

Importing the libraries

```
In [1]: import numpy as np
import pandas as pd
import plotly.express as px
import matplotlib.pyplot as plt
```

Data Collection and Processing

```
In [2]: df = pd.read_csv("C:\\Users\\Lenovo\\Downloads\\Unemployment_Rate_upto_11_2020.csv")
```

```
In [3]: df.head()
```

Out[3]:

	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

```
In [4]: df.tail()
```

Out[4]:

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Region.1	longitude	latitude
262	West Bengal	30-06-2020	M	7.29	30726310	40.39	East	22.9868	87.855
263	West Bengal	31-07-2020	M	6.83	35372506	46.17	East	22.9868	87.855
264	West Bengal	31-08-2020	M	14.87	33298644	47.48	East	22.9868	87.855
265	West Bengal	30-09-2020	M	9.35	35707239	47.73	East	22.9868	87.855
266	West Bengal	31-10-2020	M	9.98	33962549	45.63	East	22.9868	87.855

```
In [5]: df.shape
```

Out[5]: (267, 9)

```
In [6]: 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 [7]: df.describe()
```

Out[7]:

	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
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 [8]:

```
x = df['Region']
```

In [9]:

```
x
```

Out[9]:

```
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 [10]:

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

In [11]:

```
y
```

Out[11]:

```
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 [12]:

```
df2 = df.iloc[:,3]
```

In [13]:

```
df2
```

Out[13]:

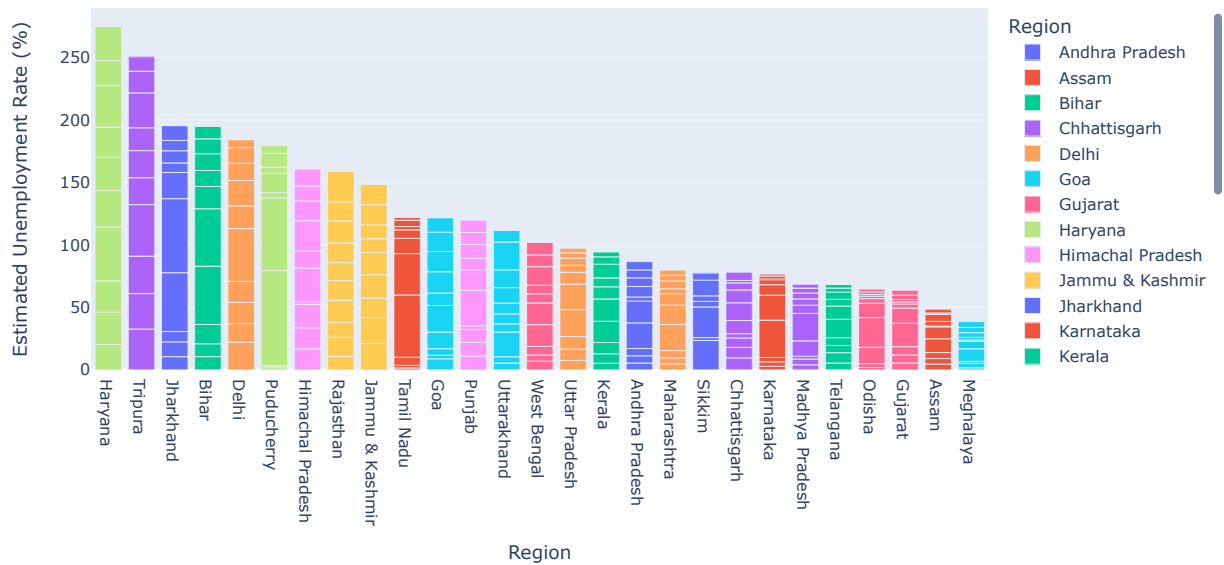
```
0     5.48
1     5.83
2     5.79
3    20.51
4    17.43
...
262    7.29
263    6.83
264   14.87
265    9.35
266    9.98
Name: Estimated Unemployment Rate (%), Length: 267, dtype: float64
```

Analyzing data using Bar Graphs

In [14]:

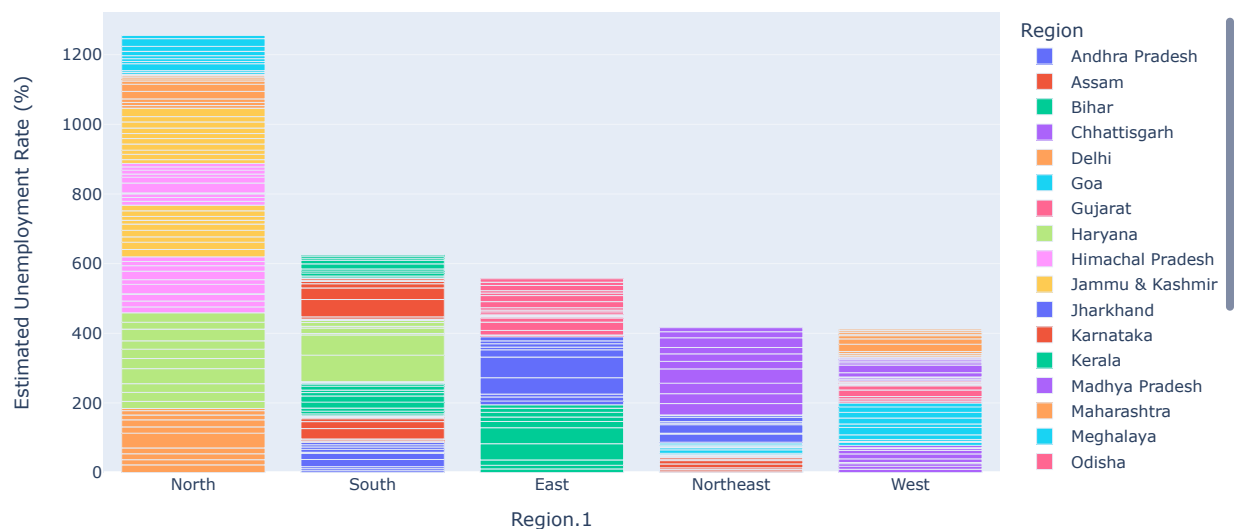
```
fg = px.bar(df, x='Region', y=' Estimated Unemployment Rate (%)',color='Region',
            title='Unemployment Rate (State Wise)', template='plotly')
fg.update_layout(xaxis={'categoryorder':'total descending'})
fg.show()
```

Unemployment Rate (State Wise)



```
In [15]: fg = px.bar(df, x='Region.1', y=' Estimated Unemployment Rate (%)', color='Region',
               title='Unemployment Rate (Region Wise)', template='plotly')
fg.update_layout(xaxis={'categoryorder':'total descending'})
fg.show()
```

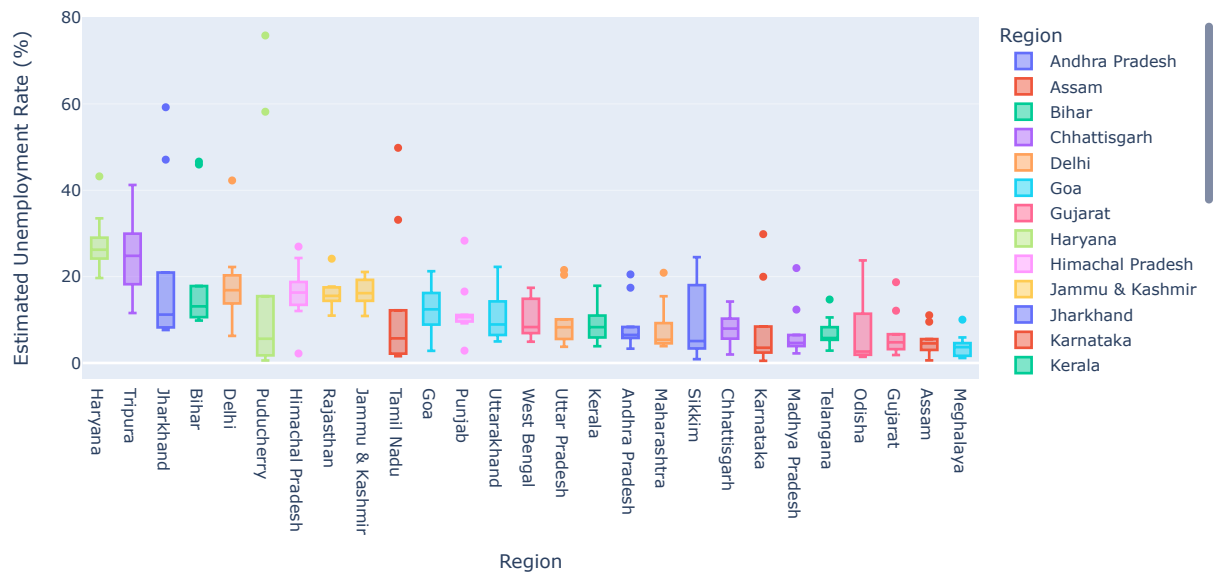
Unemployment Rate (Region Wise)



Analyzing data by box plot

```
In [16]: fg = px.box(df, x='Region', y=' Estimated Unemployment Rate (%)', color='Region',
               title='Unemployment Rate (State Wise)', template='plotly')
fg.update_layout(xaxis={'categoryorder':'total descending'})
fg.show()
```

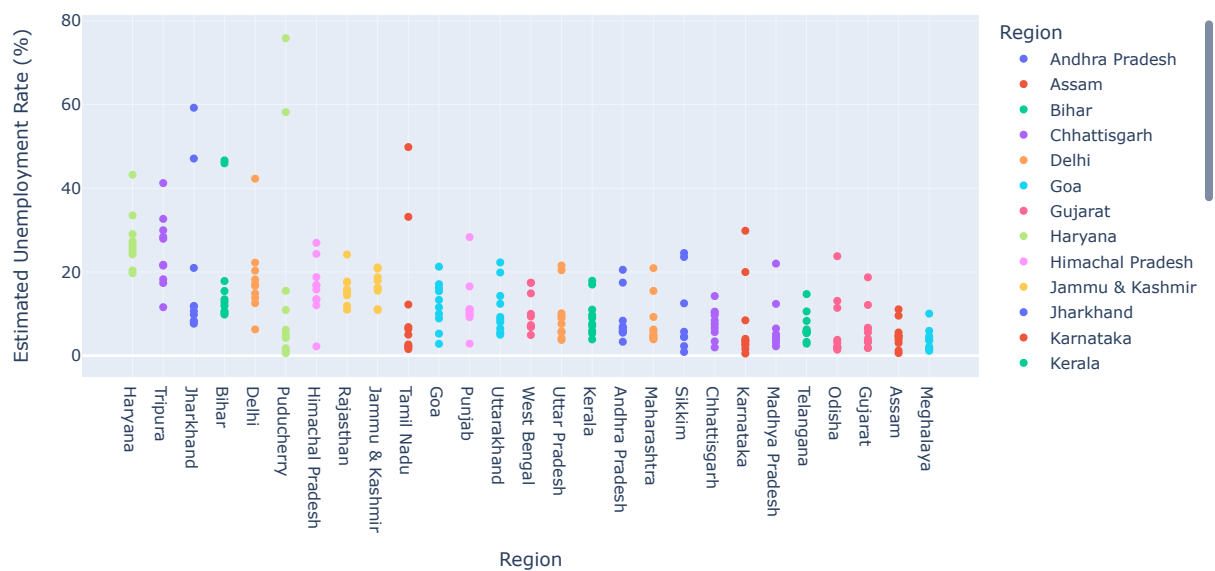
Unemployment Rate (State Wise)



Analyzing data by scatter plot

```
In [17]: fg = px.scatter(df, x='Region', y=' Estimated Unemployment Rate (%)', color='Region',
                        title='Unemployment Rate (State Wise)', template='plotly')
fg.update_layout(xaxis={'categoryorder':'total descending'})
fg.show()
```

Unemployment Rate (State Wise)



Analyzing data by histogram

```
In [18]: fg = px.histogram(df, x='Region', y=' Estimated Unemployment Rate (%)', color='Region',
                           title='Unemployment Rate (State Wise)', template='plotly')
fg.update_layout(xaxis={'categoryorder':'total descending'})
fg.show()
```

