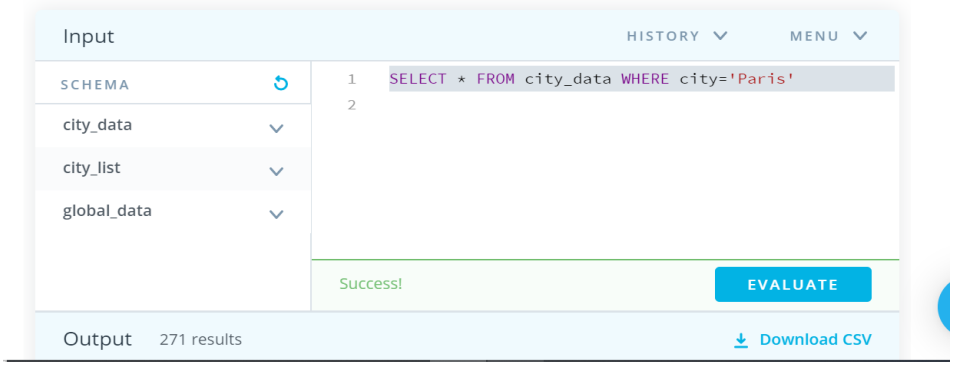
Data Analyst Nanodegree : Udacity

Project 1: Explore Weather trends

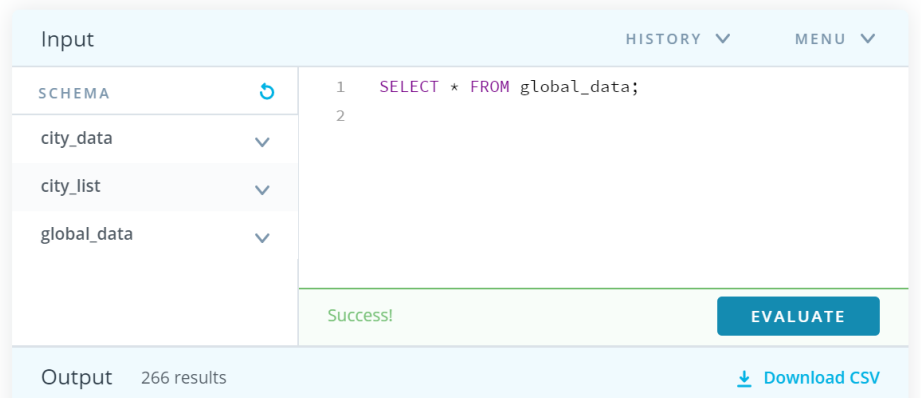
Extract the data from the database.

For completing this task I need to have two datasets from SQL for global temperature and for my local city (Paris).

The code for getting the local dataset I apply the following SQL code as I need all the dataset for only the city of Paris



And for the global temperature dataset my SQL code will be the following as I need all the global dataset



After having both the datasets in CSV format I will start working in Python.

As each project starts with importing the necessary packages, I did import them. After I open them in Python with the help of pandas. After I tried to have some general overview of the data looking at first, last 5 rows of both datasets, also I check the summaries of these datasets.

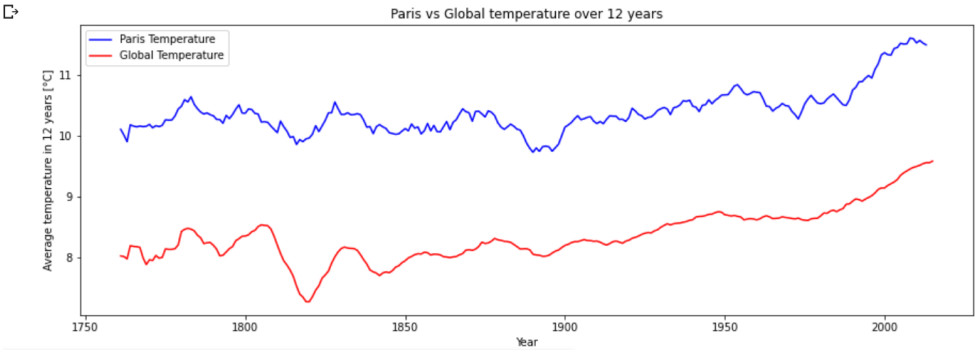
```
global_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 266 entries, 0 to 265
Data columns (total 2 columns):
 #   Column    Non-Null Count  Dtype
---  ------    --------------  -----
 0   year      266 non-null    int64
 1   avg_temp  266 non-null    float64
dtypes: float64(1), int64(1)
memory usage: 4.3 KB
```

```
[20] paris_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 271 entries, 0 to 270
Data columns (total 4 columns):
 #   Column    Non-Null Count  Dtype
---  ------    --------------  -----
 0   year      271 non-null    int64
 1   city      271 non-null    object
 2   country   271 non-null    object
 3   avg_temp  267 non-null    float64
dtypes: float64(1), int64(1), object(2)
memory usage: 8.6+ KB
```

To compare Paris's temperatures with the global temperatures I will use rolling means. Here window=12 means that I am taking 12 years and calculate mean temperature over 12 years. Just with simple .describe function I could answer the questions but the visualization is an easier and better way.



Conclusions

1. Paris has had significantly hotter temperature over the global temperature during the past centuries. It was always hotter.
2. Though the global temperature did not show huge fluctuations
3. Global temperature decreased only during the period of 1800-1850
4. Based on the outcomes, the world is getting hotter as the trend is increasing(a clear global warming).
5. Paris also has increasing trend (quite logical it makes part of the world) and gets only hotter since the last decades.