Data Analyst ND project #1

global and local data analysis

Abstract:

this paper aims to analyze local and global data in order to compare them and get some insights after observing their representation.

Description:

first of I started extracting the data from the data base using the following commands :

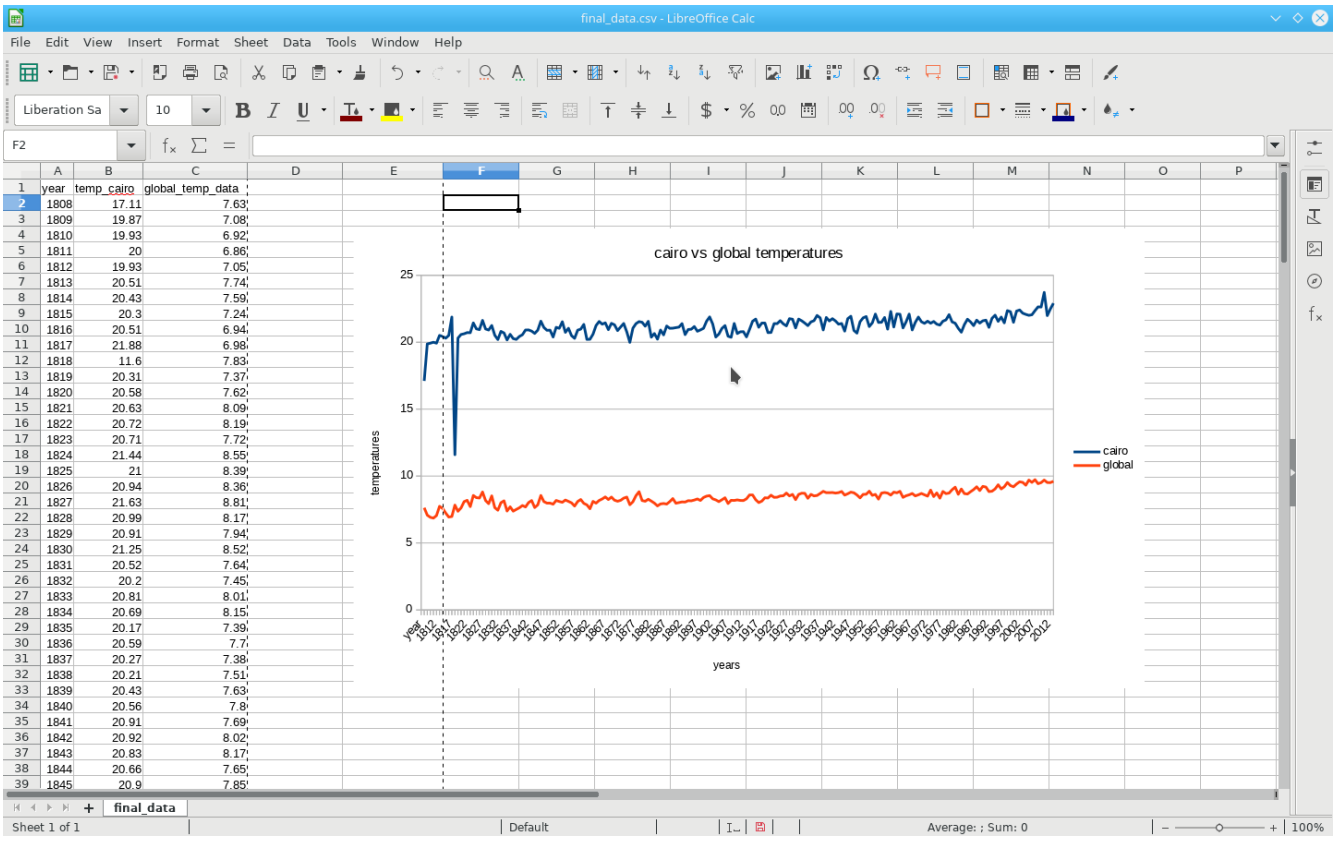
1- to collect the global data after 1808 'to match the years of the available local data'

```
SELECT *
FROM global_data
WHERE year >=1808;
```

2- to collect Cairo's data (the closest big city in the city_list)

```
SELECT *
FROM city_data
WHERE city = "Cairo";
```

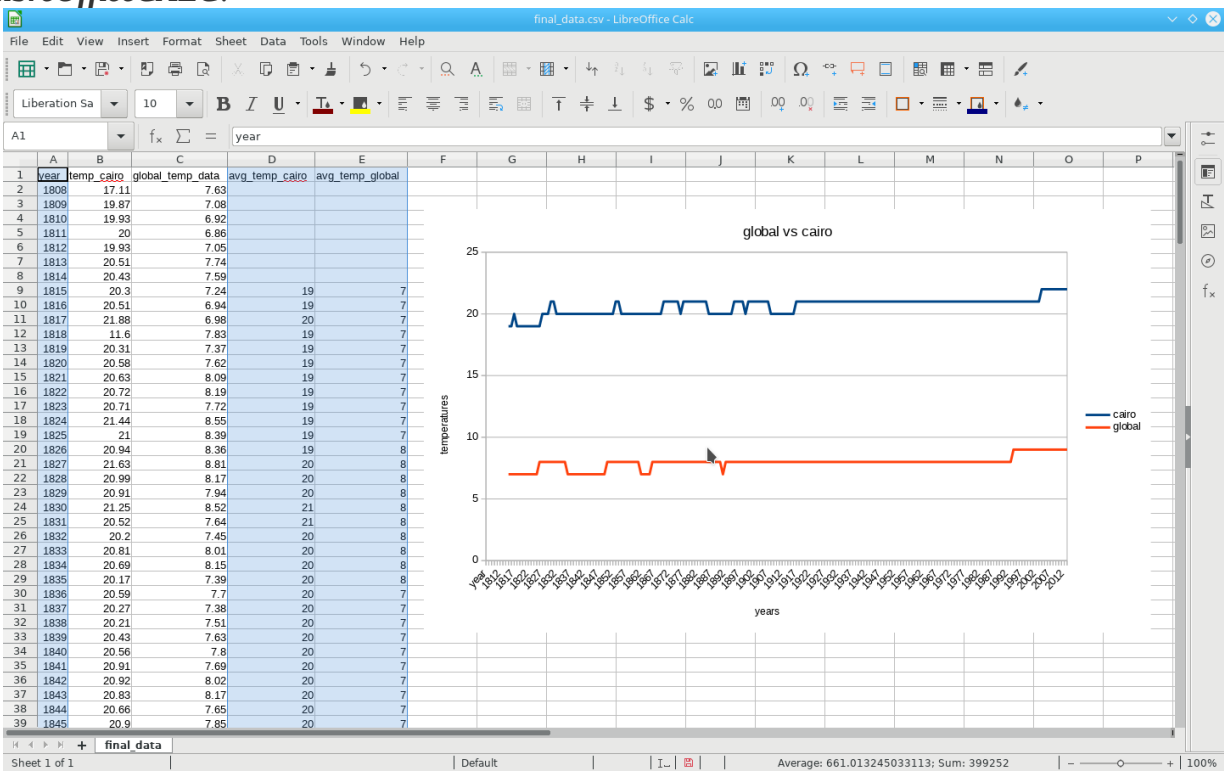
Then, I saved the data into CSV files and created a common CSV file that includes both the global and the local data, then I plotted their chart line as a function of the years and here is the output using **LibreOfficeCALC**.



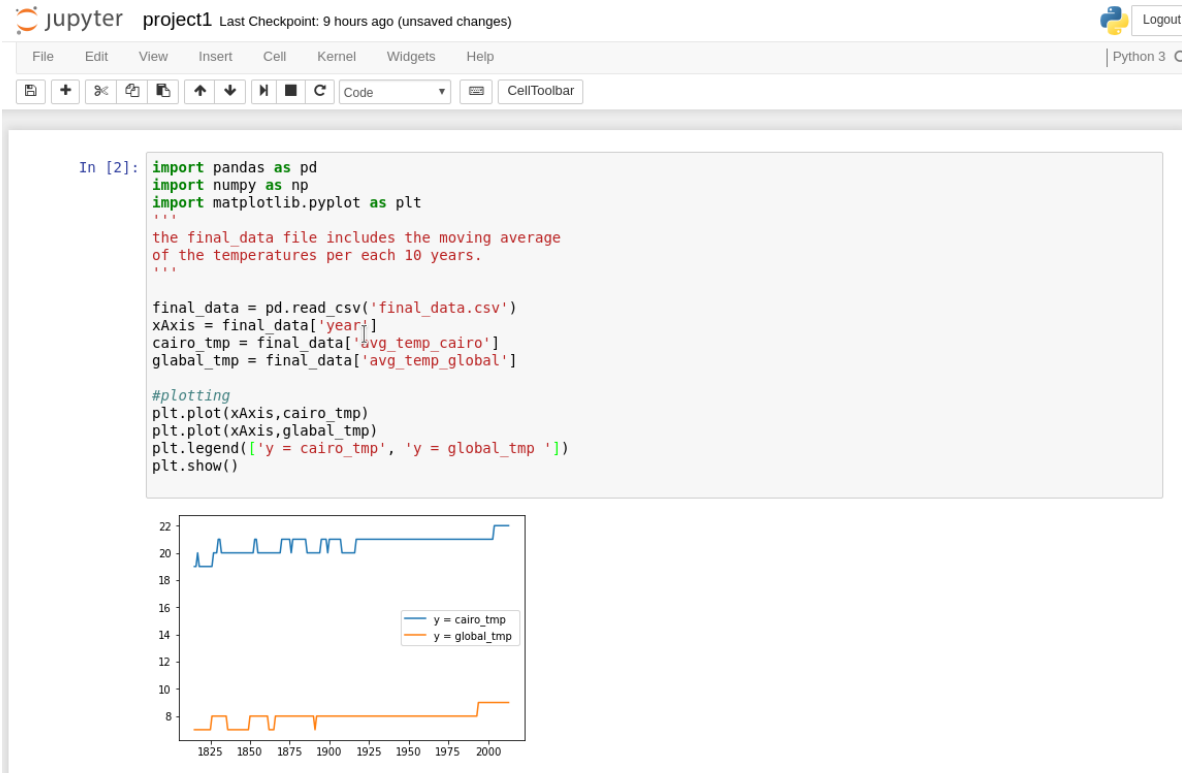
year	temp_cairo	global_temp_data
1808	17.11	7.63
1809	19.87	7.08
1810	19.93	6.92
1811	20	6.86
1812	19.93	7.05
1813	20.51	7.74
1814	20.43	7.59
1815	20.3	7.24
1816	20.51	6.94
1817	21.88	6.98
1818	11.6	7.83
1819	20.31	7.37
1820	20.58	7.62
1821	20.63	8.09
1822	20.72	8.19
1823	20.71	7.72
1824	21.44	8.55
1825	21	8.39
1826	20.94	8.36
1827	21.63	8.81
1828	20.99	8.17
1829	20.91	7.94
1830	21.25	8.52
1831	20.52	7.64
1832	20.2	7.45
1833	20.81	8.01
1834	20.69	8.15
1835	20.17	7.39
1836	20.59	7.7
1837	20.27	7.38
1838	20.21	7.51
1839	20.43	7.63
1840	20.56	7.8
1841	20.91	7.69
1842	20.92	8.02
1843	20.83	8.17
1844	20.66	7.65
1845	20.9	7.85

But the plot wasn’t smooth,to make it more smooth I plotted the chart line of the moving average per each 10 years, and here’s the output using

1- LibreOfficeCALC.



2- Python.



Conclusion:

here are the observations :

1. Cairo is by far HOTTER than the average global temperatures.
2. Cairo and Global temperatures difference is **almost** consistent over the time, specifically in the 20th century.
3. The ups and downs (change) in the temperature is **almost** similar specifically in the 20th century.
4. Starting from the 90's, both the global and Cairo's temperature are getting Hotter.
5. Over the last century, the trend was consistent until the 80's, where the temperature started to get hotter.
6. Cairo's coolest temperature was between the years 1808 – 1825 and the Hottest years are starting from the 21th century.
7. The coolest Global temperature was between the years 1835 and 1850 and the Hottest are after the 90's of the 20th century.