

In [43]:

```
import numpy as np
import pandas as pd
import plotly.express as px
import matplotlib.pyplot as plt
```

In [44]:

```
df=pd.read_csv("Unemployment_Rate_upto_11_2020.csv")
```

In [45]:

```
df.head()
```

Out[45]:

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	I
0	Andhra Pradesh	31-01-2020	M	5.48	16635535	41.02	South	15.9129	
1	Andhra Pradesh	29-02-2020	M	5.83	16545652	40.90	South	15.9129	
2	Andhra Pradesh	31-03-2020	M	5.79	15881197	39.18	South	15.9129	
3	Andhra Pradesh	30-04-2020	M	20.51	11336911	33.10	South	15.9129	
4	Andhra Pradesh	31-05-2020	M	17.43	12988845	36.46	South	15.9129	



In [46]:

```
df.tail
```

Out[46]:

```
<bound method NDFrame.tail of
Estimated Unemployment Rate (%) \
0    Andhra Pradesh    31-01-2020    M
5.48
1    Andhra Pradesh    29-02-2020    M
5.83
In [47]:
2    Andhra Pradesh    31-03-2020    M
5.79
df.shape
3    Andhra Pradesh    30-04-2020    M                2
0.51
Out[47]:
4    Andhra Pradesh    31-05-2020    M                1
(267, 9)
..          ...          ...          ...
...
262    West Bengal    30-06-2020    M
7.29
263    West Bengal    31-07-2020    M
6.83
264    West Bengal    31-08-2020    M                1
4.87
265    West Bengal    30-09-2020    M
9.35
266    West Bengal    31-10-2020    M
9.98
```

```
Estimated Employed    Estimated Labour Participation Rate (%) Region.
1 \
0                16635535                41.02    Sout
h
1                16545652                40.90    Sout
h
2                15881197                39.18    Sout
h
3                11336911                33.10    Sout
h
4                12988845                36.46    Sout
h
..          ...          ...
...
262            30726310                40.39    Eas
t
263            35372506                46.17    Eas
t
264            33298644                47.48    Eas
t
265            35707239                47.73    Eas
t
266            33962549                45.63    Eas
t
```

```
longitude    latitude
0    15.9129    79.740
1    15.9129    79.740
2    15.9129    79.740
3    15.9129    79.740
4    15.9129    79.740
..          ...
262    22.9868    87.855
263    22.9868    87.855
264    22.9868    87.855
265    22.9868    87.855
```

```
266      22.9868      87.855  
In [48]:
```

```
[267 rows x 9 columns]>  
df.info
```

Out[48]:

```
<bound method DataFrame.info of
y Estimated Unemployment Rate (%) \
0 Andhra Pradesh 31-01-2020 M
5.48
1 Andhra Pradesh 29-02-2020 M
5.83
2 Andhra Pradesh 31-03-2020 M
5.79
3 Andhra Pradesh 30-04-2020 M 2
0.51
4 Andhra Pradesh 31-05-2020 M 1
7.43
.. ...
...
262 West Bengal 30-06-2020 M
7.29
263 West Bengal 31-07-2020 M
6.83
264 West Bengal 31-08-2020 M 1
4.87
265 West Bengal 30-09-2020 M
9.35
266 West Bengal 31-10-2020 M
9.98
```

```
Estimated Employed Estimated Labour Participation Rate (%) Region.
1 \
0 16635535 41.02 Sout
h
1 16545652 40.90 Sout
h
2 15881197 39.18 Sout
h
3 11336911 33.10 Sout
h
4 12988845 36.46 Sout
h
.. ...
...
262 30726310 40.39 Eas
t
263 35372506 46.17 Eas
t
264 33298644 47.48 Eas
t
265 35707239 47.73 Eas
t
266 33962549 45.63 Eas
t
```

```
longitude latitude
0 15.9129 79.740
1 15.9129 79.740
2 15.9129 79.740
3 15.9129 79.740
4 15.9129 79.740
.. ...
262 22.9868 87.855
263 22.9868 87.855
264 22.9868 87.855
265 22.9868 87.855
```

```
266      22.9868      87.855  
In [49]:
```

```
[267 rows x 9 columns]>  
df.describe
```


Out[49]:

```
<bound method NDFrame.describe of
ncy Estimated Unemployment Rate (%) \
0 Andhra Pradesh 31-01-2020 M
5.48
1 Andhra Pradesh 29-02-2020 M
5.83
In [50]:
2 Andhra Pradesh 31-03-2020 M
5.79
X=df['Region']
3 Andhra Pradesh 30-04-2020 M 2
0.51
4 Andhra Pradesh 31-05-2020 M 1
7.43
X.
...
...
...
Out[51]:
262 West Bengal 30-06-2020 M
7.29
263 Andhra Pradesh 31-07-2020 M
6.83
264 West Bengal 31-08-2020 M 1
14.87
265 Andhra Pradesh 30-09-2020 M
9.35
266 West Bengal 31-10-2020 M
9.98
264 West Bengal
265 West Bengal
266 Estimated Employed Estimated Labour Participation Rate (%) Region.
1 Name: Region, Length: 267, dtype: object
0 16635535 41.02 Sout
h
In [52]:
h 16545652 40.90 Sout
2 df[' Estimated Unemployment Rate (%)']
h 15881197 39.18 Sout
h
In [53]:
h 11336911 33.10 Sout
h
h 12988845 36.46 Sout
h
Out[53]:
...
...
...
262 5.48 30726310 40.39 Eas
1 5.83
263 5.79 35372506 46.17 Eas
2 20.51
464 17.43 33298644 47.48 Eas
t ...
262 7.29 35707239 47.73 Eas
263 6.83
264 14.87 33962549 45.63 Eas
265 9.35
266 9.98
Name: longitude latitude Estimated Unemployment Rate (%), Length: 267, dtype: float64
0 15.9129 79.740
In [54]:
2 15.9129 79.740
2 15.9129 79.740
df2=df[['longitude', 'latitude']]
4 15.9129 79.740
..
262 22.9868 87.855
263 22.9868 87.855
264 22.9868 87.855
265 22.9868 87.855
```

```
266      22.9868      87.855
```

```
In [55]:
```

```
[267 rows x 9 columns]>  
df2
```

```
Out[55]:
```

```
0      5.48  
1      5.83  
2      5.79  
3     20.51  
4     17.43  
...  
262     7.29  
263     6.83  
264    14.87  
265     9.35  
266     9.98
```

```
Name: Estimated Unemployment Rate (%), Length: 267, dtype: float64
```

```
In [56]:
```

```
fg = px.bar(df,x='Region',y=' Estimated Unemployment Rate (%)',color='Region',  
            title='Unemploymeny Rate (State Wise) by Bar Graph',template='plotly')  
fg.update_layout(xaxis={'categoryorder':'total descending'})  
fg.show()
```

In [57]:

```
fg = px.bar(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',  
            title='Unemploymeny Rate (Region Wise) by Bar Graph',template='plotly')  
fg.update_layout(xaxis={'categoryorder':'total descending'})  
fg.show()
```

In [58]:

```
fg = px.box(df,x='Region',y=' Estimated Unemployment Rate (%)',color='Region',  
            title='Unemploymeny Rate (Statewise) by Box Plot',template='plotly')  
fg.update_layout(xaxis={'categoryorder':'total descending'})  
fg.show()
```

In [59]:

```
fg = px.scatter(df,x='Region',y=' Estimated Unemployment Rate (%)',color='Region',  
                title='Unemploymeny Rate (Statewise) by Scatter Plot',template='plotly')  
fg.update_layout(xaxis={'categoryorder':'total descending'})  
fg.show()
```

In [60]:

```
fg = px.histogram(df,x='Region',y=' Estimated Unemployment Rate (%)',color='Region',  
                  title='Unemploymeny Rate (Statewise) by Histogram',template='plotly')  
fg.update_layout(xaxis={'categoryorder':'total descending'})  
fg.show()
```