pune city: when we look at the line chart, the city temperature is quiet similiar to the global temperature.

In [ ]: