

```
In [3]: import pandas as pd
import numpy as np
import seaborn as sns
import plotly.express as px
import matplotlib.pyplot as plt
```

```
In [6]: df=pd.read_csv('C:/Users/md mejbah uddin/Downloads/CypherByte/Unemployment in India.csv')
df=pd.read_csv('C:/Users/md mejbah uddin/Downloads/CypherByte/Unemployment_Rate_upto_11_2020.csv')
```

```
In [7]: df.head(100)
```

Out[7]:

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	latitude
0	Andhra Pradesh	31-01-2020	M	5.48	16635535	41.02	South	15.9129	79.7400
1	Andhra Pradesh	29-02-2020	M	5.83	16545652	40.90	South	15.9129	79.7400
2	Andhra Pradesh	31-03-2020	M	5.79	15881197	39.18	South	15.9129	79.7400
3	Andhra Pradesh	30-04-2020	M	20.51	11336911	33.10	South	15.9129	79.7400
4	Andhra Pradesh	31-05-2020	M	17.43	12988845	36.46	South	15.9129	79.7400
...	...	...	...	...	...	...	...	...	...
95	Jammu & Kashmir	31-07-2020	M	10.88	3558889	38.03	North	33.7782	76.5762
96	Jammu & Kashmir	31-08-2020	M	11.09	3429950	36.66	North	33.7782	76.5762
97	Jammu & Kashmir	30-09-2020	M	16.17	3210281	36.31	North	33.7782	76.5762
98	Jammu & Kashmir	31-10-2020	M	16.14	3106691	35.05	North	33.7782	76.5762
99	Jharkhand	31-01-2020	M	10.61	10198029	42.92	East	23.6102	85.2799

100 rows × 9 columns

```
In [8]: df.shape
```

Out[8]: (267, 9)

```
In [9]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 267 entries, 0 to 266
Data columns (total 9 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Region                                267 non-null    object
1   Date                                  267 non-null    object
2   Frequency                             267 non-null    object
3   Estimated Unemployment Rate (%)        267 non-null    float64
4   Estimated Employed                     267 non-null    int64
5   Estimated Labour Participation Rate (%) 267 non-null    float64
6   Region.1                              267 non-null    object
7   longitude                             267 non-null    float64
8   latitude                              267 non-null    float64
dtypes: float64(4), int64(1), object(4)
memory usage: 18.9+ KB
```

```
In [10]: df.describe()
```

Out[10]:

	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	longitude	latitude
count	267.000000	2.670000e+02	267.000000	267.000000	267.000000
mean	12.236929	1.396211e+07	41.681573	22.826048	80.532425
std	10.803283	1.336632e+07	7.845419	6.270731	5.831738
min	0.500000	1.175420e+05	16.770000	10.850500	71.192400
25%	4.845000	2.838930e+06	37.265000	18.112400	76.085600

	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	longitude	latitude
50%	9.650000	9.732417e+06	40.390000	23.610200	79.019300
75%	16.755000	2.187869e+07	44.055000	27.278400	85.279900
max	75.850000	5.943376e+07	69.690000	33.778200	92.937600

```
In [11]: x=df.Region
x
```

Out[11]:

```
0    Andhra Pradesh
1    Andhra Pradesh
2    Andhra Pradesh
3    Andhra Pradesh
4    Andhra Pradesh
...
262   West Bengal
263   West Bengal
264   West Bengal
265   West Bengal
266   West Bengal
Name: Region, Length: 267, dtype: object
```

```
In [12]: y=df[' Estimated Unemployment Rate (%)']
y
```

Out[12]:

```
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
```

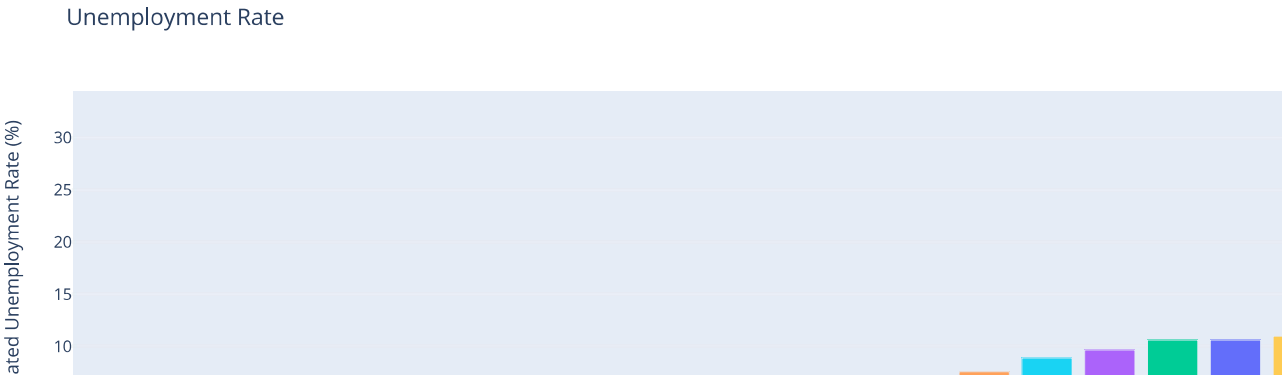
```
In [13]: df.head()
```

Out[13]:

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	latitude
0	Andhra Pradesh	31-01-2020	M	5.48	16635535	41.02	South	15.9129	79.74
1	Andhra Pradesh	29-02-2020	M	5.83	16545652	40.90	South	15.9129	79.74
2	Andhra Pradesh	31-03-2020	M	5.79	15881197	39.18	South	15.9129	79.74
3	Andhra Pradesh	30-04-2020	M	20.51	11336911	33.10	South	15.9129	79.74
4	Andhra Pradesh	31-05-2020	M	17.43	12988845	36.46	South	15.9129	79.74

BAR Region

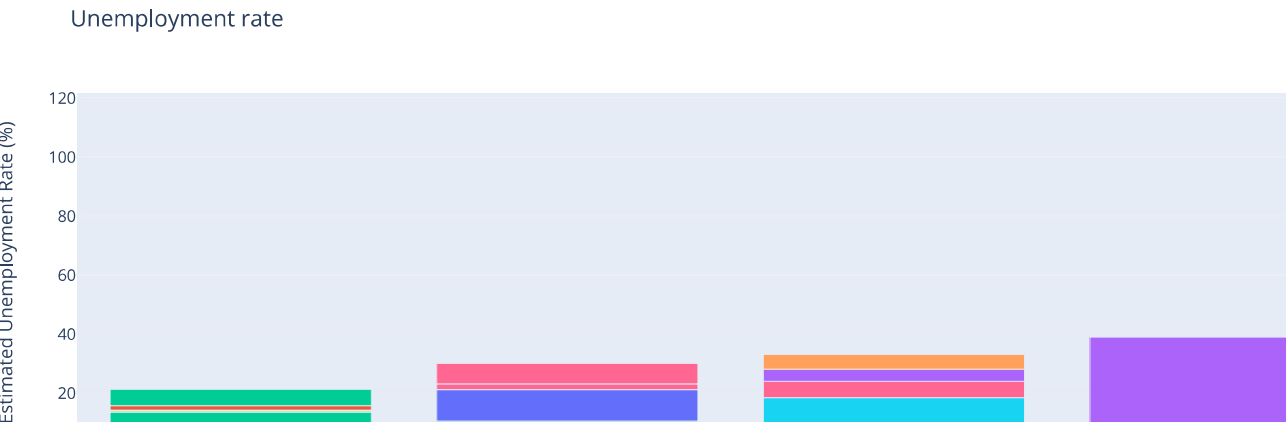
```
In [14]: figure = px.bar(df,x='Region',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',animation_frame=' Date',template='unemployment_rate')
figure.update_layout(xaxis={'categoryorder':'total ascending'})
figure.show()
```





## BAR Region.1

```
In [15]: figure = px.bar(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment rate',animation_frame=' Date',templ
figure.update_layout(xaxis={'categoryorder':'total ascending'})
figure.show()
```



## BOX Region.1

```
In [16]: figure = px.box(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',animation_frame=' Date',templ
figure.update_layout(xaxis={'categoryorder':'total ascending'})
figure.show()
```



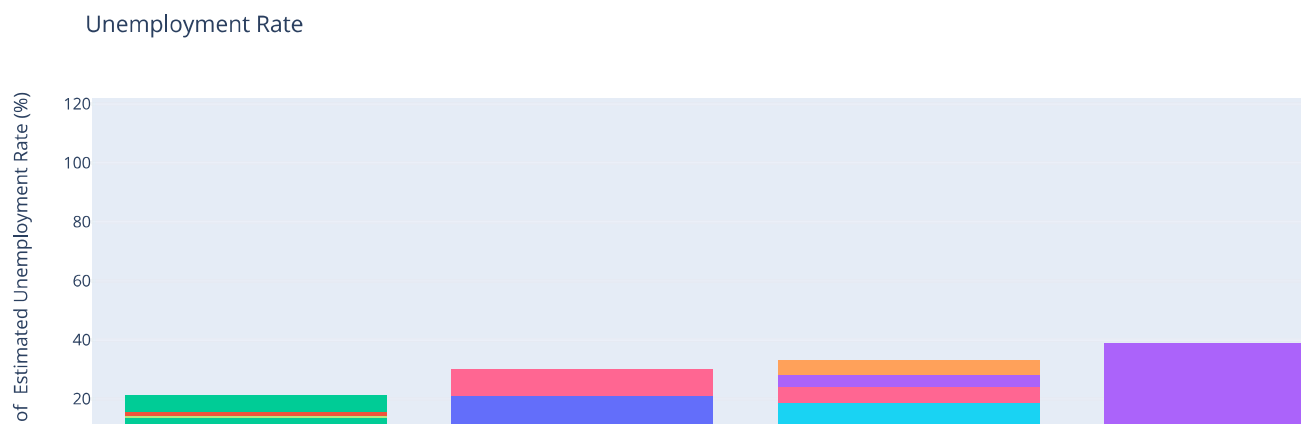
## SCATTER Region.1

```
In [17]: figure = px.scatter(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',animation_frame=' Date',t
figure.update_layout(xaxis={'categoryorder':'total ascending'})
figure.show()
```



## HISTOGRAM Region.1

```
In [18]: figure = px.histogram(df,x='Region.1',y=' Estimated Unemployment Rate (%)',color='Region',title='Unemployment Rate',animation_frame=' Date'
figure.update_layout(xaxis={'categoryorder':'total ascending'})
figure.show()
```



In [19]: `df.head()`

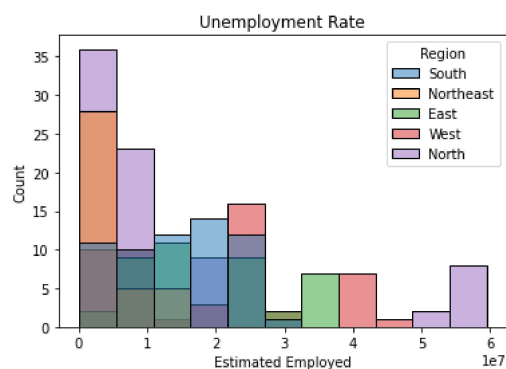
Out[19]:

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	latitude
0	Andhra Pradesh	31-01-2020	M	5.48	16635535	41.02	South	15.9129	79.74
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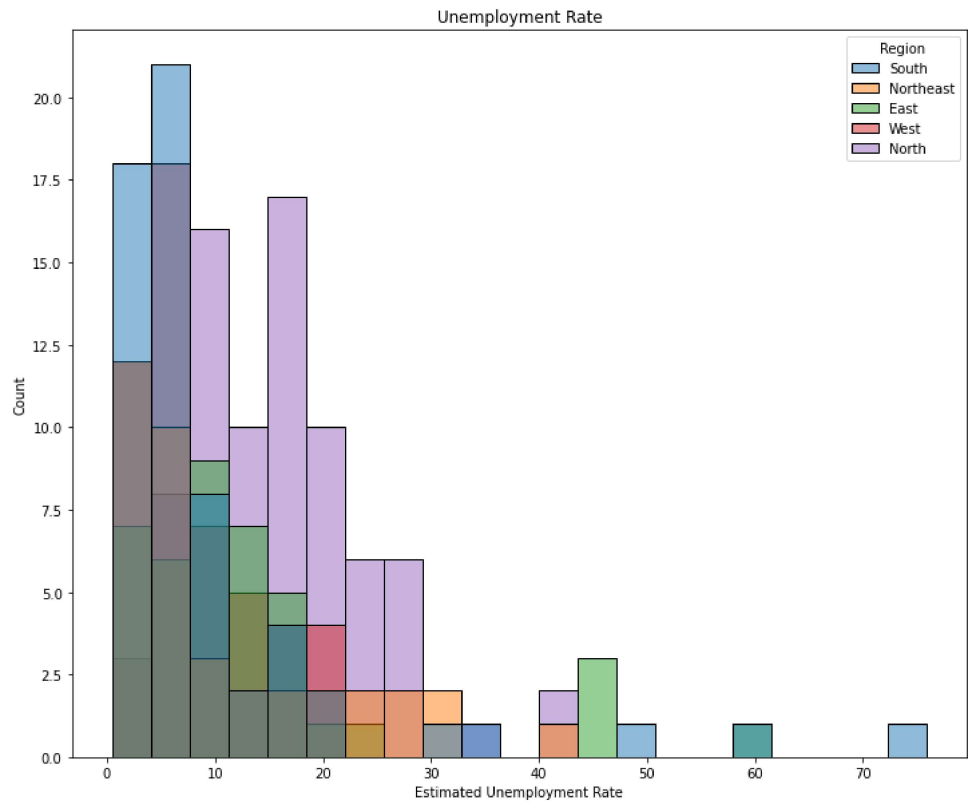
In [20]: `df.columns= ['States','Date','Frequency',  
'Estimated Unemployment Rate',  
'Estimated Employed',  
'Estimated Labour Participation Rate',  
'Region','longitude','latitude']`

## HISTPLOT

In [21]: `plt.title('Unemployment Rate')  
sns.histplot(x="Estimated Employed", hue="Region", data=df)  
plt.show()`



In [22]: `plt.figure(figsize=(12, 10))  
plt.title('Unemployment Rate')  
sns.histplot(x='Estimated Unemployment Rate', hue='Region', data=df)  
plt.show()`



SUNBURST

```
In [23]: data = df[['States', 'Region', 'Estimated Unemployment Rate']]
figure = px.sunburst(data, path=['Region', 'States'],
                    values='Estimated Unemployment Rate',
                    width=700, height=700, color_continuous_scale='RdYlGn',
                    title='Unemployment Rate')
figure.show()
```

Unemployment Rate



**SUBMITTED BY-**

**MD.MEJBAH UDDIN**