Project 1: Explore Weather Trends

Outcome of this project is a visualization and description about the similarities and differences between global temperature trends and temperature trends in the closest big city to where I live. Below are the steps I followed:

1. **Extract the data from the database.**

I need to export the temperature data for the world as well as for the closest big city to where I live.

- To find nearest city from where I live, I find if there are any cities from my country in city_list table with "LIKE" operator. The output has 2 records which is 2 city of Vietnam including Hanoi where I live.
  select *
  from city_list
  where country like '%ietnam'
- Write a SQL query to extract the city level data. Export to CSV.
  select cd.*
  from city_data cd
  where cd.city = 'Hanoi' and cd.country = 'Vietnam'
- Write a SQL query to extract the global data. Export to CSV.
  select *
  from global_data
  limit 10000

2. **Moving Averages**

I use Excel to open up the CSVs. Calculate the moving average for first 7 years by using AVERAGE formula in the 7th year cell then I copy the formula for other years. The value of this formula means the average of the last 7 year counting from that year.

3. **Create a line chart**

I use V-lookup formula to merge global data to city data then insert line chart.

4. **Make observations**
- The line graph compares the moving average temperature of Hanoi and Global from 1846 to 2012.
- Overall, it can be seen that Hanoi were far hotter than Global throughout the whole time frame.
- Hanoi temperature is never go below 20 degrees, in the meantime Global temperature is never higher than 10 degrees.
- Hanoi and Global share the same uptrend over time.
- While Hanoi temperature increase slightly around 1 degree, Global temperature raise nearly 2 degrees in 2-century period.

Averages temperatures of Hanoi and Global