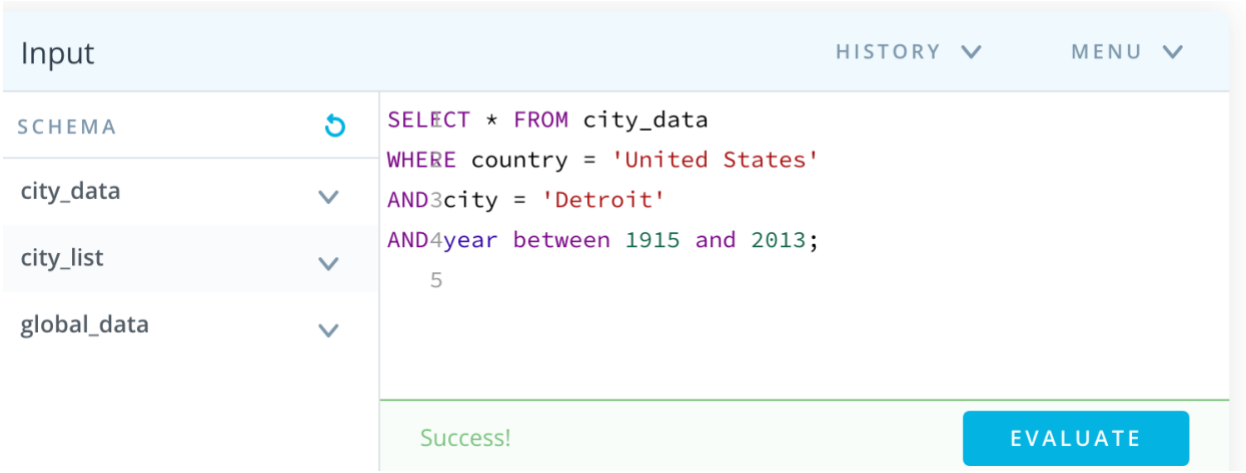
ANALYSIS ON DIFFERENCE IN TEMERATURE BETWEEN CITY AND GLOBAL.

Outline: In this problem, I have been asked to find out the differences between the city temperature and global temperature. So, I have used the SQL to extract the data from the database and the Excel in order to visualize the extracted data.

STEP 1: EXTRACTION OF DATA,
The following are the steps involved in the extracting the data from the database using the SQL.

```
SELECT * FROM city_data
WHERE country = 'United States'
AND city = 'Detroit'
AND year between 1915 and 2013;
```

The output is below,



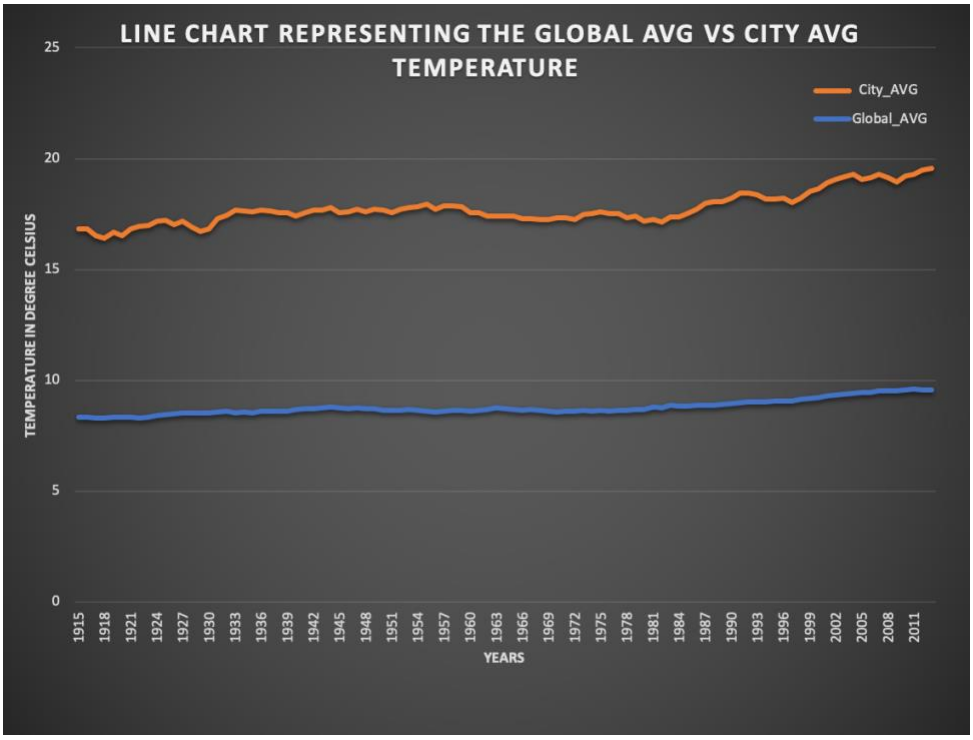

STEP 2:
Then from collecting the data we need to calculate moving average for the Global_AVG and City_AVG using Excel.

For example, I have taken Delhi and done moving average for the Average temperature.

| | year | city | country | avg_temp | Moving average |
|---|---|---|---|---|---|
| 2 | 1870 | Delhi | India | 24.89 | |
| 3 | 1871 | Delhi | India | 24.88 | |
| 4 | 1872 | Delhi | India | 24.94 | |
| 5 | 1873 | Delhi | India | 25.06 | |
| 6 | 1874 | Delhi | India | 24.25 | |
| 7 | 1875 | Delhi | India | 25.38 | |
| 8 | 1876 | Delhi | India | 24.93 | =AVERAGE(D2:D8) |

Step 3: To analyze this data with help of Excel, I have taken the City average and global average for a time period of 1915 to 2013 into account.

I have assumed that there has been a lot of changes in the temperature as the different industrial evolution took place for the past 100 years and it makes sense to take those years into account rather than analyzing the temperature for the past 200 years. We can get the following graph.




Insights,

1.Global temperature:
The Global temperature is shown a marginal increase over this period, but this small percentage can make dramatic changes in the environment.
The global temperature minimum is during the 1915 which is 8.30 (ºC) and the maximum temperature is 9.59 (ºC) which is in 2010.

2.City Temperature:
Where the city temperature has also an increment higher than the global temperature where the lowest is in the 1930's where the temperatures was 17(ºC).
and the maximum is in the 2011 where the temperature was 19.8 (ºC).

4. The global average is 10 degree lesser than the city average in the 1915's. This means that global average has increased drastically over this period.
5.The global temperature has been increased every year gradually but way lesser than the city average.

6.The city temperature is increased by 5-10 degree over this 100-year span.
7.There has been overall increase in trend between the global temperature and also city temperature over a century.