Importing libraries

In [2]:
```
import pandas as pd
```

Importing the dataset

In [3]:
```
df = pd.read_csv('country_vaccinations.csv')
df.head(2)
```

Out[3]:

	country	iso_code	date	total_vaccinations	people_vaccinated	people_fully_vacci
0	Afghanistan	AFG	2021-02-22	0.0	0.0	
1	Afghanistan	AFG	2021-02-23	NaN	NaN	

Dealing the null values

In [4]:
```
df.isnull().sum()
```

Out[4]:
```
country                                0
iso_code                               0
date                                   0
total_vaccinations                 42905
people_vaccinated                  45218
people_fully_vaccinated            47710
daily_vaccinations_raw             51150
daily_vaccinations                   299
total_vaccinations_per_hundred     42905
people_vaccinated_per_hundred      45218
people_fully_vaccinated_per_hundred    47710
daily_vaccinations_per_million       299
vaccines                               0
source_name                            0
source_website                         0
dtype: int64
```

In [5]:
```
df.describe()
```

Out[5]:

	total_vaccinations	people_vaccinated	people_fully_vaccinated	daily_vaccinations_raw
count	4.360700e+04	4.129400e+04	3.880200e+04	3.536200e+04
mean	4.592964e+07	1.770508e+07	1.413830e+07	2.705996e+05
std	2.246004e+08	7.078731e+07	5.713920e+07	1.212427e+06
min	0.000000e+00	0.000000e+00	1.000000e+00	0.000000e+00
25%	5.264100e+05	3.494642e+05	2.439622e+05	4.668000e+03
50%	3.590096e+06	2.187310e+06	1.722140e+06	2.530900e+04
75%	1.701230e+07	9.152520e+06	7.559870e+06	1.234925e+05
max	3.263129e+09	1.275541e+09	1.240777e+09	2.474100e+07

filling the null values with 0

In [6]:
```
df = df.fillna(0)
```

In [7]:
```
df.isna().sum()
```

Out[7]:
```
country                              0
iso_code                             0
date                                 0
total_vaccinations                   0
people_vaccinated                    0
people_fully_vaccinated              0
daily_vaccinations_raw               0
daily_vaccinations                   0
total_vaccinations_per_hundred       0
people_vaccinated_per_hundred        0
people_fully_vaccinated_per_hundred  0
daily_vaccinations_per_million       0
vaccines                             0
source_name                          0
source_website                       0
dtype: int64
```

In [8]:
```
df.head(2)
```

Out[8]:

	country	iso_code	date	total_vaccinations	people_vaccinated	people_fully_vacci
0	Afghanistan	AFG	2021-02-22	0.0	0.0	
1	Afghanistan	AFG	2021-02-23	0.0	0.0	

1) Which Country is having least total Vaccinations?

1.1. approach 1 using grouby function

In [9]:
```
df_ = pd.DataFrame(df.groupby('country')['total_vaccinations'].sum(),
```

In [10]:
```
df_[df_['total_vaccinations'] == min(df_['total_vaccinations'])]
```

Out[10]:

country	total_vaccinations
Pitcairn	348.0

1.2. approach 2 : using array data structure and data frames

In [35]:
```
countries = []
for i in df.values:
    countries.append(i[0])
countries = list(set(countries))


data = []
for country in countries:
    c = 0
    for i in df.values:
        if i[0] == country :
            c += (i[3])
    data.append([country, c])


df_1 = pd.DataFrame(data,columns = ['country','total_vaccinations'])
df_1.sort_values(by='total_vaccinations',ascending = True).head(1)
```

Out[35]:

	country	total_vaccinations
171	Pitcairn	348.0

2) Which Country is having the most total Vaccinations?

2.1) most total vaccinations

In [55]:
```
df_2 = pd.DataFrame(df.groupby('country')['total_vaccinations'].sum()
```

In [56]:
```
df_2[df_2['total_vaccinations'] == max(df_2['total_vaccinations'])]
```

Out[56]:

country	total_vaccinations
China	7.094527e+11

2.2) using array and dataframe

In [36]:
```
countries = []
for i in df.values:
    countries.append(i[0])
countries = list(set(countries))


data = []
for country in countries:
    c = 0
    for i in df.values:
        if i[0] == country :
            c += (i[3])
    data.append([country, c])


df_3 = pd.DataFrame(data,columns = ['country','total_vaccinations'])
df_3.sort_values(by='total_vaccinations',ascending = False).head(1)
```

Out[36]:

	country	total_vaccinations
176	China	7.094527e+11