import pandas as pd

import matplotlib.pyplot as plt

import numpy as np

df = pd.DataFrame()

csv\_file = "D:\\Project\\Work.csv"

def vaccine\_data\_analysis():

df = pd.read\_csv(csv\_file)

while 0<1:

print('\n ') Vaccine Data Analysis

print('\*'\*188)

print("") Welcome

print('\*'\*188,"\n")

print('1. Displaying all of the data of Dataframe.\n')

print('2. Presenting only column names of imported CSV.\n')

print('3. Adding a new record in Dataframe.\n ')

print('4. To show some specific column.\n')

print('5. Finding some specific records to be shown.\n')

print('6. Displaying information from top and bottom of Dataframe.\n')

print('7. Sorting of records in Ascending or Descending orders.\n')

print('8. Deleting a column of Dataframe.\n')

print('9. Row Deletion.\n')

print('10. Exit from Data Analysis Menu and Go to Graph Menu.\n')

ch = int(input('Enter your choice:'))

if ch == 1:

print(df)

print('\n\n\n Press any key to continue....')

wait = input()

if ch == 2:

print(df.columns)

print('\n\n\n Press any key to continue....')

wait = input()

if ch == 3:

a = int(input('Enter Aadhar Number of Citizen :'))

b = input('Enter Name of candidate :')

c = input('Enter Address of the candidate :')

d = input('Enter City :')

e = input('Enter State :')

f = input('Enter Gender (M or F) :')

g = int(input('Enter Age in numbers :'))

h = input('Enter the vaccine type :')

i = int(input('Enter the number of doses given :'))

data={"Aadhar\_Number":a,"Name":b,"Address":c,"City":d,"State":e,"Gender":f,"Age":g,"Vaccine\_Type":h,"No\_Of\_Dose(s)":i}

df = df.append(data,ignore\_index=True)

print(df)

print('\n\n\n Press any key to continue....')

wait = input()

if ch == 4:

print("\n",df.columns,"\n")

col\_name = input('Enter Column Name that You want to print : ')

print(df[col\_name])

print('\n\n\n Press any key to continue....')

wait = input()

if ch == 5:

i=input('Enter the Aadhar Number of candidate whose data needs to be shown : ')

print("\n Following is the data of the candidate - ",i,"\n")

print(df.loc[df.name==i])

print('\n\n\n Press any key to continue....')

wait = input()

if ch==6:

col=int(input("Enter number of records which you want to display from Top or Bottom : "))

T=input("Press H to show Top or T for bottom records : ")

if T == "H":

print(df.head(col))

else:

print(df.tail(col))

print('\n\n\n Press any key to continue....')

wait=input()

if ch==7:

col\_name=input("Enter the column name which you want to sort :")

v=input("For ascending write True otherwise False:")

print(df.sort\_values(col\_name,ascending=v))

print('\n\n\n Press any key to continue....')

wait=input()

if ch==8:

col\_name = input('Enter the column name which you want to delete:')

df=df.drop(col\_name,axis=1)

print(df)

print('\n\n\n Press any key to continue....')

wait = input()

if ch == 9:

E=int(input("Enter the serial no which you want to delete from the DataFrame : "))

df=df.drop(E)

print(df.loc[E-2:E+2])

print('\n\n\n Press any key to continue....')

wait = input()

if ch == 10:

break

def graph():

df = pd.read\_csv(csv\_file)

while True:

print('\n GRAPH MENU ')

print('\*'\*188)

print('1. Making of Line graph of state wise distribution of people\n')

print('2. Making of Bar graph for number of people of various cities\n')

print('3. Displaying the number of male and female candidates appeared for vaccination\n')

print('4. Making of Histogram for number of people in respective age groups\n')

print('5. Exit (Exit From Graph Menu)\n')

ch = int(input('Enter your choice:'))

if ch == 1:

x=df['State'].unique()

g=df.groupby("State")

y=g['State'].count()

plt.plot(x,y,color="r",linewidth=2,marker="\*",markersize=10,markeredgecolor="k")

plt.xlabel("States")

plt.ylabel("Total candidates")

plt.title("Line graph of state wise distribution")

plt.show()

if ch == 2:

x = df['City'].unique()

g =df.groupby('City')

y =g['City'].count()

plt.xlabel('City')

plt.ylabel('Total people')

plt.title('City wise people count')

plt.bar(x,y,color=["red","b","black","g"],width=0.5)

plt.xticks(rotation='vertical')

plt.show()

if ch ==3:

f=df.groupby("Gender")

x=df["Gender"].unique()

y=f["Gender"].count()

plt.xlabel("Gender")

plt.ylabel("Number of people")

plt.title("Gender Wise number of Candidates")

plt.bar(x,y,color="b")

plt.show()

if ch==4:

x=df['Age']

plt.hist(x,bins=10,color="y")

plt.xlabel("Range of age")

plt.ylabel("Number of people")

plt.grid(True)

plt.title("Number of people within range of their age")

plt.show()

if ch==5:

break

vaccine\_data\_analysis()

graph()

print("Thanks For Visiting")