

DAC_Phase4

Date	25 October 2023
Team ID	Proj_216194_Team_3
Project Name	COVID Vaccine Analysis

Description:

To conduct a Covid-19 vaccines analysis, you can follow these steps for exploratory data analysis, statistical analysis, and visualization

Step 1: Data Preparation:

- Gather Covid-19 vaccination data from reliable sources.
- Organize the data into a structured format, such as a CSV or Excel file.

country_vaccinations - Excel

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date

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
	country	iso_code	date	total_vacc	people_v	people_fu	daily_vacc	daily_vacc	total_vacc	people_v	people_fu	daily_vacc	vaccines	source_name	source_website					
1	Afghanistan	AFG	22-02-2021	0	0					0	0			Johnson & World Health Organization	https://covid19.who.int/					
2	Afghanistan	AFG	23-02-2021					1367						34 Johnson & World Health Organization	https://covid19.who.int/					
3	Afghanistan	AFG	24-02-2021					1367						34 Johnson & World Health Organization	https://covid19.who.int/					
4	Afghanistan	AFG	25-02-2021					1367						34 Johnson & World Health Organization	https://covid19.who.int/					
5	Afghanistan	AFG	26-02-2021					1367						34 Johnson & World Health Organization	https://covid19.who.int/					
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7	Afghanistan	AFG	28-02-2021	8200	8200			1367	0.02	0.02				34 Johnson & World Health Organization	https://covid19.who.int/					
8	Afghanistan	AFG	01-03-2021					1580						40 Johnson & World Health Organization	https://covid19.who.int/					
9	Afghanistan	AFG	02-03-2021					1794						45 Johnson & World Health Organization	https://covid19.who.int/					
10	Afghanistan	AFG	03-03-2021					2008						50 Johnson & World Health Organization	https://covid19.who.int/					
11	Afghanistan	AFG	04-03-2021					2221						56 Johnson & World Health Organization	https://covid19.who.int/					
12	Afghanistan	AFG	05-03-2021					2435						61 Johnson & World Health Organization	https://covid19.who.int/					
13	Afghanistan	AFG	06-03-2021					2649						66 Johnson & World Health Organization	https://covid19.who.int/					
14	Afghanistan	AFG	07-03-2021					2862						72 Johnson & World Health Organization	https://covid19.who.int/					
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16	Afghanistan	AFG	09-03-2021					2862						72 Johnson & World Health Organization	https://covid19.who.int/					
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21	Afghanistan	AFG	14-03-2021					2862						72 Johnson & World Health Organization	https://covid19.who.int/					
22	Afghanistan	AFG	15-03-2021					2862						72 Johnson & World Health Organization	https://covid19.who.int/					

country_vaccinations

Ready

Average: 44440.71511Count: 86513Sum: 3844655146

100%

Step2: Exploratory Data Analysis (EDA)

- Load the dataset into a data analysis tool, such as Python with libraries like Pandas.
 - Begin by exploring the dataset's basic statistics, like mean, median, and standard deviation.
 - Check for missing data and handle it if necessary (e.g., by imputing missing values or removing rows).
 - Visualize the distribution of vaccine doses administered over time using line plots or histograms.
- Explore the geographic distribution of vaccinations through maps or bar charts.

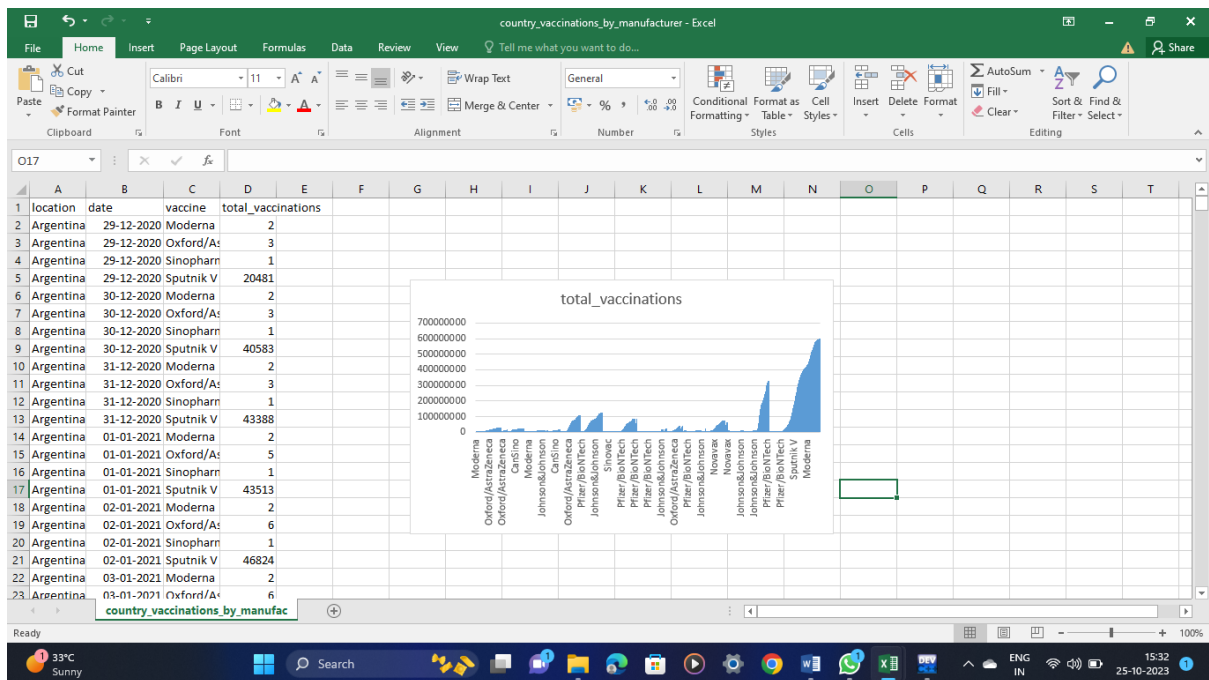
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Project Classes Debug Untitled1 Data Analytics - Pandas.ipynb
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```

Step 3: Statistical Analysis

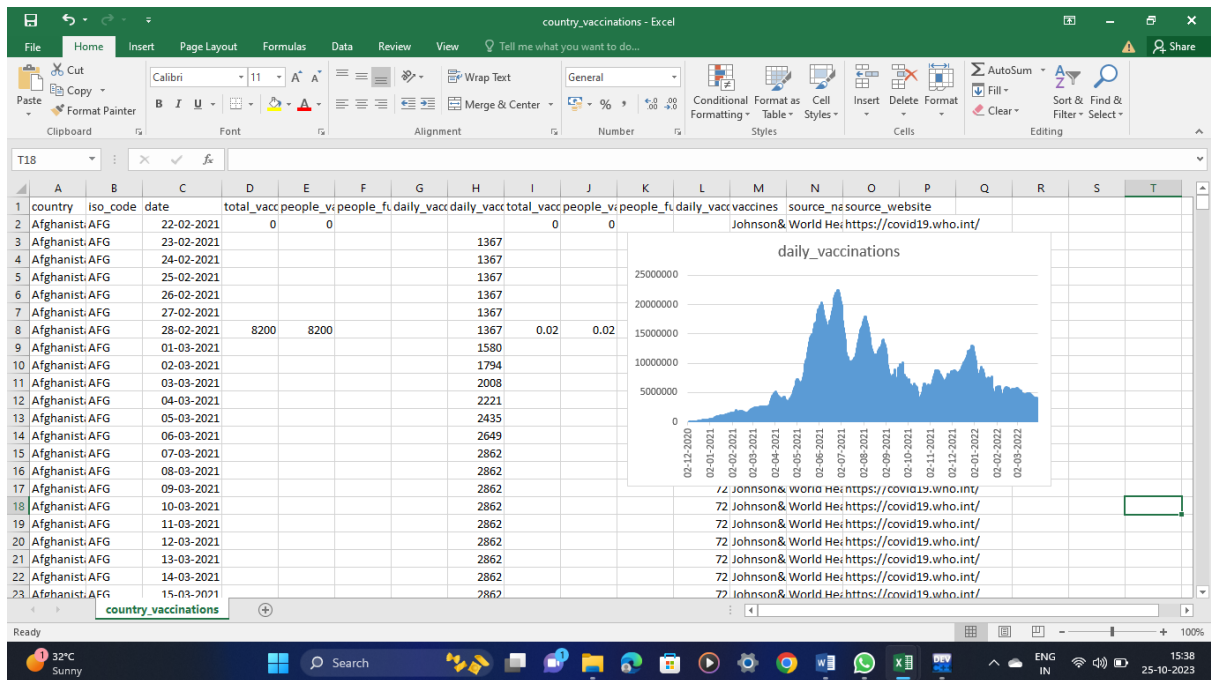
- Conduct statistical tests to answer specific questions. For example:
 - Compare vaccination rates between different regions or countries.
 - Analyze the impact of vaccination campaigns on infection rates.
- Use appropriate statistical tests, such as t-tests, ANOVA, or regression analysis, depending on your research questions.



Step 4: Visualization:

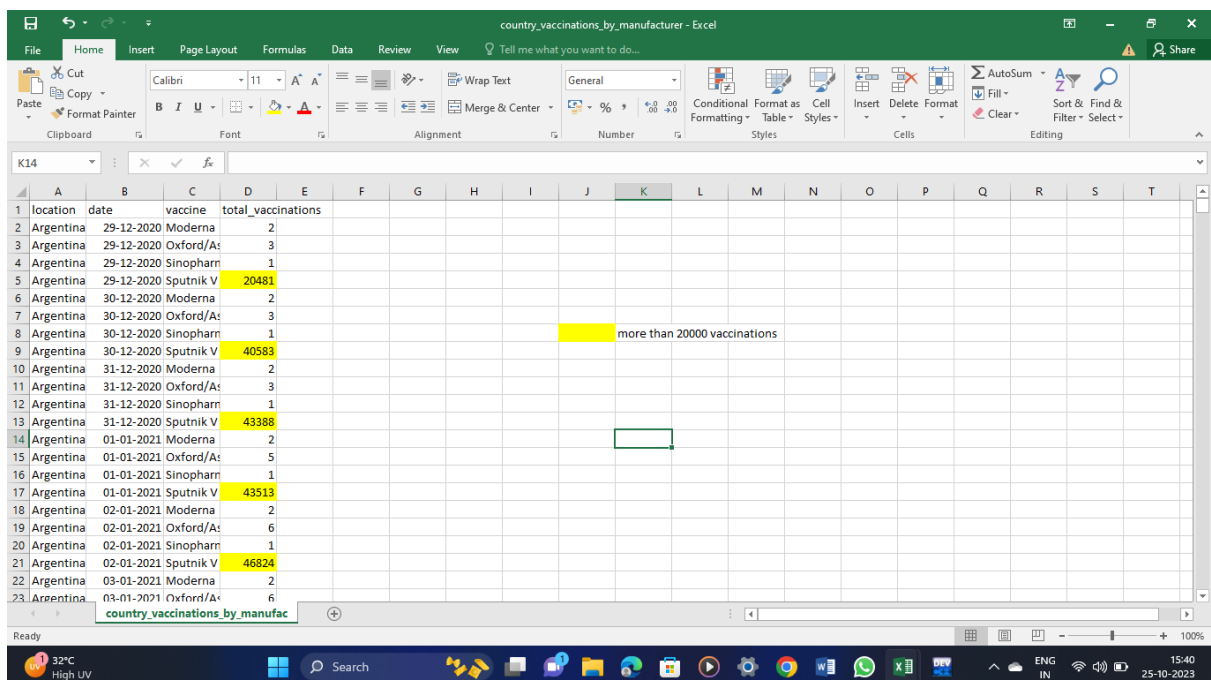
- Create informative visualizations to help convey your findings:
 - Plot time series data to show the progress of vaccinations.

- Create bar charts to compare vaccination rates among different groups.
- Utilize heatmaps to illustrate vaccination coverage by region.
- Design interactive visualizations for web-based reporting, if needed.



Step 5: Interpretation:

- Interpret the results of your analysis, making sure to highlight any significant findings or trends.
- Clearly communicate your findings through reports, presentations, or interactive dashboards.



Step 6: Further Analysis

- Depending on your goals, you might want to perform more advanced analyses like predictive modeling or clustering.

Conclusion :

Remember to use appropriate data visualization libraries (e.g., Matplotlib, Seaborn, Plotly) and statistical analysis tools (e.g., SciPy, Statsmodels) in your chosen programming environment. The specific analysis and visualizations will depend on your research questions and the dataset you are working with.