REPORT

ON MACHINE LEARNING PROJECT :

'Covid-19 Vaccination'

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OVERVIEW:-

This project **Covid-19 Vaccination**' is a Machine Learning made using Python Code is a simple Code designed for Tracking Covid-19 Vaccination Progress.

India began Administration of COVID-19 Vaccines on 16 january 2021(145 days ago). As of 9 June 2021, India has Administered 242,726,693 doses overall, including first and second doses of the currently-Approved Vaccines.

GOAL:-

- Graph of Vaccination Administrated by Gender.
- Graph of Vaccine Brands used in the country.
- Graph of Vaccination Administrated by Age.
- Graph of State Wise Administrated Vaccination.
- Graph of Total individual Vaccination.

SPECIFICATIONS:

This Python Code provide details about the Covid-19 Vaccination Report in India. We display some more Graphs to Display Vaccination Progress.

RESOURCE:

Spider in this we are using **Python** as a Source code

SOURCECODE

PYTHON

Editor

C:\Users\Shamsher\OneDrive\Desktop\MI Python\Vaccination\covid_vaccine.py

covid_vaccine.py*

```python

# It is defined by the Shamsher using  Python Machine Learning

#Some Libraries We Need to Import From The Pip Library
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)
import seaborn as sb # use to Matplotlib Underneath to Plot Graphs
import matplotlib.pyplot as plt #Use to Plot Graphs
import numpy as np # it is used to calculate the mathematical equations
import cufflinks as cl # use to connect the Pandas data frame with Plotly enabling to create Visualizations directly
import plotly.offline as po # This Allows us to generate graphs offline and save them in local Machine
import warnings # importing Warning Library to ignore the minor bugs
warnings.filterwarnings('ignore')

# Enabling the offline Mode to Generate Graphs
po.init_notebook_mode(connected=True)
cl.go_offline()

# Fetcing CSV file from the dirctory
df = pd.read_csv('covid_vaccine_statewise.csv')

# This allows us to Fetch first Top 5 Data from the list
df.head()
# Checking if the file is null if There is no data then Calling Sum() function To add present Data
df.isnull().sum()

# Setting up the Figure Size to 10,12
plt.rcParams['figure.figsize'] = 10, 12


# First Dose Administered & Second Dose Administered
f, sub = plt.subplots(figsize=(28, 28))
content= df[['State','First Dose Administered','Second Dose Administered']]
content.sort_values('First Dose Administered',ascending=False,inplace=True)
sb.set_color_codes("pastel")
sb.barplot(x="First Dose Administered", y="State", data=content,label="First Dose Administered", color="blue")
sb.set_color_codes("muted")
sb.barplot(x="Second Dose Administered", y="State", data=content, label="Second Dose Administered", color="green")
sub.legend(ncol=2, loc="lower right", frameon=True)
sub.set(xlim=(0, 700000), ylabel="",xlabel="First Dose Administered & Second Dose Administered")
sb.despine(left=True, bottom=True)



# Male(Individuals Vaccinated) & Female(Individuals Vaccinated)
f, sub = plt.subplots(figsize=(28, 28))
content = df[['State','Male(Individuals Vaccinated)','Female(Individuals Vaccinated)']]
content.sort_values('Female(Individuals Vaccinated)',ascending=False,inplace=True)
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covid_vaccine.py*

```
# Male(Individuals Vaccinated) & Female(Individuals Vaccinated)
f, sub = plt.subplots(figsize=(28, 28))
content = df[['State','Male(Individuals Vaccinated)','Female(Individuals Vaccinated)']]
content.sort_values('Female(Individuals Vaccinated)',ascending=False,inplace=True)
sb.set_color_codes("pastel")
sb.barplot(x="Male(Individuals Vaccinated)", y="State", data=content,label="Male", color="black")
sb.set_color_codes("muted")
sb.barplot(x="Female(Individuals Vaccinated)", y="State", data=content, label="Female", color="orange")
sub.legend(ncol=2, loc="lower right", frameon=True)
sub.set(xlim=(0, 700000), ylabel="",xlabel="Male(Individuals Vaccinated) & Female(Individuals Vaccinated)")
sb.despine(left=True, bottom=True)


#Total Individuals Vaccinated
f, sub = plt.subplots(figsize=(28, 28))
content = df[['State','Total Individuals Vaccinated']]
content.sort_values('Total Individuals Vaccinated',ascending=False,inplace=True)
sb.set_color_codes("pastel")
sb.barplot(x="Total Individuals Vaccinated", y="State", data=content,label="Total Individuals Vaccinated", color="skyblue")
sb.set_color_codes("muted")
sub.set(xlim=(0, 500000), ylabel="",xlabel="Total Individuals Vaccinated")


# Total Covaxin Administered
f, sub = plt.subplots(figsize=(28, 28))
content = df[['State','Total Covaxin Administered']]
content.sort_values('Total Covaxin Administered',ascending=False,inplace=True)
sb.set_color_codes("pastel")
sb.barplot(x="Total Covaxin Administered", y="State", data=content,label="Total Covaxin Administered", color="yellow")
sb.set_color_codes("muted")
sub.set(xlim=(0, 500000), ylabel="",xlabel="Total Covaxin Administered")

# Total CoviShield Administered
f, sub = plt.subplots(figsize=(28, 28))
content = df[['State','Total CoviShield Administered']]
content.sort_values('Total CoviShield Administered',ascending=False,inplace=True)
sb.set_color_codes("pastel")
sb.barplot(x="Total CoviShield Administered", y="State", data=content,label="Total CoviShield Administered", color="lightgreen")
sb.set_color_codes("muted")
sub.set(xlim=(0, 500000), ylabel="",xlabel="Total CoviShield Administered")


#Total Doses Administered
f, sub = plt.subplots(figsize=(28, 28))
content = df[['State','Total Doses Administered']]
content.sort_values('Total Doses Administered',ascending=False,inplace=True)
sb.set_color_codes("pastel")
```

Editor

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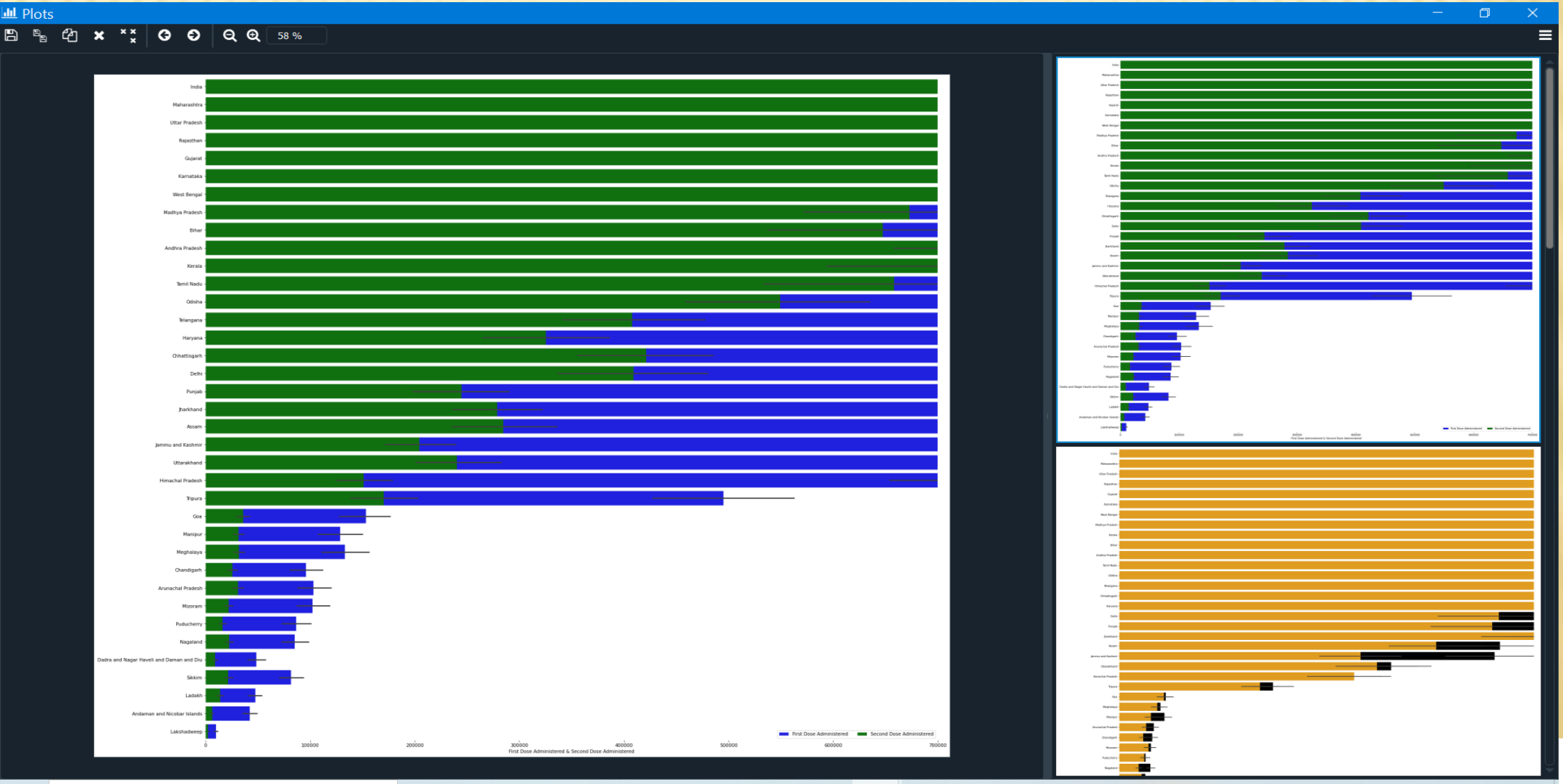
covid_vaccine.py*

```
65
66
67  # Total Covaxin Administered
68  f, sub = plt.subplots(figsize=(28, 28))
69  content = df[['State','Total Covaxin Administered']]
70  content.sort_values('Total Covaxin Administered',ascending=False,inplace=True)
71  sb.set_color_codes("pastel")
72  sb.barplot(x="Total Covaxin Administered", y="State", data=content,label="Total Covaxin Administered", color="yellow")
73  sb.set_color_codes("muted")
74  sub.set(xlim=(0, 500000), ylabel="",xlabel="Total Covaxin Administered")
75
76  # Total CoviShield Administered
77  f, sub = plt.subplots(figsize=(28, 28))
78  content = df[['State','Total CoviShield Administered']]
79  content.sort_values('Total CoviShield Administered',ascending=False,inplace=True)
80  sb.set_color_codes("pastel")
81  sb.barplot(x="Total CoviShield Administered", y="State", data=content,label="Total CoviShield Administered", color="lightgreen")
82  sb.set_color_codes("muted")
83  sub.set(xlim=(0, 500000), ylabel="",xlabel="Total CoviShield Administered")
84
85
86  #Total Doses Administered
87  f, sub = plt.subplots(figsize=(28, 28))
88  content = df[['State','Total Doses Administered']]
89  content.sort_values('Total Doses Administered',ascending=False,inplace=True)
90  sb.set_color_codes("pastel")
91  sb.barplot(x="Total Doses Administered", y="State", data=content,label="Total Doses Administered", color="orange")
92  sb.set_color_codes("muted")
93  sub.set(xlim=(0, 500000), ylabel="",xlabel="Total Doses Administered")
94
95  #code for circle
96  labels=np.array(['18-45 years (Age)', '45-60 years (Age)', '60+ years (Age)'])
97  stats=df.loc[386,labels].values
98  angles=np.linspace(0, 2*np.pi, len(labels), endpoint=False)
99
100 # close the plot
101 stats=np.concatenate((stats,[stats[0]]))
102 angles=np.concatenate((angles,[angles[0]]))
103 fig=plt.figure()
104 circle = fig.add_subplot(111, polar=True)
105 circle.plot(angles, stats, 'o-', linewidth=2)
106 circle.set_thetagrids(angles * 180/np.pi, labels)
107 circle.grid(True)
108
109
110
```

OUTPUT:-


Plots
58 %
India
Maharashtra
Uttar Pradesh
Rajasthan
Gujarat
Karnataka
West Bengal
Madhya Pradesh
Bihar
Andhra Pradesh
Kerala
Tamil Nadu
Odisha
Telangana
Haryana
Chhattisgarh
Delhi
Punjab
Jharkhand
Assam
Jammu and Kashmir
Uttarakhand
Himachal Pradesh
Tripura
Goa
Manipur
Meghalaya
Chandigarh
Arunachal Pradesh
Mizoram
Puducherry
Nagaland
Dadra and Nagar Haveli and Daman and Diu
Sikkim
Ladakh
Andaman and Nicobar Islands
Lakshadweep
0
100000
200000
300000
400000
500000
600000
700000
First Dose Administered & Second Dose Administered
First Dose Administered
Second Dose Administered
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Plots
58 %
Male
Female
Male Individuals Vaccinated & Female Individuals Vaccinated
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ENG
13:37
11-06-2021


Plots
58 %
Total Individuals Vaccinated
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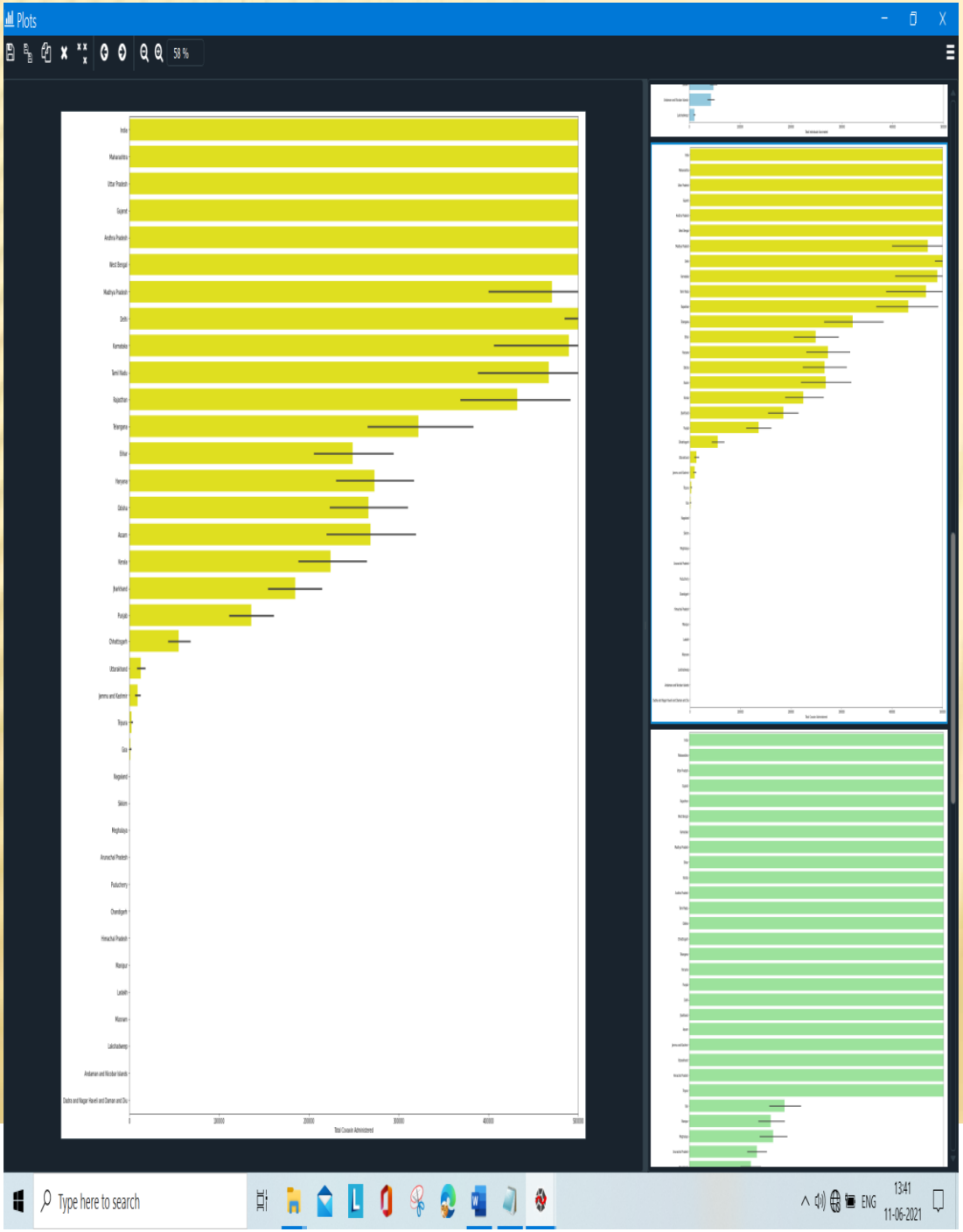
ENG
13:39
11-06-2021


Plots
58 %
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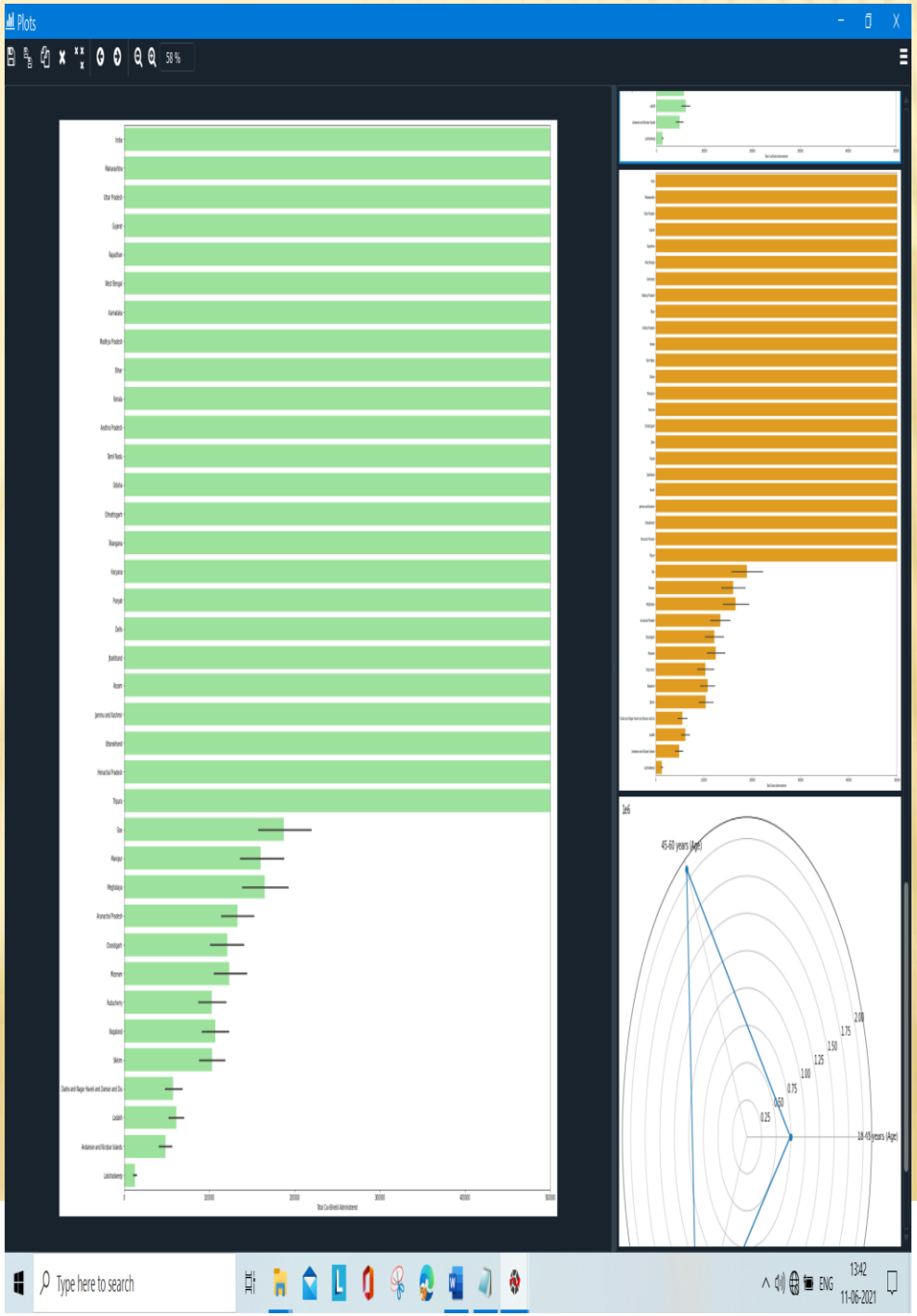
11-06-2021


Plots
50 %
45-60 years (Age)
18-45 years (Age)
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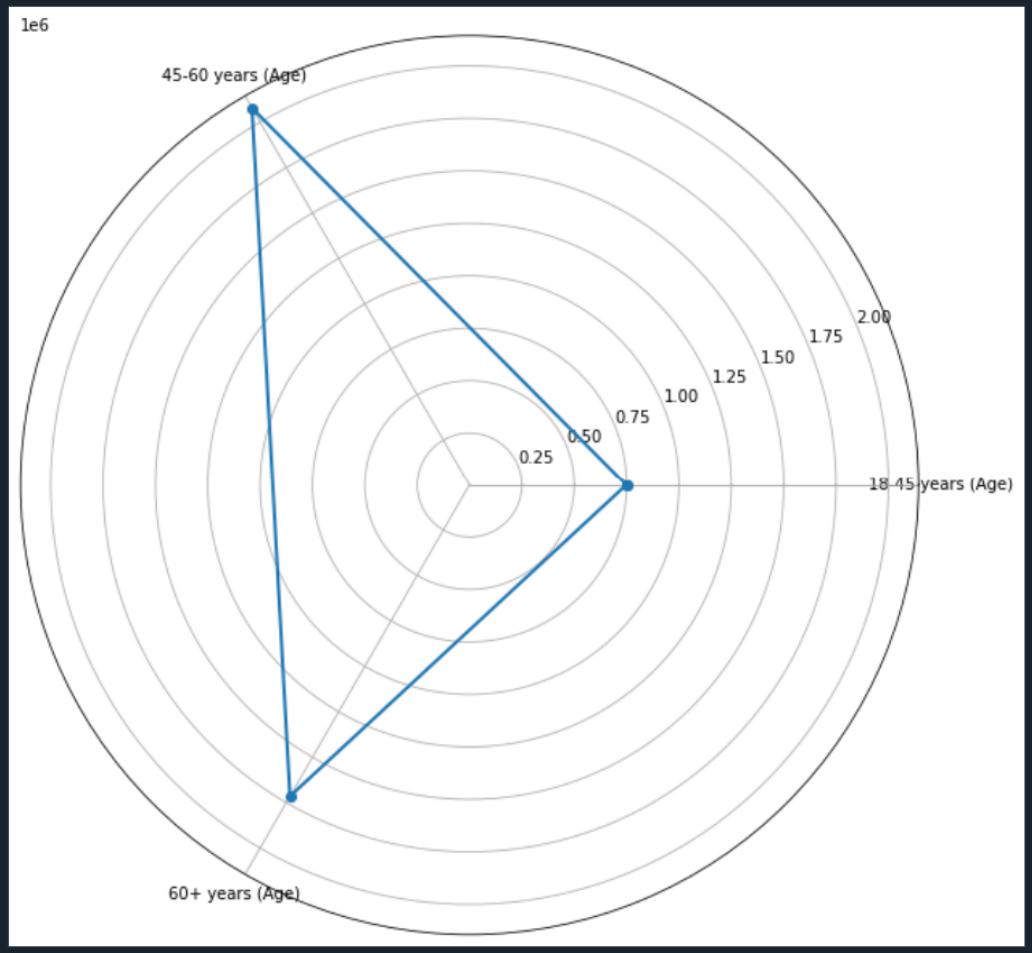
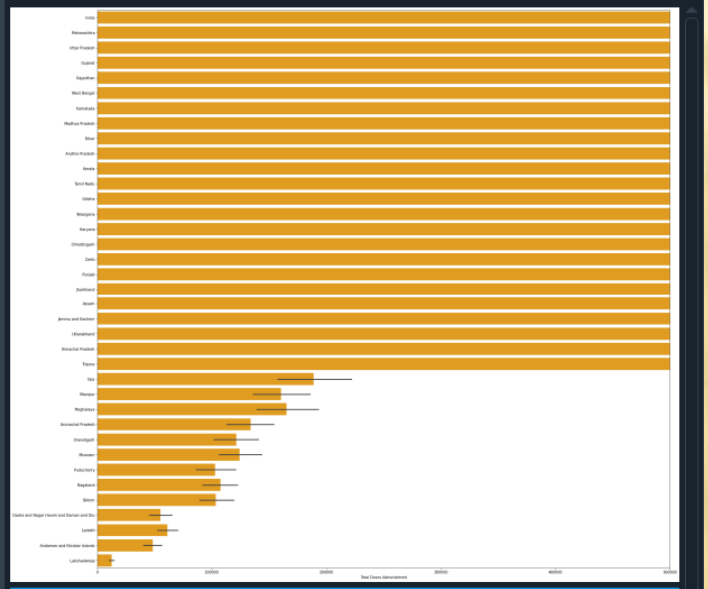
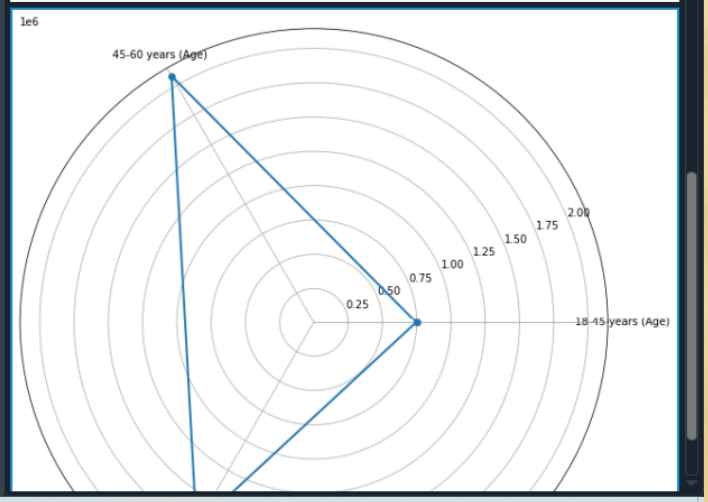
Plots

144 %







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Source Code:-

This Github project Will be Created on 10th June with the Help of 9th June Data so The Updated Data is not Present in the Project. I Tried to add live data in the Python Code but its very deficult to me so I added the present data of the coding time.

GitHub:- https://github.com/Shamsher-Desai/Covid-19-vaccination.git

References:-

- https://en.wikipedia.org/wiki/COVID-19_vaccination_in_India
- https://geographicinsights.iq.harvard.edu/IndiaVaccine
- https://www.kaggle.com/monalisapanda94/covid