Лабораторная работа №1

In [1]:
```
import os
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
sns.set(style="ticks")
vac = pd.read_csv('covid_19_data.csv', sep=",")
```

In [2]:
```
vac.columns
```

Out[2]:
```
Index(['SNo', 'ObservationDate', 'Province/State', 'Country/Region',
       'Last Update', 'Confirmed', 'Deaths', 'Recovered'],
      dtype='object')
```

In [3]:
```
vac.head()
```

Out[3]:

	SNo	ObservationDate	Province/State	Country/Region	Last Update	Confirmed	Deaths	Recovered
0	1	01/22/2020	Anhui	Mainland China	1/22/2020 17:00	1.0	0.0	0.0
1	2	01/22/2020	Beijing	Mainland China	1/22/2020 17:00	14.0	0.0	0.0
2	3	01/22/2020	Chongqing	Mainland China	1/22/2020 17:00	6.0	0.0	0.0
3	4	01/22/2020	Fujian	Mainland China	1/22/2020 17:00	1.0	0.0	0.0
4	5	01/22/2020	Gansu	Mainland China	1/22/2020 17:00	0.0	0.0	0.0

In [4]:
```
vac.shape
```

Out[4]:
```
(205951, 8)
```

In [5]:
```
vac.dtypes
```

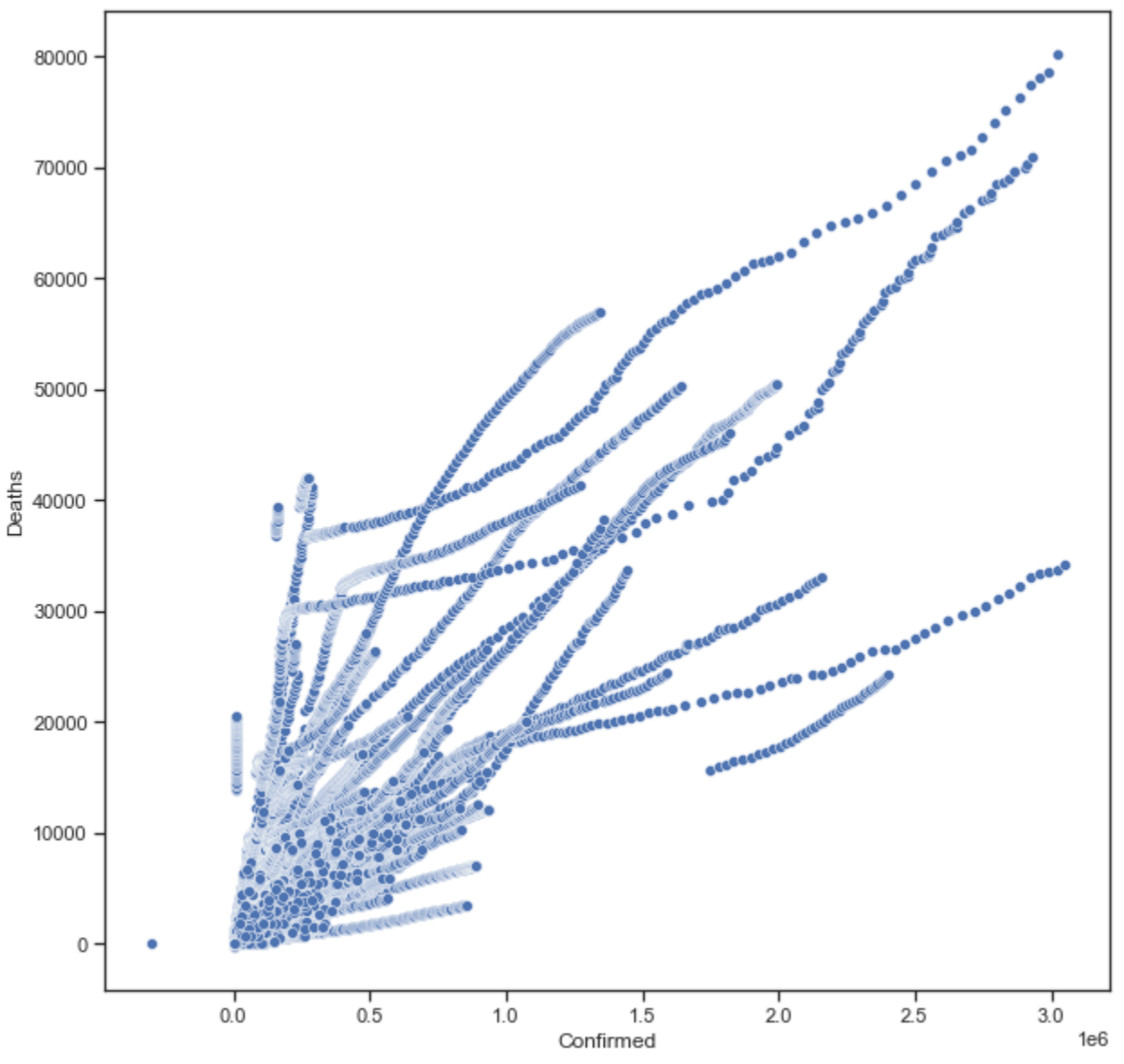
Out[5]:
```
SNo                 int64
ObservationDate    object
Province/State     object
Country/Region     object
Last Update        object
Confirmed         float64
Deaths            float64
Recovered         float64
dtype: object
```

In [6]:
```
vac.describe()
```

Out[6]:

	SNo	Confirmed	Deaths	Recovered
count	205951.000000	2.059510e+05	205951.000000	2.059510e+05
mean	102976.000000	4.540148e+04	1262.633850	2.766348e+04
std	59453.076982	1.437216e+05	4082.838603	1.334517e+05
min	1.000000	-3.028440e+05	-178.000000	-8.544050e+05
25%	51488.500000	5.960000e+02	7.000000	1.100000e+01
50%	102976.000000	5.361000e+03	101.000000	1.028000e+03
75%	154463.500000	2.618400e+04	713.000000	9.880000e+03
max	205951.000000	3.049037e+06	80143.000000	6.399531e+06

In [7]:
```
fig, ax = plt.subplots(figsize=(10, 10))
sns.scatterplot(ax=ax, x='Confirmed', y='Deaths', data=vac)
plt.show()
```



In [8]:
```
vac_corr = vac.corr()
print(vac_corr)
sns.heatmap(vac.corr(), annot=True, fmt='.3f')
plt.show()
```

```
                SNo  Confirmed    Deaths  Recovered
SNo        1.000000   0.238547  0.159697   0.158182
Confirmed  0.238547   1.000000  0.829271   0.509446
Deaths     0.159697   0.829271  1.000000   0.404104
Recovered  0.158182   0.509446  0.404104   1.000000
```