Project 1

Explore Weather Trends

1) Extract the data

```
1
2   select * from city_data where city='Berlin';
3   select * from global_data;
```

Success!

EVALUATE

Extracted data of city Berlin and Country Germany.
Tool I have used is python and pandas for data exploration

```
In [2]: city_data = pd.read_csv("Berlin_data.csv")
        global_data = pd.read_csv("global_data.csv")
```

```
In [3]: city_data.head()
```

Out[3]:

	year	city	country	avg_temp
0	1743	Berlin	Germany	6.33
1	1744	Berlin	Germany	10.36
2	1745	Berlin	Germany	1.43
3	1746	Berlin	Germany	NaN
4	1747	Berlin	Germany	NaN

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

Out[4]:

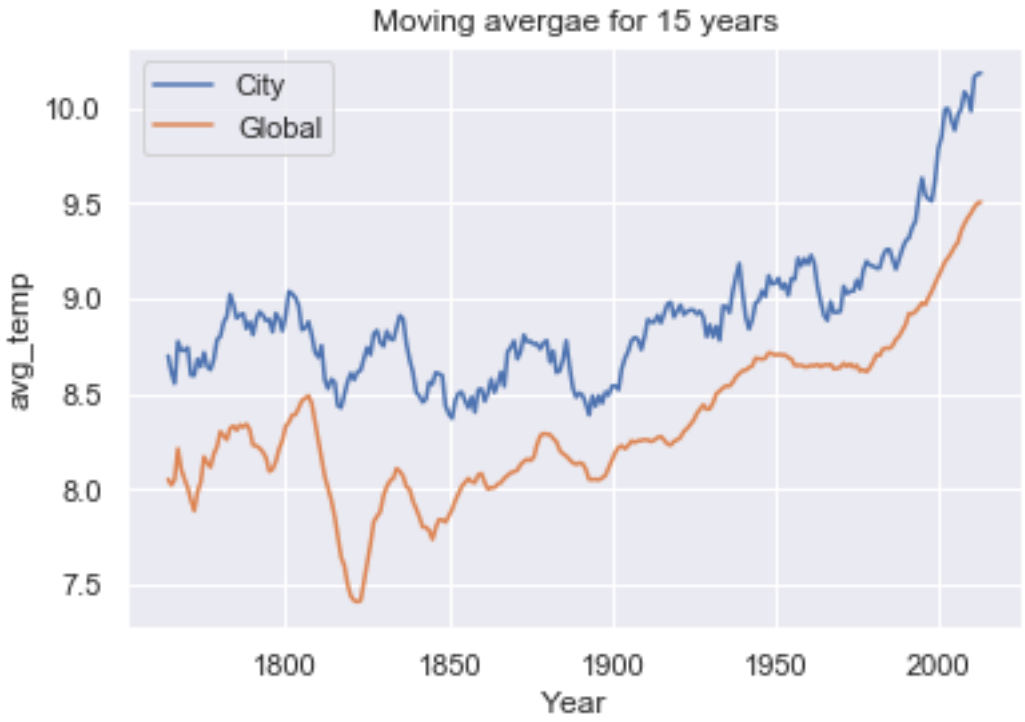
	year	avg_temp
0	1750	8.72
1	1751	7.98
2	1752	5.78
3	1753	8.39
4	1754	8.47

Since the Berlin city data has missing values between 1746 to 1749 and global data is starting from 1750. I have considered city data start year as 1750.

2) Moving averages

I have done moving averages for 15 years

```
data_considered['city_MA'] = city_data_considered['avg_temp'].rolling(window=15).mean()
data_considered['global_MA'] = global_data['avg_temp'].rolling(window=15).mean()
```



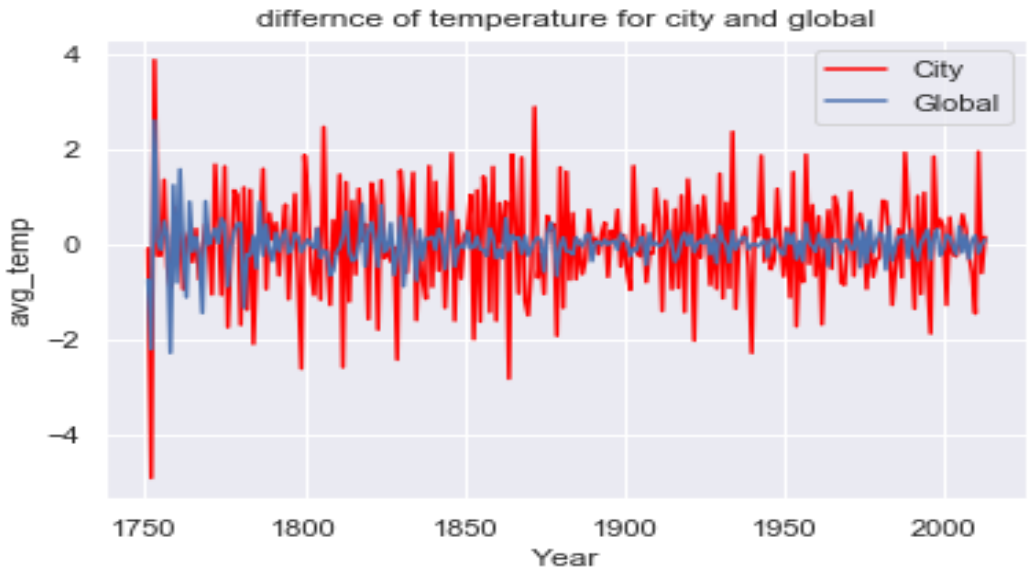
3) Observations

From moving averages, it can be seen that the temperatures of both city and global followed a trend of increase and decease and in recent years they have risen considerably much than their past and it was seen in both.

a) Is your city hotter or cooler on average compared to the global average? Has the difference been consistent over time?

City temperatures are more compared to global temperature. The difference seems to be followed the trend of increase most of the time.

b) “How do the changes in your city’s temperatures over time compare to the changes in the global average?



City temperatures have seen more fluctuations compared to global temperatures.

c) What does the overall trend look like? Is the world getting hotter or cooler? Has the trend been consistent over the last few hundred years?

Overall trend of global data looks like world is getting hotter and there was consistent rise for few years and after 1980 there was much higher increase as been noted.