

▼ Covid-19 Vaccination Analysis

DSBDA Mini Project by:

Abhishek Bankar - 305A012 | Sahil Shimpi - 305A086 | Siddhant Bhujbal - 305A017 | Pratham Agrawal - 305A006

▼ Importing required libraries:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
import seaborn as sns
```

▼ Reading the dataset:

```
df= pd.read_csv('covid_vaccine_statewise.csv')
df.head()
```

	Updated On	State	Total Doses Administered	Sessions	Sites	First Dose Administered	Second Dose Administered	Third Dose Administered
0	16/01/2021	India	48276.0	3455.0	2957.0	48276.0	0.0	0.0
1	17/01/2021	India	58604.0	8532.0	4954.0	58604.0	0.0	0.0
2	18/01/2021	India	99449.0	13611.0	6583.0	99449.0	0.0	0.0
3	19/01/2021	India	195525.0	17855.0	7951.0	195525.0	0.0	0.0
4	20/01/2021	India	251280.0	25472.0	10504.0	251280.0	0.0	0.0

5 rows × 9 columns

▼ a. Describing the dataset:

```
df.describe()
```

	Total Doses Administered	Sessions	Sites	First Dose Administered	Second Dose Administered	Male (Administ
count	7.621000e+03	7.621000e+03	7621.000000	7.621000e+03	7.621000e+03	7.46100
mean	9.188171e+06	4.792358e+05	2282.872064	7.414415e+06	1.773755e+06	3.62015
std	3.746180e+07	1.911511e+06	7275.973730	2.995209e+07	7.570382e+06	1.73793
min	7.000000e+00	0.000000e+00	0.000000	7.000000e+00	0.000000e+00	0.00000
25%	1.356570e+05	6.004000e+03	69.000000	1.166320e+05	1.283100e+04	5.65550
50%	8.182020e+05	4.547000e+04	597.000000	6.614500e+05	1.388180e+05	3.89785

▼ b. Number of person state wise vaccinated for first dose in India:

```
data={
    'State': [],
    'Vaccinations': []
}
for state in df['State'].unique():
    data['State'].append(state)
    data['Vaccinations'].append(df[df['State']==state]['First Dose Administered'].max())

df2 = pd.DataFrame(data)
print(df2)
```



	State	Vaccinations
0	India	400150406.0
1	Andaman and Nicobar Islands	216046.0
2	Andhra Pradesh	17628583.0
3	Arunachal Pradesh	692475.0
4	Assam	10495293.0
5	Bihar	23350171.0
6	Chandigarh	700285.0
7	Chhattisgarh	9181482.0
8	Dadra and Nagar Haveli and Daman and Diu	584370.0
9	Delhi	7835546.0
10	Goa	1094392.0
11	Gujarat	28101222.0
12	Haryana	10086831.0
13	Himachal Pradesh	4249849.0
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

▼ c. Number of persons state wise vaccinated for second dose in India:

```
data={
    'State': [],
    'Vaccinations': []
}
for state in df['State'].unique():
    data['State'].append(state)
    data['Vaccinations'].append(df[df['State']==state]['Second Dose Administered'].max())

df3 = pd.DataFrame(data)
print(df3)
```

	State	Vaccinations
0	India	113077994.0
1	Andaman and Nicobar Islands	94597.0
2	Andhra Pradesh	6214312.0
3	Arunachal Pradesh	186619.0
4	Assam	2208577.0
5	Bihar	4484768.0
6	Chandigarh	223534.0
7	Chhattisgarh	2587695.0
8	Dadra and Nagar Haveli and Daman and Diu	80851.0
9	Delhi	3000536.0
10	Goa	302519.0
11	Gujarat	9051153.0
12	Haryana	2923550.0
13	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

▼ d. Number of Males vaccinated:

```
male_vaccinations= df['Male(Individuals Vaccinated)'].max()
print('Number of Males vaccinated: ', male_vaccinations)
```

Number of Males vaccinated: 134941971.0

▼ e. Number of Females vaccinated:

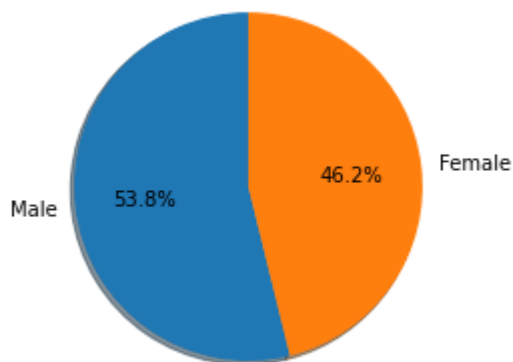
```
female_vaccinations= df['Female(Individuals Vaccinated)'].max()
print('Number of Females vaccinated: ', female_vaccinations)
```

Number of Females vaccinated: 115668447.0

▼ Male and Female Vaccinated ratio for Covid19:

```
plt.pie([male_vaccinations, female_vaccinations], labels=['Male','Female'], autopct='%1.1f')
```

```
([<matplotlib.patches.Wedge at 0x1d3ad0424c0>,
 <matplotlib.patches.Wedge at 0x1d3ad042e20>],
 [Text(-1.0919832504198743, -0.13256161134523936, 'Male'),
 Text(1.0919832504198743, 0.13256161134523922, 'Female')],
 [Text(-0.5956272275017496, -0.07230633346103965, '53.8%'),
 Text(0.5956272275017496, 0.07230633346103957, '46.2%')])
```



Conclusion:

Thus, we have analyzed and visualized Covid-19 Vaccination data state-wise and gender-wise.