

In [5]:

```
import pandas as pd
```

In [6]:

```
data = pd.read_csv(r'C:\Users\NITU\Downloads\covid_19_india.csv')
```

In [7]:

```
data
```

Out[7]:

Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNatio
0	1	2020-01-30	6:00 PM	Kerala	1
1	2	2020-01-31	6:00 PM	Kerala	1
2	3	2020-02-01	6:00 PM	Kerala	2
3	4	2020-02-02	6:00 PM	Kerala	3
4	5	2020-02-03	6:00 PM	Kerala	3
...
16845	16846	2021-07-07	8:00 AM	Telangana	-
16846	16847	2021-07-07	8:00 AM	Tripura	-
16847	16848	2021-07-07	8:00 AM	Uttarakhand	-
16848	16849	2021-07-07	8:00 AM	Uttar Pradesh	-
16849	16850	2021-07-07	8:00 AM	West Bengal	-

16850 rows × 9 columns



In [54]:

```
data['State/UnionTerritory'] = data['State/UnionTerritory'].replace('Bihar****','Bihar')
data['State/UnionTerritory'] = data['State/UnionTerritory'].replace('Telengana','Telangana')
data['ConfirmedIndianNational'] = data['ConfirmedIndianNational'].replace('-', '0')
data['ConfirmedForeignNational'] = data['ConfirmedForeignNational'].replace('-', '0')
data["ConfirmedIndianNational"] = data["ConfirmedIndianNational"].astype(str).astype(int)
data["ConfirmedForeignNational"] = data["ConfirmedForeignNational"].astype(str).astype(int)
result = data.dtypes
result
dates_covid = data.groupby('Date')
dates_covid
```

Out[54]:

```
<pandas.core.groupby.generic.DataFrameGroupBy object at 0x000001D03C9973D0>
```

In [55]:

```
statewise_confirmed_cases = data.groupby('State/UnionTerritory').Confirmed.sum()  
statewise_confirmed_cases
```

Out[55]:

State/UnionTerritory	
Andaman and Nicobar Islands	1675248
Andhra Pradesh	324146783
Arunachal Pradesh	5598324
Assam	80418492
Bihar	108312449
Cases being reassigned to states	345565
Chandigarh	8691806
Chhattisgarh	128751782
Dadra and Nagar Haveli	20722
Dadra and Nagar Haveli and Daman and Diu	1566846
Daman & Diu	2
Delhi	236972842
Goa	22280065
Gujarat	114557615
Haryana	107408371
Himachal Pradesh	23052151
Jammu and Kashmir	46899925
Jharkhand	49971564
Karnataka	387597335
Kerala	344319045
Ladakh	3344131
Lakshadweep	561459
Madhya Pradesh	108712983
Maharashtra	908892470
Manipur	9440912
Meghalaya	5221064
Mizoram	1822190
Nagaland	4089547
Odisha	126408397
Puducherry	15858688
Punjab	78999515
Rajasthan	128998101
Sikkim	2315519
Tamil Nadu	342829697
Telangana	108152726
Tripura	11397656
Unassigned	161
Uttar Pradesh	252843682
Uttarakhand	41179396
West Bengal	209822848
Name: Confirmed, dtype: int64	

In [10]:

```
all_states_deaths = data.groupby('State/UnionTerritory').Deaths.sum()  
all_states_deaths
```

Out[10]:

State/UnionTerritory	Deaths
Andaman and Nicobar Islands	22624
Andhra Pradesh	2475816
Arunachal Pradesh	19303
Assam	459575
Bihar	775163
Cases being reassigned to states	0
Chandigarh	119356
Chhattisgarh	1591126
Dadra and Nagar Haveli	8
Dadra and Nagar Haveli and Daman and Diu	874
Daman & Diu	0
Delhi	4066907
Goa	338359
Gujarat	1866811
Haryana	1166573
Himachal Pradesh	371931
Jammu and Kashmir	686680
Jharkhand	569298
Karnataka	4819018
Kerala	1327754
Ladakh	38578
Lakshadweep	2178
Madhya Pradesh	1427780
Maharashtra	19314532
Manipur	122089
Meghalaya	66293
Mizoram	5073
Nagaland	39420
Odisha	600149
Puducherry	249683
Punjab	2216735
Rajasthan	1159823
Sikkim	41530
Tamil Nadu	4731627
Telangana	617882
Tripura	124444
Unassigned	0
Uttar Pradesh	3347656
Uttarakhand	728512
West Bengal	3214840

Name: Deaths, dtype: int64

In [11]:

```
confirmed_indiannational = data.groupby('State/UnionTerritory').Cured.sum()

confirmed_indiannational
```

Out[11]:

State/UnionTerritory	Cured
Andaman and Nicobar Islands	1589935
Andhra Pradesh	303427899
Arunachal Pradesh	5150519
Assam	74011348
Bihar	101533848
Cases being reassigned to states	0
Chandigarh	7980284
Chhattisgarh	117163544
Dadra and Nagar Haveli	20352
Dadra and Nagar Haveli and Daman and Diu	1470986
Daman & Diu	0
Delhi	224062704
Goa	20224042
Gujarat	103995131
Haryana	100010131
Himachal Pradesh	20682770
Jammu and Kashmir	42295048
Jharkhand	46083978
Karnataka	345648926
Kerala	311127643
Ladakh	3059045
Lakshadweep	471712
Madhya Pradesh	100169697
Maharashtra	813788907
Manipur	8420223
Meghalaya	4606548
Mizoram	1534630
Nagaland	3628619
Odisha	117984789
Puducherry	14376916
Punjab	71108712
Rajasthan	117312772
Sikkim	1983899
Tamil Nadu	317067499
Telangana	100211245
Tripura	10479169
Unassigned	0
Uttar Pradesh	232529439
Uttarakhand	36684388
West Bengal	195296839

Name: Cured, dtype: int64

In [12]:

```
states = data.groupby('State/UnionTerritory')
states
```

Out[12]:

<pandas.core.groupby.generic.DataFrameGroupBy object at 0x000001D0398A75E0>

In [13]:

states.describe()

Out[13]:

	count	mean	std	min	25%	50%	75%
State/UnionTerritory							
Andaman and Nicobar Islands	469.0	8462.456290	4800.295157	366.0	4322.00	8417.0	12604.0
Andhra Pradesh	483.0	8223.726708	4928.513905	122.0	3947.00	8173.0	12477.0
Arunachal Pradesh	461.0	8602.978308	4723.312533	590.0	4534.00	8559.0	12677.0
Assam	463.0	8569.172786	4742.672369	532.0	4482.50	8525.0	12660.0
Bihar	473.0	8397.105708	4837.999483	272.0	4220.00	8351.0	12571.0
Cases being reassigned to states	60.0	3188.983333	628.542044	2134.0	2657.00	3189.0	3720.0
Chandigarh	476.0	8346.844538	4865.552666	223.0	4140.00	8299.5	12545.0
Chhattisgarh	476.0	8347.613445	4865.936321	211.0	4141.00	8300.5	12546.0
Dadra and Nagar Haveli	2.0	15652.000000	25.455844	15634.0	15643.00	15652.0	15661.0
Dadra and Nagar Haveli and Daman and Diu	426.0	9156.497653	4384.962266	1646.0	5387.75	9106.5	12925.0
Daman & Diu	1.0	2891.000000	NaN	2891.0	2891.00	2891.0	2891.0
Delhi	493.0	8065.004057	5013.166962	35.0	3684.00	8005.0	12395.0
Goa	469.0	8471.021322	4800.350987	372.0	4331.00	8426.0	12612.0
Gujarat	475.0	8368.633684	4856.849486	232.0	4172.00	8322.0	12559.0
Haryana	491.0	8100.615071	4997.171691	42.0	3741.00	8043.0	12416.0
Himachal Pradesh	474.0	8387.799578	4847.534917	254.0	4201.00	8341.5	12570.0
Jammu and Kashmir	486.0	8185.644033	4954.886060	82.0	3878.00	8132.5	12463.0
Jharkhand	463.0	8580.099352	4742.789654	542.0	4493.50	8536.0	12671.0
Karnataka	486.0	8187.323045	4955.401710	75.0	3880.00	8134.5	12465.0
Kerala	525.0	7581.638095	5227.217111	1.0	2827.00	7453.0	12115.0
Ladakh	488.0	8156.426230	4972.426986	60.0	3828.00	8101.5	12450.0
Lakshadweep	209.0	13088.368421	2177.578525	9344.0	11216.00	13088.0	14961.0
Madhya Pradesh	474.0	8394.196203	4848.036606	257.0	4207.00	8347.5	12577.0
Maharashtra	486.0	8191.660494	4955.978167	77.0	3884.00	8138.5	12470.0
Manipur	471.0	8447.878981	4819.807620	328.0	4289.50	8402.0	12606.0
Meghalaya	450.0	8814.533333	4616.287991	947.0	4841.75	8770.5	12796.0
Mizoram	470.0	8467.112766	4810.391476	353.0	4317.75	8421.5	12617.0
Nagaland	417.0	9373.947242	4329.748744	916.0	5710.00	9351.0	13095.0
Odisha	479.0	8314.427975	4894.501066	169.0	4078.00	8266.0	12538.0

	count	mean	std	min	25%	50%	75%
State/UnionTerritory							
Puducherry	477.0	8349.549266	4876.204449	200.0	4133.00	8302.0	12557.0
Punjab	486.0	8198.347737	4956.455774	78.0	3891.00	8145.5	12477.0
Rajasthan	492.0	8099.949187	5006.811533	37.0	3730.00	8041.5	12424.0
Sikkim	410.0	9527.090244	4215.012600	2264.0	5898.75	9482.0	13163.0
Tamil Nadu	488.0	8167.813525	4973.838761	62.0	3840.00	8113.5	12462.0
Telangana	493.0	8086.371197	5015.213227	33.0	3706.00	8027.0	12418.0
Tripura	457.0	8701.903720	4685.255787	736.0	4668.00	8658.0	12743.0
Unassigned	3.0	549.333333	61.092826	501.0	515.00	529.0	573.5
Uttar Pradesh	491.0	8122.083503	4999.068638	40.0	3763.00	8065.0	12439.0
Uttarakhand	480.0	8305.310417	4903.720781	162.0	4059.00	8256.5	12537.0
West Bengal	477.0	8358.415094	4876.400160	209.0	4142.00	8311.0	12566.0

40 rows × 48 columns



In [14]:

states.min()

Out[14]:

State/UnionTerritory	Sno	Date	Time	ConfirmedIndianNational	ConfirmedForeignNational	Critical
Andaman and Nicobar Islands	366	2020-03-26	10:00 AM	0	0	
Andhra Pradesh	122	2020-03-12	10:00 AM	0	0	
Arunachal Pradesh	590	2020-04-03	5:00 PM	0	0	
Assam	532	2020-04-01	5:00 PM	0	0	
Bihar	272	2020-03-22	10:00 AM	0	0	
Cases being reassigned to states	2134	2020-05-20	8:00 AM	0	0	
Chandigarh	223	2020-03-19	10:00 AM	0	0	
Chhattisgarh	211	2020-03-19	10:00 AM	0	0	
Dadra and Nagar Haveli	15634	2021-06-04	8:00 AM	0	0	10
Dadra and Nagar Haveli and Daman and Diu	1646	2020-05-06	8:00 AM	0	0	
Daman & Diu	2891	2020-06-11	8:00 AM	0	0	
Delhi	35	2020-03-02	10:00 AM	0	0	
Goa	372	2020-03-26	10:00 AM	0	0	
Gujarat	232	2020-03-20	10:00 AM	0	0	
Haryana	42	2020-03-04	10:00 AM	0	0	
Himachal Pradesh	254	2020-03-21	10:00 AM	0	0	
Jammu and Kashmir	82	2020-03-09	10:00 AM	0	0	
Jharkhand	542	2020-04-01	5:00 PM	0	0	
Karnataka	75	2020-03-09	10:00 AM	0	0	
Kerala	1	2020-01-30	10:00 AM	0	0	
Ladakh	60	2020-03-07	10:00 AM	0	0	

Sno	Date	Time	ConfirmedIndianNational	ConfirmedForeignNational	Ct
State/UnionTerritory					
Lakshadweep	9344	2020-12-11	8:00 AM	0	0
Madhya Pradesh	257	2020-03-21	10:00 AM	0	0
Maharashtra	77	2020-03-09	10:00 AM	0	0
Manipur	328	2020-03-24	10:00 AM	0	0
Meghalaya	947	2020-04-14	5:00 PM	0	0
Mizoram	353	2020-03-25	10:00 AM	0	0
Nagaland	916	2020-04-13	5:00 PM	0	0
Odisha	169	2020-03-16	10:00 AM	0	0
Puducherry	200	2020-03-18	10:00 AM	0	0
Punjab	78	2020-03-09	10:00 AM	0	0
Rajasthan	37	2020-03-03	10:00 AM	0	0
Sikkim	2264	2020-05-24	8:00 AM	0	0
Tamil Nadu	62	2020-03-07	10:00 AM	0	0
Telangana	33	2020-03-02	10:00 AM	0	0
Tripura	736	2020-04-07	5:00 PM	0	0
Unassigned	501	2020-03-30	6:00 PM	0	0
Uttar Pradesh	40	2020-03-04	10:00 AM	0	0
Uttarakhand	162	2020-03-15	10:00 AM	0	0
West Bengal	209	2020-03-18	10:00 AM	0	0



In [15]:

states.max()

Out[15]:

State/UnionTerritory	Sno	Date	Time	ConfirmedIndianNational	ConfirmedForeignNational
Andaman and Nicobar Islands	16815	2021-07-07	9:30 PM	6	0
Andhra Pradesh	16816	2021-07-07	9:30 PM	14	0
Arunachal Pradesh	16817	2021-07-07	8:00 AM	0	0
Assam	16818	2021-07-07	8:00 AM	0	0
Bihar	16819	2021-07-07	9:30 PM	9	0
Cases being reassigned to states	4251	2020-07-18	8:00 AM	0	0
Chandigarh	16820	2021-07-07	9:30 PM	8	0
Chhattisgarh	16821	2021-07-07	9:30 PM	6	0
Dadra and Nagar Haveli	15670	2021-06-05	8:00 AM	0	0
Dadra and Nagar Haveli and Daman and Diu	16822	2021-07-07	8:00 AM	0	0
Daman & Diu	2891	2020-06-11	8:00 AM	0	0
Delhi	16823	2021-07-07	9:30 PM	38	1
Goa	16824	2021-07-07	9:30 PM	3	0
Gujarat	16825	2021-07-07	9:30 PM	44	1
Haryana	16826	2021-07-07	9:30 PM	19	14
Himachal Pradesh	16827	2021-07-07	9:30 PM	3	0
Jammu and Kashmir	16828	2021-07-07	9:30 PM	20	0
Jharkhand	16829	2021-07-07	8:00 AM	0	0
Karnataka	16830	2021-07-07	9:30 PM	55	0
Kerala	16831	2021-07-07	9:30 PM	168	8
Ladakh	16832	2021-07-07	9:30 PM	13	0

Sno	Date	Time	ConfirmedIndianNational	ConfirmedForeignNational
State/UnionTerritory				
Lakshadweep	16833	2021-07-07	8:00 AM	0
Madhya Pradesh	16834	2021-07-07	9:30 PM	30
Maharashtra	16835	2021-07-07	9:30 PM	177
Manipur	16836	2021-07-07	9:30 PM	1
Meghalaya	16837	2021-07-07	8:00 AM	0
Mizoram	16838	2021-07-07	9:30 PM	1
Nagaland	16839	2021-07-07	8:00 AM	0
Odisha	16840	2021-07-07	9:30 PM	3
Puducherry	16841	2021-07-07	9:30 PM	1
Punjab	16842	2021-07-07	9:30 PM	38
Rajasthan	16843	2021-07-07	9:30 PM	52
Sikkim	16844	2021-07-07	8:00 AM	0
Tamil Nadu	16845	2021-07-07	9:30 PM	34
Telangana	16846	2021-07-07	9:30 PM	46
Tripura	16847	2021-07-07	8:00 AM	0
Unassigned	618	2020-04-03	9:30 PM	0
Uttar Pradesh	16849	2021-07-07	9:30 PM	54
Uttarakhand	16848	2021-07-07	9:30 PM	4
West Bengal	16850	2021-07-07	9:30 PM	15

In [16]:

states.mean()

Out[16]:

State/UnionTerritory	Sno	ConfirmedIndianNational	ConfirmedForeignNational	Ct
Andaman and Nicobar Islands	8462.456290	0.017058	0.000000	3.390053e
Andhra Pradesh	8223.726708	0.167702	0.000000	6.282151e
Arunachal Pradesh	8602.978308	0.000000	0.000000	1.117249e
Assam	8569.172786	0.000000	0.000000	1.598517e
Bihar	8397.105708	0.067653	0.000000	2.146593e
Cases being reassigned to states	3188.983333	0.000000	0.000000	0.000000e
Chandigarh	8346.844538	0.105042	0.000000	1.676530e
Chhattisgarh	8347.613445	0.052521	0.000000	2.461419e
Dadra and Nagar Haveli	15652.000000	0.000000	0.000000	1.017600e
Dadra and Nagar Haveli and Daman and Diu	9156.497653	0.000000	0.000000	3.453019e
Daman & Diu	2891.000000	0.000000	0.000000	0.000000e
Delhi	8065.004057	0.713996	0.022312	4.544882e
Goa	8471.021322	0.019190	0.000000	4.312162e
Gujarat	8368.633684	0.538947	0.010526	2.189371e
Haryana	8100.615071	0.226069	0.541752	2.036866e
Himachal Pradesh	8387.799578	0.044304	0.000000	4.363454e
Jammu and Kashmir	8185.644033	0.195473	0.000000	8.702685e
Jharkhand	8580.099352	0.000000	0.000000	9.953343e
Karnataka	8187.323045	0.833333	0.000000	7.112118e
Kerala	7581.638095	2.078095	0.131429	5.926241e
Ladakh	8156.426230	0.331967	0.000000	6.268535e
Lakshadweep	13088.368421	0.000000	0.000000	2.256995e
Madhya Pradesh	8394.196203	0.221519	0.000000	2.113285e
Maharashtra	8191.660494	2.286008	0.074074	1.674463e
Manipur	8447.878981	0.010616	0.000000	1.787733e
Meghalaya	8814.533333	0.000000	0.000000	1.023677e
Mizoram	8467.112766	0.008511	0.000000	3.265170e
Nagaland	9373.947242	0.000000	0.000000	8.701724e
Odisha	8314.427975	0.048017	0.000000	2.463148e
Puducherry	8349.549266	0.023061	0.000000	3.014029e

Sno	ConfirmedIndianNational	ConfirmedForeignNational	Ct
State/UnionTerritory			
Punjab	8198.347737	0.475309	0.000000 1.463142e
Rajasthan	8099.949187	0.601626	0.274390 2.384406e
Sikkim	9527.090244	0.000000	0.000000 4.838778e
Tamil Nadu	8167.813525	0.282787	0.053279 6.497285e
Telangana	8086.371197	0.498986	0.196755 2.032682e
Tripura	8701.903720	0.000000	0.000000 2.293035e
Unassigned	549.333333	0.000000	0.000000 0.000000e
Uttar Pradesh	8122.083503	0.940937	0.034623 4.735834e
Uttarakhand	8305.310417	0.072917	0.010417 7.642581e
West Bengal	8358.415094	0.148847	0.000000 4.094273e



In [17]:

states.nunique()

Out[17]:

State/UnionTerritory	Sno	Date	Time	ConfirmedIndianNational	ConfirmedForeignNational	CureRate
Andaman and Nicobar Islands	469	469	7	3		1 34%
Andhra Pradesh	483	483	7	11		1 45%
Arunachal Pradesh	461	461	3	1		1 33%
Assam	463	463	4	1		1 41%
Bihar	473	473	7	6		1 43%
Cases being reassigned to states	60	60	1	1		1 .
Chandigarh	476	476	7	6		1 40%
Chhattisgarh	476	476	7	3		1 43%
Dadra and Nagar Haveli	2	2	1	1		1 .
Dadra and Nagar Haveli and Daman and Diu	426	426	1	1		1 32%
Daman & Diu	1	1	1	1		1 .
Delhi	493	493	7	18		2 45%
Goa	469	469	7	2		1 40%
Gujarat	475	475	7	9		2 46%
Haryana	491	491	7	8		3 44%
Himachal Pradesh	474	474	7	3		1 42%
Jammu and Kashmir	486	486	7	8		1 45%
Jharkhand	463	463	4	1		1 42%
Karnataka	486	486	7	12		1 46%
Kerala	525	525	7	22		4 46%
Ladakh	488	488	7	8		1 39%
Lakshadweep	209	209	1	1		1 14%
Madhya Pradesh	474	474	7	7		1 44%
Maharashtra	486	486	7	18		2 46%
Manipur	471	471	7	2		1 39%
Meghalaya	450	450	2	1		1 35%
Mizoram	470	470	7	2		1 34%
Nagaland	417	417	2	1		1 35%
Odisha	479	479	7	4		1 43%
Puducherry	477	477	7	2		1 38%

Sno	Date	Time	ConfirmedIndianNational	ConfirmedForeignNational	Cured	Death
State/UnionTerritory						
Punjab	486	486	7	8	1	438
Rajasthan	492	492	7	11	4	445
Sikkim	410	410	1	1	1	361
Tamil Nadu	488	488	7	11	3	459
Telangana	493	493	7	12	5	440
Tripura	457	457	3	1	1	378
Unassigned	3	3	3	1	1	-
Uttar Pradesh	491	491	7	18	2	459
Uttarakhand	480	480	7	4	2	417
West Bengal	477	477	7	9	1	449



In [18]:

```
states.ConfirmedForeignNational.count()
```

Out[18]:

State/UnionTerritory	
Andaman and Nicobar Islands	469
Andhra Pradesh	483
Arunachal Pradesh	461
Assam	463
Bihar	473
Cases being reassigned to states	60
Chandigarh	476
Chhattisgarh	476
Dadra and Nagar Haveli	2
Dadra and Nagar Haveli and Daman and Diu	426
Daman & Diu	1
Delhi	493
Goa	469
Gujarat	475
Haryana	491
Himachal Pradesh	474
Jammu and Kashmir	486
Jharkhand	463
Karnataka	486
Kerala	525
Ladakh	488
Lakshadweep	209
Madhya Pradesh	474
Maharashtra	486
Manipur	471
Meghalaya	450
Mizoram	470
Nagaland	417
Odisha	479
Puducherry	477
Punjab	486
Rajasthan	492
Sikkim	410
Tamil Nadu	488
Telangana	493
Tripura	457
Unassigned	3
Uttar Pradesh	491
Uttarakhand	480
West Bengal	477

Name: ConfirmedForeignNational, dtype: int64

In [19]:

```
statesConfirmedIndianNational.sum()
```

Out[19]:

State/UnionTerritory	
Andaman and Nicobar Islands	8
Andhra Pradesh	81
Arunachal Pradesh	0
Assam	0
Bihar	32
Cases being reassigned to states	0
Chandigarh	50
Chhattisgarh	25
Dadra and Nagar Haveli	0
Dadra and Nagar Haveli and Daman and Diu	0
Daman & Diu	0
Delhi	352
Goa	9
Gujarat	256
Haryana	111
Himachal Pradesh	21
Jammu and Kashmir	95
Jharkhand	0
Karnataka	405
Kerala	1091
Ladakh	162
Lakshadweep	0
Madhya Pradesh	105
Maharashtra	1111
Manipur	5
Meghalaya	0
Mizoram	4
Nagaland	0
Odisha	23
Puducherry	11
Punjab	231
Rajasthan	296
Sikkim	0
Tamil Nadu	138
Telangana	246
Tripura	0
Unassigned	0
Uttar Pradesh	462
Uttarakhand	35
West Bengal	71

Name: ConfirmedIndianNational, dtype: int32

In [20]:

```
states.ConfirmedForeignNational.sum()
```

Out[20]:

State/UnionTerritory	
Andaman and Nicobar Islands	0
Andhra Pradesh	0
Arunachal Pradesh	0
Assam	0
Bihar	0
Cases being reassigned to states	0
Chandigarh	0
Chhattisgarh	0
Dadra and Nagar Haveli	0
Dadra and Nagar Haveli and Daman and Diu	0
Daman & Diu	0
Delhi	11
Goa	0
Gujarat	5
Haryana	266
Himachal Pradesh	0
Jammu and Kashmir	0
Jharkhand	0
Karnataka	0
Kerala	69
Ladakh	0
Lakshadweep	0
Madhya Pradesh	0
Maharashtra	36
Manipur	0
Meghalaya	0
Mizoram	0
Nagaland	0
Odisha	0
Puducherry	0
Punjab	0
Rajasthan	135
Sikkim	0
Tamil Nadu	26
Telangana	97
Tripura	0
Unassigned	0
Uttar Pradesh	17
Uttarakhand	5
West Bengal	0

Name: ConfirmedForeignNational, dtype: int32

In [21]:

```
data['Confirmed'].sum()
```

Out[21]:

4353478074

In [22]:

```
data['Cured'].sum()
```

Out[22]:

3977194136

In [23]:

```
data['Deaths'].sum()
```

Out[23]:

58726000

In [24]:

```
data['ConfirmedIndianNational'].sum()
```

Out[24]:

5436

In [25]:

```
data['ConfirmedForeignNational'].sum()
```

Out[25]:

667

In [26]:

```
data['Date'] = pd.to_datetime(data['Date'])
```

In [28]:

```
res_time
```

NameError

Traceback (most recent call last)

Input In [28], in <cell line: 1>()

----> 1 res_time

NameError: name 'res_time' is not defined

In [29]:

```
res_time
```

NameError

Traceback (most recent call last)

Input In [29], in <cell line: 1>()

----> 1 res_time

NameError: name 'res_time' is not defined

In [30]:

```
result = data.dtypes
result
```

Out[30]:

Sno		int64
Date		datetime64[ns]
Time		object
State/UnionTerritory		object
ConfirmedIndianNational		int32
ConfirmedForeignNational		int32
Cured		int64
Deaths		int64
Confirmed		int64
dtype: object		

In [31]:

```
data['Time'] = pd.to_datetime(data['Time'])
```

In [32]:

```
data['Year']= data['Date'].dt.year
data['Month']= data['Date'].dt.month
data['Day']= data['Date'].dt.day
```

In [33]:

```
data_2020 = data[data['Year'] == 2020]
data_2021 = data[data['Year'] == 2021]
```

In [34]:

```
data['WeekDay'] = data['Date'].dt.weekofyear
```

C:\Users\NITU\AppData\Local\Temp\ipykernel_13500\471884339.py:1: FutureWarning: Series.dt.weekofyear and Series.dt.week have been deprecated. Please use Series.dt.isocalendar().week instead.

```
data['WeekDay'] = data['Date'].dt.weekofyear
```

In [35]:

```
Jan20 = data_2020[data_2020['Month'] == 1]
Jan20
```

Out[35]:

Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational
0	2020-01-30	2022-10-21 18:00:00	Kerala	1	0
1	2020-01-31	2022-10-21 18:00:00	Kerala	1	0

In [36]:

```
Feb20 = data_2020[data_2020['Month'] == 2]
Feb20
```

Out[36]:

Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational
2	2020-02-01	2022-10-21 18:00:00	Kerala	2	
3	2020-02-02	2022-10-21 18:00:00	Kerala	3	
4	2020-02-03	2022-10-21 18:00:00	Kerala	3	
5	2020-02-04	2022-10-21 18:00:00	Kerala	3	
6	2020-02-05	2022-10-21 18:00:00	Kerala	3	
7	2020-02-06	2022-10-21 18:00:00	Kerala	3	
8	2020-02-07	2022-10-21 18:00:00	Kerala	3	
9	2020-02-08	2022-10-21 18:00:00	Kerala	3	
10	2020-02-09	2022-10-21 18:00:00	Kerala	3	
11	2020-02-10	2022-10-21 18:00:00	Kerala	3	
12	2020-02-11	2022-10-21 18:00:00	Kerala	3	
13	2020-02-12	2022-10-21 18:00:00	Kerala	3	
14	2020-02-13	2022-10-21 18:00:00	Kerala	3	
15	2020-02-14	2022-10-21 18:00:00	Kerala	3	
16	2020-02-15	2022-10-21 18:00:00	Kerala	3	
17	2020-02-16	2022-10-21 18:00:00	Kerala	3	

Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational
18	19	2020-02-17	2022-10-21 18:00:00	Kerala	3
19	20	2020-02-18	2022-10-21 18:00:00	Kerala	3
20	21	2020-02-19	2022-10-21 18:00:00	Kerala	3
21	22	2020-02-20	2022-10-21 18:00:00	Kerala	3
22	23	2020-02-21	2022-10-21 18:00:00	Kerala	3
23	24	2020-02-22	2022-10-21 18:00:00	Kerala	3
24	25	2020-02-23	2022-10-21 18:00:00	Kerala	3
25	26	2020-02-24	2022-10-21 18:00:00	Kerala	3
26	27	2020-02-25	2022-10-21 18:00:00	Kerala	3
27	28	2020-02-26	2022-10-21 18:00:00	Kerala	3
28	29	2020-02-27	2022-10-21 18:00:00	Kerala	3
29	30	2020-02-28	2022-10-21 18:00:00	Kerala	3
30	31	2020-02-29	2022-10-21 18:00:00	Kerala	3



In [37]:

```
Mar20 = data_2020[data_2020['Month'] == 3]
Mar20
```

Out[37]:

Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNatio
31	32	2020-03-01	2022-10-21 18:00:00	Kerala	3
32	33	2020-03-02	2022-10-21 18:00:00	Telangana	1
33	34	2020-03-02	2022-10-21 18:00:00	Kerala	3
34	35	2020-03-02	2022-10-21 18:00:00	Delhi	1
35	36	2020-03-03	2022-10-21 18:00:00	Telangana	1
...
524	525	2020-03-31	2022-10-21 20:30:00	Telangana	0
525	526	2020-03-31	2022-10-21 20:30:00	Uttarakhand	0
526	527	2020-03-31	2022-10-21 20:30:00	Uttar Pradesh	0
527	528	2020-03-31	2022-10-21 20:30:00	West Bengal	0
528	529	2020-03-31	2022-10-21 20:30:00	Unassigned	0

498 rows × 12 columns



In [38]:

```
Apr20 = data_2020[data_2020['Month'] == 4]
Apr20
```

Out[38]:

	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational
529	530	2020-04-01	2022-10-21 19:30:00	Andhra Pradesh	0	
530	531	2020-04-01	2022-10-21 19:30:00	Andaman and Nicobar Islands	0	
531	532	2020-04-01	2022-10-21 19:30:00	Assam	0	
532	533	2020-04-01	2022-10-21 19:30:00	Bihar	0	
533	534	2020-04-01	2022-10-21 19:30:00	Chandigarh	0	
...	
1473	1474	2020-04-30	2022-10-21 17:00:00	Telangana	0	
1474	1475	2020-04-30	2022-10-21 17:00:00	Tripura	0	
1475	1476	2020-04-30	2022-10-21 17:00:00	Uttarakhand	0	
1476	1477	2020-04-30	2022-10-21 17:00:00	Uttar Pradesh	0	
1477	1478	2020-04-30	2022-10-21 17:00:00	West Bengal	0	

949 rows × 12 columns



In [39]:

```
May20 = data_2020[data_2020['Month'] == 5]
May20
```

Out[39]:

	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational
1478	1479	2020-05-01	2022-10-21 17:00:00	Andaman and Nicobar Islands	0	
1479	1480	2020-05-01	2022-10-21 17:00:00	Andhra Pradesh	0	
1480	1481	2020-05-01	2022-10-21 17:00:00	Arunachal Pradesh	0	
1481	1482	2020-05-01	2022-10-21 17:00:00	Assam	0	
1482	1483	2020-05-01	2022-10-21 17:00:00	Bihar	0	
...	
2517	2518	2020-05-31	2022-10-21 08:00:00	Tripura	0	
2518	2519	2020-05-31	2022-10-21 08:00:00	Uttarakhand	0	
2519	2520	2020-05-31	2022-10-21 08:00:00	Uttar Pradesh	0	
2520	2521	2020-05-31	2022-10-21 08:00:00	West Bengal	0	
2521	2522	2020-05-31	2022-10-21 08:00:00	Cases being reassigned to states	0	

1044 rows × 12 columns



In [40]:

```
Jun20 = data_2020[data_2020['Month'] == 6]
Jun20
```

Out[40]:

	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational
2522	2523	2020-06-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
2523	2524	2020-06-01	2022-10-21 08:00:00	Andhra Pradesh	0	
2524	2525	2020-06-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
2525	2526	2020-06-01	2022-10-21 08:00:00	Assam	0	
2526	2527	2020-06-01	2022-10-21 08:00:00	Bihar	0	
...
3598	3599	2020-06-30	2022-10-21 08:00:00	Tripura	0	
3599	3600	2020-06-30	2022-10-21 08:00:00	Uttarakhand	0	
3600	3601	2020-06-30	2022-10-21 08:00:00	Uttar Pradesh	0	
3601	3602	2020-06-30	2022-10-21 08:00:00	West Bengal	0	
3602	3603	2020-06-30	2022-10-21 08:00:00	Cases being reassigned to states	0	

1081 rows × 12 columns



In [41]:

```
Jul20 = data_2020[data_2020['Month'] == 7]
Jul20
```

Out[41]:

	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational
3603	3604	2020-07-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
3604	3605	2020-07-01	2022-10-21 08:00:00	Andhra Pradesh	0	
3605	3606	2020-07-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
3606	3607	2020-07-01	2022-10-21 08:00:00	Assam	0	
3607	3608	2020-07-01	2022-10-21 08:00:00	Bihar	0	
...	
4701	4702	2020-07-31	2022-10-21 08:00:00	Telangana	0	
4702	4703	2020-07-31	2022-10-21 08:00:00	Tripura	0	
4703	4704	2020-07-31	2022-10-21 08:00:00	Uttarakhand	0	
4704	4705	2020-07-31	2022-10-21 08:00:00	Uttar Pradesh	0	
4705	4706	2020-07-31	2022-10-21 08:00:00	West Bengal	0	

1103 rows × 12 columns



In [42]:

```
Aug20 = data_2020[data_2020['Month'] == 8]
Aug20
```

Out[42]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNati
4706	4707	2020-08-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
4707	4708	2020-08-01	2022-10-21 08:00:00	Andhra Pradesh	0	
4708	4709	2020-08-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
4709	4710	2020-08-01	2022-10-21 08:00:00	Assam	0	
4710	4711	2020-08-01	2022-10-21 08:00:00	Bihar	0	
...	
5786	5787	2020-08-31	2022-10-21 08:00:00	Telangana	0	
5787	5788	2020-08-31	2022-10-21 08:00:00	Tripura	0	
5788	5789	2020-08-31	2022-10-21 08:00:00	Uttarakhand	0	
5789	5790	2020-08-31	2022-10-21 08:00:00	Uttar Pradesh	0	
5790	5791	2020-08-31	2022-10-21 08:00:00	West Bengal	0	

1085 rows × 12 columns



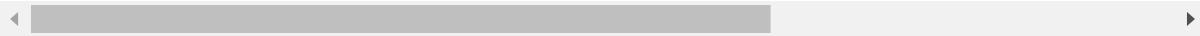
In [43]:

```
Sep20 = data_2020[data_2020['Month'] == 9]
Sep20
```

Out[43]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNati
5791	5792	2020-09-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
5792	5793	2020-09-01	2022-10-21 08:00:00	Andhra Pradesh	0	
5793	5794	2020-09-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
5794	5795	2020-09-01	2022-10-21 08:00:00	Assam	0	
5795	5796	2020-09-01	2022-10-21 08:00:00	Bihar	0	
...
6836	6837	2020-09-30	2022-10-21 08:00:00	Telangana	0	
6837	6838	2020-09-30	2022-10-21 08:00:00	Tripura	0	
6838	6839	2020-09-30	2022-10-21 08:00:00	Uttarakhand	0	
6839	6840	2020-09-30	2022-10-21 08:00:00	Uttar Pradesh	0	
6840	6841	2020-09-30	2022-10-21 08:00:00	West Bengal	0	

1050 rows × 12 columns



In [44]:

```
Oct20 = data_2020[data_2020['Month'] == 10]
Oct20
```

Out[44]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNati
6841	6842	2020-10-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
6842	6843	2020-10-01	2022-10-21 08:00:00	Andhra Pradesh	0	
6843	6844	2020-10-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
6844	6845	2020-10-01	2022-10-21 08:00:00	Assam	0	
6845	6846	2020-10-01	2022-10-21 08:00:00	Bihar	0	
...	
7921	7922	2020-10-31	2022-10-21 08:00:00	Telangana	0	
7922	7923	2020-10-31	2022-10-21 08:00:00	Tripura	0	
7923	7924	2020-10-31	2022-10-21 08:00:00	Uttarakhand	0	
7924	7925	2020-10-31	2022-10-21 08:00:00	Uttar Pradesh	0	
7925	7926	2020-10-31	2022-10-21 08:00:00	West Bengal	0	

1085 rows × 12 columns



In [45]:

```
Nov20 = data_2020[data_2020['Month'] == 11]
Nov20
```

Out[45]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNati
7926	7927	2020-11-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
7927	7928	2020-11-01	2022-10-21 08:00:00	Andhra Pradesh	0	
7928	7929	2020-11-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
7929	7930	2020-11-01	2022-10-21 08:00:00	Assam	0	
7930	7931	2020-11-01	2022-10-21 08:00:00	Bihar	0	
...	
8971	8972	2020-11-30	2022-10-21 08:00:00	Telangana	0	
8972	8973	2020-11-30	2022-10-21 08:00:00	Tripura	0	
8973	8974	2020-11-30	2022-10-21 08:00:00	Uttarakhand	0	
8974	8975	2020-11-30	2022-10-21 08:00:00	Uttar Pradesh	0	
8975	8976	2020-11-30	2022-10-21 08:00:00	West Bengal	0	

1050 rows × 12 columns



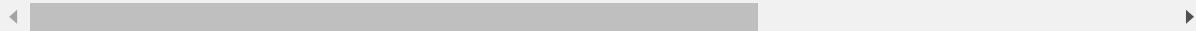
In [46]:

```
Dec20 = data_2020[data_2020['Month'] == 12]
Dec20
```

Out[46]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
8976	8977	2020-12-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
8977	8978	2020-12-01	2022-10-21 08:00:00	Andhra Pradesh	0	
8978	8979	2020-12-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
8979	8980	2020-12-01	2022-10-21 08:00:00	Assam	0	
8980	8981	2020-12-01	2022-10-21 08:00:00	Bihar	0	
...	
10077	10078	2020-12-31	2022-10-21 08:00:00	Telangana	0	
10078	10079	2020-12-31	2022-10-21 08:00:00	Tripura	0	
10079	10080	2020-12-31	2022-10-21 08:00:00	Uttarakhand	0	
10080	10081	2020-12-31	2022-10-21 08:00:00	Uttar Pradesh	0	
10081	10082	2020-12-31	2022-10-21 08:00:00	West Bengal	0	

1106 rows × 12 columns



In [47]:

```
Jan21 = data_2021[data_2021['Month'] == 1]
Jan21
```

Out[47]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
10082	10083	2021-01-01	2022-10-21 08:00:00	Andhra Pradesh	0	
10083	10084	2021-01-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
10084	10085	2021-01-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
10085	10086	2021-01-01	2022-10-21 08:00:00	Assam	0	
10086	10087	2021-01-01	2022-10-21 08:00:00	Bihar	0	
...	
11193	11194	2021-01-31	2022-10-21 08:00:00	Telangana	0	
11194	11195	2021-01-31	2022-10-21 08:00:00	Tripura	0	
11195	11196	2021-01-31	2022-10-21 08:00:00	Uttarakhand	0	
11196	11197	2021-01-31	2022-10-21 08:00:00	Uttar Pradesh	0	
11197	11198	2021-01-31	2022-10-21 08:00:00	West Bengal	0	

1116 rows × 12 columns



In [48]:

```
Feb21 = data_2021[data_2021['Month'] == 2]
Feb21
```

Out[48]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
11198	11199	2021-02-01	2022-10-21 08:00:00	Andhra Pradesh	0	
11199	11200	2021-02-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
11200	11201	2021-02-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
11201	11202	2021-02-01	2022-10-21 08:00:00	Assam	0	
11202	11203	2021-02-01	2022-10-21 08:00:00	Bihar	0	
...	
12201	12202	2021-02-28	2022-10-21 08:00:00	Telangana	0	
12202	12203	2021-02-28	2022-10-21 08:00:00	Tripura	0	
12203	12204	2021-02-28	2022-10-21 08:00:00	Uttarakhand	0	
12204	12205	2021-02-28	2022-10-21 08:00:00	Uttar Pradesh	0	
12205	12206	2021-02-28	2022-10-21 08:00:00	West Bengal	0	

1008 rows × 12 columns



In [49]:

```
Mar21 = data_2021[data_2021['Month'] == 3]
Mar21
```

Out[49]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
12206	12207	2021-03-01	2022-10-21 08:00:00	Andhra Pradesh	0	
12207	12208	2021-03-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
12208	12209	2021-03-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
12209	12210	2021-03-01	2022-10-21 08:00:00	Assam	0	
12210	12211	2021-03-01	2022-10-21 08:00:00	Bihar	0	
...	
13317	13318	2021-03-31	2022-10-21 08:00:00	Telangana	0	
13318	13319	2021-03-31	2022-10-21 08:00:00	Tripura	0	
13319	13320	2021-03-31	2022-10-21 08:00:00	Uttarakhand	0	
13320	13321	2021-03-31	2022-10-21 08:00:00	Uttar Pradesh	0	
13321	13322	2021-03-31	2022-10-21 08:00:00	West Bengal	0	

1116 rows × 12 columns



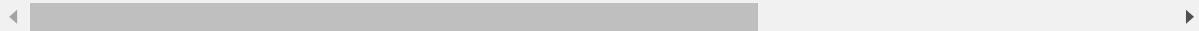
In [50]:

```
Apr21 = data_2021[data_2021['Month'] == 4]
Apr21
```

Out[50]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
13322	13323	2021-04-01	2022-10-21 08:00:00	Andhra Pradesh	0	
13323	13324	2021-04-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
13324	13325	2021-04-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
13325	13326	2021-04-01	2022-10-21 08:00:00	Assam	0	
13326	13327	2021-04-01	2022-10-21 08:00:00	Bihar	0	
...	
14397	14398	2021-04-30	2022-10-21 08:00:00	Telangana	0	
14398	14399	2021-04-30	2022-10-21 08:00:00	Tripura	0	
14399	14400	2021-04-30	2022-10-21 08:00:00	Uttarakhand	0	
14400	14401	2021-04-30	2022-10-21 08:00:00	Uttar Pradesh	0	
14401	14402	2021-04-30	2022-10-21 08:00:00	West Bengal	0	

1080 rows × 12 columns



In [51]:

```
May21 = data_2021[data_2021['Month'] == 5]
May21
```

Out[51]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
14402	14403	2021-05-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
14403	14404	2021-05-01	2022-10-21 08:00:00	Andhra Pradesh	0	
14404	14405	2021-05-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
14405	14406	2021-05-01	2022-10-21 08:00:00	Assam	0	
14406	14407	2021-05-01	2022-10-21 08:00:00	Bihar	0	
...	
15513	15514	2021-05-31	2022-10-21 08:00:00	Telangana	0	
15514	15515	2021-05-31	2022-10-21 08:00:00	Tripura	0	
15515	15516	2021-05-31	2022-10-21 08:00:00	Uttarakhand	0	
15516	15517	2021-05-31	2022-10-21 08:00:00	Uttar Pradesh	0	
15517	15518	2021-05-31	2022-10-21 08:00:00	West Bengal	0	

1116 rows × 12 columns



In [52]:

```
Jun21 = data_2021[data_2021['Month'] == 6]
Jun21
```

Out[52]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
15518	15519	2021-06-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
15519	15520	2021-06-01	2022-10-21 08:00:00	Andhra Pradesh	0	
15520	15521	2021-06-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
15521	15522	2021-06-01	2022-10-21 08:00:00	Assam	0	
15522	15523	2021-06-01	2022-10-21 08:00:00	Bihar	0	
...	
16593	16594	2021-06-30	2022-10-21 08:00:00	Telangana	0	
16594	16595	2021-06-30	2022-10-21 08:00:00	Tripura	0	
16595	16596	2021-06-30	2022-10-21 08:00:00	Uttarakhand	0	
16596	16597	2021-06-30	2022-10-21 08:00:00	Uttar Pradesh	0	
16597	16598	2021-06-30	2022-10-21 08:00:00	West Bengal	0	

1080 rows × 12 columns



In [53]:

```
Jul21 = data_2021[data_2021['Month'] == 7]
Jul21
```

Out[53]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational
16598	16599	2021-07-01	2022-10-21 08:00:00	Andaman and Nicobar Islands	0	
16599	16600	2021-07-01	2022-10-21 08:00:00	Andhra Pradesh	0	
16600	16601	2021-07-01	2022-10-21 08:00:00	Arunachal Pradesh	0	
16601	16602	2021-07-01	2022-10-21 08:00:00	Assam	0	
16602	16603	2021-07-01	2022-10-21 08:00:00	Bihar	0	
...	
16845	16846	2021-07-07	2022-10-21 08:00:00	Telangana	0	
16846	16847	2021-07-07	2022-10-21 08:00:00	Tripura	0	
16847	16848	2021-07-07	2022-10-21 08:00:00	Uttarakhand	0	
16848	16849	2021-07-07	2022-10-21 08:00:00	Uttar Pradesh	0	
16849	16850	2021-07-07	2022-10-21 08:00:00	West Bengal	0	

252 rows × 12 columns

In []:

In []:

