

In []:

```
In [36]: import pandas as pd
import numpy as np
import altair as alt
from vega_datasets import data
```

```
In [37]: df=pd.read_csv(r'C:\Users\Sookie\Desktop\JHU.csv')
```

```
In [38]: df.head()
```

Out[38]:

| | OBJECTID | Countyname | ST_Name | ST_Abbr | ST_ID | FIPS | FatalityRa | Confirmedb | DeathsbyPo | PCTPOVALL_ | ... | Day_7 | Day_8 | Day_9 | Day_10 | Day_11 | I |
|---|----------|------------|---------|---------|-------|------|------------|------------|------------|------------|-----|-------|-------|-------|--------|--------|---|
| 0 | 1 | Autauga | Alabama | AL | 1 | 1001 | 2.097902 | 1285.95 | 26.977932 | 13.8 | ... | 26.0 | 3.0 | 24.0 | 23.0 | 7.0 | |
| 1 | 2 | Baldwin | Alabama | AL | 1 | 1003 | 0.820283 | 615.08 | 5.045362 | 9.8 | ... | 86.0 | 30.0 | 18.0 | 18.0 | 93.0 | |
| 2 | 3 | Barbour | Alabama | AL | 1 | 1005 | 0.497512 | 1615.69 | 8.038262 | 30.9 | ... | 4.0 | 4.0 | 2.0 | 2.0 | 12.0 | |
| 3 | 4 | Bibb | Alabama | AL | 1 | 1007 | 0.440529 | 1013.39 | 4.464286 | 21.8 | ... | 2.0 | 4.0 | 3.0 | 1.0 | 10.0 | |
| 4 | 5 | Blount | Alabama | AL | 1 | 1009 | 0.302115 | 572.27 | 1.728907 | 13.2 | ... | 8.0 | 8.0 | 5.0 | 4.0 | 8.0 | |

5 rows × 84 columns

```
In [39]: df=df[['Countyname','ST_Name','ST_Abbr','ST_ID','FIPS','FatalityRa','Confirmed','Deaths','TotalPop']]
```

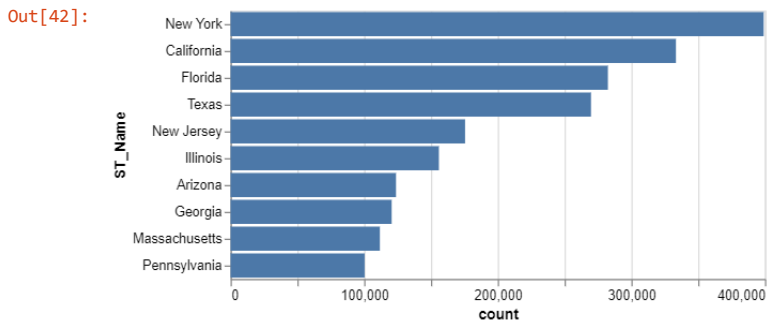
```
In [40]: df=df.head(3250)
```

```
In [41]: df.head()
```

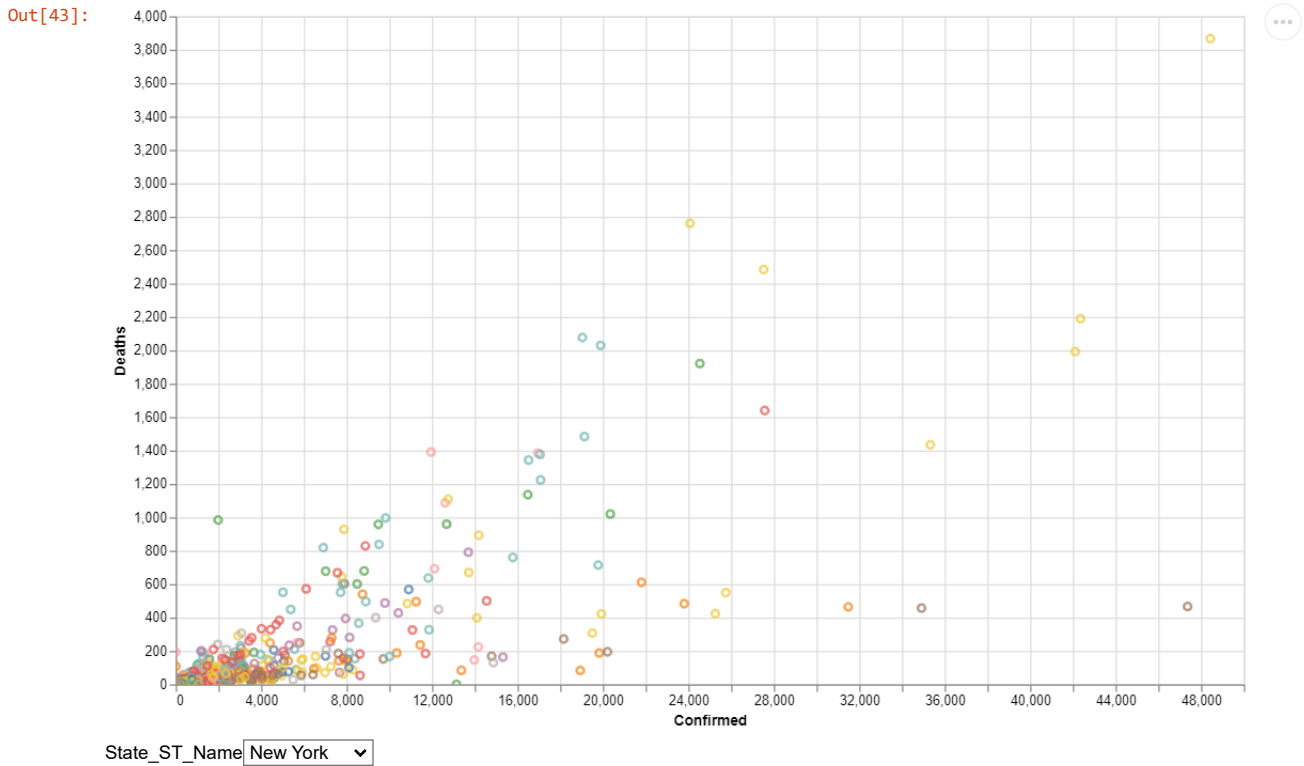
Out[41]:

| | Countyname | ST_Name | ST_Abbr | ST_ID | FIPS | FatalityRa | Confirmed | Deaths | TotalPop |
|---|------------|---------|---------|-------|------|------------|-----------|--------|----------|
| 0 | Autauga | Alabama | AL | 1 | 1001 | 2.097902 | 715 | 15 | 55200 |
| 1 | Baldwin | Alabama | AL | 1 | 1003 | 0.820283 | 1341 | 11 | 208107 |
| 2 | Barbour | Alabama | AL | 1 | 1005 | 0.497512 | 402 | 2 | 25782 |
| 3 | Bibb | Alabama | AL | 1 | 1007 | 0.440529 | 227 | 1 | 22527 |
| 4 | Blount | Alabama | AL | 1 | 1009 | 0.302115 | 331 | 1 | 57645 |

```
In [42]: alt.Chart(df).transform_aggregate(
    count='sum(Confirmed):Q',
    groupby=['ST_Name']
).transform_window(
    rank='rank(count)',
    sort=[alt.SortField('count',order='descending')]
).transform_filter(
    alt.datum.rank<11
).mark_bar().encode(
    y=alt.Y('ST_Name:N',sort='-x'),
    x='count:Q'
)
```



```
In [43]: input_dropdown=alt.binding_select(options=['New York','California','Florida','Texas','New Jersey'])
selection=alt.selection_single(fields=['ST_Name'],bind=input_dropdown,name='State')
color=alt.condition(selection,
                    alt.Color('ST_Name:N',legend=None),
                    alt.value('lightgray'))
alt.Chart(df).mark_point().encode(
    x=alt.X('Confirmed:Q',scale=alt.Scale(domain=[0,50000])),
    y=alt.Y('Deaths:Q',scale=alt.Scale(domain=[0,4000])),
    color=color,
    tooltip=['Countyname:N','ST_Name']
).add_selection(
    selection
).properties(
    width=800,
    height=500
).interactive()
```



```
In [44]: counties=alt.topo_feature(data.us_10m.url,'counties')
alt.Chart(counties).mark_geoshape().encode(
    color=alt.Color('FatalityRa:Q',scale=alt.Scale(domain=[1,10],scheme='bluepurple')),
    tooltip=['FatalityRa:Q']
).transform_lookup(
    lookup='id',
    from_=alt.LookupData(df,'FIPS',['FatalityRa'])
).project(
    type='albersUsa'
).properties(
    width=500,
    height=300
)
```

