In [25]:
```
# Import the libraries
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

In [5]:
```
dataset = pd.read_csv("D:/Python/covid19_Confirmed_dataset.csv")
dataset.head()
```

Out[5]:

	Country/Region	Lat	Long	1/22/20	1/23/20	1/24/20	1/25/20	1/26/20	1/27/
0	Afghanistan	33.0000	65.0000	0	0	0	0	0	
1	Albania	41.1533	20.1683	0	0	0	0	0	
2	Algeria	28.0339	1.6596	0	0	0	0	0	
3	Andorra	42.5063	1.5218	0	0	0	0	0	
4	Angola	-11.2027	17.8739	0	0	0	0	0	

5 rows × 103 columns

In [6]:
```
dataset.shape
```

Out[6]:
```
(266, 103)
```

In [7]:
```
# Deleting the useless column
df = dataset.drop(["Lat", "Long"], axis=1, inplace=True)
```

In [8]:
```
dataset.head()
```

Out[8]:

	Country/Region	1/22/20	1/23/20	1/24/20	1/25/20	1/26/20	1/27/20	1/28/20	1/29
0	Afghanistan	0	0	0	0	0	0	0	
1	Albania	0	0	0	0	0	0	0	
2	Algeria	0	0	0	0	0	0	0	
3	Andorra	0	0	0	0	0	0	0	
4	Angola	0	0	0	0	0	0	0	

5 rows × 101 columns

In [9]:
```
# aggregate the rows by country
corona_dataset_aggregated = dataset.groupby("Country/Region").sum()
```

In [10]:
```
corona_dataset_aggregated.head()
```

Out[10]:

Country/Region	1/22/20	1/23/20	1/24/20	1/25/20	1/26/20	1/27/20	1/28/20	1/29/20
Afghanistan	0	0	0	0	0	0	0	0
Albania	0	0	0	0	0	0	0	0
Algeria	0	0	0	0	0	0	0	0
Andorra	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0

5 rows × 100 columns

In [11]:
```
corona_dataset_aggregated.shape
```

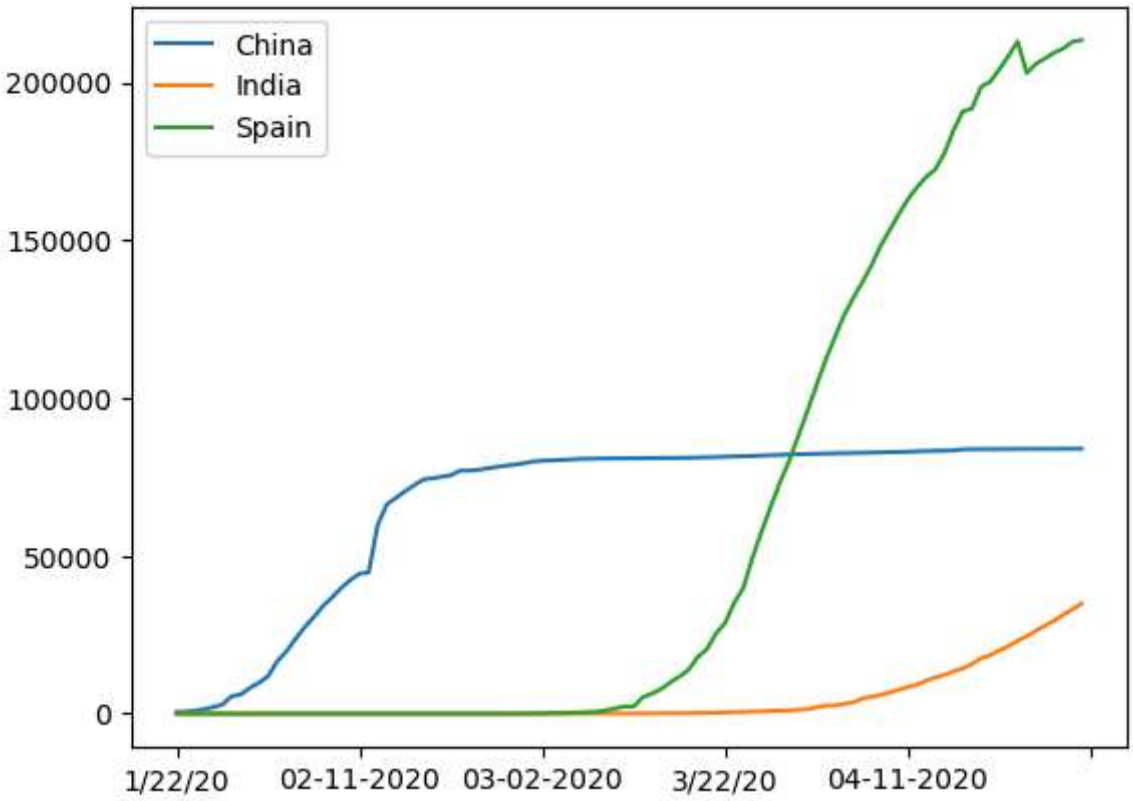
Out[11]:
```
(187, 100)
```

In [12]:
```
# Visualise data related to a country
corona_dataset_aggregated.loc["China"]
```

Out[12]:
```
1/22/20      548
1/23/20      643
1/24/20      920
1/25/20     1406
1/26/20     2075
           ...
4/26/20    83912
4/27/20    83918
4/28/20    83940
4/29/20    83944
4/30/20    83956
Name: China, Length: 100, dtype: int64
```

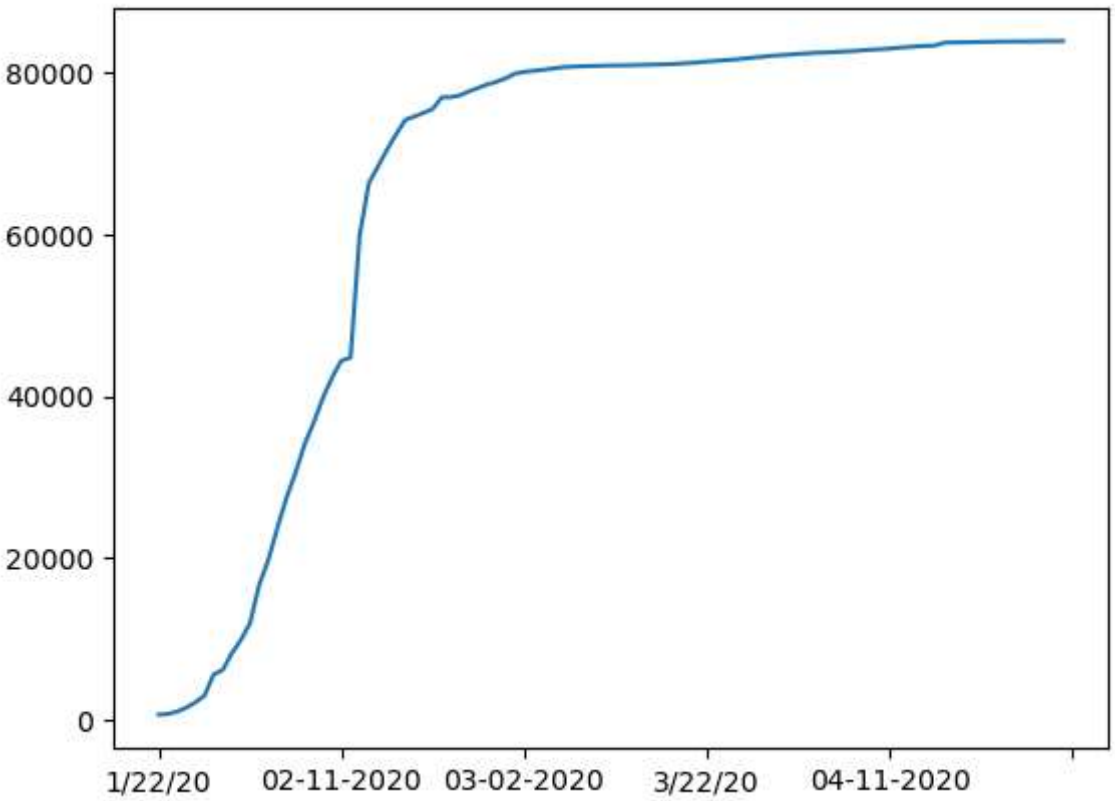
In [13]:
```
# Visualise data related to a country
corona_dataset_aggregated.loc["China"].plot()
corona_dataset_aggregated.loc["India"].plot()
corona_dataset_aggregated.loc["Spain"].plot()
plt.legend()
```

Out[13]:
```
<matplotlib.legend.Legend at 0x253014450d0>
```



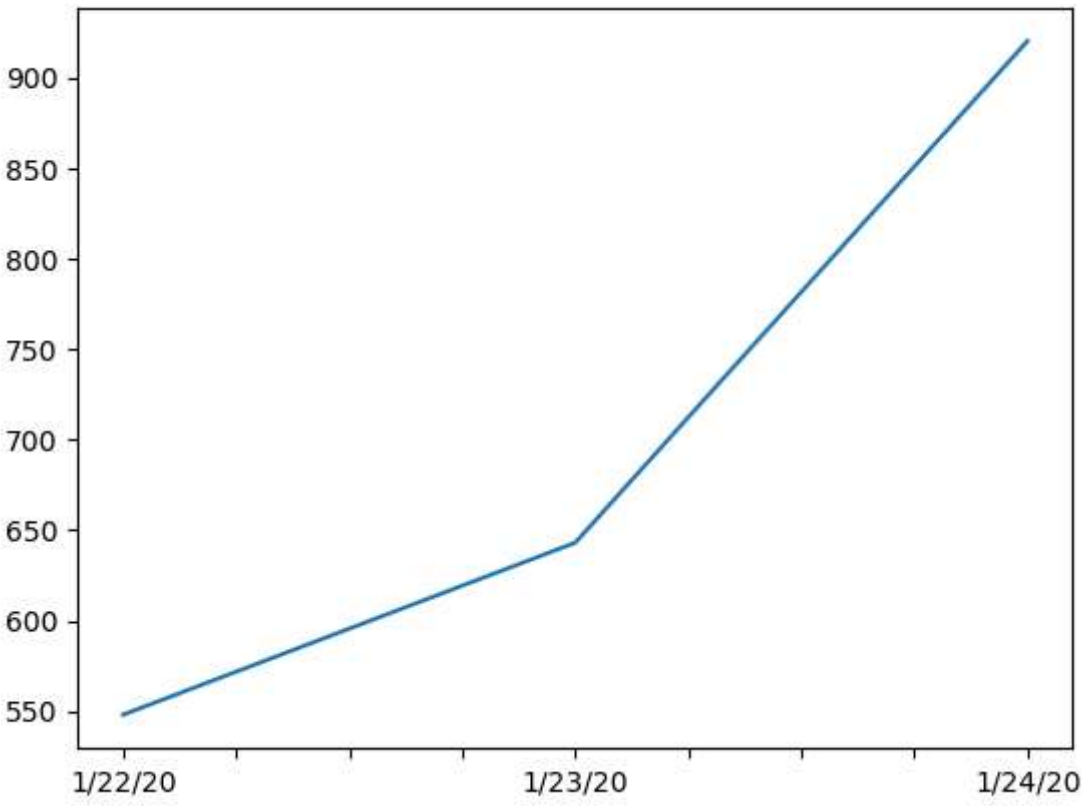
In [14]:
```
# Calculate a good measure
corona_dataset_aggregated.loc["China"].plot()
```

Out[14]: <Axes: >



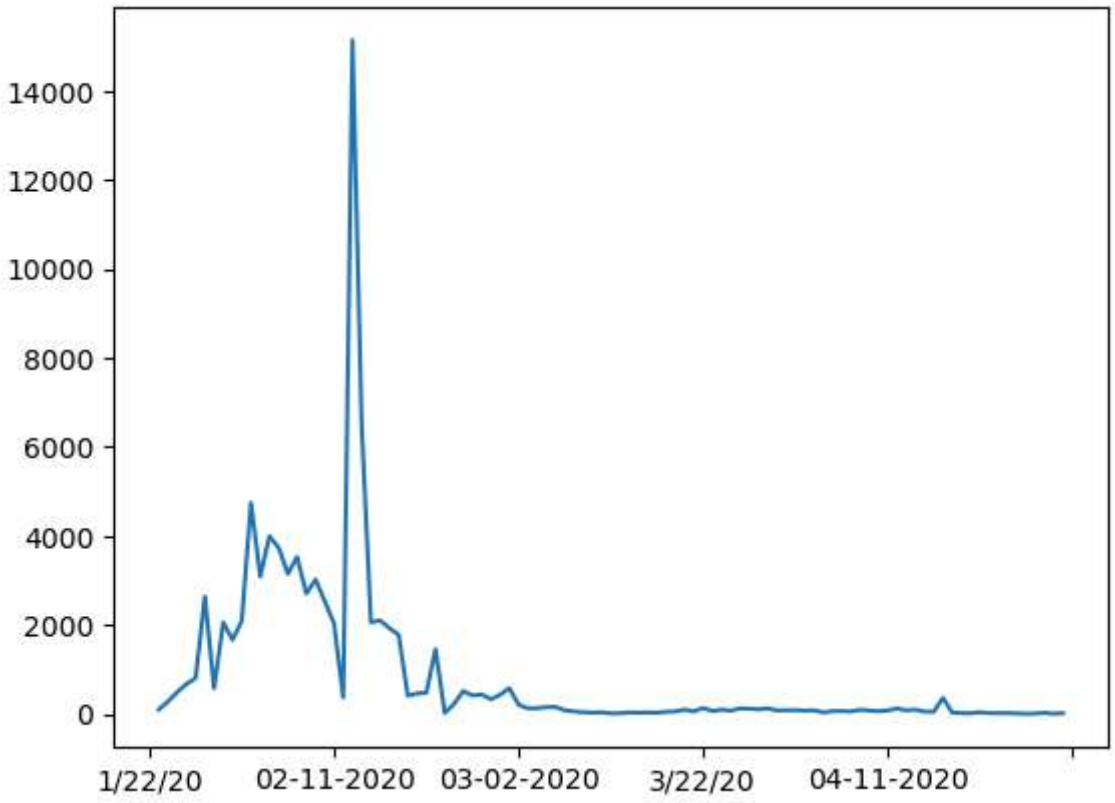
In [15]:
```
corona_dataset_aggregated.loc["China"][:3].plot()
```

Out[15]: <Axes: >



In [16]:
```
# Calculate the first derivate of the curve
corona_dataset_aggregated.loc["China"].diff().plot()
```

Out[16]: <Axes: >



In [17]:
```
# Maximum Infection rate China
corona_dataset_aggregated.loc["China"].diff().max()
```

Out[17]: 15136.0

In [18]:
```
# Maximum Infection rate India
corona_dataset_aggregated.loc["India"].diff().max()
```

Out[18]: 1893.0

In [19]:
```
# Maximum Infection rate Spain
corona_dataset_aggregated.loc["Spain"].diff().max()
```

Out[19]: 9630.0

In [20]:
```
countries = list(corona_dataset_aggregated.index)
max_infections_rates = []

for c in countries:
    max_infections_rates.append(corona_dataset_aggregated.loc[c].diff().max())
corona_dataset_aggregated["Max_infections_rates"] = max_infections_rates
```

In [21]:
```
corona_dataset_aggregated
```

Out[21]:

Country/Region	1/22/20	1/23/20	1/24/20	1/25/20	1/26/20	1/27/20	1/28/20	1/29/20
Afghanistan	0	0	0	0	0	0	0	0
Albania	0	0	0	0	0	0	0	0
Algeria	0	0	0	0	0	0	0	0
Andorra	0	0	0	0	0	0	0	0
Angola	0	0	0	0	0	0	0	0
...	...	...	...	...	...	...	...	...
West Bank and Gaza	0	0	0	0	0	0	0	0
Western Sahara	0	0	0	0	0	0	0	0
Yemen	0	0	0	0	0	0	0	0
Zambia	0	0	0	0	0	0	0	0
Zimbabwe	0	0	0	0	0	0	0	0

187 rows × 101 columns

In [22]:
```
# Create a new Data Frame
corona_data = pd.DataFrame(corona_dataset_aggregated["Max_infections_rates"])
```

In [23]:
```
corona_data
```

Out[23]:

Country/Region	Max_infections_rates
Afghanistan	232.0
Albania	34.0
Algeria	199.0
Andorra	43.0
Angola	5.0
...	...
West Bank and Gaza	66.0
Western Sahara	4.0
Yemen	5.0
Zambia	9.0
Zimbabwe	8.0

187 rows × 1 columns

In [24]:
```
variable_1 = 12
variable_2 = 13
c= variable_1 + variable_2
print(c)
```

```
25
```