COVID - 19 Data Exploration (28-03-202(

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In [1]:
```
import pandas as pd
import numpy as np
import os
os.chdir(r'C:\Users\acer\Downloads')
df = pd.read_csv('covid_19_india.csv')
df = df.drop(['Sno'], axis = 1)
df = df.drop(['Time'], axis = 1)
df.head()
```

	Date	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational	Cured	D
0	30/01/20	Kerala	1	0	0	0
1	31/01/20	Kerala	1	0	0	0
2	01/02/20	Kerala	2	0	0	0
3	02/02/20	Kerala	3	0	0	0
4	03/02/20	Kerala	3	0	0	0

In [2]:
```
df.isnull().sum()
```

```
Date                      0
State/UnionTerritory      0
ConfirmedIndianNational   0
ConfirmedForeignNational  0
Cured                     0
Deaths                    0
dtype: int64
```

In [3]:
```
from copy import deepcopy as dc
df1 = dc(df)
```

In [4]:
```
df.columns.values
```

```
array(['Date', 'State/UnionTerritory', 'ConfirmedIndianNational',
       'ConfirmedForeignNational', 'Cured', 'Deaths'], dtype=object)
```

Renaming the State.

In [5]:
```
df.rename(columns = {'State/UnionTerritory':'State'}, inplace = True)
```

Latest data (as of 28th March, 2020).

In [6]:
```
df_mod = df.groupby(['State']).max()
df_mod = df_mod.drop(['Date'], axis = 1)
df_mod['TotalConfirmed'] = df_mod['ConfirmedIndianNational'] + df_mod['ConfirmedF
df_mod
```

State	ConfirmedIndianNational	ConfirmedForeignNational	Cured	Deaths
Andaman and Nicobar Islands	6	0	0	0
Andhra Pradesh	14	0	1	0
Bihar	9	0	0	1
Chandigarh	8	0	0	0
Chattisgarh	1	0	0	0
Chhattisgarh	6	0	0	0
Delhi	38	1	6	1
Goa	3	0	0	0
Gujarat	44	1	0	3
Haryana	19	14	12	0
Himachal Pradesh	3	0	0	1
Jammu and Kashmir	20	0	1	1
Karnataka	55	0	3	2
Kerala	168	8	11	0
Ladakh	13	0	3	0
Madhya Pradesh	30	0	0	2
Maharashtra	177	3	25	5
Manipur	1	0	0	0
Mizoram	1	0	0	0
Odisha	3	0	0	0
Pondicherry	1	0	0	0
Puducherry	1	0	0	0
Punjab	38	0	1	1
Rajasthan	52	14	3	0
Tamil Nadu	34	6	2	1
Telengana	46	11	1	0
Uttar Pradesh	54	1	11	0
Uttarakhand	4	1	0	0
West Bengal	15	0	0	1

Copying the dataframe to clipboard so that we can copy in excel.

In [7]:
```
df_mod.to_clipboard()
```

Data Visualization.

Documentation: plt.text (https://matplotlib.org/3.1.1/api/_as_gen/matplotlib.pyplot.te

In [8]:
```
import matplotlib.pyplot as plt
import seaborn as sns
```

COVID_19 Count in Indian Nationals as of 28-03-2020.

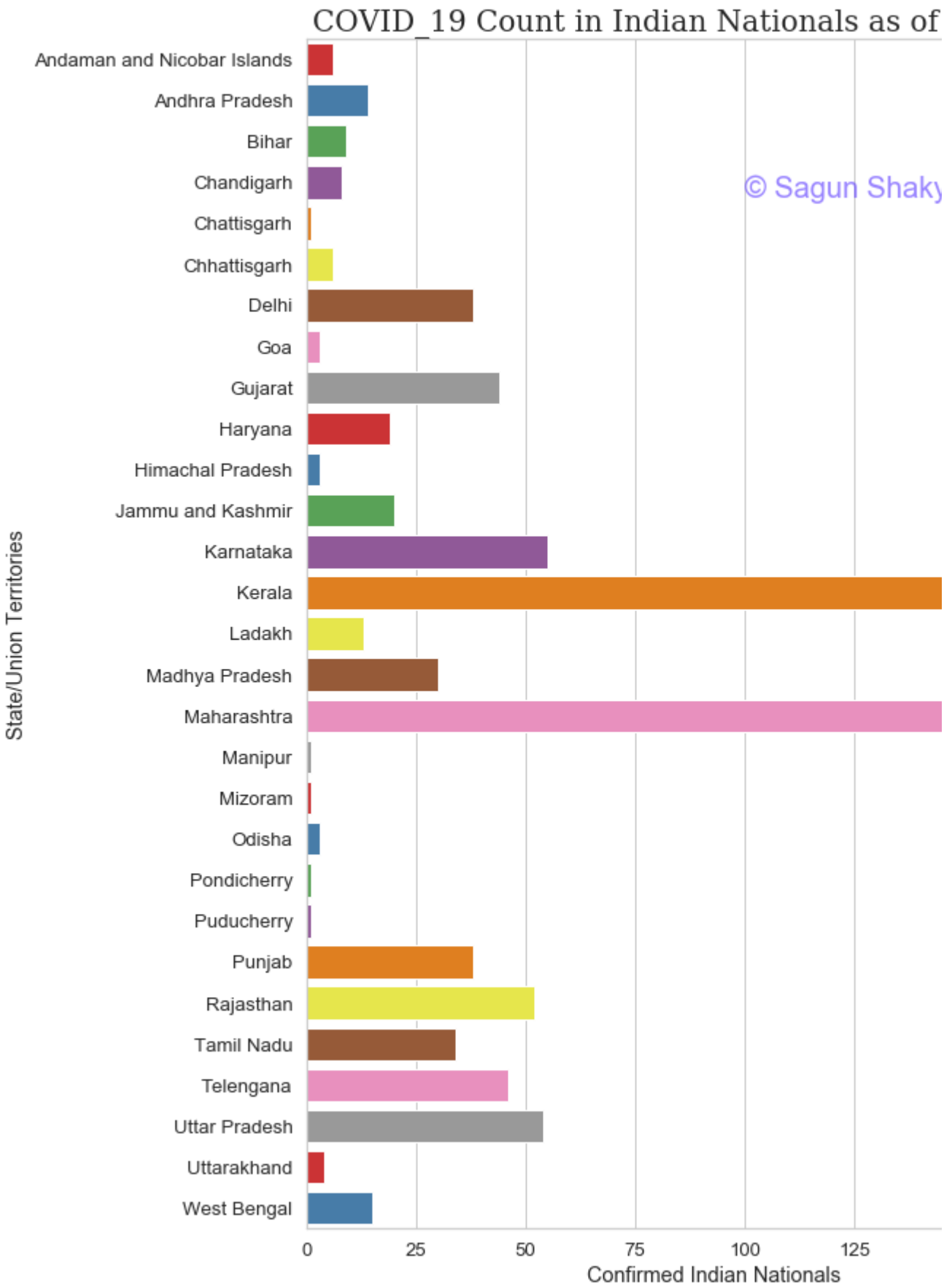
In [9]:

```
plt.figure(figsize = (10,15))
sns.set(style = 'whitegrid', font_scale = 1.2)
sns.desaturate(color = 'red', prop = 0.5)

sns.barplot(x = df_mod['ConfirmedIndianNational'], y = df_mod.index.values, palet

plt.ylabel('State/Union Territories')
plt.xlabel('Confirmed Indian Nationals')
plt.title('COVID_19 Count in Indian Nationals as of 28-03-2020', pad = 5, fontdic

# matplotlib.pyplot.text(x, y, s, fontdict=None, withdash=<deprecated parameter>,
plt.text(150, 3.5, '\u00A9 Sagun Shakya',
         fontsize=20, color='#5633ff',
         ha='right', va='bottom', alpha=0.6)
#plt.savefig('ConfirmedIndianNational.png',dpi=300);
plt.show()
```


COVID_19 Count in Indian Nationals as of
© Sagun Shaky
Andaman and Nicobar Islands
Andhra Pradesh
Bihar
Chandigarh
Chattisgarh
Chhattisgarh
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Karnataka
Kerala
Ladakh
Madhya Pradesh
Maharashtra
Manipur
Mizoram
Odisha
Pondicherry
Puducherry
Punjab
Rajasthan
Tamil Nadu
Telengana
Uttar Pradesh
Uttarakhand
West Bengal
State/Union Territories
0
25
50
75
100
125
Confirmed Indian Nationals

COVID_19 Count in Foreign Nationals as of 28-03-2020.

In [31]:

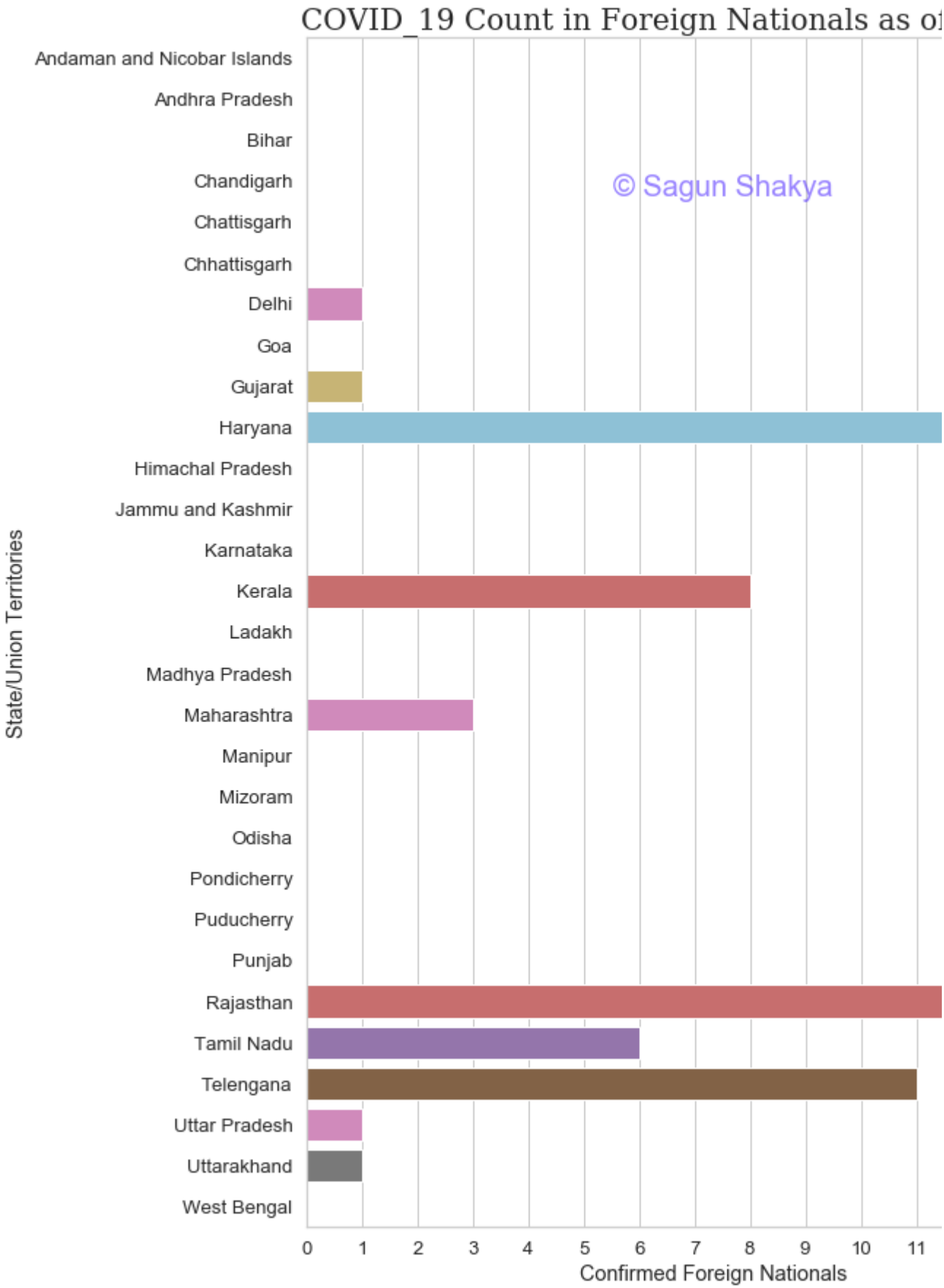
```
plt.figure(figsize = (10,15))
sns.set(style = 'whitegrid', font_scale = 1.2)
sns.desaturate(color = 'red', prop = 0.5)

ax = sns.barplot(x = df_mod['ConfirmedForeignNational'], y = df_mod.index.values,



plt.xticks(np.arange(0, 15))
plt.ylabel('State/Union Territories')
plt.xlabel('Confirmed Foreign Nationals')
plt.title('COVID_19 Count in Foreign Nationals as of 28-03-2020', pad = 5, fontdi

# matplotlib.pyplot.text(x, y, s, fontdict=None, withdash=<deprecated parameter>,
plt.text(9.5, 3.5, '\u00A9 Sagun Shakya',
         fontsize=20, color='#5633ff',
         ha='right', va='bottom', alpha=0.6)
#plt.savefig('ConfirmedIndianNational.png',dpi=300);
plt.show()
```


COVID_19 Count in Foreign Nationals as of
© Sagun Shakya
State/Union Territories
Andaman and Nicobar Islands
Andhra Pradesh
Bihar
Chandigarh
Chattisgarh
Chhattisgarh
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Karnataka
Kerala
Ladakh
Madhya Pradesh
Maharashtra
Manipur
Mizoram
Odisha
Pondicherry
Puducherry
Punjab
Rajasthan
Tamil Nadu
Telengana
Uttar Pradesh
Uttarakhand
West Bengal
0 1 2 3 4 5 6 7 8 9 10 11
Confirmed Foreign Nationals

COVID_19 Count in India as of 28-03-2020.

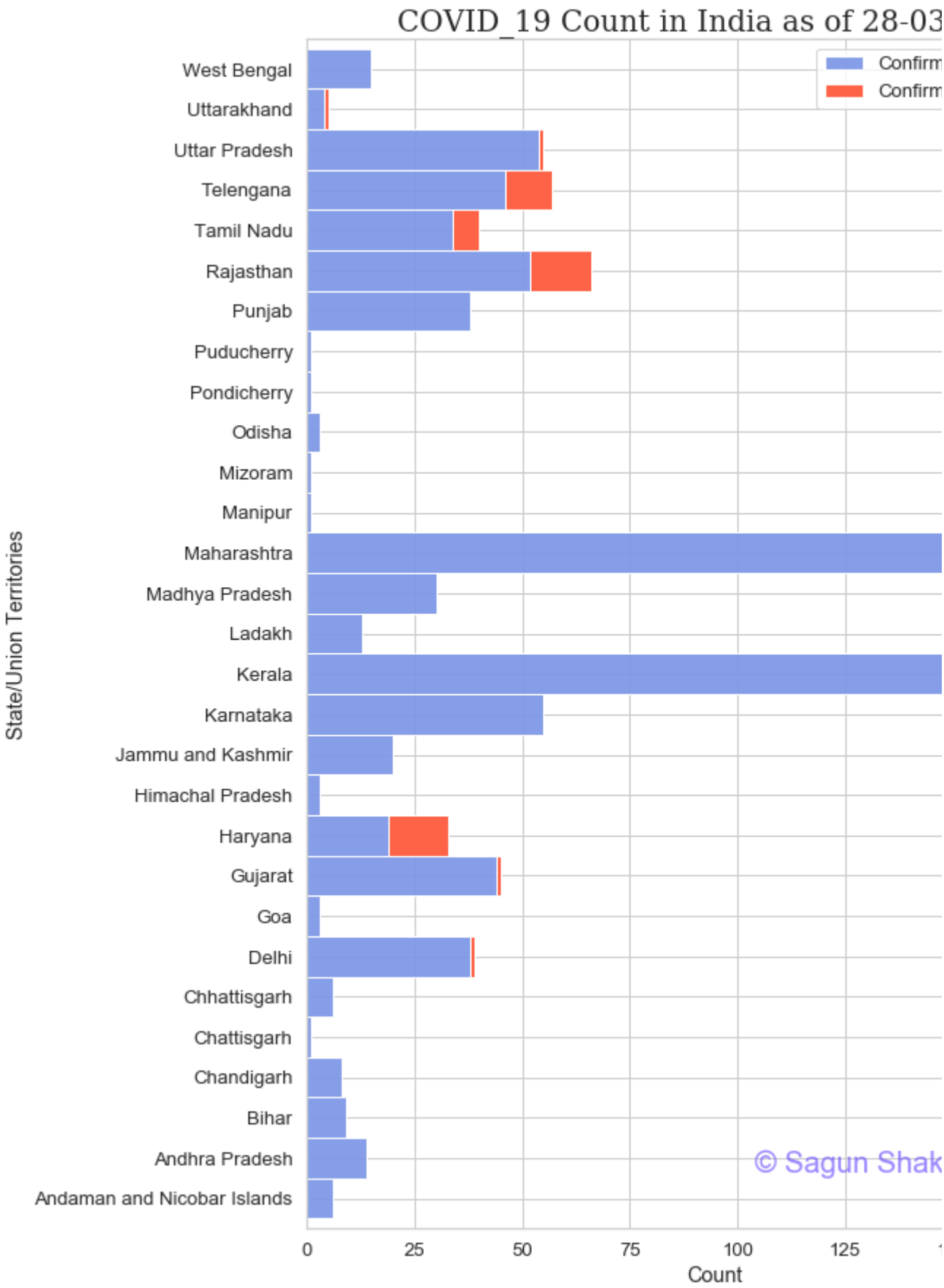
In [80]:

```
a = df_mod[['ConfirmedIndianNational','ConfirmedForeignNational']]

a.plot.barh(stacked = True, figsize = (10,15), width = 1, color = [(0.5,0.6,0.9,0
plt.xlabel('Count')
plt.ylabel('State/Union Territories')
plt.title('COVID_19 Count in India as of 28-03-2020', pad = 5, fontdict = {'fonts

# matplotlib.pyplot.text(x, y, s, fontdict=None, withdash=<deprecated parameter>,
plt.text(155, 0.5, '\u00A9 Sagun Shakya',
         fontsize=20, color='#5633ff',
         ha='right', va='bottom', alpha=0.6)

plt.show()
```



COVID_19 Cured Patients Count as of 28-03-2020.

In [87]:

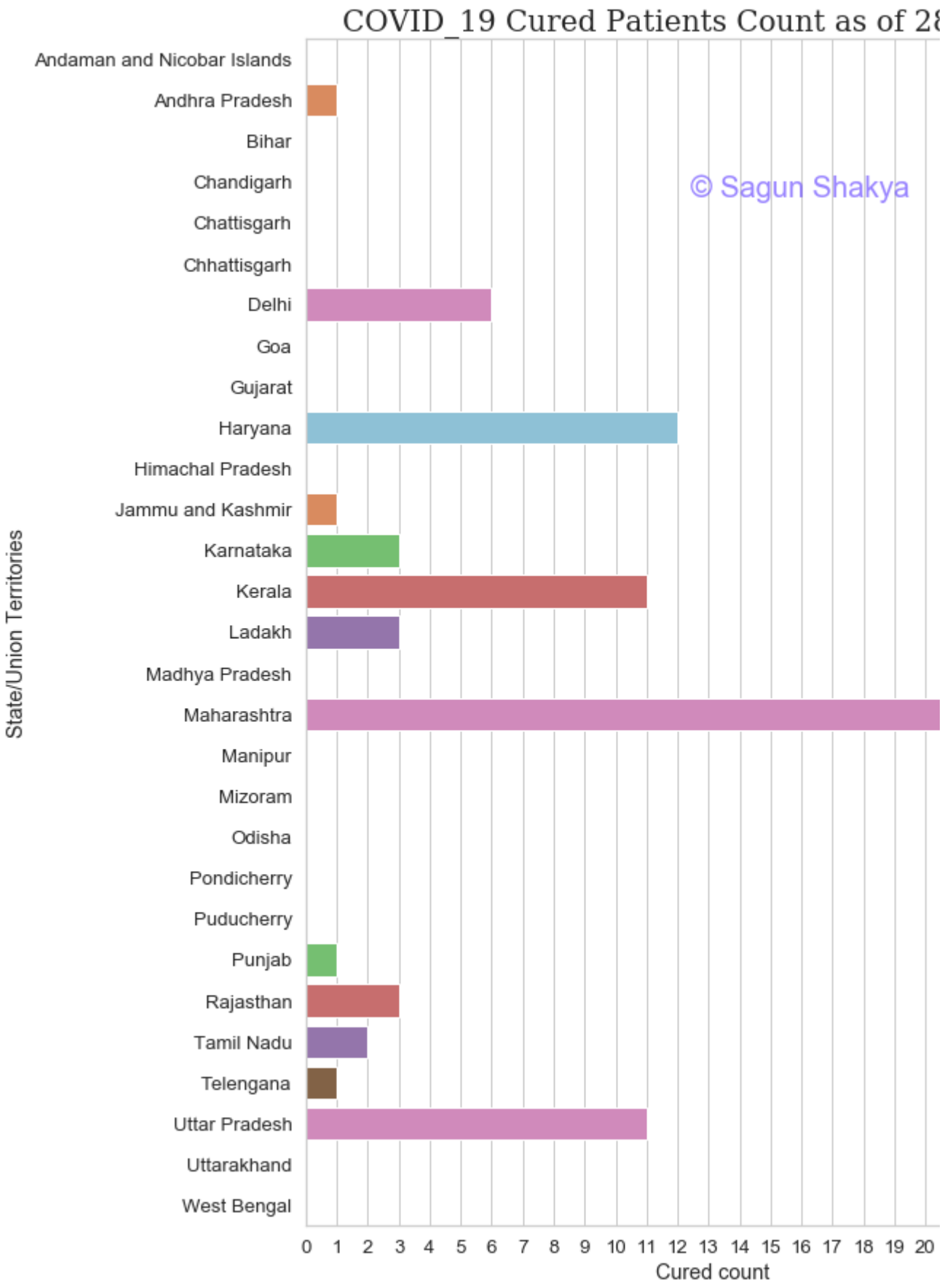
```
plt.figure(figsize = (10,15))
sns.set(style = 'whitegrid', font_scale = 1.2)
sns.desaturate(color = 'red', prop = 0.5)

ax = sns.barplot(x = df_mod['Cured'], y = df_mod.index.values, palette = 'muted')



plt.xticks(np.arange(0, 26))
plt.ylabel('State/Union Territories')
plt.xlabel('Cured count')
plt.title('COVID_19 Cured Patients Count as of 28-03-2020', pad = 5, fontdict = {

# matplotlib.pyplot.text(x, y, s, fontdict=None, withdash=<deprecated parameter>,
plt.text(19.5, 3.5, '\u00A9 Sagun Shakya',
         fontsize=20, color='#5633ff',
         ha='right', va='bottom', alpha=0.6)
#plt.savefig('ConfirmedIndianNational.png',dpi=300);
plt.show()
```



COVID_19 Patients Death Count as of 28-03-2020.

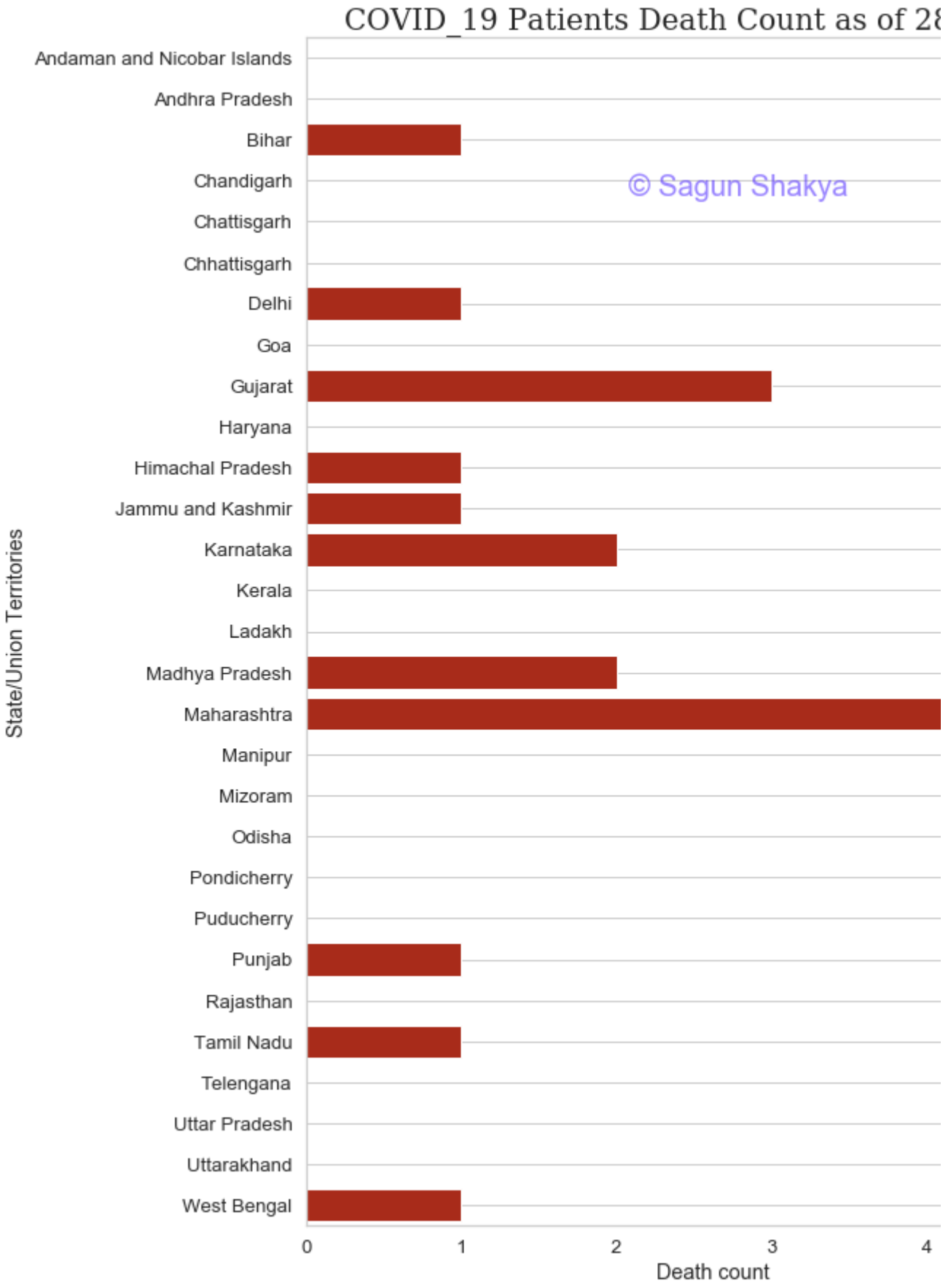
In [104]:

```
plt.figure(figsize = (10,15))
sns.set(style = 'whitegrid', font_scale = 1.2)
sns.desaturate(color = 'red', prop = 0.5)

ax = sns.barplot(x = df_mod['Deaths'], y = df_mod.index.values, color = (0.75,0.1


#plt.xticks(np.arange(0, 26))
plt.ylabel('State/Union Territories')
plt.xlabel('Death count')
plt.title('COVID_19 Patients Death Count as of 28-03-2020', pad = 5, fontdict = {

# matplotlib.pyplot.text(x, y, s, fontdict=None, withdash=<deprecated parameter>,
plt.text(3.5, 3.5, '\u00A9 Sagun Shakya',
         fontsize=20, color='#5633ff',
         ha='right', va='bottom', alpha=0.6)
plt.grid()
#plt.savefig('ConfirmedIndianNational.png',dpi=300);
plt.show()
```


COVID_19 Patients Death Count as of 28
Andaman and Nicobar Islands
Andhra Pradesh
Bihar
Chandigarh
Chattisgarh
Chhattisgarh
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Karnataka
Kerala
Ladakh
Madhya Pradesh
Maharashtra
Manipur
Mizoram
Odisha
Pondicherry
Puducherry
Punjab
Rajasthan
Tamil Nadu
Telengana
Uttar Pradesh
Uttarakhand
West Bengal
State/Union Territories
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0
1
2
3
4
Death count

The End.