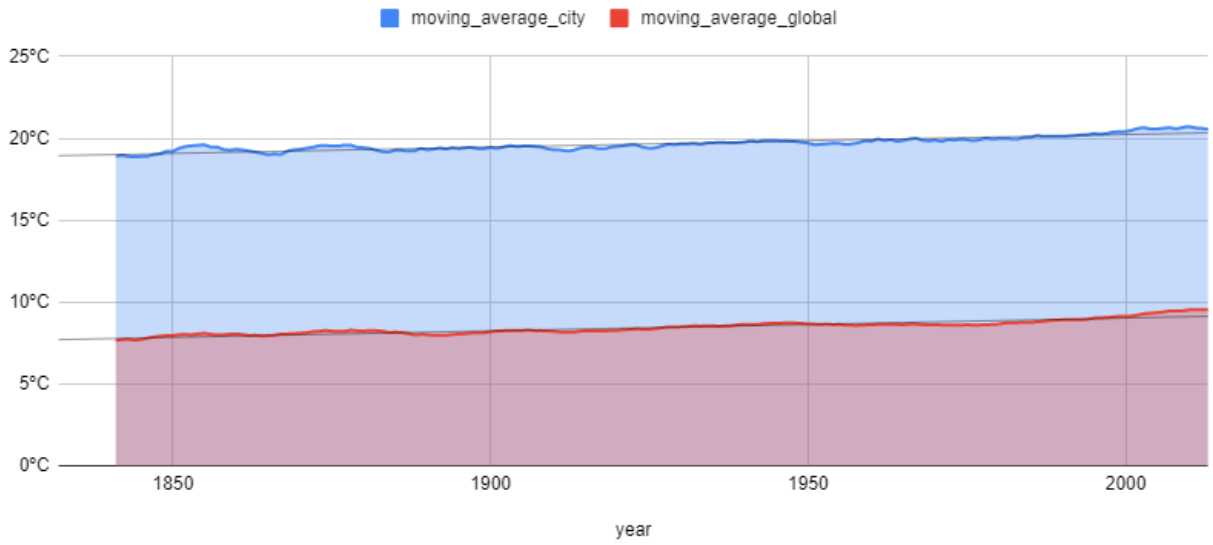
Summary

- What tools did you use for each step? (Python, SQL, Excel, etc.)
    - BiqQuery:
        - ```
          SELECT cd.year,
                 cd.city,
                 cd.country,
                 Cd.avg_temp AS avg_city,
                 Gd.avg_temp AS avg_global,
                 TRUNC(AVG(cd.avg_temp) OVER(
                       ORDER BY cd.year ROWS BETWEEN
          9 PRECEDING AND CURRENT ROW), 2) AS
          moving_average_city,
                 TRUNC(AVG(gd.avg_temp) OVER(
                       ORDER BY cd.year ROWS BETWEEN
          9 PRECEDING AND CURRENT ROW), 2) AS
          moving_average_global,
          FROM `climated.clima.city_data` cd
          LEFT JOIN `clima.global_data` AS gd ON
          gd.year = cd.year
          WHERE cd.city = 'Guarulhos'
          ORDER BY cd.year
          ```
    - I used bigquery to clean and extract the data;
    - The city chosen to carry out this comparison was Guarulhos - Brazil;
    - Google spreadsheet was used to perform the average and the line graph.

- How did you calculate the moving average?
    - The moving average used was every 10 years

- What were your main considerations when deciding how to view trends?
    - The practicality of visualizing and first understanding what is happening in the graph as soon as it is visualized

Line chart with local and global temperature trends
          ```



Observations

- City and global temperatures tend to increase;
- As a different example of Guarulho started from 1832 to 1841, the global average was cold around 18ºC and the average in Guarulhos was almost 19ºC, from 2004 to 2013 the average was 20.55ºC;
- It can be seen that this change began at the end of the industrial revolution;
- Over the years, I can't say for sure, but the discrepancy in these numbers comes from human causes. If there were more data informing the number of cars at each time, the amount of deforestation, it would be possible to identify the cause of these climate changes.Urban and global temperatures tend to rise;

Make Observations

- Is your city warmer or cooler on average compared to the global average? Was the difference consistent over time?
    - Guarulhos Brazil is warmer than the global average. The temperature has increased with each passing decade;
- How do changes in your city's temperatures over time compare to changes in the global average?”
    - The changes compared to the global average remain stable with a little more than 11ºC of difference. as for the average of the city in the decade from 1832 to

1841, the average was at almost 19ºc and from 2004 to 2013 it was at almost 21ºC, an increase of 2ºC

- How is the general trend? Is the world getting warmer or colder? Has the trend been consistent over the last hundred years?
    - The trend is to get hotter every decade, in the last hundred years we can see that the average temperature of the city went from 19.27ºC to 20.55ºC, an increase of 1.37ºC and the global temperature from 8.18ºC to 9.55ºC, increase of 1.37ºC