

```

import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

import seaborn as sns

import warnings

warnings.filterwarnings("ignore")

df= pd.read_csv("country_vaccinations.csv")

df.head()

```

```

In [1]: runcell(0, 'C:/Users/muham/.spyder-py3/sidphase4.py')
Out[1]:
   country iso_code  ... source_name source_website
0  Afghanistan  AFG  ... World Health Organization https://covid19.who.int/
1  Afghanistan  AFG  ... World Health Organization https://covid19.who.int/
2  Afghanistan  AFG  ... World Health Organization https://covid19.who.int/
3  Afghanistan  AFG  ... World Health Organization https://covid19.who.int/
4  Afghanistan  AFG  ... World Health Organization https://covid19.who.int/

[5 rows x 15 columns]

```

```
df.describe()
```

```

In [2]: runcell(0, 'C:/Users/muham/.spyder-py3/sidphase4.py')
Out[2]:
   total_vaccinations  ... daily_vaccinations_per_million
count      4.360700e+04  ...                86213.000000
mean       4.592964e+07  ...                3257.049157
std        2.246004e+08  ...                3934.312440
min         0.000000e+00  ...                 0.000000
25%        5.264100e+05  ...                636.000000
50%        3.590096e+06  ...                2050.000000
75%        1.701230e+07  ...                4682.000000
max        3.263129e+09  ...               117497.000000

```

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df.dtypes
```

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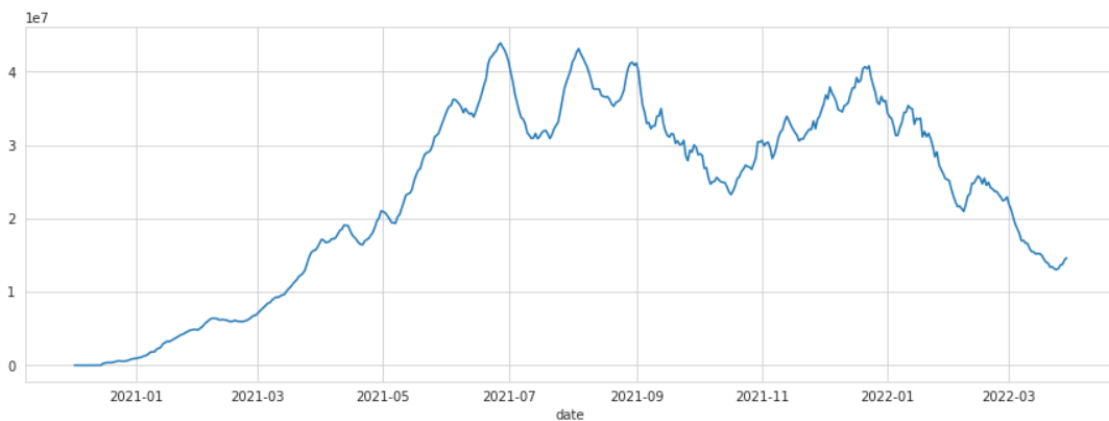
In [3]: runcell(0, 'C:/Users/muham/.spyder-py3/sidphase4.py')
Out[3]:
country                object
iso_code               object
date                  object
total_vaccinations     float64
people_vaccinated      float64
people_fully_vaccinated float64
daily_vaccinations_raw float64
daily_vaccinations     float64
total_vaccinations_per_hundred float64
people_vaccinated_per_hundred float64
people_fully_vaccinated_per_hundred float64
daily_vaccinations_per_million float64
vaccines              object
source_name           object
source_website        object
dtype: object

```

```

df["date"] = pd.to_datetime(df.date)
x = df.groupby("date").daily_vaccinations.sum()
plt.figure(figsize=(15,5))
sns.lineplot(x.index,x.values)
plt.show()

```

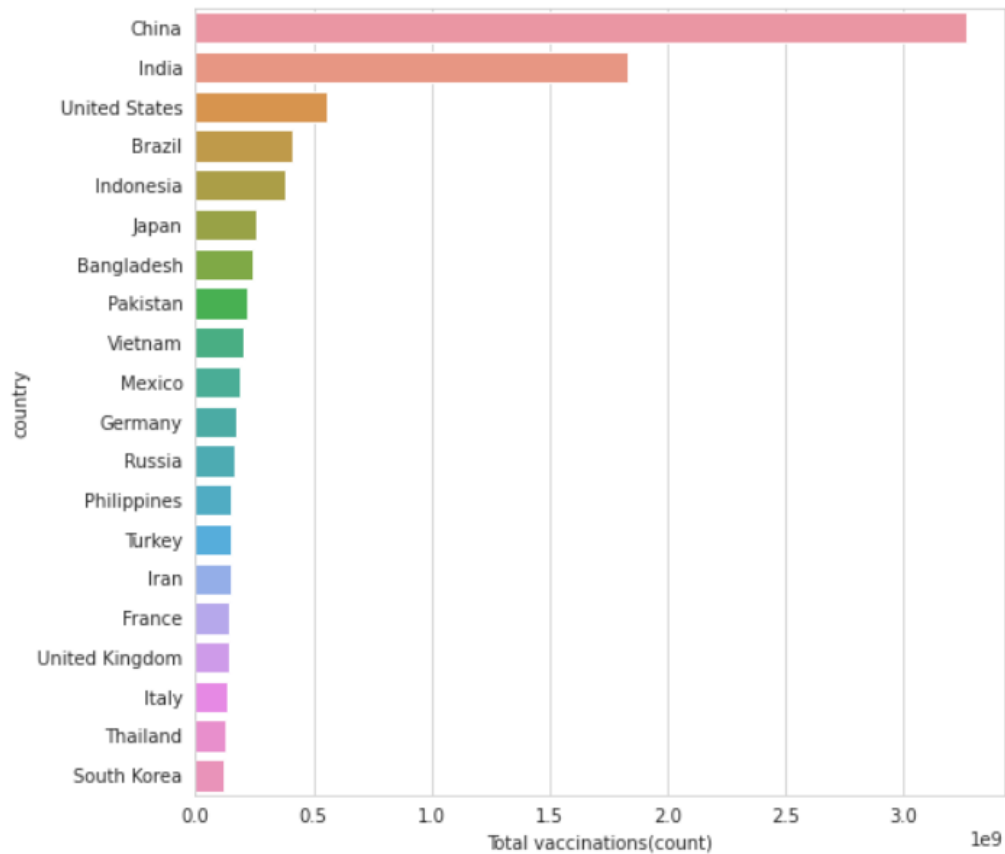


```

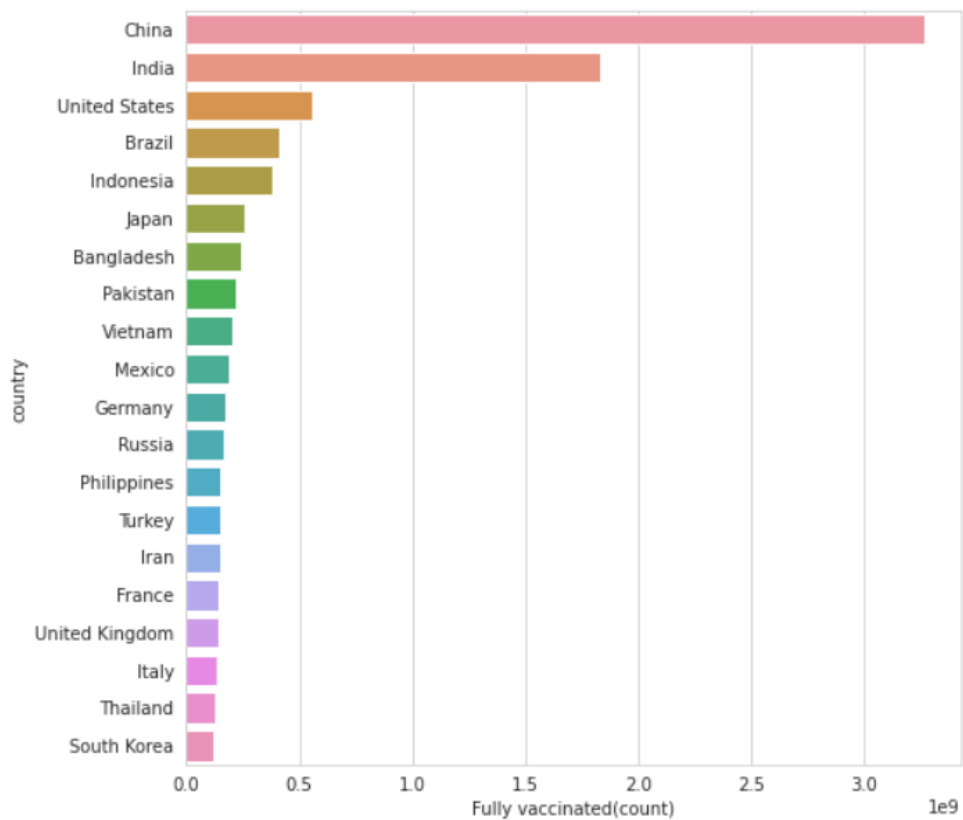
df["Total_vaccinations(count)"] = df.groupby("country").total_vaccinations.tail(1)
df.groupby("country")["Total_vaccinations(count)"].mean().sort_values(ascending=False).head(20)
x = df.groupby("country")["Total_vaccinations(count)"].mean().sort_values(ascending=False).head(20)
sns.set_style("whitegrid")
plt.figure(figsize=(8,8))

```

```
ax= sns.barplot(x.values,x.index)
ax.set_xlabel("Total vaccinations(count)")
plt.show()
```



```
df["Full_vaccinations(count)"]= df.groupby("country").people_fully_vaccinated.tail(1)
df.groupby("country")["Full_vaccinations(count)"].mean().sort_values(ascending= False).head(20)
sns.set_style("whitegrid")
plt.figure(figsize= (8,8))
ax= sns.barplot(x.values,x.index)
ax.set_xlabel("Fully vaccinated(count)")
plt.show()
```



```
x= df.groupby("country").daily_vaccinations.mean().sort_values(ascending= False).head(20)
```

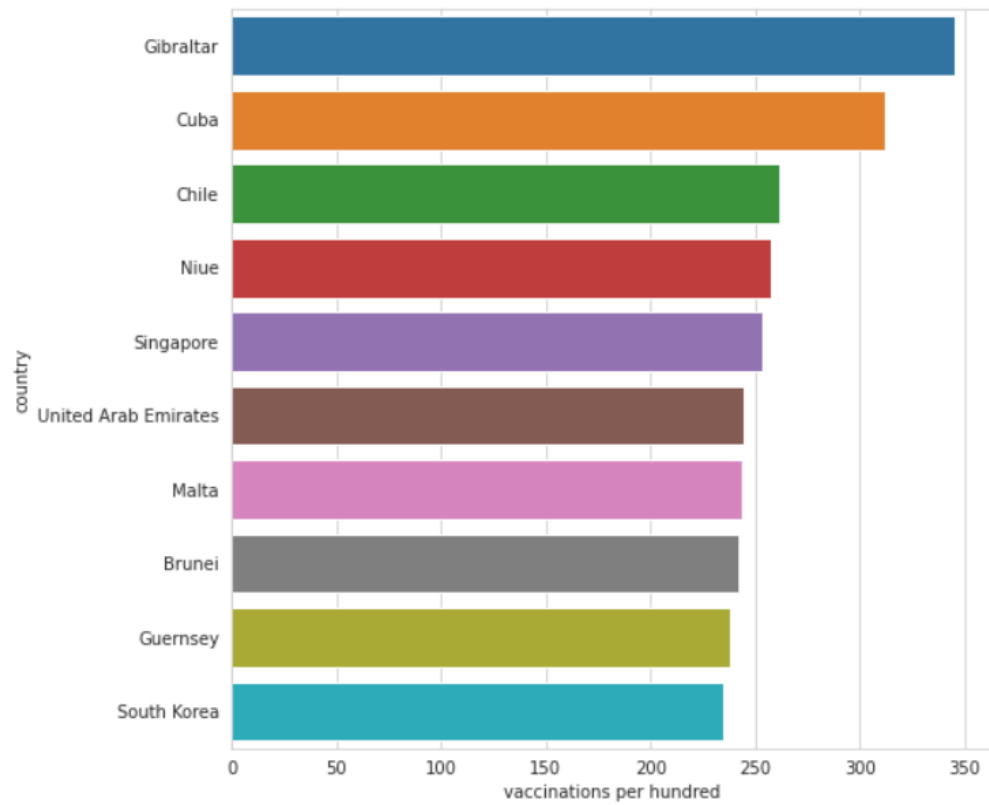
```
x
```

```
plt.figure(figsize= (8,8))
```

```
ax= sns.barplot(x.values,x.index)
```

```
ax.set_xlabel("daily vaccinations(avg)")
```

```
plt.show()
```



Done by

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