UDACITY

Return to "Data Analyst Nanodegree" in the classroom

Explore Weather Trends

REVIEW

HISTORY

Meets Specifications

Congratulations!! 🎉 🎉

YOU HAVE SUCCESSFULLY MET ALL THE REQUIREMENTS OF THE RUBRIC. EXCELLENT JOB ON THIS PROJECT! 😃

- You demonstrated your ability to retrieve data from a SQL Database and derive interesting, accurate results from the output of your query.
- Furthermore, you were able to manipulate this data using external software (Excel) and create a meaningful visualization with attention to detail to demonstrate your observed results. This is a tremendously important skill and will prove useful throughout your career in data analytics.
- I also appreciate the ways all steps of procedure had been specified in the pdf..! Well done..!!
- Before you move on to your next lessons, take pride in the effort you've put into this project. I hope you found this exercise both challenging and rewarding. Keep up the exceptional work and effort here, and I look forward to seeing you rock those future submissions!! :)

All the best for your upcoming lessons and projects..!!!
Stay Udacious and Happy Learning.!! 😄

Analysis

- **The SQL query used to extract the data is included.**
- **The query runs without error and pulls the intended data.**

Well done!!

You did a nice job in extracting the data for your local city and comparing that to global temperatures.!! 👍 👍

- Your queries were spot on, error-free and fetched correct data for both Local and Global temperatures. Good Job..!! 👍

TIP: ⚡ ⚡

- SQL is a very powerful language used to perform various data manipulation, transformation and extraction processes.
- You can even perform joins and conduct analysis in SQL.

`Example:`
In order to overcome the missing values in local data we could drop these values in SQL query itself. (This is one of the most popular methods of imputing missing values in data).

- Here is the way to get the data that you want for both Local and Global while excluding the empty years in one table output!

```
SELECT city_data.year,
city_data.avg_temp as city_temp,
global_data.avg_temp as global_temp
FROM city_data, global_data
WHERE city_data.year = global_data.year
AND NOT city_data.avg_temp IS NULL
AND city_data.city = 'Toronto'
```

Thus you can reduce your upcoming tasks by initially dealing with them in SQL itself.

Resources:

- If you're interested in boosting your SQL concepts with more questions and puzzles, here are a couple of websites:
  I often enjoy looking for extra coding practice for SQL:
  - https://www.hackerrank.com/domains/sql/select
  - https://lagunita.stanford.edu/courses/DB/SQL/SelfPaced/courseware/ch-sql/seq-vid-introduction_to_sql/
    You'll get a chance to practice increasingly difficult questions and learn how to interact with multiple tables at once.

Moving averages are calculated to be used in the line chart.

Great Job...!!!👍👍
You did Excellent work here in calculating the 5 years moving average for both Toronto and Global temperatures and then using a line graph to display them !!!🎉

- The gap between these two lines is clearly visible here.

- The trends have smoothened as compared to original graphs and thus depicts the general trends of both local and global temperature.

Additional Suggestions:

- You did a great job in calculating moving averages for local and well as global trends. I also noticed that you excluded years in which data was missing from Toronto while considering the data and then calculating the moving average. Well done..!!
- It is generally a good practice to impute these missing values in data so as to avoid peaks or imbalance in the average calculation. The noise of the graphs can too be reduced via this practice.
- We generally drop such values and can also fill these using other calculated values like mean, median etc depending on the data(if less data is missing)
    - Here's a link to a blog on a number of other techniques which we can use when dealing with missing data.
      I encourage you to check it out in your free time!
      Click here
- In order to smoothen out graphs for better generalization of temperature trends, you can also include 10 or 15 years moving average apart from 5 years moving average in a `separate graph`. This will help you out to draw more general conclusions on temperature.
- This way you shall be able to split your general conclusions from fluctuation comparisons in a more elegant and specific format.

- **A line chart is included in the submission.**
- **The chart and its axes have titles, and there's a clear legend (if applicable).**

The line graph included in your submission looks awesome!!!💥 Great job !!

- The chart contains a clearly represented title that explains the details of the presented line graphs for both local as well as global temperatures.
- Both axes have suitable titles with good naming conventions.
- Legends have been appropriately added.
- I appreciate that you rotated the year values on the x-axis so that they don't overlap one another.
  This attention to detail really goes a long way to help communicate your results to an audience. Good work..!!👍👍

- **The student includes four observations about their provided data visualization.**

- **The four observations are accurate.**

Great work in looking at the output of your graph and making multiple observations from them...!! 👍🏽

- You have drawn multiple accurate observations and they are easy to interpret for the audience.
- Your observations can be clearly reflected in the output of your visualization.

To be able to draw out meaningful observations from visualisations is critical for every data analyst. Well done..!! 😄

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