practical-exam-16

May 23, 2023

[3]:
```
from google.colab import drive
drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call
drive.mount("/content/drive", force_remount=True).
```

1 Problem Statement 16

Use the covid_vaccine_statewise.csv dataset and perform following analytics on the given dataset 1. Describe the dataset 2. Number of persons state wise vaccinated for first dose in India 3. Number of persons state wise vaccinated for second dose in India d. Number of Males vaccinated 4. Number of females vaccinated

[38]:
```
import pandas as pd
```

[43]:
```
df = pd.read_csv('/content/drive/MyDrive/Colab Notebooks/exam_datasets/16.␣
↪covid_vaccine_statewise.csv')
```

[44]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 7845 entries, 0 to 7844
Data columns (total 24 columns):
 #   Column                                Non-Null Count  Dtype
---  ------                                --------------  -----
 0   Updated On                            7845 non-null   object
 1   State                                 7845 non-null   object
 2   Total Doses Administered              7621 non-null   float64
 3   Sessions                              7621 non-null   float64
 4    Sites                                7621 non-null   float64
 5   First Dose Administered               7621 non-null   float64
 6   Second Dose Administered              7621 non-null   float64
 7   Male (Doses Administered)             7461 non-null   float64
 8   Female (Doses Administered)           7461 non-null   float64
 9   Transgender (Doses Administered)      7461 non-null   float64
 10   Covaxin (Doses Administered)         7621 non-null   float64
 11  CoviShield (Doses Administered)       7621 non-null   float64
 12  Sputnik V (Doses Administered)        2995 non-null   float64
```

```
 13  AEFI                                  5438 non-null   float64
 14  18-44 Years (Doses Administered)      1702 non-null   float64
 15  45-60 Years (Doses Administered)      1702 non-null   float64
 16  60+ Years (Doses Administered)        1702 non-null   float64
 17  18-44 Years(Individuals Vaccinated)   3733 non-null   float64
 18  45-60 Years(Individuals Vaccinated)   3734 non-null   float64
 19  60+ Years(Individuals Vaccinated)     3734 non-null   float64
 20  Male(Individuals Vaccinated)          160 non-null    float64
 21  Female(Individuals Vaccinated)        160 non-null    float64
 22  Transgender(Individuals Vaccinated)   160 non-null    float64
 23  Total Individuals Vaccinated          5919 non-null   float64
dtypes: float64(22), object(2)
memory usage: 1.4+ MB
```

1.1 Description of the data set

The dataset you mentioned is a state-wise record of COVID-19 vaccinations in India. It contains information on the number of doses administered, the number of sessions and sites, the number of people who received the first and second doses, and the number of people vaccinated by gender and vaccine type. It also includes information on adverse events following immunization (AEFI) and the age distribution of those vaccinated.

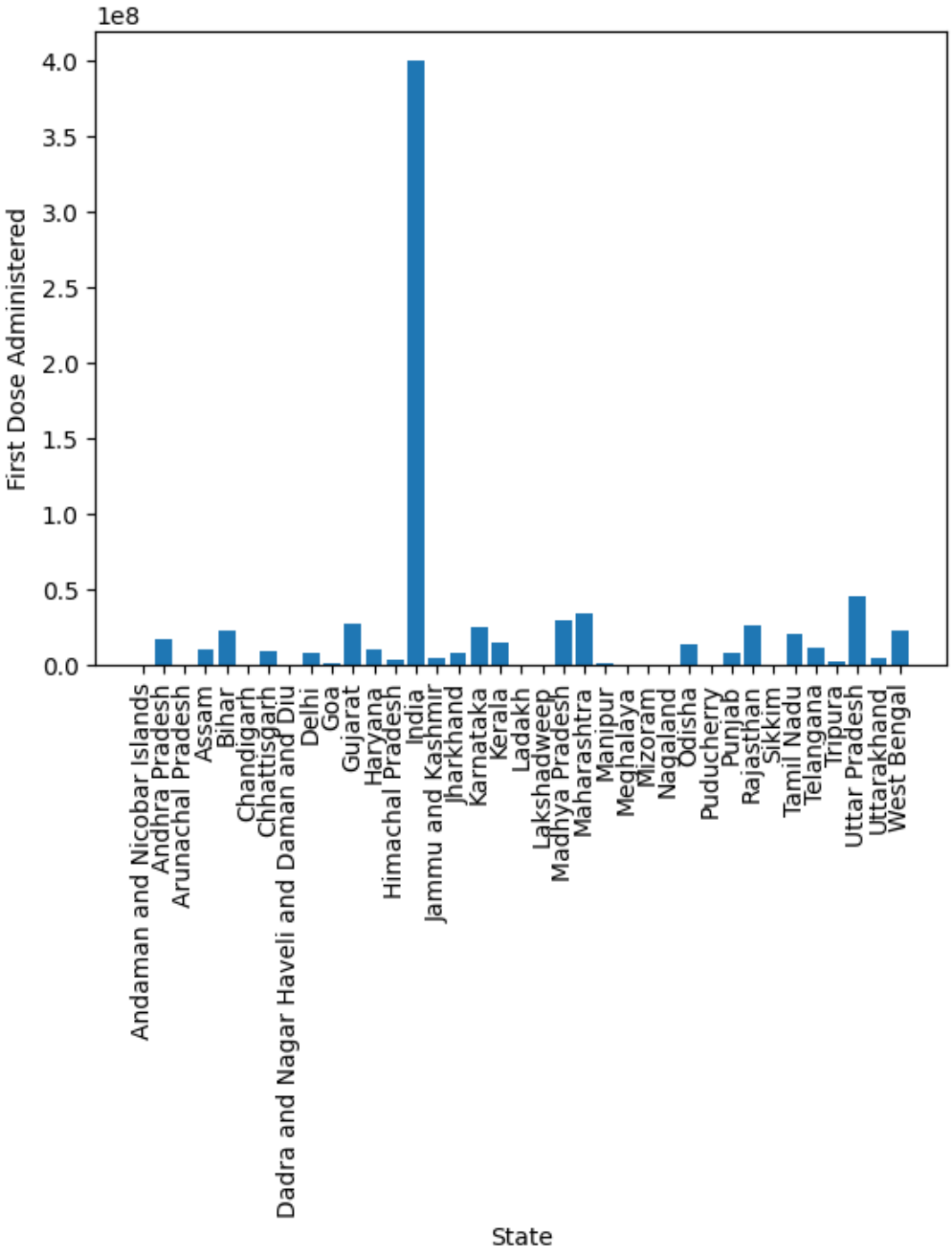
[45]:
```
latest_data = df.groupby('State').last().reset_index()
```

[46]:
```
# Number of persons state wise vaccinated for first dose in India
first_dose = latest_data[['State', 'First Dose Administered']]
latest_data = latest_data[latest_data['State'] != 'India']
print(first_dose)
```

```
                                    State  First Dose Administered
0                 Andaman and Nicobar Islands                 216046.0
1                             Andhra Pradesh                17628583.0
2                          Arunachal Pradesh                  692475.0
3                                      Assam                10495293.0
4                                      Bihar                23350171.0
5                                 Chandigarh                  700285.0
6                                Chhattisgarh                 9181482.0
7   Dadra and Nagar Haveli and Daman and Diu                  584370.0
8                                      Delhi                 7835546.0
9                                        Goa                 1094392.0
10                                   Gujarat                28101222.0
11                                   Haryana                10086831.0
12                            Himachal Pradesh                 4249849.0
13                                     India               400150406.0
14                           Jammu and Kashmir                 5318516.0
15                                   Jharkhand                 8382280.0
16                                   Karnataka                25847691.0
17                                      Kerala                15670747.0
```

18	Ladakh	188699.0
19	Lakshadweep	51156.0
20	Madhya Pradesh	29723036.0
21	Maharashtra	35040812.0
22	Manipur	1159424.0
23	Meghalaya	938572.0
24	Mizoram	654946.0
25	Nagaland	632120.0
26	Odisha	13954592.0
27	Puducherry	601591.0
28	Punjab	8005636.0
29	Rajasthan	27008606.0
30	Sikkim	497851.0
31	Tamil Nadu	20836674.0
32	Telangana	11649268.0
33	Tripura	2411195.0
34	Uttar Pradesh	45932488.0
35	Uttarakhand	5070544.0
36	West Bengal	23257417.0

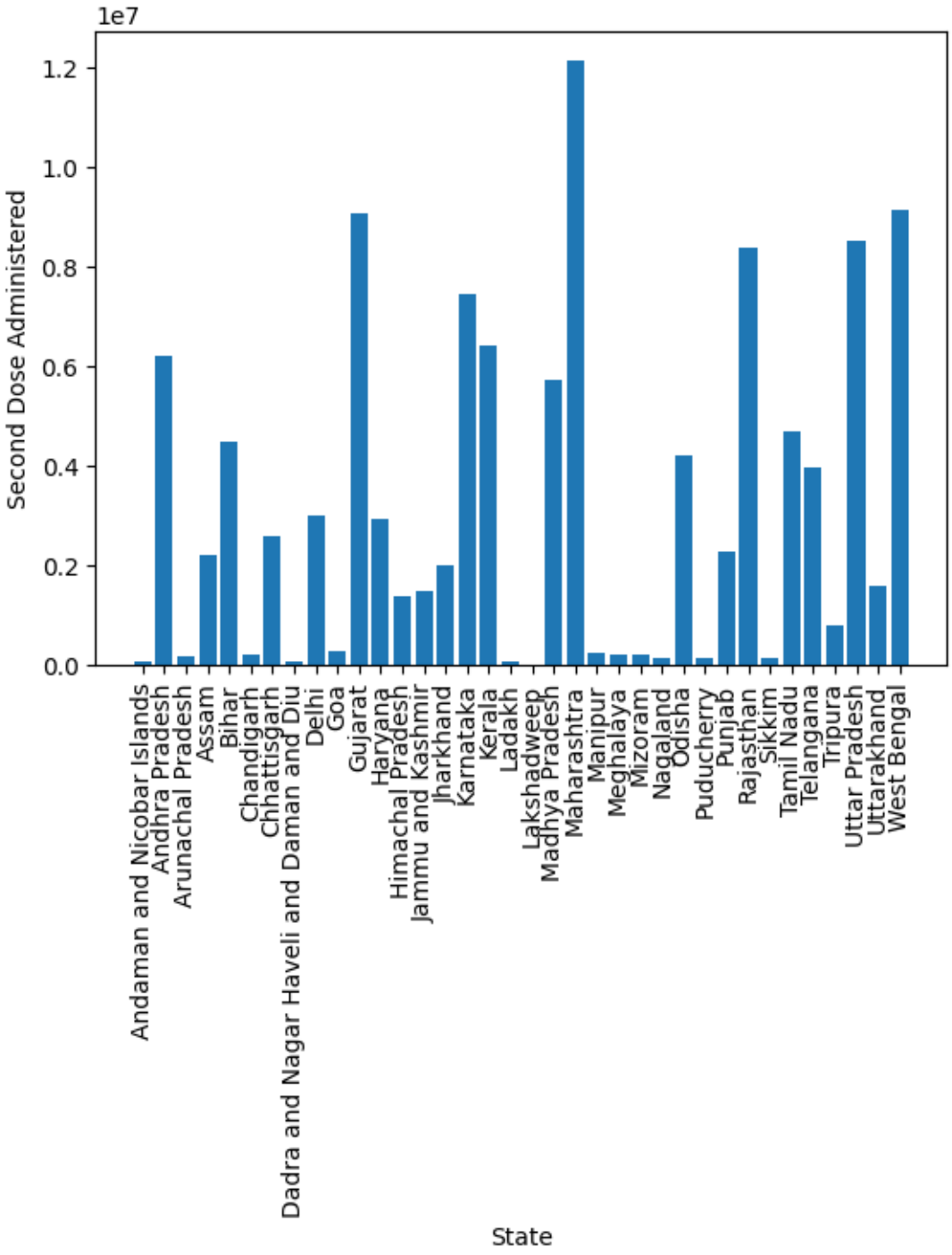
[47]:
```
plt.bar(first_dose['State'], first_dose['First Dose Administered'])
plt.xticks(rotation=90)
plt.xlabel('State')
plt.ylabel('First Dose Administered')
plt.show()
```



[48]:
```
# Number of persons state wise vaccinated for second dose in India
latest_data = latest_data[latest_data['State'] != 'India']
second_dose = latest_data[['State', 'Second Dose Administered']]
print(second_dose)
```

	State	Second Dose Administered
0	Andaman and Nicobar Islands	94597.0
1	Andhra Pradesh	6214312.0
2	Arunachal Pradesh	186619.0
3	Assam	2208577.0
4	Bihar	4484768.0
5	Chandigarh	223534.0
6	Chhattisgarh	2587695.0
7	Dadra and Nagar Haveli and Daman and Diu	80851.0
8	Delhi	3000536.0
9	Goa	302519.0
10	Gujarat	9051153.0
11	Haryana	2923550.0
12	Himachal Pradesh	1382592.0
14	Jammu and Kashmir	1489826.0
15	Jharkhand	1996014.0
16	Karnataka	7432852.0
17	Kerala	6426984.0
18	Ladakh	70337.0
19	Lakshadweep	17139.0
20	Madhya Pradesh	5733640.0
21	Maharashtra	12112554.0
22	Manipur	246694.0
23	Meghalaya	231982.0
24	Mizoram	206773.0
25	Nagaland	159388.0
26	Odisha	4200094.0
27	Puducherry	151771.0
28	Punjab	2285629.0
29	Rajasthan	8375056.0
30	Sikkim	151538.0
31	Tamil Nadu	4686034.0
32	Telangana	3965624.0
33	Tripura	804099.0
34	Uttar Pradesh	8515236.0
35	Uttarakhand	1596572.0
36	West Bengal	9132961.0

[49]:
```
plt.bar(second_dose['State'], second_dose['Second Dose Administered'])
plt.xticks(rotation=90)
plt.xlabel('State')
plt.ylabel('Second Dose Administered')
plt.show()
```



[50]:
```
# Number of Males vaccinated
male_vaccinated = latest_data['Male (Doses Administered)'].sum()
print(male_vaccinated)
```

```
270163622.0
```

[51]:
```
# Number of females vaccinated
female_vaccinated = latest_data['Female (Doses Administered)'].sum()
print(female_vaccinated)
```

```
239518609.0
```