**COVID\_19 DATA ANALYSIS AND VISUALISATION**

# Importing Library Files

# import pandas as pd

# import numpy as np

# import matplotlib.pyplot as plt

# import seaborn as sns

# import plotly.express as px

# from plotly.subplots import make\_subplots

# from datetime import datetime

# Reading Dataset

# covid\_df=pd.read\_csv("C:/Users/naren/Desktop/covid data/covid\_19\_india.csv")

# Dataset

covid\_df.head(100).style.background\_gradient(cmap = "cubehelix")

A screenshot of a computer

Description automatically generated with medium confidence

# Statistical data from Dataset

covid\_df.describe().style.background\_gradient(cmap = "cubehelix")

Table

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# Cleaning Dataset

covid\_df.drop(["Sno","Time","ConfirmedIndianNational","ConfirmedForeignNational"], inplace = True,axis = 1)

covid\_df.head(100).style.background\_gradient(cmap = "cubehelix")

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# Active Cases

covid\_df['Active\_cases'] = covid\_df['Confirmed'] - (covid\_df['Cured'] + covid\_df['Deaths'])

covid\_df.head(100).style.background\_gradient(cmap = "cubehelix")

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# Recovery and Mortality Rate

statewise = pd.pivot\_table(covid\_df, values= ["Confirmed","Deaths","Cured"],index = "State/UnionTerritory",aggfunc = max)

statewise["Recovery Rate"] = statewise["Cured"]\*100/statewise["Confirmed"]

statewise = statewise.sort\_values(by = "Confirmed", ascending = False)

statewise = statewise.sort\_values(by = "Confirmed", ascending = False)

statewise.style.background\_gradient(cmap = "cubehelix")

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# Top 10 states with Active Cases

top\_10\_active\_states=covid\_df.groupby(by = 'State/UnionTerritory').max()[['Active\_cases','Date']].sort\_values(by=['Active\_cases'], ascending = False).reset\_index()

top\_10\_active\_states.head(10).style.background\_gradient(cmap = "cubehelix")

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# Barplot for Top 10 states with Active Cases

fig = plt.figure(figsize=(16,9))

plt.title("Top 10 states with most active cases in India",size = 25)

ax = sns.barplot(data =top\_10\_active\_states.iloc[:10], y= "Active\_cases",x = "State/UnionTerritory")

plt.xlabel("States")

plt.ylabel("Total Active Cases")

plt. show()

Chart, bar chart

Description automatically generated

# Piechart for Top 5 States of Active Cases

import matplotlib.pyplot as plt

%matplotlib inline

states=['Maharashtra','Karnataka','Kerala','Tamil Nadu','Uttar Pradesh']

active\_cases=['701614','605515','445692','313048','310783']

colors=['c','b','r','y','g']

explode=[.08,.08,.08,.08,.08]

plt.pie(active\_cases,labels=states,colors=colors,explode=explode,autopct='%2.1f%%')

plt.show()

Chart, pie chart

Description automatically generated

# Boxplot for Top 10 States of Active Cases

sns.boxplot(top\_10\_active\_states.head(10)['Active\_cases'],top\_10\_active\_states.head(10)['State/UnionTerritory']);

Chart, box and whisker chart

Description automatically generated

# Top 10 States With Highest Deaths

top\_10\_deaths=covid\_df.groupby(by = 'State/UnionTerritory').max()[['Deaths','Date']].sort\_values(by=['Deaths'],ascending = False).reset\_index()

top\_10\_deaths.head(10).style.background\_gradient(cmap = "cubehelix")

Table

Description automatically generated

# Barplot for Top 10 States With Highest Deaths

fig = plt.figure(figsize=(18,5))

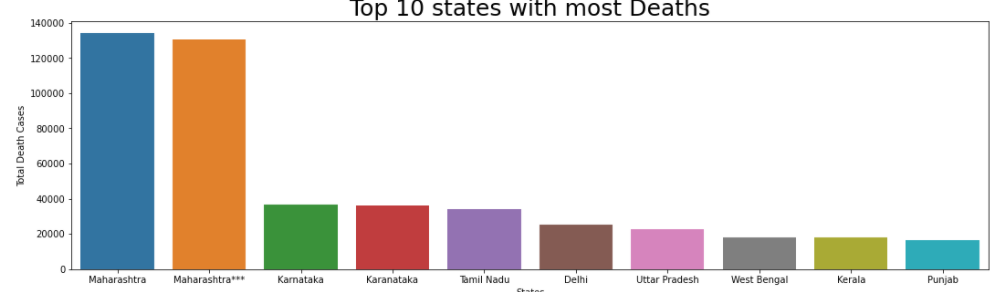
plt.title("Top 10 states with most Deaths",size=25)

ax = sns. barplot(data = top\_10\_deaths.iloc[:10],y="Deaths",x="State/UnionTerritory",linewidth=2)

plt.xlabel("States")

plt.ylabel("Total Death Cases")

plt.show()



# Piechart for Top 5 States With Highest Deaths

import matplotlib.pyplot as plt

%matplotlib inline

states=['Karnataka','Tamil Nadu','Delhi','Uttar Pradesh','Maharashtra']

active\_cases=['36848','34367','25068','22775','134201']

colors=['c','b','r','y','g']

explode=[.08,.08,.08,.08,.08]

plt.pie(active\_cases,labels=states,colors=colors,explode=explode,autopct='%2.1f%%')

plt.show()

Chart, pie chart

Description automatically generated

# Boxplot for Top 10 States with most Deaths[¶](http://localhost:8888/notebooks/Desktop/python%20project/Covid_19_India_Data%20Analysis.ipynb#Boxplot-for-Top-10-States-with-most-Deaths)

sns.boxplot(top\_10\_deaths.head(10)['Deaths'],top\_10\_deaths.head(10)['State/UnionTerritory']);

Chart

Description automatically generated