Weather Trends Project Report

**Data Gathering**:

* Tool: SQL to query the data from the provided workspace
* Query:

1. SELECT gd.year global\_year, cd.year city\_year,city,country, cd.avg\_temp city\_avg\_temp , gd.avg\_temp global\_avg\_temp

FROM city\_data cd

JOIN global\_data gd

ON cd.year = gd.year

AND cd.city='Riyadh'

1. SELECT gd.year global\_year, cd.year city\_year,city,country, cd.avg\_temp city\_avg\_temp , gd.avg\_temp global\_avg\_temp

FROM city\_data cd

JOIN global\_data gd

ON cd.year = gd.year

WHERE cd.city='Riyadh'

OR cd.city= ‘Hiroshima’

* Tool: Excel to work on the data and visualize it
* Manipulation: calculated 2 moving averages for global temperatures and city (Riyadh) temperatures. Then used a line graph to visualize the data.

**Calculations**:

Moving Averages based on 5 Years, Removed the first 5 records as the data from row 3 to 5 were null.

**Charts**:

**Observations**:

1. City and global temperatures are consistently rising.
2. The change range (Min-Max) for both City and Global is very close.
3. With almost each increase or decrease in the global temperatures, a change was reflected on Riyadh.
4. City (Riyadh) is way hotter than the global temperatures and getting hotter.
5. The difference between the city and global two is almost same between two point of time.
6. Correlation Coefficient is 0.899710709 between Riyadh and Global, so change is highly consistent.
7. I added another City (Hiroshima) and noticed that most of the increases on Riyadh is a decrease on Hiroshima and vice versa, also Riyadh change more is consistent with the global temperature.

Used Support Resources:

1. YouTube to understand how to use Line chart in Excel <https://www.youtube.com/watch?v=3PwVWX28dEE>
2. Searched for What's the correlation coefficient? On the internet to see how can I use it.

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23/09/18