import numpy as np

import pandas as pd

import os

import matplotlib.pyplot as plt

import seaboran as sns

import plotly.express as px

from plotly.subplots import make\_subplots

import datetime

covid\_df=pd.read\_csv("../input/covid-19-india/covid\_19\_india.csv")

covid\_df.head(10)

covid\_df.info()

covid\_df.describe()

vaccine\_df=pd.read\_csv("../input/covid-19-india/covid\_vaccine\_statewise.csv")

vaccine\_df.head(10)

vaccine\_df.info()

vaccine\_df.describe()

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

covid\_df.head()

covid\_df['date']=pd.to\_datetime(covid\_df['Date'],formate='%Y-%m-%d')

covid\_df.head()

covid\_df.info()

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

covide\_df.tail()

covid\_df['State/UnionTerritory']=covid\_df['State/UnionTerritory'].replace('Maharashtra\*\*\*',"Maharashtra")

covid\_df['State/UnionTerritory']=covid\_df['State/UnionTerritory'].replace('Bihar\*\*\*',"Bihar")

covid\_df['State/UnionTerritory']=covid\_df['State/UnionTerritory'].replace('Madhya Pradesh\*\*\*',"Madhya Pradesh")

covid\_df['State/UnionTerritory']=covid\_df['State/UnionTerritory'].replace('Karanataka'\*\*\*',"Karanataka")

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

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

statewise\_data['Mortality Rate']=statewise\_data['Deaths']\*100/statewise\_data['Confirmed']

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

statewise\_data.style.background\_gardient(cmap="CMRmap")

top10ActiveveCases=covid\_df.groupby(by='State/UnionTerritory').max()[['Active\_cases','Date']].sort\_values(by=Active\_cases'],ascending=Flase).reset\_index()

fig=plt.figure(figsize=(16,10))

plt.title("Top 10 states with most Deathsin India",size=22)

ax=sns.barplot(data=top10Deaths.iloc[:10],y='Deaths',x='State/UnionTerritory',linewidth=2,edgecolor='black)

plt.xlabel("States")

plt.ylabel("Total Deaths")

plt.show()

vaccine\_df.rename(columns={'Updated On':'Vaccine\_Date'},inplace=True)

accine\_df.isnull().sum()

vaccintion=vaccine\_df.drop(columns=['Sputnik V (Doses Administered)','AEFI','18-44 Years (Doses Administered)','45-60 Years (Doses Administered)','60+ Years (Doses Administered)'],axis=1)

vaccination.head()

male=vaccination['Male(Individuals Vaccinated)'].sum()

female=vaccination['Female(Individuals Vaccinated)'].sum()

px.pie(names=["Male","Female"],values=[male,female],title="Male vs Female Vaccination")

vaccine=vaccine\_df[vaccine\_df.State!='India']

vaccine.head()

vaccine.rename(columns={'Total Individuals Vaccinated':"Total"},inplace=True)

vaccine.head()

max\_vacc=vaccine.groupby(State')['Total'].sum().to\_frame('Total')

max\_vacc=max\_vacc.sort\_values(by='Total',ascending=Flase)[:5]

fig=plt.figure(figsize=(12,5))

plt.title("Top 5 Vaccinated States in India",size=16)

x=sns.barplot(data=max\_vacc.iloc[:10],y=max\_vacc.Total,x=max\_vacc.index,linewidth=2,edgecolor='black')

min\_vacc=vaccine.groupby('State')['Total'].sum().to\_frame('Total')

min\_vacc=min\_vacc.sort\_values(by='Total',ascending=True)[:5]

fig=plt.figure(figsize=(12,5))

plt.title("Least 5 Vaccinated States in India",size=16)

x=sns.barplot(data=max\_vacc.iloc[:10],y=min\_vacc.Total,x=min\_vacc.index,linewidth=2,edgecolor='black')