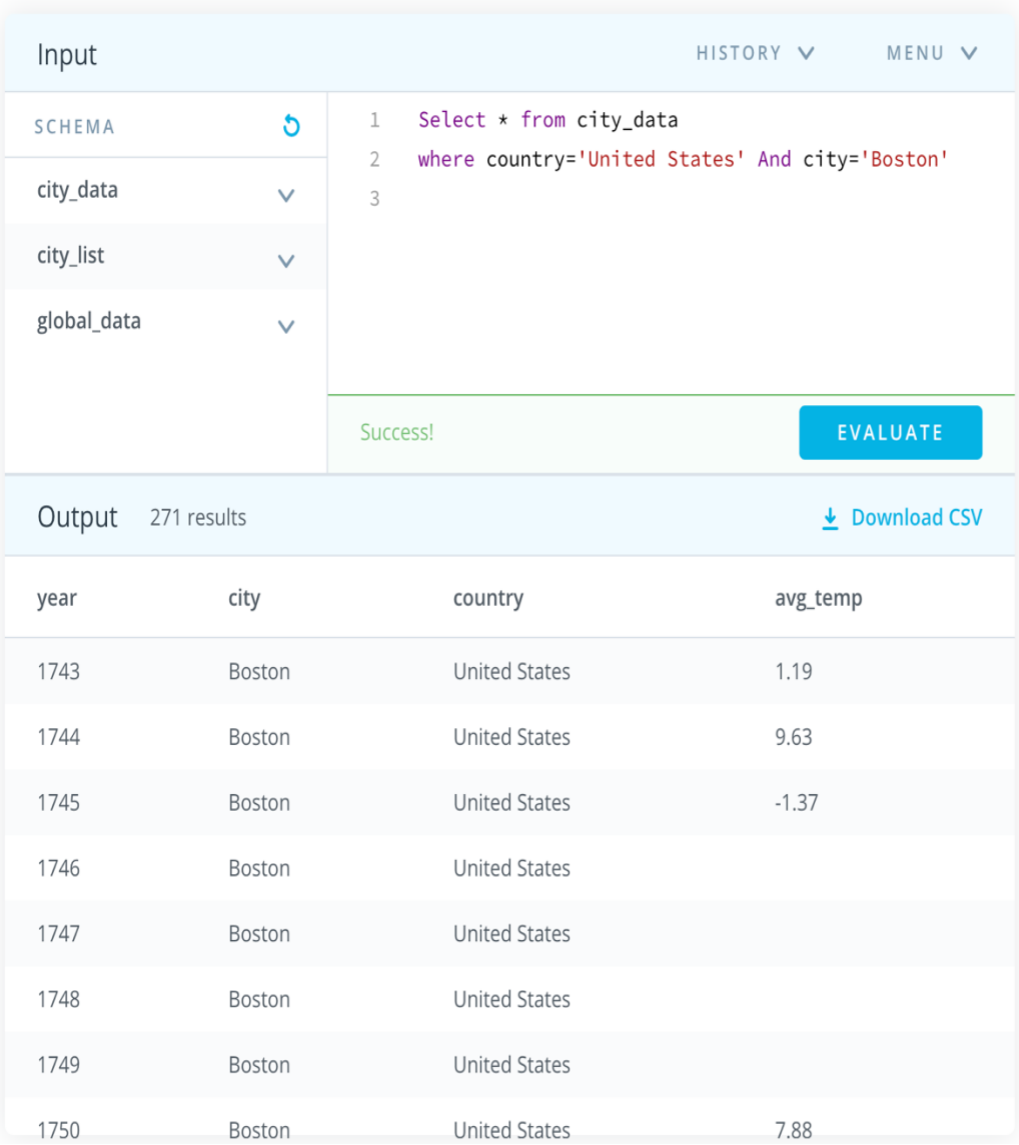
Project 1: Explore Weather Trends

1. **The exact SQL query used to extract the data:**

```
Select * from city_data
where country='United States' And city='Boston';
```



Input HISTORY MENU

SCHEMA

city_data

city_list

global_data

```
1  Select * from city_data
2  where country='United States' And city='Boston'
3
```

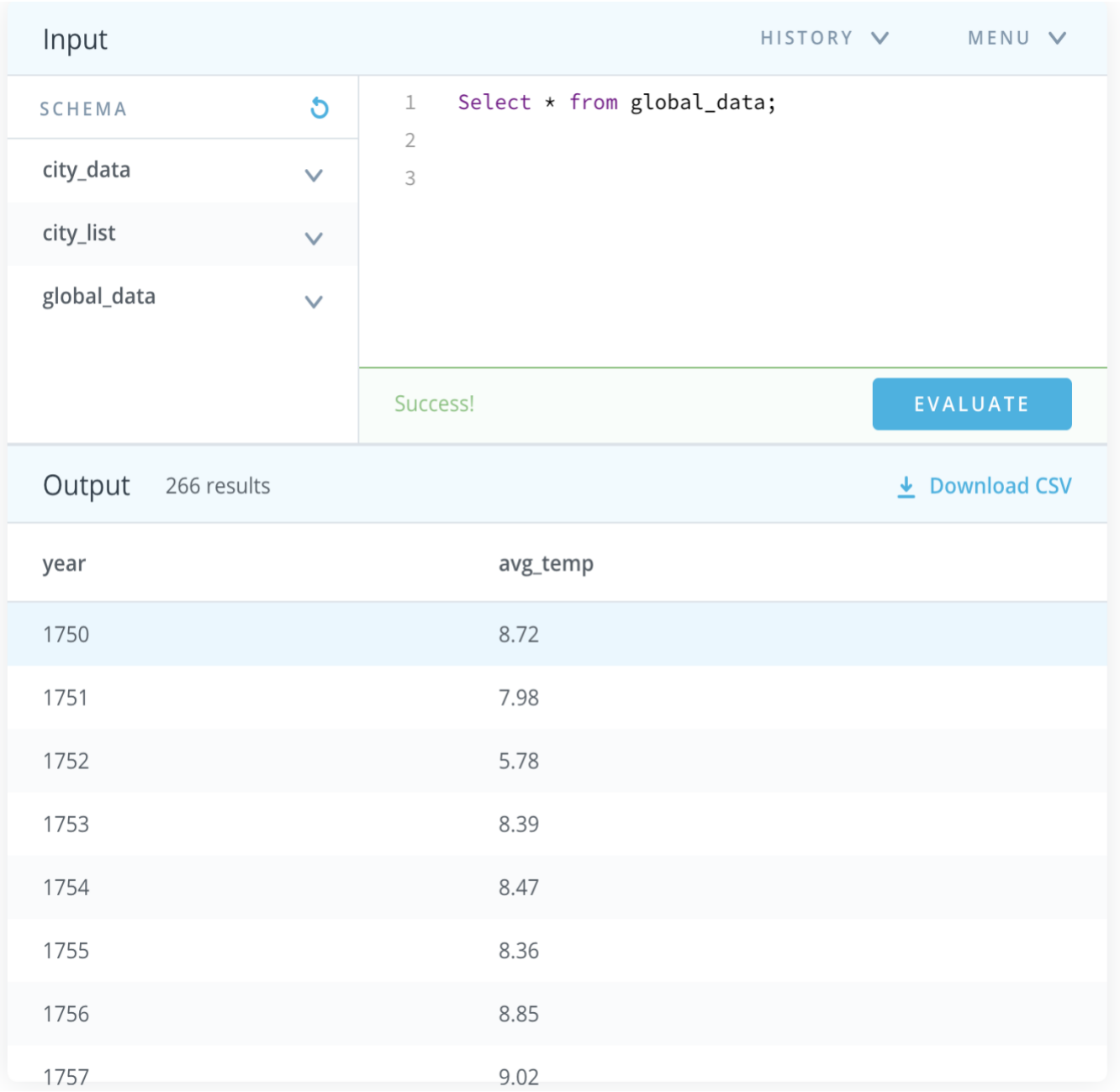
Success! EVALUATE

Output 271 results Download CSV

year	city	country	avg_temp
1743	Boston	United States	1.19
1744	Boston	United States	9.63
1745	Boston	United States	-1.37
1746	Boston	United States	
1747	Boston	United States	
1748	Boston	United States	
1749	Boston	United States	
1750	Boston	United States	7.88

Query to extract global data:

Select * from global_data;



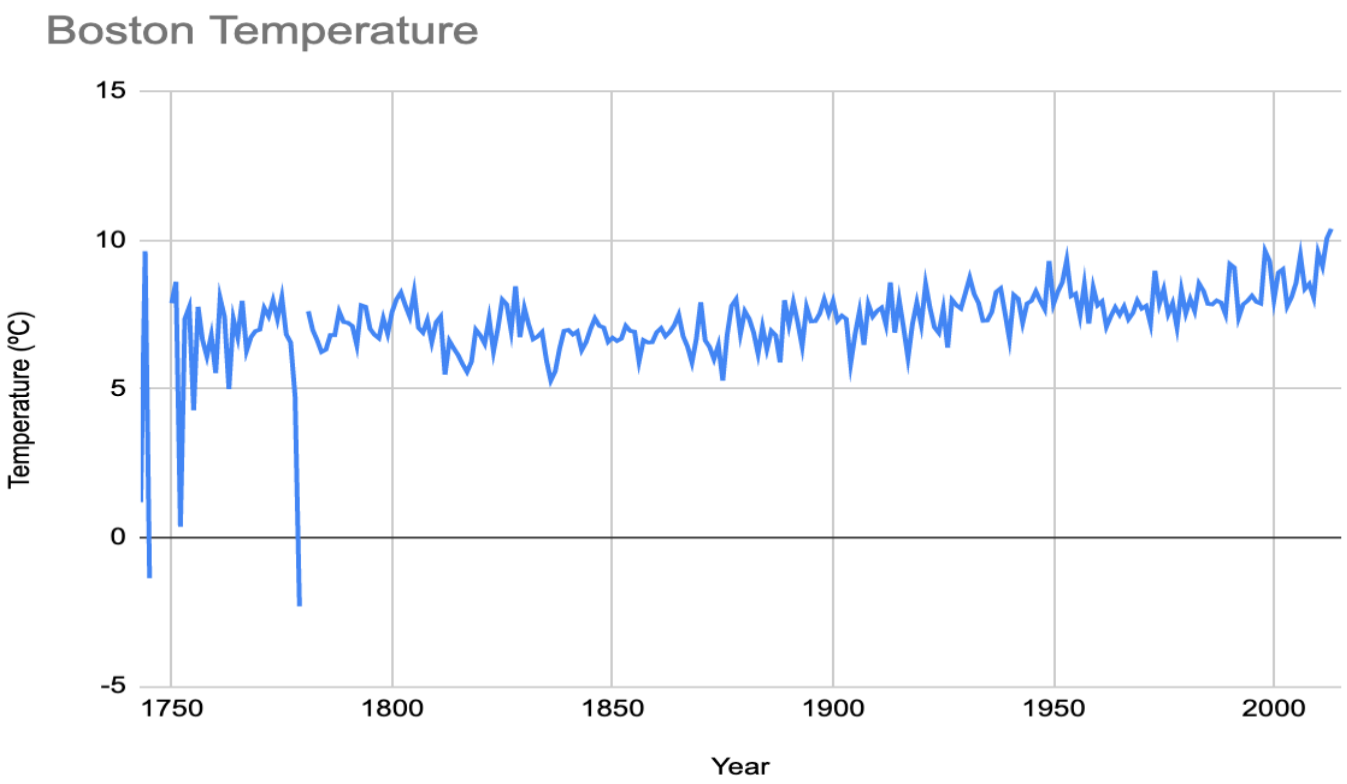
2. A description of the tool used to complete the project:

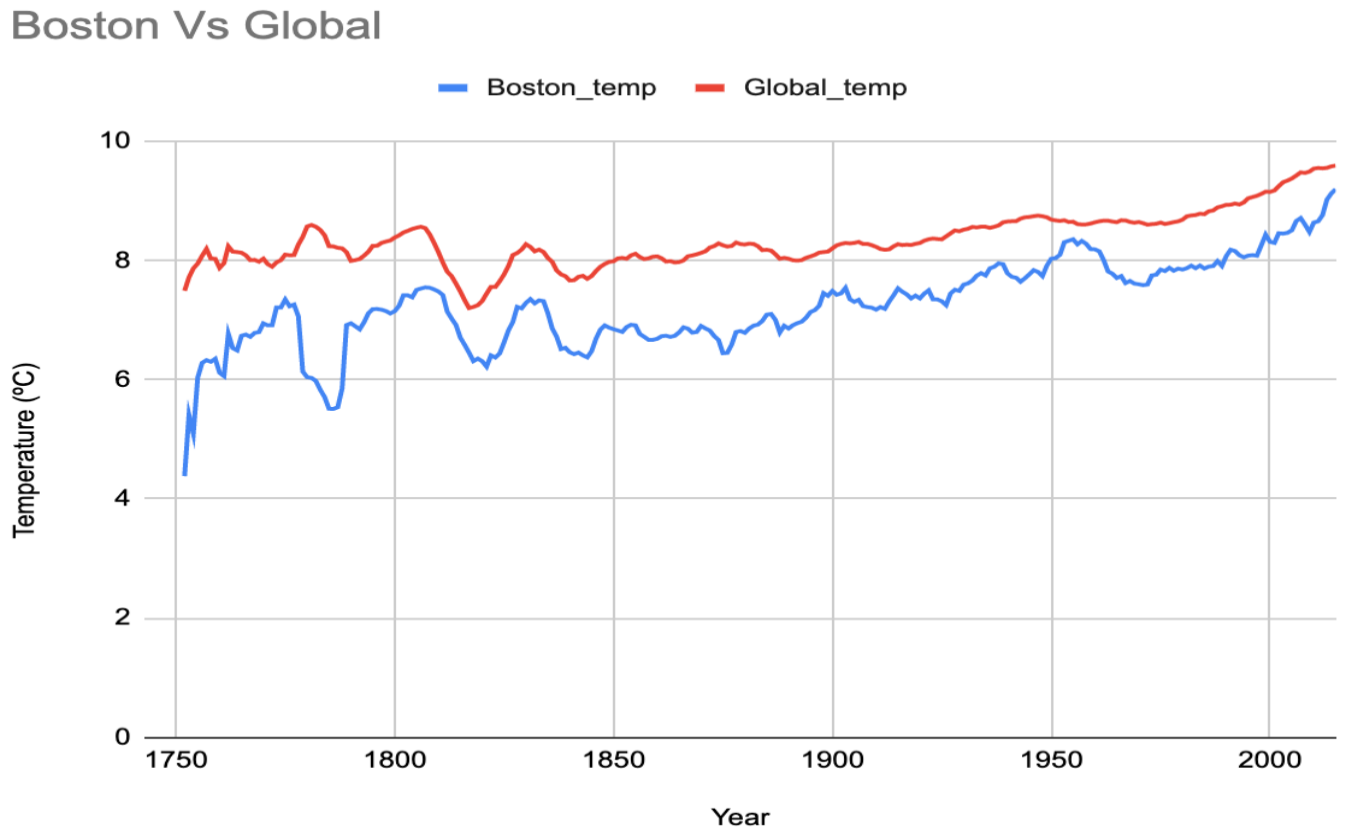
For this project, I used Google Sheets and Microsoft Excel.
I used Microsoft Excel to read and merge the data, as there were 2 different csv files. So, I had to combine the csv file and merge it according to the year column.

I calculated the moving average for 10 years and created new columns for it.
The image shows all the data columns with their respective calculations and vaues.

A	B	C	D	E	F	G	H
year	city	country	Boston_avg_temp	10years_Moving Average_Boston_temp	Global_avg_	10years_Moving_avg_Global_temp	
1743	Boston	United State	1.19				
1744	Boston	United State	9.63				
1745	Boston	United State	-1.37				
1746	Boston	United States					
1747	Boston	United States					
1748	Boston	United States					
1749	Boston	United States					
1750	Boston	United State	7.88		8.72		
1751	Boston	United State	8.6		7.98		
1752	Boston	United State	0.36	4.381666667	5.78	7.493333333	
1753	Boston	United State	7.35	5.408333333	8.39	7.7175	
1754	Boston	United State	7.75	5.095	8.47	7.868	
1755	Boston	United State	4.28	6.036666667	8.36	7.95	
1756	Boston	United State	7.76	6.282857143	8.85	8.078571429	
1757	Boston	United State	6.65	6.32875	9.02	8.19625	
1758	Boston	United State	6.09	6.302222222	6.74	8.034444444	
1759	Boston	United State	6.8	6.352	7.99	8.03	
1760	Boston	United State	5.53	6.117	7.19	7.877	
1761	Boston	United State	8.05	6.062	8.77	7.956	
1762	Boston	United State	7.42	6.768	8.61	8.239	
1763	Boston	United State	4.99	6.532	7.5	8.15	
1764	Boston	United State	7.36	6.493	8.4	8.143	
1765	Boston	United State	6.73	6.738	8.25	8.132	
1766	Boston	United State	7.96	6.758	8.41	8.088	
1767	Boston	United State	6.28	6.721	8.22	8.008	
1768	Boston	United State	6.74	6.786	6.78	8.012	
1769	Boston	United State	6.94	6.8	7.69	7.982	
1770	Boston	United State	6.99	6.946	7.69	8.032	
1771	Boston	United State	7.72	6.913	7.85	7.94	
1772	Boston	United State	7.44	6.915	8.19	7.898	
1773	Boston	United State	7.97	7.213	8.22	7.97	
1774	Boston	United State	7.35	7.212	8.77	8.007	
1775	Boston	United State	8.08	7.347	9.18	8.1	
1776	Boston	United State	6.83	7.234	8.3	8.089	
1777	Boston	United State	6.56	7.262	8.26	8.093	
1778	Boston	United State	4.75	7.063	8.54	8.269	
1779	Boston	United State	-2.31	6.138	8.98	8.398	
1780	Boston	United States		6.043333333	9.43	8.572	

3. **The line chart produced:**





4. **observations:**

There are several observations which I'd like to mention here:

(I) According to line graph we can see that global temperature as well as Boston city's temperature are increasing by the time. (Global warming may be)

(II) Based on the findings, Boston city is always having a low temperature then other cities and countries. It never gets more than an average global temperature. Based on that, we can say that, Boston is cold place respectively.

(III) Between the year of around 1775 to 1780, Boston city's temperature measured as lowest temperature in more than 2 centauries. It was below the 0. We can see that in graph 1.

(IV) Year of 1820 to 1830, Global temperature as well as Boston city temperature was respectively low. It was lowest for global average. That was the time when It measured as a lowest, after that global temperature was increasing constantly.

(V) Based on the both of graphs we can predict that, for upcoming years the global average temperature would cross 10^{o} C.

5. Link for the Line chart and data: https://docs.google.com/spreadsheets/d/1s0sWO-mtNPbommK5cbrgi3oVXNrGhVlNrCXhUhP9ZJ8/edit?usp=sharing