Global Temperature Change

Project 1

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Outline

INTRODUCTION

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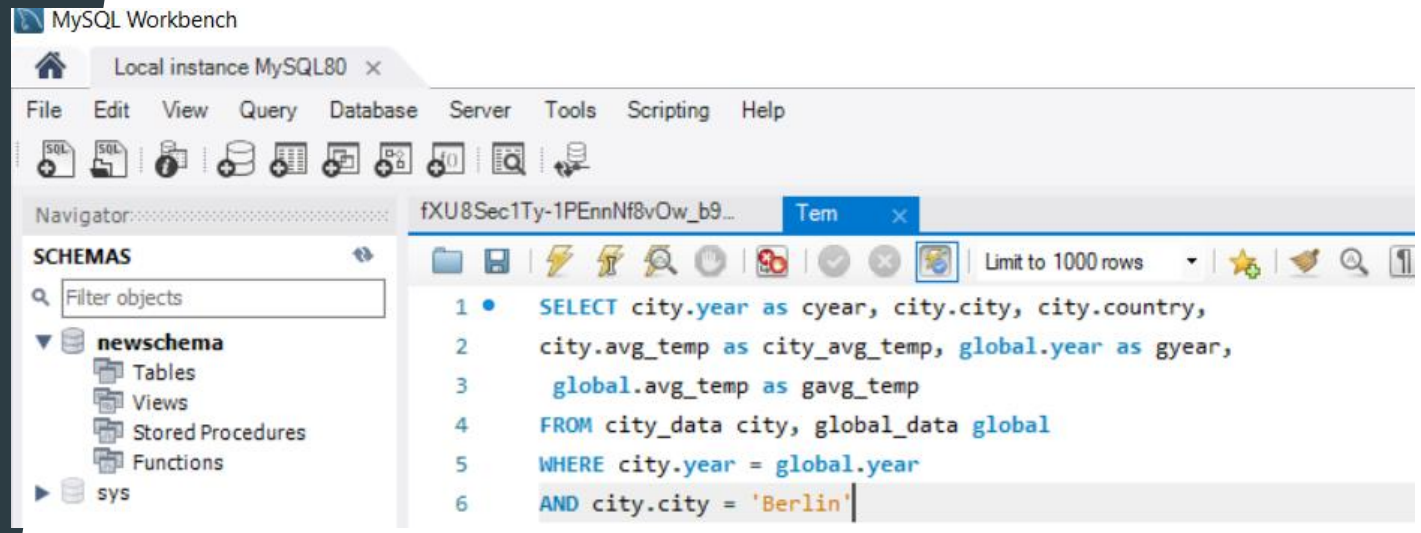
SUMMARY

Introduction

- In this project, I used two main tools which are Microsoft Excel and Pyhton.
- I chose the Temperature Change of Berlin from 1760 to 2013 to compare with Global Temperature Change.

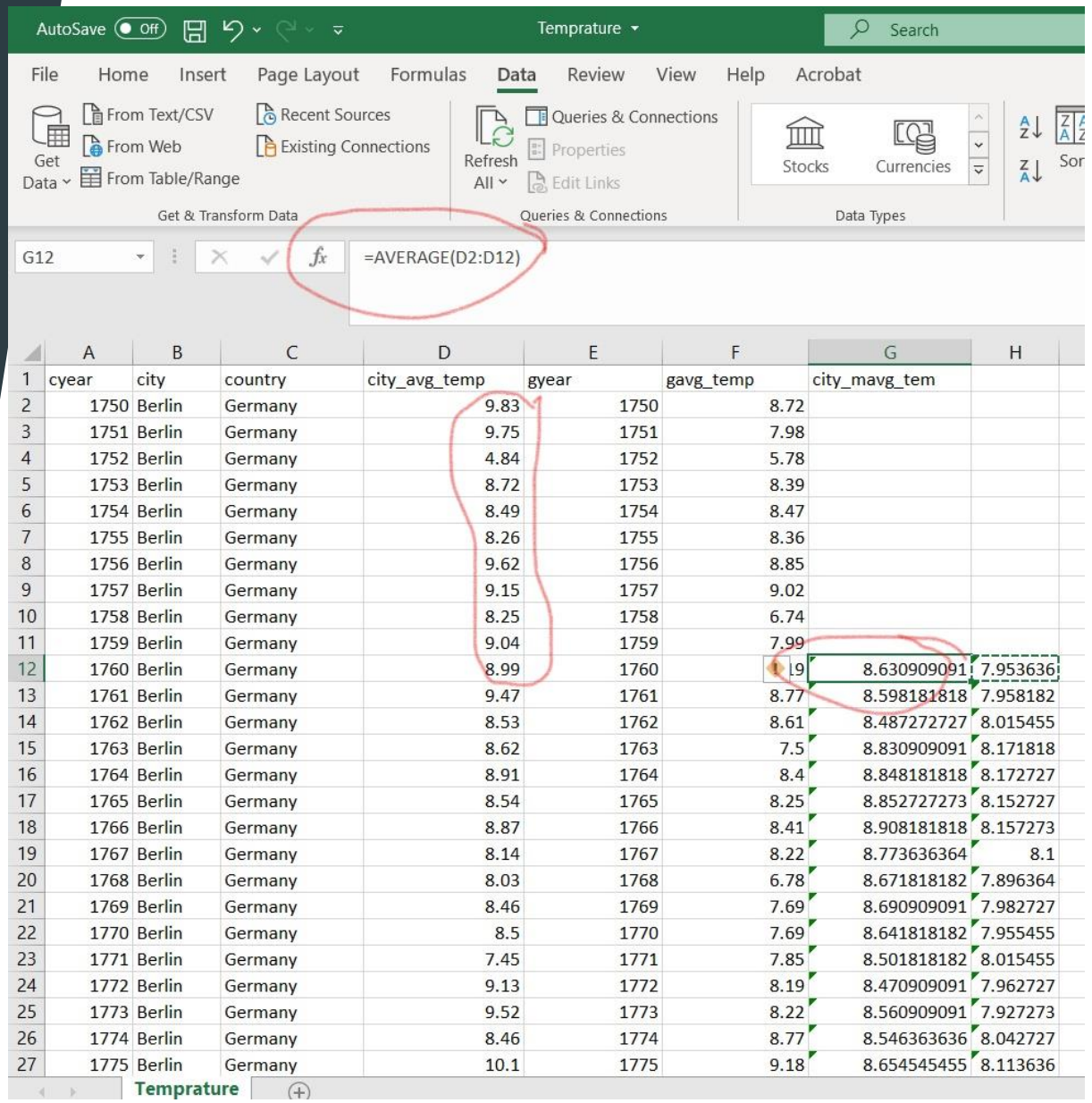
Introduction

- In addition I used followed queries to extract csv file from database:



Result

- After extraction of csv file, I preferred to use Excel to check and clean the data (however, in the data there were no mistakes). The reason of using Excel was that data was small.
- For moving average I used =Average() function for 10 year in Excel.
- For this reason, my average starts from 1760.

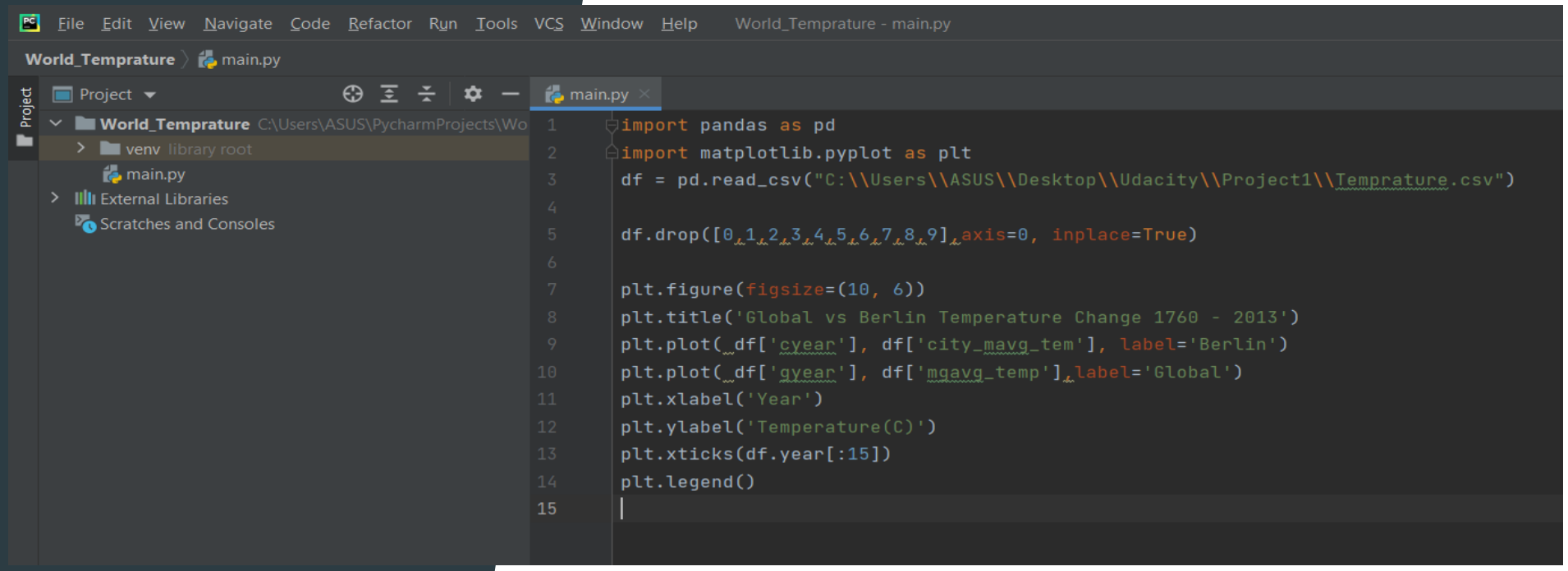


	A	B	C	D	E	F	G	H
1	cyear	city	country	city_avg_temp	gyear	gavg_temp	city_mavg_tem	
2	1750	Berlin	Germany	9.83	1750	8.72		
3	1751	Berlin	Germany	9.75	1751	7.98		
4	1752	Berlin	Germany	4.84	1752	5.78		
5	1753	Berlin	Germany	8.72	1753	8.39		
6	1754	Berlin	Germany	8.49	1754	8.47		
7	1755	Berlin	Germany	8.26	1755	8.36		
8	1756	Berlin	Germany	9.62	1756	8.85		
9	1757	Berlin	Germany	9.15	1757	9.02		
10	1758	Berlin	Germany	8.25	1758	6.74		
11	1759	Berlin	Germany	9.04	1759	7.99		
12	1760	Berlin	Germany	8.99	1760	19	8.630909091	7.953636
13	1761	Berlin	Germany	9.47	1761	8.77	8.598181818	7.958182
14	1762	Berlin	Germany	8.53	1762	8.61	8.487272727	8.015455
15	1763	Berlin	Germany	8.62	1763	7.5	8.830909091	8.171818
16	1764	Berlin	Germany	8.91	1764	8.4	8.848181818	8.172727
17	1765	Berlin	Germany	8.54	1765	8.25	8.852727273	8.152727
18	1766	Berlin	Germany	8.87	1766	8.41	8.908181818	8.157273
19	1767	Berlin	Germany	8.14	1767	8.22	8.773636364	8.1
20	1768	Berlin	Germany	8.03	1768	6.78	8.671818182	7.896364
21	1769	Berlin	Germany	8.46	1769	7.69	8.690909091	7.982727
22	1770	Berlin	Germany	8.5	1770	7.69	8.641818182	7.955455
23	1771	Berlin	Germany	7.45	1771	7.85	8.501818182	8.015455
24	1772	Berlin	Germany	9.13	1772	8.19	8.470909091	7.962727
25	1773	Berlin	Germany	9.52	1773	8.22	8.560909091	7.927273
26	1774	Berlin	Germany	8.46	1774	8.77	8.546363636	8.042727
27	1775	Berlin	Germany	10.1	1775	9.18	8.654545455	8.113636

Temprature

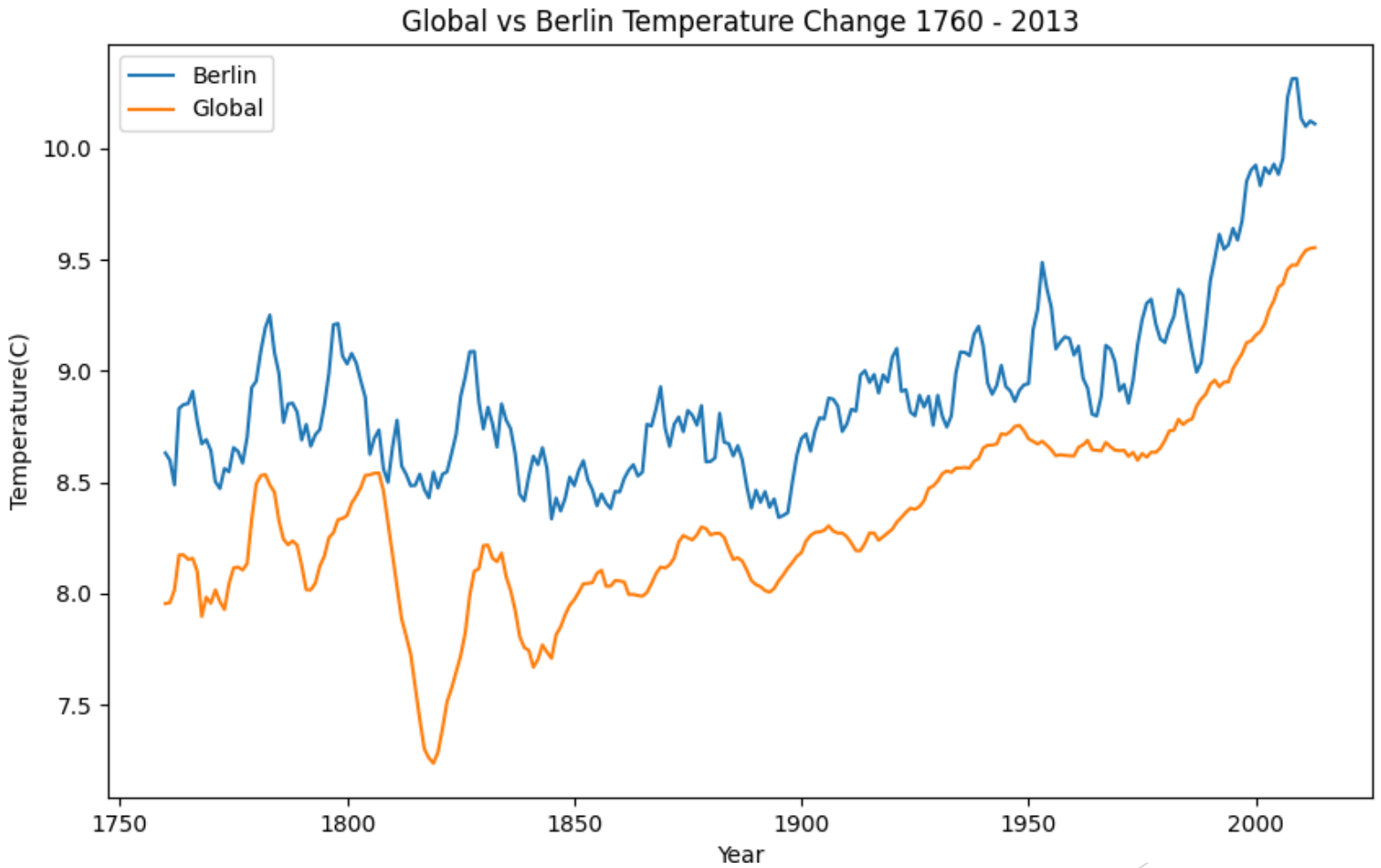
Result

- Below you can see codes which I utilizied in the Python to show visualization:



Result

Line graph from Phyton



Summary

- At first, the graph shows the strong fluctuation between years.
- From 1900s ,in the line graph we can see that the both averages of temperature started to increase regularly.
- Due to the data , it could be said that the average temperature of Berlin fluctuates more than the Average temperature of Global.
- I found interesting fact that in 1752 we can observe the lowest temperature in the graph. I think that it could be related to coldest weather which we have not been observed in recent years.

Summary

- Due to volcanic eruption of Tamborra in 1815, in Indonesia, from 1816 to 1819 it was caused dramatic change in the global temperature , it was affected the circulation of global wind, it decreased the global temperature in the world, for this reason this years are called years without summer.(weatherweb.net, last accessed 04.06.2021,)
- Finally, due to the data, it must be made some events or decisions to prevent the global temperature change and protect the environment.

Reference

- https://premium.weatherweb.net/weather-in-history-1800-to-1849-ad/

Thanks for Attention