

Data analysis on Covid-19 vaccination in India

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Introduction

- With the rapid rise of Covid-19 pandemic, India being one of the top most affected countries in the world, where it becomes very much important to come up with efficient solutions to take control of this pandemic situation.
- Covid-19 – caused due to severe acute respiratory syndrome coronavirus 2.
- Covid disease killing many people.
- To keep a track of the data and analyze all the data collectively is quite complex and unreliable using traditional methods.
- Tried to analyse of vaccinated people for different vaccinated injections such CoviShield, Covaxin, and Sputnik in around India.



Aim & Objectives

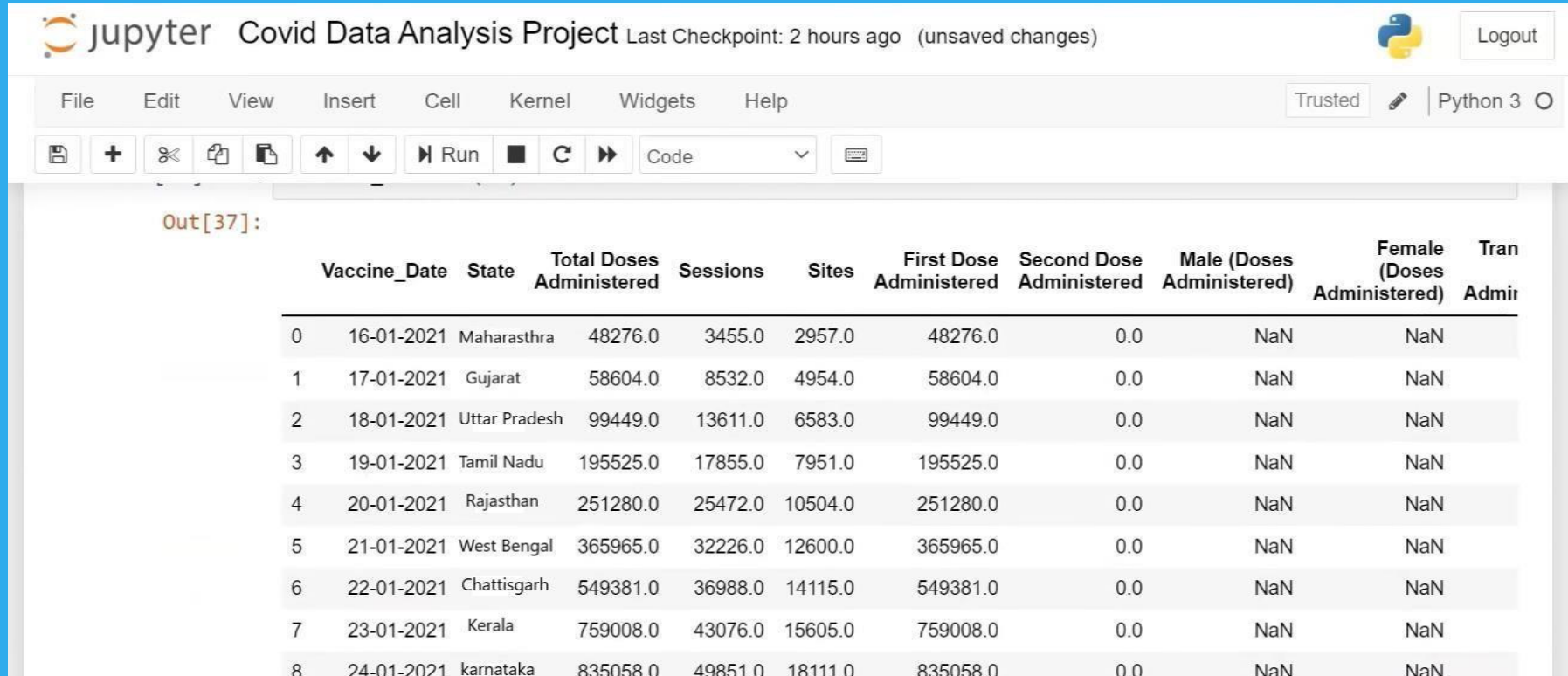
- Analyze data on the number of people vaccinated for COVID-19 each day in our country Indian.

Implementation

- Steps to do analysis:
 - Import libraries.
 - Importing India State-wise Covid vaccine data.
 - Data visualization.
 - Analysis of vaccinated data:
 - Top vaccinated states
 - Proportion of CoviShield, Covaxin, Sputnik
 - Vaccination proportion according to age-wise.

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Data Reading and displaying the results.



jupyter Covid Data Analysis Project Last Checkpoint: 2 hours ago (unsaved changes) Python 3 Logout

File Edit View Insert Cell Kernel Widgets Help

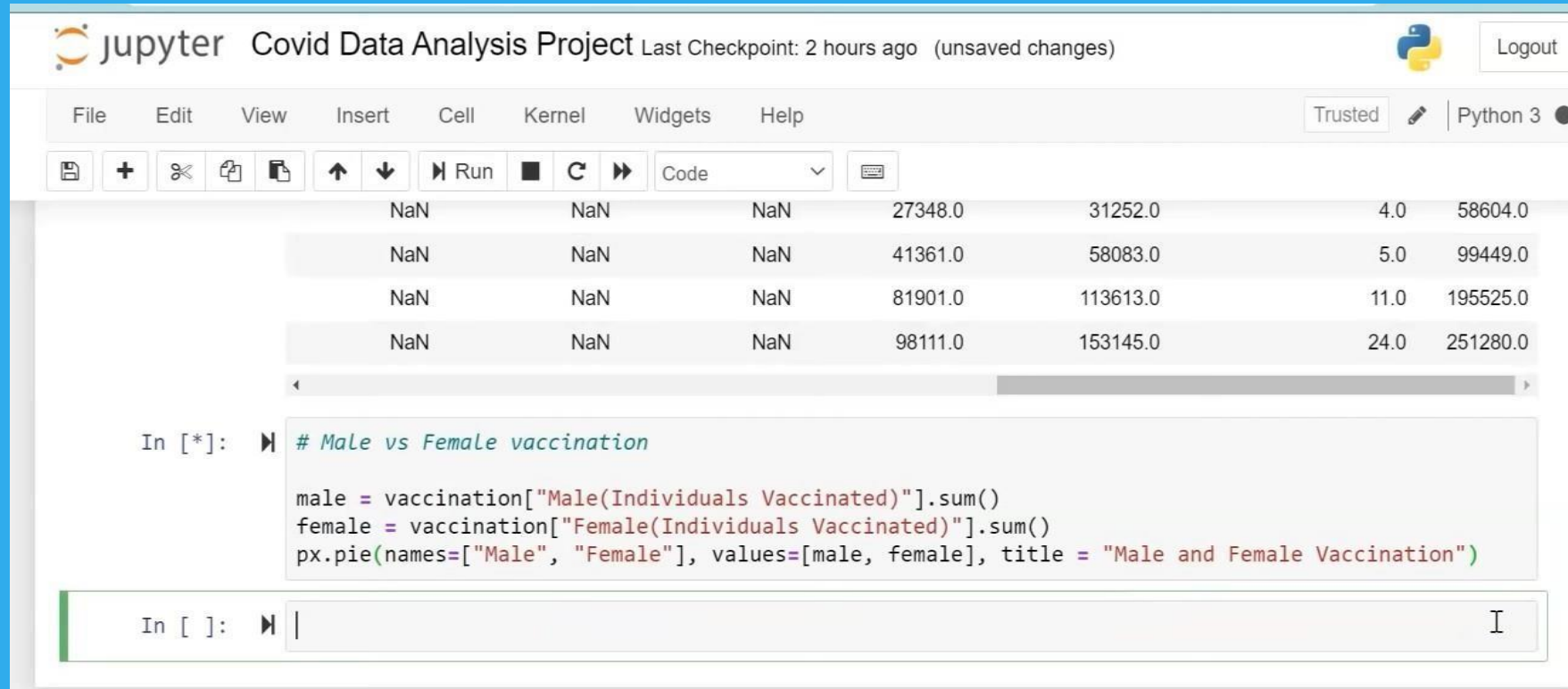
Out[37]:

	Vaccine_Date	State	Total Doses Administered	Sessions	Sites	First Dose Administered	Second Dose Administered	Male (Doses Administered)	Female (Doses Administered)	Tran Admin
0	16-01-2021	Maharashtra	48276.0	3455.0	2957.0	48276.0	0.0	NaN	NaN	
1	17-01-2021	Gujarat	58604.0	8532.0	4954.0	58604.0	0.0	NaN	NaN	
2	18-01-2021	Uttar Pradesh	99449.0	13611.0	6583.0	99449.0	0.0	NaN	NaN	
3	19-01-2021	Tamil Nadu	195525.0	17855.0	7951.0	195525.0	0.0	NaN	NaN	
4	20-01-2021	Rajasthan	251280.0	25472.0	10504.0	251280.0	0.0	NaN	NaN	
5	21-01-2021	West Bengal	365965.0	32226.0	12600.0	365965.0	0.0	NaN	NaN	
6	22-01-2021	Chattisgarh	549381.0	36988.0	14115.0	549381.0	0.0	NaN	NaN	
7	23-01-2021	Kerala	759008.0	43076.0	15605.0	759008.0	0.0	NaN	NaN	
8	24-01-2021	karnataka	835058.0	49851.0	18111.0	835058.0	0.0	NaN	NaN	

Fig. 1: Dataset with several attributes

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Creating plots for male and female vaccinated people



The image shows a Jupyter Notebook interface titled "Covid Data Analysis Project". The top bar indicates the last checkpoint was 2 hours ago and there are unsaved changes. The interface includes a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for file operations, navigation, and execution. Below the toolbar is a table with 7 columns and 4 rows of data. The first three columns contain "NaN" values, and the last four columns contain numerical values. Below the table is a code cell with the following Python code:

```
In [*]: # Male vs Female vaccination  
  
male = vaccination["Male(Individuals Vaccinated)"].sum()  
female = vaccination["Female(Individuals Vaccinated)"].sum()  
px.pie(names=["Male", "Female"], values=[male, female], title = "Male and Female Vaccination")
```

Below the code cell is an empty input field for the next command.

Fig 2: Code for visualization for total no of Male & Female Vaccinated

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Below pie-chart shows the percentage of male & female candidates

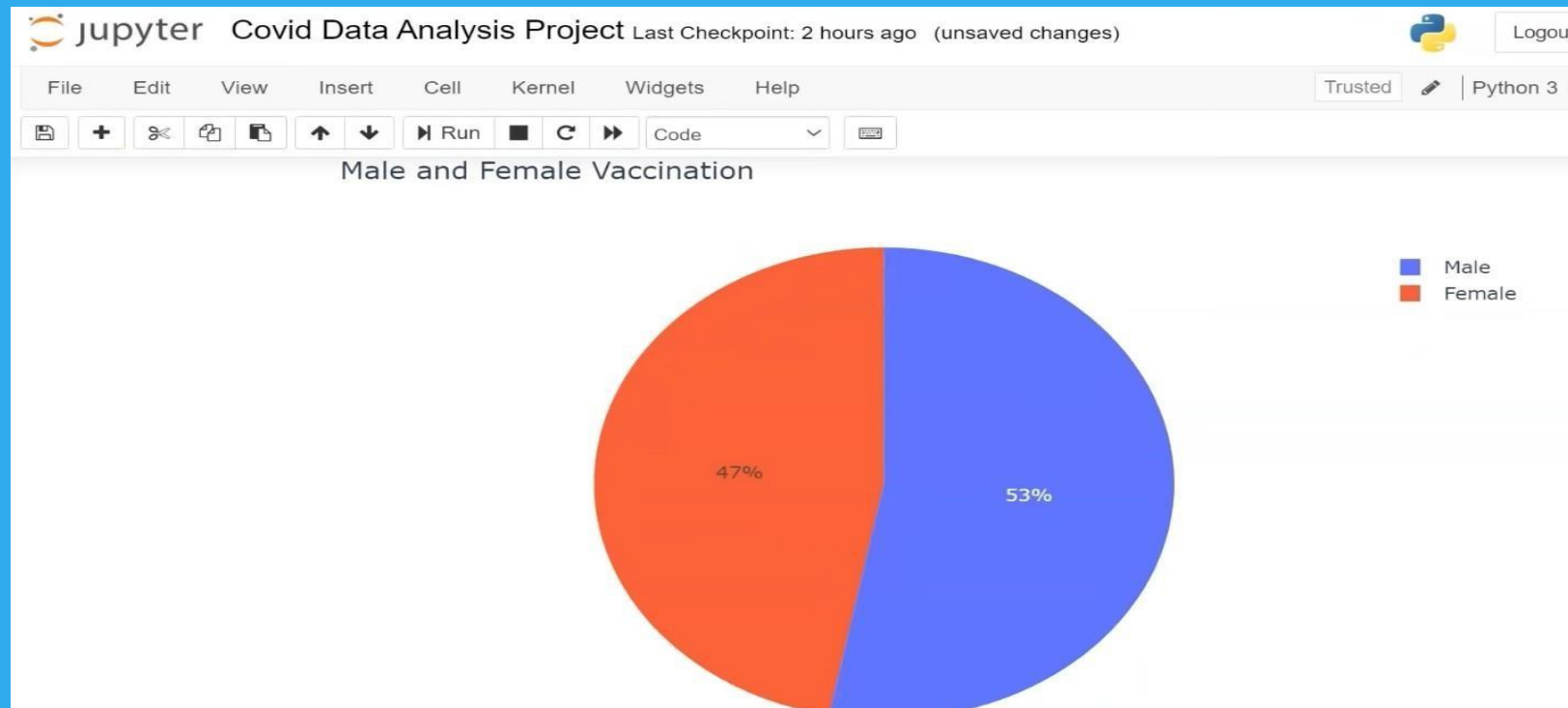


Fig. 2: Visualization of Male & Female Vaccinated

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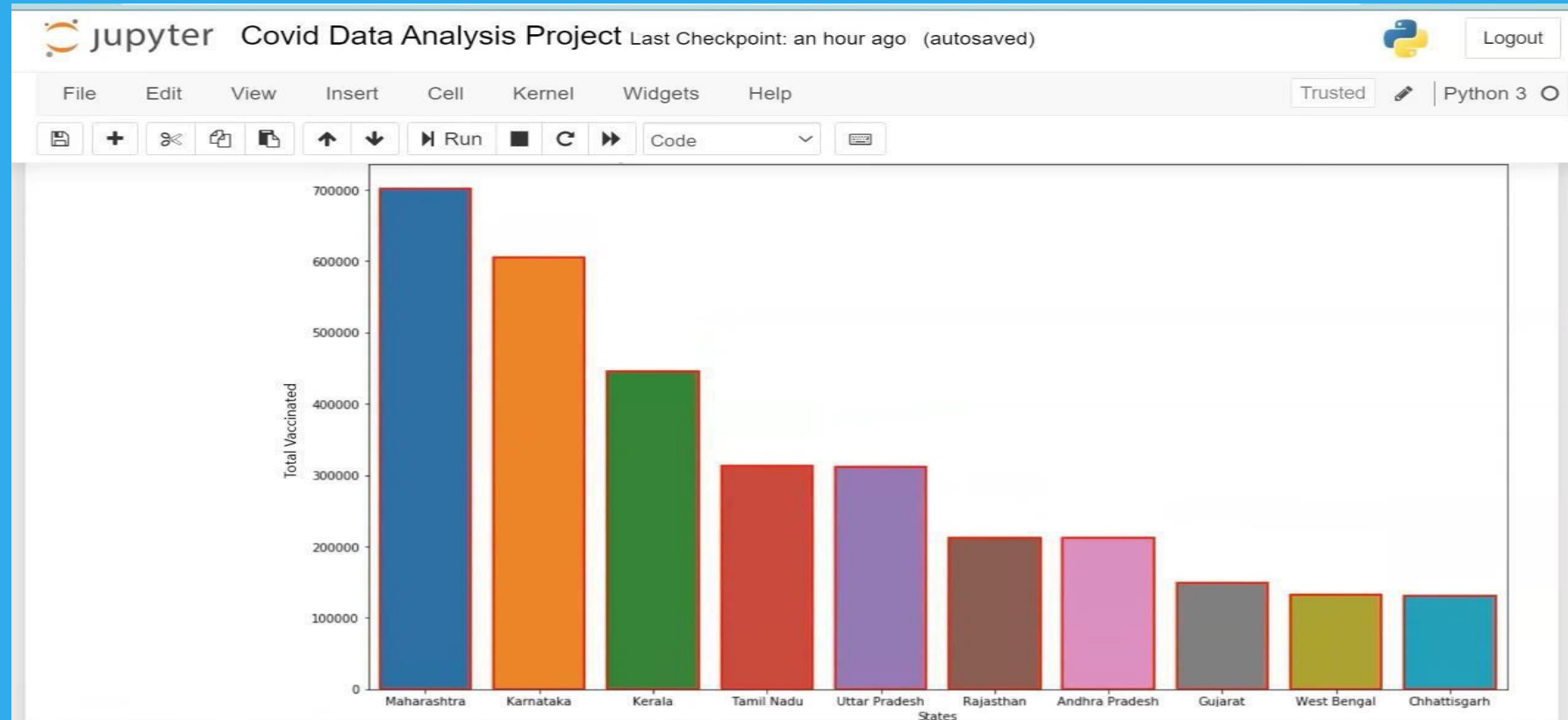


Fig 4: Visualization of people who already vaccinated

Conclusion

- Day-by-day the total number of cases are increasing.
- To reduce the death rate, need to know the total number of people vaccinated in each states.
- Analyse Covid-19 vaccination data using python libraries.
- Analysed total number of female and male vaccinated persons for various vaccination injection in and around India.
- Lots of research works are still going on for this pandemic.
- After carrying out the analysis we got an idea about the impact of Covid-19 in India and the vaccination status.

References

1. Kaur, Upinder, Sapna Bala, Bisweswar Ojha, Sumit Jaiswal, Sangeeta Kansal, and Sankha S. Chakrabarti. "Occurrence of COVID-19 in priority groups receiving ChAdOx1 nCoV-19 coronavirus vaccine (recombinant): A preliminary analysis from north India." *Journal of medical virology* 94, no. 1 (2021): 407-412.
2. Gupta, Nivedita, Harmanmeet Kaur, Pragya Dhruv Yadav, Labanya Mukhopadhyay, Rima R. Sahay, Abhinendra Kumar, Dimpal A. Nyayanit et al. "Clinical characterization and genomic analysis of samples from COVID-19 breakthrough infections during the second wave among the various states of India." *Viruses* 13, no. 9 (2021): 1782.