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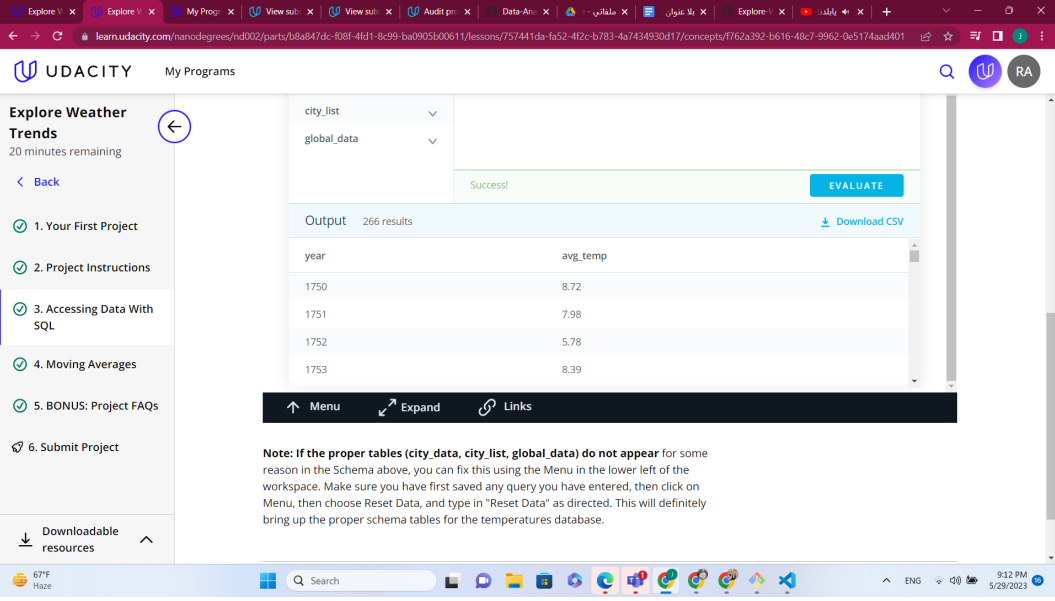
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1. First Step: extract data from a database using SQL (dataset use select)

◆ For Global data :

◆ I want to get all data from all columns:

1. `SELECT * FROM global_data`
2. This image display the data



The screenshot shows the UDAcity interface for the 'Explore Weather Trends' project. The 'global_data' table is selected, and the SQL query 'SELECT * FROM global_data' is entered. The 'EVALUATE' button is clicked, and the results are displayed in a table with columns 'year' and 'avg_temp'. The table shows data for the years 1750, 1751, 1752, and 1753.

year	avg_temp
1750	8.72
1751	7.98
1752	5.78
1753	8.39

◆ For City list :

◆ I want to get all data from all columns:

1. `SELECT * FROM city_list`
2. This image display the data

The screenshot shows the Udacity 'Explore Weather Trends' workspace. On the left, a sidebar lists project steps: 1. Your First Project, 2. Project Instructions, 3. Accessing Data With SQL (highlighted), 4. Moving Averages, 5. BONUS: Project FAQs, and 6. Submit Project. The main workspace displays a query execution result for 'global_data'. The output shows 342 results with columns 'city' and 'country'. The visible data rows are:

city	country
Abidjan	Côte D'Ivoire
Abu Dhabi	United Arab Emirates
Abuja	Nigeria
Accra	Ghana

Below the table, a note states: "Note: If the proper tables (city_data, city_list, global_data) do not appear for some reason in the Schema above, you can fix this using the Menu in the lower left of the workspace. Make sure you have first saved any query you have entered, then click on Menu, then choose Reset Data, and type in 'Reset Data' as directed. This will definitely bring up the proper schema tables for the temperatures database." Navigation buttons for 'Previous' and 'Next' are at the bottom.

◆ For Citydata :

◆ I want to get all data from all columns:

1. `SELECT * FROM city_data Where city='San Jose'`

2. This image display the data

The screenshot shows the same Udacity workspace with a new query: `SELECT * FROM city_data Where city='San Jose'`. The output shows 165 results with columns 'year', 'city', 'country', and 'avg_temp'. The visible data rows are:

year	city	country	avg_temp
1849	San Jose	United States	14.12
1850	San Jose	United States	13.80
1851	San Jose	United States	14.39

The same note about schema tables is present at the bottom of the workspace.

Moving Averages:

- I have used **Average function** .
- I tried moving average 7,10,20 years

[illegible]

Excel | Book 1

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D8 X f =AVERAGE(C2:C8)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	year	city	avg_temp	7years	10 years	20years												
2	1949	San Jose	14.12															
3	1950	San Jose	13.8															
4	1951	San Jose	14.39															
5	1952	San Jose	13.81															
6	1953	San Jose	14.4															
7	1954	San Jose	13.98															
8	1955	San Jose	14.2	14.1														
9	1956	San Jose	14.1	14.09714286														
10	1957	San Jose	14.78	14.23714286														
11	1958	San Jose	14.19	14.20857143	14.177													
12	1959	San Jose	13.71	14.19428571	14.136													
13	1960	San Jose	13.81	14.11	14.137													
14	1961	San Jose	14.88	14.23857143	14.166													
15	1962	San Jose	14.43	14.27142857	14.248													
16	1963	San Jose	14.43	14.31857143	14.251													
17	1964	San Jose	15.16	14.37571429	14.371													
18	1965	San Jose	14.32	14.39428571	14.383													

< > Sheet1 +

Calculation Mode: Automatic Workbook Statistics Give Feedback to Microsoft - 100% +

Difference between Local and Global

	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	7_years_glob	10_years_glob	20_years_glob	global%	Differ_global_local											
2				0	5.4											
3				-0.084862385	5.82											
4				-0.275689223	5.81											
5				0.451557093	5.42											
6				0.009535161	5.93											
7				-0.012987013	5.82											
8	8.078571429			0.05861244	5.35											
9	8.121428571			0.01920904	5.08											
10	7.944285714			-0.252771619	8.04											
11	8.26	8.03		0.185459941	6.2											
12	8.088571429	7.877		-0.100125156	6.52											
13	8.131428571	7.956		0.219749652	5.04											
14	8.167142857	8.239		-0.018244014	6.27											
15	7.974285714	8.15		-0.128919861	6.93											
16	7.885714286	8.143		0.12	6.03											
17	8.101428571	8.132		-0.017857143	6.93											
18	8.161428571	8.088		0.019393939	5.91											

The key consideration was to determine the timeframe for data visualization. Looking at the local temperature data for san jose , the data covers the period between 1849 to 2013, where in the global temperature data covers the period between 1750 to 2015. we have to calculate the following:

- The Local and Global annual change percentage.
- The difference between Local and Global average temperatur

- Annual local and global (%)

	A	B	C	D	E	F	G	H	I	J	K
	year	avg_temp	7years	10 years	20years	Local %	avg_temp_glob	7_years_glob	10_years_glob	20_years_glob	global%
1	1849	14.12				0	8.72				0
2	1850	13.8				-0.02286289	7.98				-0.084862385
3	1851	14.39				0.042763623	5.78				-0.275689223
4	1852	13.81				-0.040305768	8.39				0.451557093
5	1853	14.4				0.042722665	8.47				0.006535161
6	1854	13.98				-0.029166667	8.36				-0.012987013
7	1855	14.2	14.1			0.015736767	8.85	8.078571429			0.05861244
8	1856	14.1	14.09714286			-0.007042254	9.02	8.121428571			0.01920904
9	1857	14.78	14.23714286			0.04822695	6.74	7.944285714			-0.252771619
10	1858	14.19	14.20857143	14.177		-0.039918809	7.99	8.26	8.03		0.185459941
11	1859	13.71	14.19428571	14.136		-0.033826638	7.19	8.08571429	7.877		-0.100125156
12	1860	13.81	14.11	14.137		0.007293946	8.77	8.131428571	7.956		0.219749652
13	1861	14.88	14.23857143	14.186		0.077480087	8.61	8.167142857	8.239		-0.016244014
14	1862	14.43	14.27142857	14.248		-0.030241935	7.5	7.974285714	8.15		-0.128919861
15	1863	14.43	14.31857143	14.251		0	8.4	7.885714286	8.143		0.12
16	1864	15.18	14.37571429	14.371		0.051975052	8.25	8.101428571	8.132		-0.017857143
17	1865	14.32	14.39428571	14.383		-0.056653491	8.41	8.161428571	8.088		0.019393939

- Calculate Max ,MIN,Average ..etc

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Average of Loc_avg_temp	Average of Glo_avg_temp													
2	14.45078788	8.083878788													
3															
4	Max of Loc_avg_temp	Max of Glo_avg_temp													
5	16.23	9.43													
6															
7	Min of Loc_avg_temp	Min of Glo_avg_temp													
8	13.22	5.78													
9															
10	Average of Loc_inc_%	Average of Glo_inc_%													
11	0.001518262	0.002219293													
12															
13	Max of Loc_inc_%	Max of Glo_inc_%													
14	0.451557093	0.451557093													
15															
16	Min of Loc_inc_%	Min of Glo_inc_%													
17	-0.086984127	-0.275689223													
18															
19	Max of Difference	Min of Difference													
20	8.61	4.77													
21															
22															
23															
24															
25															

❖ Observation:

	Min	Max	Average	Highest inc(%)	Low Dec(%)	Avg Change
San jose	13.22	16.23	14.45078788	0.451557093	-0.086984127	0.001518262

Global	5.78	9.43	8.083878 788	0.451557 093	-0.27568 9223	0.002219 293
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Highest difference	Lowest Difference
8.61	4.77

1. The local on (san jose) is hotter than global (refer max min and average).
2. The Highest difference between local and global Temperature 8.61
3. The lowest difference between local and global Temperature 4.77

