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

In [4]:
```
data = pd.read_csv("/Users/sandhyakurasani/Desktop/covid19_italy_region.csv")
data.head()
```

Out[4]:

	SNo	Date	Country	RegionCode	RegionName	Latitude	Longitude	HospitalizedPatients	IntensiveCarePatients	TotalHospitalizedPatients	HomeConfinement	CurrentPositiveCases	NewPositiveCases	Recovered	Deaths	TotalPositiveCases	TestsPerformed
0	0	2020-02-24T18:00:00	ITA	13	Abruzzo	42.351222	13.398438	0	0	0	0	0	0	0	0	0	NaN
1	1	2020-02-24T18:00:00	ITA	17	Basilicata	40.639471	15.805148	0	0	0	0	0	0	0	0	0	NaN
2	2	2020-02-24T18:00:00	ITA	18	Calabria	38.905976	16.594402	0	0	0	0	0	0	0	0	0	NaN
3	3	2020-02-24T18:00:00	ITA	15	Campania	40.839566	14.250850	0	0	0	0	0	0	0	0	0	NaN
4	4	2020-02-24T18:00:00	ITA	8	Emilia-Romagna	44.494367	11.341721	10	2	12	6	18	18	0	0	18	NaN

In [7]:
```
data.columns
```

Out[7]:
```
Index(['SNo', 'Date', 'Country', 'RegionCode', 'RegionName', 'Latitude',
       'Longitude', 'HospitalizedPatients', 'IntensiveCarePatients',
       'TotalHospitalizedPatients', 'HomeConfinement', 'CurrentPositiveCases',
       'NewPositiveCases', 'Recovered', 'Deaths', 'TotalPositiveCases',
       'TestsPerformed'],
      dtype='object')
```

In [8]:
```
data.tail()
```

Out[8]:

	SNo	Date	Country	RegionCode	RegionName	Latitude	Longitude	HospitalizedPatients	IntensiveCarePatients	TotalHospitalizedPatients	HomeConfinement	CurrentPositiveCases	NewPositiveCases	Recovered	Deaths	TotalPositiveCases	TestsPerformed
6022	6022	2020-12-06T17:00:00	ITA	19	Sicilia	38.115697	13.362357	1367	213	1580	38166	39746	1022	29984	1759	71489	692062.0
6023	6023	2020-12-06T17:00:00	ITA	9	Toscana	43.769231	11.255889	1360	252	1612	27587	29199	753	76331	2867	108397	983103.0
6024	6024	2020-12-06T17:00:00	ITA	10	Umbria	43.106758	12.388247	332	60	392	5673	6065	234	18619	460	25144	231538.0
6025	6025	2020-12-06T17:00:00	ITA	2	Valle d'Aosta	45.737503	7.320149	102	8	110	877	987	34	5406	333	6726	34644.0
6026	6026	2020-12-06T17:00:00	ITA	5	Veneto	45.434905	12.338452	2508	308	2816	73988	76804	3444	84235	4210	165249	1090932.0

In [9]:
```
data.describe()
```

Out[9]:

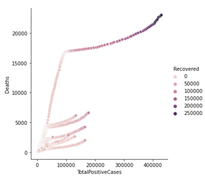
	SNo	RegionCode	Latitude	Longitude	HospitalizedPatients	IntensiveCarePatients	TotalHospitalizedPatients	HomeConfinement	CurrentPositiveCases	NewPositiveCases	Recovered	Deaths	TotalPositiveCases	TestsPerformed
count	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	6027.000000	4.872000e+03
mean	3013.000000	11.857143	43.046293	12.225955	509.093579	55.892318	564.985897	5722.911399	6287.897296	286.885847	9337.852829	1474.370665	17100.12361	2.600810e+05
std	1739.989368	6.274319	2.488987	2.659168	1272.731157	134.957979	1403.362341	15892.768789	16804.884786	818.450458	20551.265039	3365.190225	36934.67627	3.339818e+05
min	0.000000	1.000000	38.115697	7.320149	0.000000	0.000000	0.000000	0.000000	0.000000	-229.000000	0.000000	0.000000	0.00000	3.482000e+03
25%	1506.500000	7.000000	41.125596	11.121231	16.000000	1.000000	17.000000	139.000000	168.000000	4.000000	734.000000	98.000000	1383.50000	6.507375e+04
50%	3013.000000	12.000000	43.616760	12.388247	93.000000	9.000000	106.000000	743.000000	905.000000	31.000000	2840.000000	389.000000	4613.00000	1.365560e+05
75%	4519.500000	17.000000	45.434905	13.768136	384.500000	46.000000	434.000000	3057.000000	3735.000000	159.500000	8450.500000	1102.500000	15304.00000	3.043542e+05
max	6026.000000	22.000000	46.499335	16.867367	12077.000000	1361.000000	13328.000000	150066.000000	164406.000000	11489.000000	289706.000000	23024.000000	429109.00000	2.415099e+06

In [10]:
```
data.isnull().sum()
```

Out[10]:
```
SNo                        0
Date                       0
Country                    0
RegionCode                 0
RegionName                 0
Latitude                   0
Longitude                  0
HospitalizedPatients       0
IntensiveCarePatients      0
TotalHospitalizedPatients  0
HomeConfinement            0
CurrentPositiveCases       0
NewPositiveCases           0
Recovered                  0
Deaths                     0
TotalPositiveCases         0
TestsPerformed          1155
dtype: int64
```

In [14]:
```
sns.relplot(x="TotalPositiveCases", y="Deaths", hue= "Recovered", data=data)
```

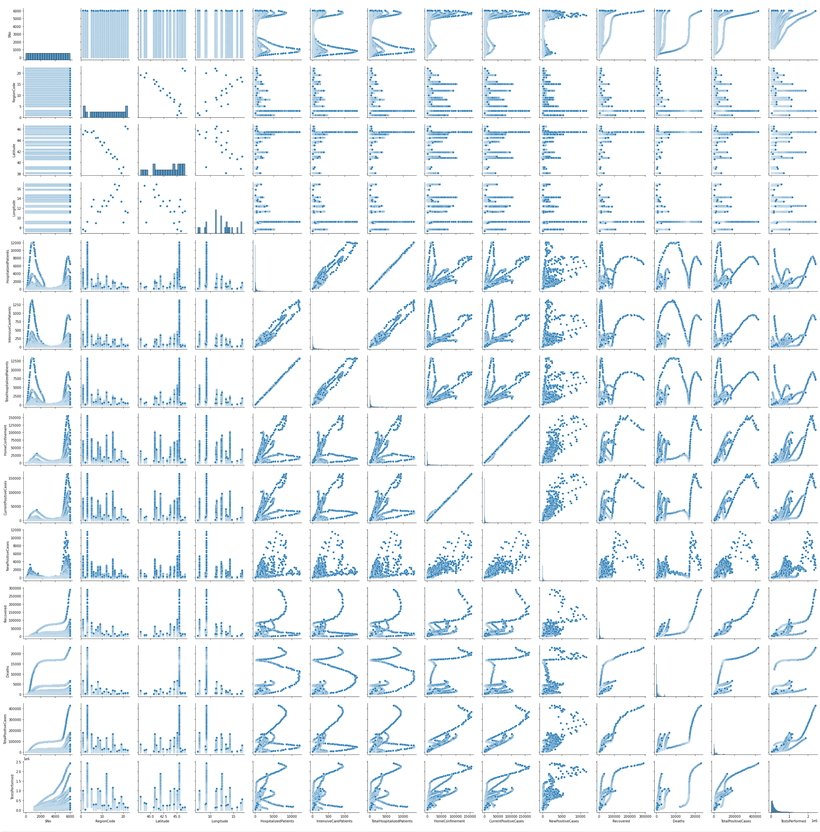
Out[14]:
```
<seaborn.axisgrid.FacetGrid at 0x7fc435d9f2b0>
```



In [ ]:

In [15]:
```
sns.pairplot(data)
```

Out[15]:
```
<seaborn.axisgrid.PairGrid at 0x7fc435d8ed00>
```



In [16]:
```
data.columns
```

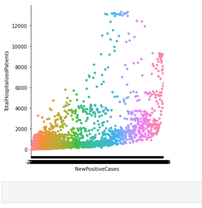
Out[16]:
```
Index(['SNo', 'Date', 'Country', 'RegionCode', 'RegionName', 'Latitude',
       'Longitude', 'HospitalizedPatients', 'IntensiveCarePatients',
       'TotalHospitalizedPatients', 'HomeConfinement', 'CurrentPositiveCases',
       'NewPositiveCases', 'Recovered', 'Deaths', 'TotalPositiveCases',
       'TestsPerformed'],
      dtype='object')
```

In [31]:
```
sns.relplot(x="Recovered", y="HomeConfinement", kind="line", data=data)
```

Out[31]:
```
<seaborn.axisgrid.FacetGrid at 0x7fc3f1cfc0d0>
```

In [32]:
```
sns.catplot(x="NewPositiveCases", y="TotalHospitalizedPatients", data=data)
```

Out[32]:
```
<seaborn.axisgrid.FacetGrid at 0x7fc426d653d0>
```



In [ ]: