In [1]:
```
import pandas as pd
import numpy as np
import seaborn as sea
import matplotlib.pyplot as plt
```

In [2]:
```
data=pd.read_csv("D:/Projects/covid_19 Orginal.csv")
data
```

Out[2]:

	SNo	ObservationDate	Province/State	Country/Region	Last Update	Confirmed	Deaths
0	1	01/22/2020	Anhui	Mainland China	1/22/2020 17:00	1	0
1	2	01/22/2020	Beijing	Mainland China	1/22/2020 17:00	14	0
2	3	01/22/2020	Chongqing	Mainland China	1/22/2020 17:00	6	0
3	4	01/22/2020	Fujian	Mainland China	1/22/2020 17:00	1	0
4	5	01/22/2020	Gansu	Mainland China	1/22/2020 17:00	0	0
...	...	...	...	...	...	...	...
306424	306425	05/29/2021	Zaporizhia Oblast	Ukraine	30-05-2021 04:20	102641	2335
306425	306426	05/29/2021	Zeeland	Netherlands	30-05-2021 04:20	29147	245
306426	306427	05/29/2021	Zhejiang	Mainland China	30-05-2021 04:20	1364	1
306427	306428	05/29/2021	Zhytomyr Oblast	Ukraine	30-05-2021 04:20	87550	1738
306428	306429	05/29/2021	Zuid-Holland	Netherlands	30-05-2021 04:20	391559	4252

306429 rows × 8 columns

In [3]:
```
#What is the total number of confirmed cases in China?
var_a=data["Country/Region"]=="Mainland China"
var_a
```

Out[3]:
```
0          True
1          True
2          True
3          True
4          True
          ...
306424    False
306425    False
306426     True
306427    False
306428    False
Name: Country/Region, Length: 306429, dtype: bool
```

In [4]:
```
s=data[var_a]
s
```

Out[4]:

	SNo	ObservationDate	Province/State	Country/Region	Last Update	Confirmed	Deaths
0	1	01/22/2020	Anhui	Mainland China	1/22/2020 17:00	1	0
1	2	01/22/2020	Beijing	Mainland China	1/22/2020 17:00	14	0
2	3	01/22/2020	Chongqing	Mainland China	1/22/2020 17:00	6	0
3	4	01/22/2020	Fujian	Mainland China	1/22/2020 17:00	1	0
4	5	01/22/2020	Gansu	Mainland China	1/22/2020 17:00	0	0
...	...	...	...	...	...	...	...
306340	306341	05/29/2021	Tibet	Mainland China	30-05-2021 04:20	1	0
306368	306369	05/29/2021	Unknown	Mainland China	30-05-2021 04:20	0	0
306412	306413	05/29/2021	Xinjiang	Mainland China	30-05-2021 04:20	980	3
306420	306421	05/29/2021	Yunnan	Mainland China	30-05-2021 04:20	352	2
306426	306427	05/29/2021	Zhejiang	Mainland China	30-05-2021 04:20	1364	1

15758 rows × 8 columns

In [5]:
```
s["Confirmed"].sum()
```

Out[5]:
```
40822596
```

In [6]:
```
#Which province(state) has the highest number of confirmed cases?
state=s.groupby("Province/State")
total=state.sum()
total=total.sort_values(["Confirmed"],ascending=False)
total.head(1)
```

Out[6]:

Province/State	SNo	ObservationDate	Country/Region	Last Up
Hubei	62636304	01/22/202001/23/202001/23/202001/24/202001/25/...	Mainland ChinaMainland ChinaMainland ChinaMain...	1/22/ 17:001/ 17:001/ 17:001/

In [7]:
```
#What is the trend of confirmed cases over time
trend=s.groupby("ObservationDate")
total=trend.sum()
total=total.sort_values(["Confirmed"],ascending=False)
total.head(1)
```

Out[7]:

ObservationDate	SNo	Province/State	Country/Region	Up
05/29/2021	9796439	AnhuiBeijingChongqingFujianGansuGuangdongGuang...	Mainland ChinaMainland ChinaMainland ChinaMain...	3 04: 05 04: 05

In [8]:
```
#What is the fatality rate in China?
da=s["Deaths"].sum()
ta=s["Confirmed"].sum()
result=(da/ta)*100
result
#rate=np.round(result,decimals=4)
#rate
```

Out[8]:
```
5.1194000499135335
```

In [9]:
```
#How does the number of recovered cases compare to the number of deaths?
recover=data["Recovered"].sum()
death=data["Deaths"].sum()
compare_cases=recover-death
compare_cases
```

Out[9]: 14826224895

In [10]:
```
#What is the total number of confirmed cases in Hubei province?
hubai_state=data["Province/State"]=="Hubei"
var=data[hubai_state]
var["Confirmed"].sum()
```

Out[10]: 32325298

In [11]:
```
#What is the total number of deaths in China?
china=s["Deaths"].sum()
china
```

Out[11]: 2089872

In [12]:
```
#What is the total number of recovered cases in China?
recover_china=s["Recovered"].sum()
recover_china
```

Out[12]: 36897441

In [13]:
```
#What is the total number of confirmed cases in Beijing?
Beijing=data["Province/State"]=="Beijing"
var=data[Beijing]
Final_Result=var["Confirmed"].sum()
Final_Result
```

Out[13]: 411973

In [14]:
```
#What is the total number of confirmed cases in Shanghai?
Shanghai=data["Province/State"]=="Shanghai"
new=data[Shanghai]
new["Confirmed"].sum()
```

Out[14]: 546677

In [15]:
```
#What is the total number of confirmed cases in Guangdong province?
Guangdong=data["Province/State"]=="Guangdong"
var_1=data[Guangdong]
var_1["Confirmed"].sum()
```

Out[15]: 894976

In [16]:
```
#What is the total number of confirmed cases in Zhejiang province?
Zhejiang=data[data["Province/State"]=="Zhejiang"].groupby("Province/State")
Zhejiang[["Province/State","Confirmed"]].sum()
```

Out[16]:

Province/State	Province/State	Confirmed
Zhejiang	ZhejiangZhejiangZhejiangZhejiangZhejiangZhejia...	620252

In [17]:
```
#What is the total number of confirmed cases in Jiangsu province?
Jiangsu=data["Province/State"]=="Jiangsu"
state=data[Jiangsu]
state["Confirmed"].sum()
```

Out[17]: 323063

In [18]:
```
#What is the total number of confirmed cases in Sichuan province?
Sichuan=data["Province/State"]=="Sichuan"
si=data[Sichuan]
si["Confirmed"].sum()
```

Out[18]: 349964

In [19]:
```
#What is the total number of confirmed cases in Henan province?
Henan=data[data["Province/State"]=="Henan"].groupby("Province/State")
Henan[["Province/State","Confirmed"]].sum()
```

Out[19]:

Province/State	Province/State	Confirmed
Henan	HenanHenanHenanHenanHenanHenanHenanHenanHenanH...	618942

In [21]:
```

```

Out[21]:

Province/State	Province/State	Confirmed
Sichuan	SichuanSichuanSichuanSichuanSichuanSichuanSich...	349964

In [ ]:
```

```

In [ ]:
```

```