My notebook

August 15, 2025

[5]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load dataset
file_path = r"C:\Users\sahil\Downloads\latest Covid-19 India Status.csv.xlsx"
data = pd.read_excel(file_path, sheet_name='Latest Covid-19 India Status')


# Top 10 States by Total Cases

plt.figure(figsize=(10,5))
top_cases = data.sort_values(by="Total Cases", ascending=False).head(10)
sns.barplot(x="Total Cases", y="State/UTs", data=top_cases, palette="Reds_r",␣
 ↪hue="State/UTs", legend=False)
plt.title("Top 10 States/UTs with Highest COVID-19 Cases in India")
plt.xlabel("Total Cases")
plt.ylabel("State/UT")
plt.show()

# Active vs Discharged vs Deaths (Stacked Bar Chart)

plt.figure(figsize=(12,6))
states = data['State/UTs']
plt.bar(states, data['Active'], label='Active', color='orange')
plt.bar(states, data['Discharged'], bottom=data['Active'], label='Discharged',␣
 ↪color='green')
plt.bar(states, data['Deaths'], bottom=data['Active'] + data['Discharged'],␣
 ↪label='Deaths', color='red')
plt.xticks(rotation=90)
plt.ylabel("Number of Cases")
plt.title("COVID-19 Case Distribution by State/UT")
plt.legend()
plt.show()

# Death Ratio by State (Top 10)
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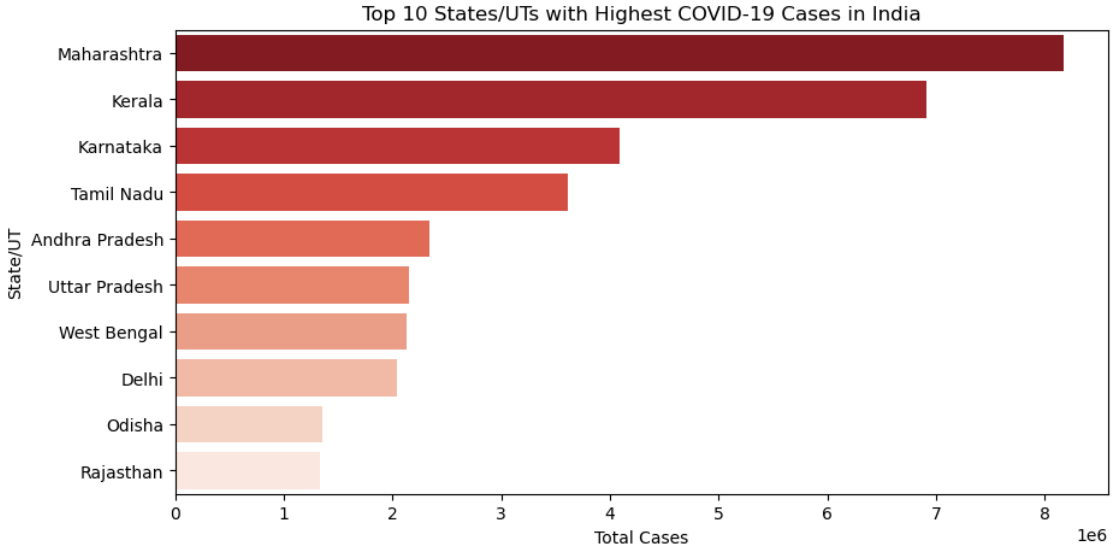
```
plt.figure(figsize=(10,5))
top_death_ratio = data.sort_values(by="Death Ratio", ascending=False).head(10)
sns.barplot(x="Death Ratio", y="State/UTs", data=top_death_ratio,␣
 ↪palette="Blues_r", hue="State/UTs", legend=False)
plt.title("Top 10 States/UTs by Death Ratio (%)")
plt.xlabel("Death Ratio (%)")
plt.ylabel("State/UT")
plt.show()

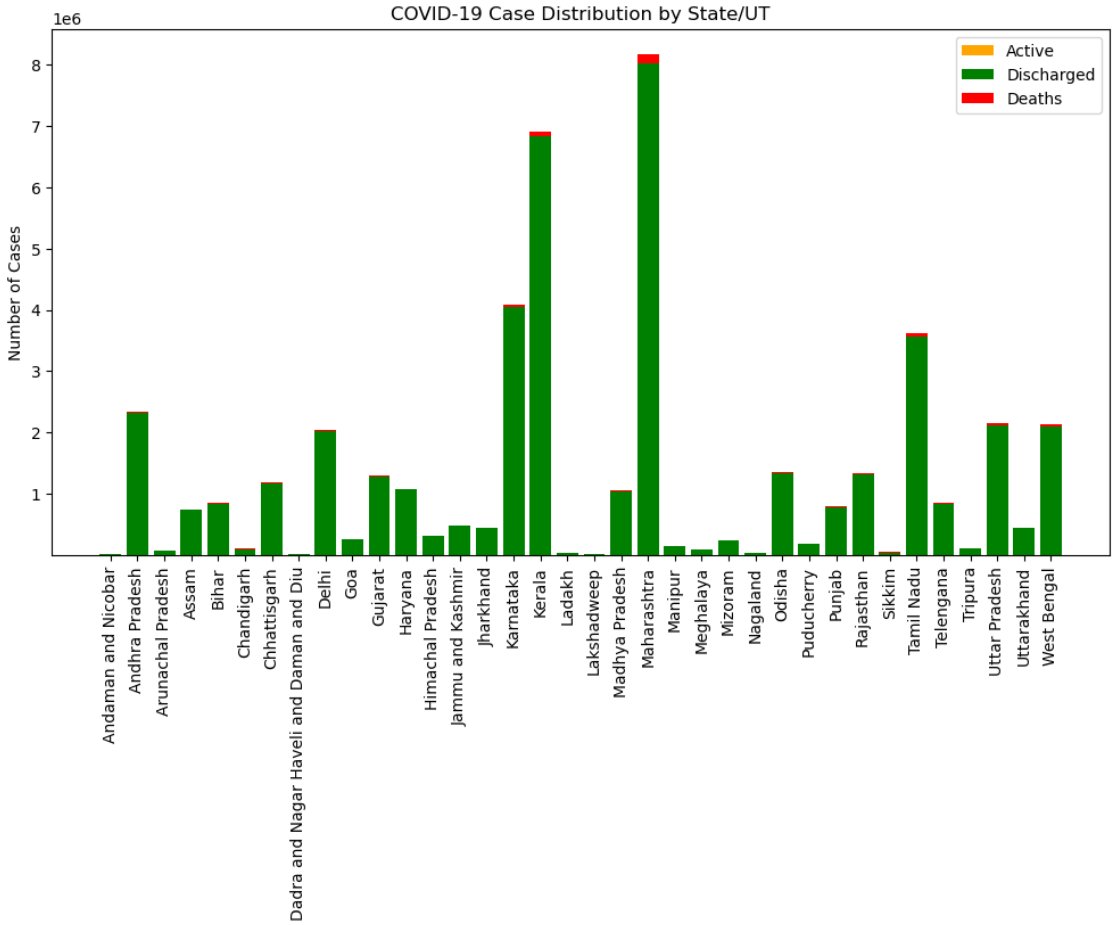

# Active Ratio vs Discharge Ratio (Scatter Plot)

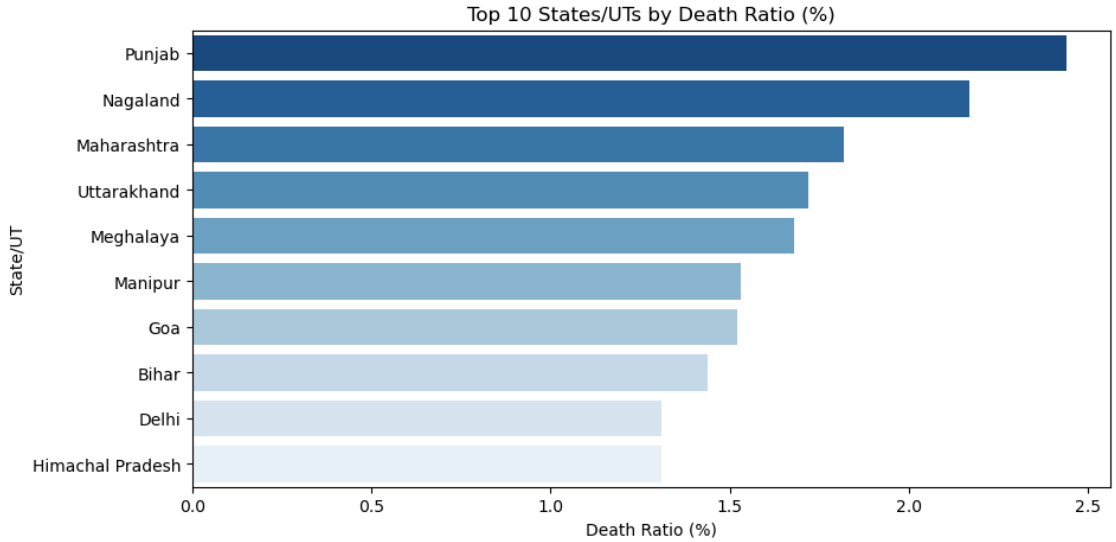
plt.figure(figsize=(8,6))
sns.scatterplot(x="Active Ratio", y="Discharge Ratio", hue="State/UTs",␣
 ↪data=data, s=100)
plt.title("Active Ratio vs Discharge Ratio")
plt.xlabel("Active Ratio (%)")
plt.ylabel("Discharge Ratio (%)")
plt.legend(bbox_to_anchor=(1.05, 1), loc='upper left', fontsize='small')
plt.show()

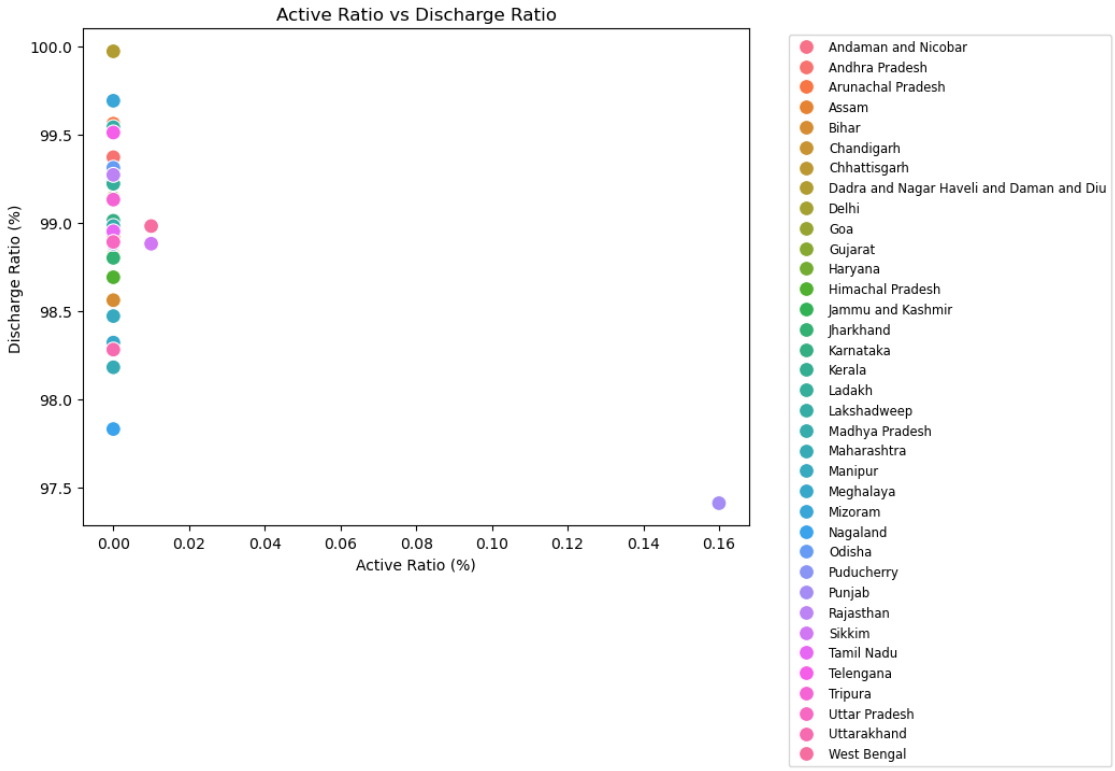
# Pie Chart - Top 10 States by Total Cases

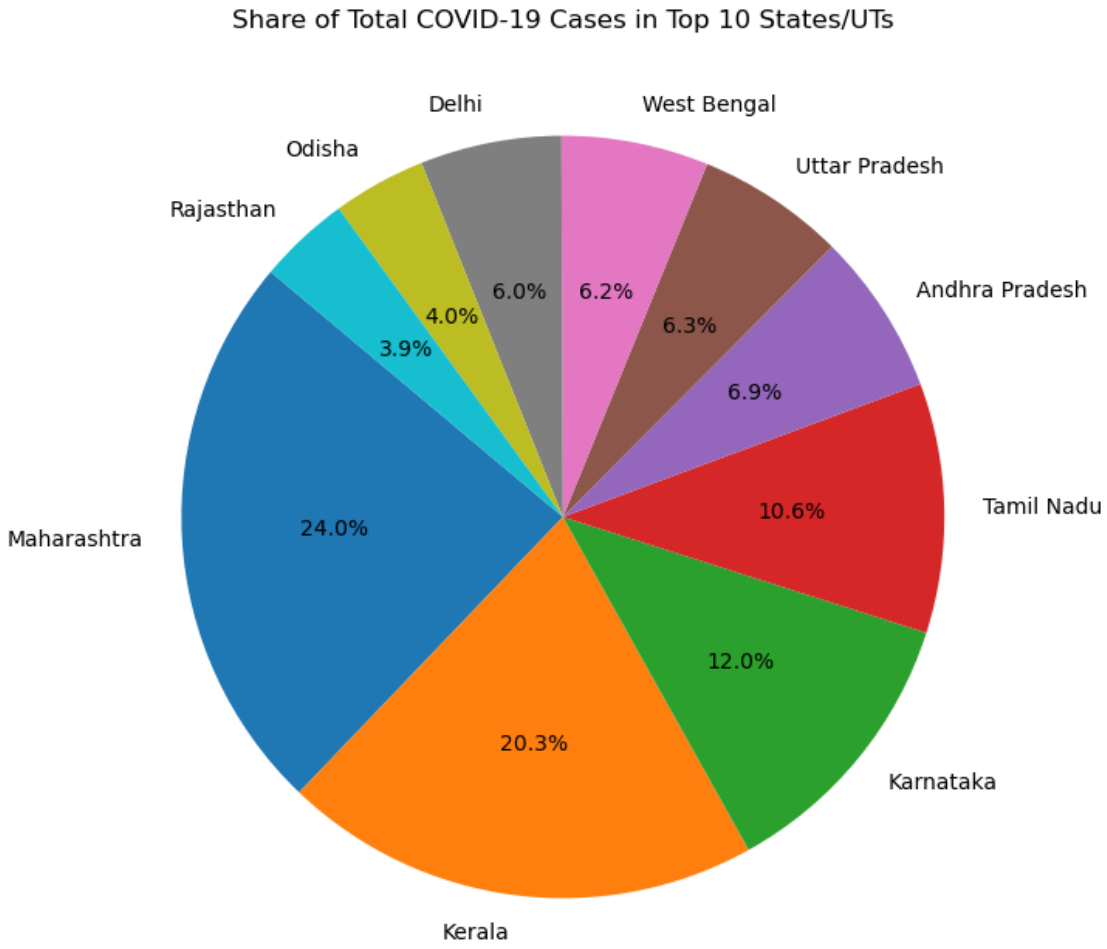
plt.figure(figsize=(8,8))
plt.pie(top_cases["Total Cases"], labels=top_cases["State/UTs"], autopct='%1.
 ↪1f%%', startangle=140)
plt.title("Share of Total COVID-19 Cases in Top 10 States/UTs")
plt.show()
```




COVID-19 Case Distribution by State/UT
1e6
Active
Discharged
Deaths
Number of Cases
Andaman and Nicobar
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Dadra and Nagar Haveli and Daman and Diu
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Jharkhand
Karnataka
Kerala
Ladakh
Lakshadweep
Madhya Pradesh
Maharashtra
Manipur
Meghalaya
Mizoram
Nagaland
Odisha
Puducherry
Punjab
Rajasthan
Sikkim
Tamil Nadu
Telengana
Tripura
Uttar Pradesh
Uttarakhand
West Bengal


Top 10 States/UTs by Death Ratio (%)
State/UT
Punjab
Nagaland
Maharashtra
Uttarakhand
Meghalaya
Manipur
Goa
Bihar
Delhi
Himachal Pradesh
Death Ratio (%)


Active Ratio vs Discharge Ratio
Discharge Ratio (%)
100.0
99.5
99.0
98.5
98.0
97.5
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
Active Ratio (%)
Andaman and Nicobar
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Dadra and Nagar Haveli and Daman and Diu
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Jharkhand
Karnataka
Kerala
Ladakh
Lakshadweep
Madhya Pradesh
Maharashtra
Manipur
Meghalaya
Mizoram
Nagaland
Odisha
Puducherry
Punjab
Rajasthan
Sikkim
Tamil Nadu
Telengana
Tripura
Uttar Pradesh
Uttarakhand
West Bengal


Share of Total COVID-19 Cases in Top 10 States/UTs
Delhi
West Bengal
Odisha
Uttar Pradesh
Rajasthan
Andhra Pradesh
6.0%
6.2%
4.0%
6.3%
3.9%
6.9%
Tamil Nadu
10.6%
Maharashtra
24.0%
12.0%
20.3%
Karnataka
Kerala

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