PYTHON

In [52]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import plotly.express as px
```

In [70]:
```
#Load world population data into a dataframe
world_population_df = pd.read_excel('world-population.xlsm')
world_population_df.head(5)
```

Out[70]:

	Year	Population
0	1960	3028654024
1	1961	3068356747
2	1962	3121963107
3	1963	3187471383
4	1964	3253112403

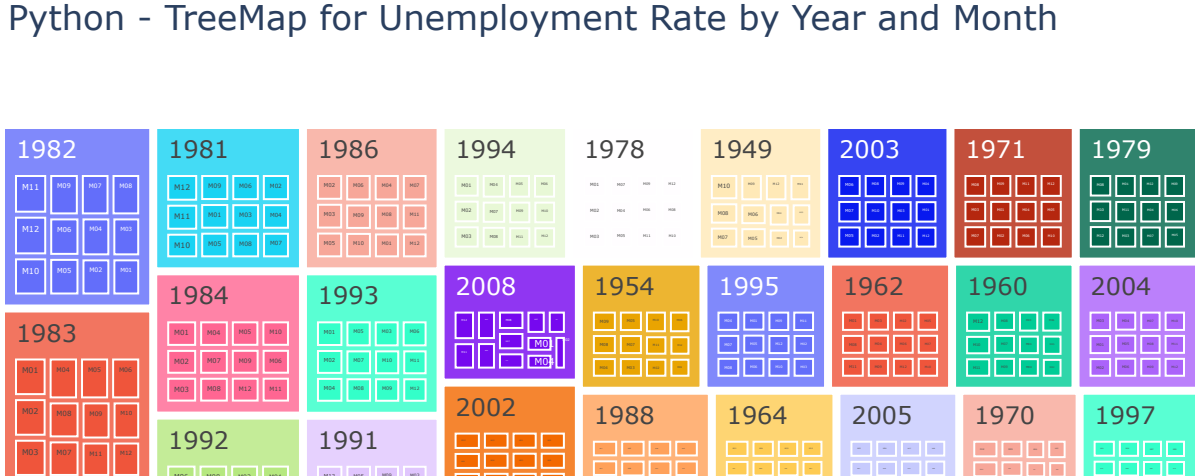
In [3]:
```
#Load unemployement data into a dataframe
unemployement_rate_df = pd.read_csv('unemployement-rate-1948-2010.csv')
unemployement_rate_df.head(5)
```

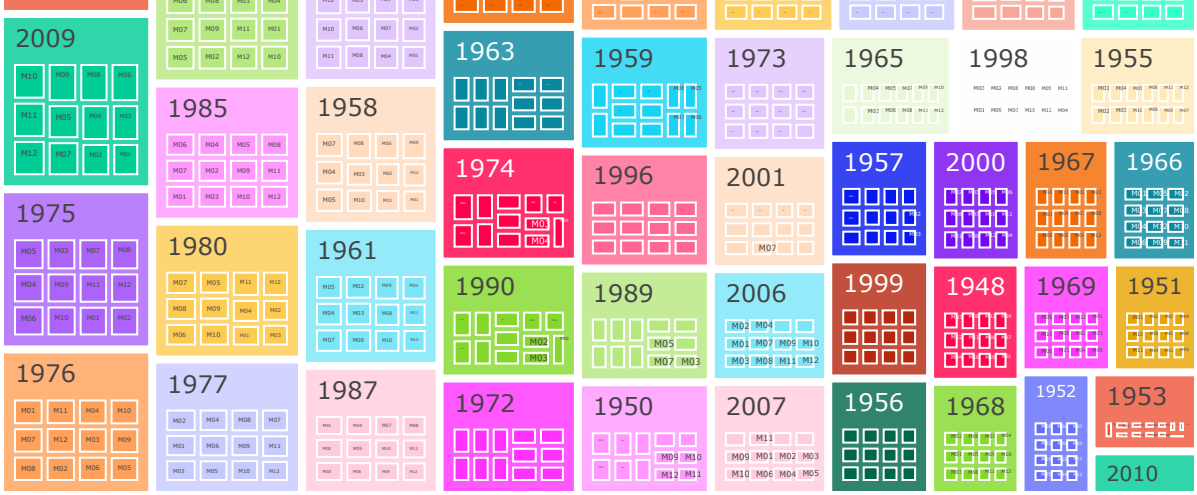
Out[3]:

	Series id	Year	Period	Value
0	LNS14000000	1948	M01	3.4
1	LNS14000000	1948	M02	3.8
2	LNS14000000	1948	M03	4.0
3	LNS14000000	1948	M04	3.9
4	LNS14000000	1948	M05	3.5

Tree Map

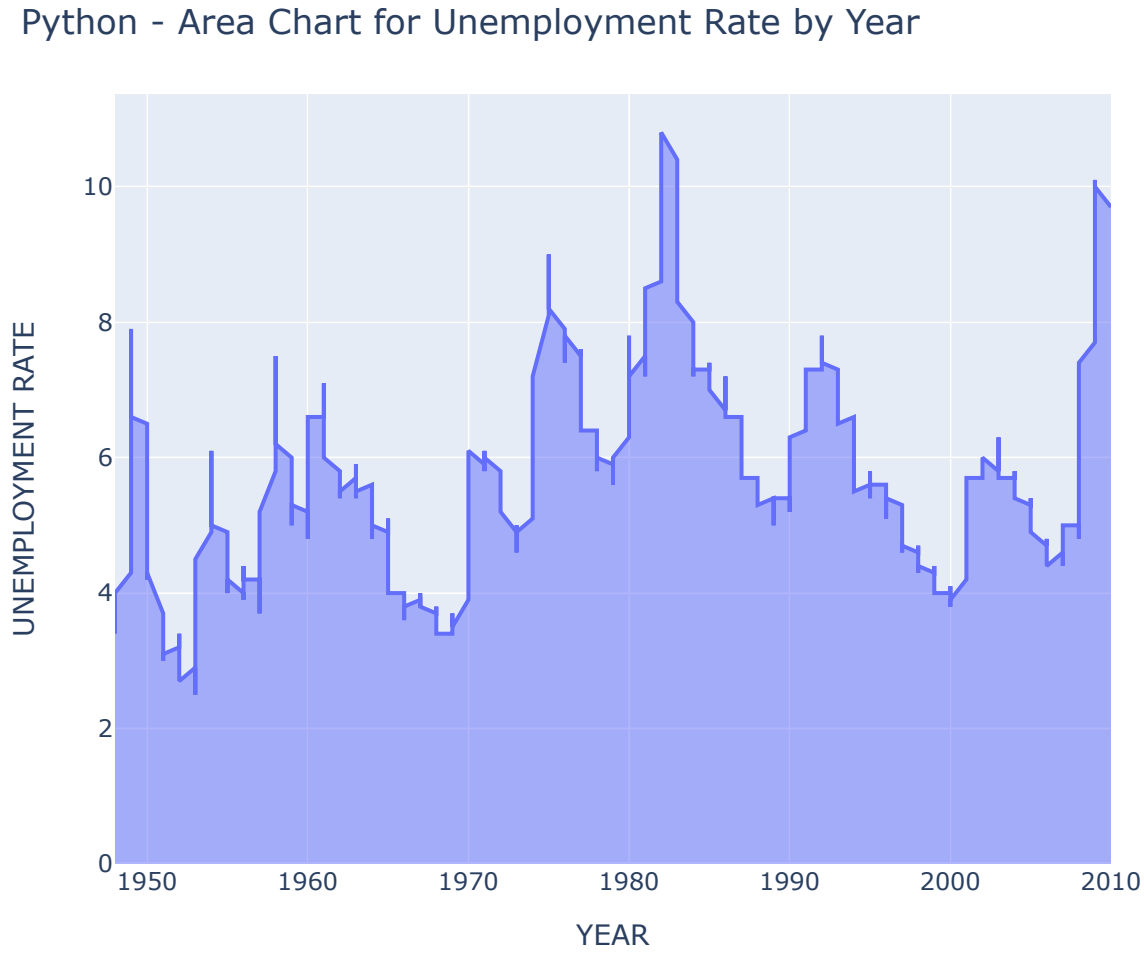
In [69]:
```
#Plot a Treemap
fig = px.treemap(unemployement_rate_df, path=['Year','Period'],values='Value')
fig.update_layout(margin = dict(t=50, l=25, r=25, b=25), title = "Python - TreeMap for U
fig.show('notebook')
```





Area Chart

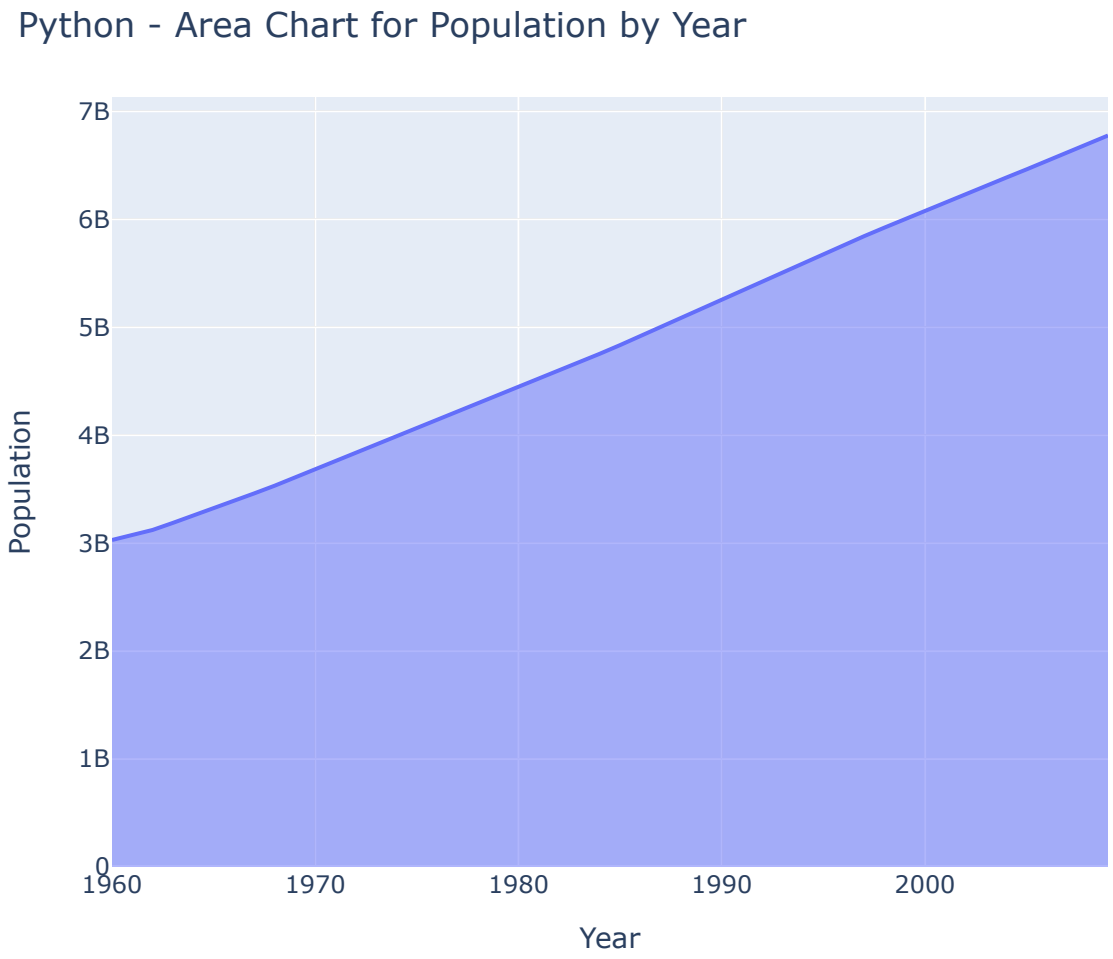
In [80]:
```
fig = px.area(unemployement_rate_df, x= 'Year' , y= 'Value') #,line_group="Period"
fig.update_layout(title = 'Python - Area Chart for Unemployment Rate by Year',
                  xaxis_title="YEAR",
                  yaxis_title="UNEMPLOYMENT RATE")
fig.show()
```



In [ ]:
```
## Aditional area chart using world population data for practice
```

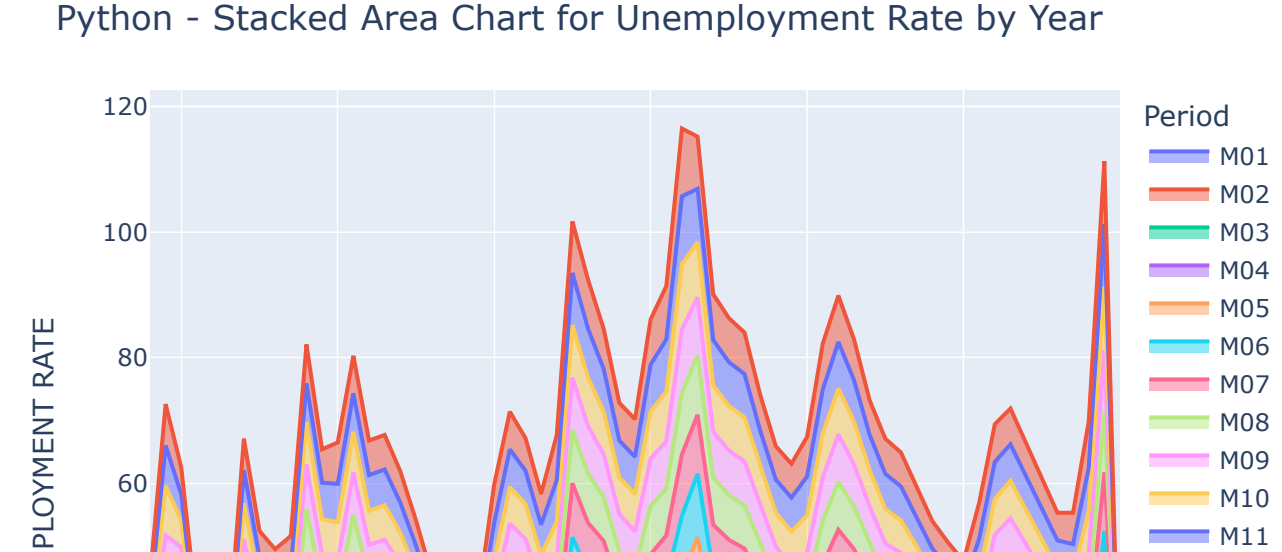
In [79]:
```
fig = px.area(world_population_df, x= 'Year' , y= 'Population') #,line_group="Period"
```

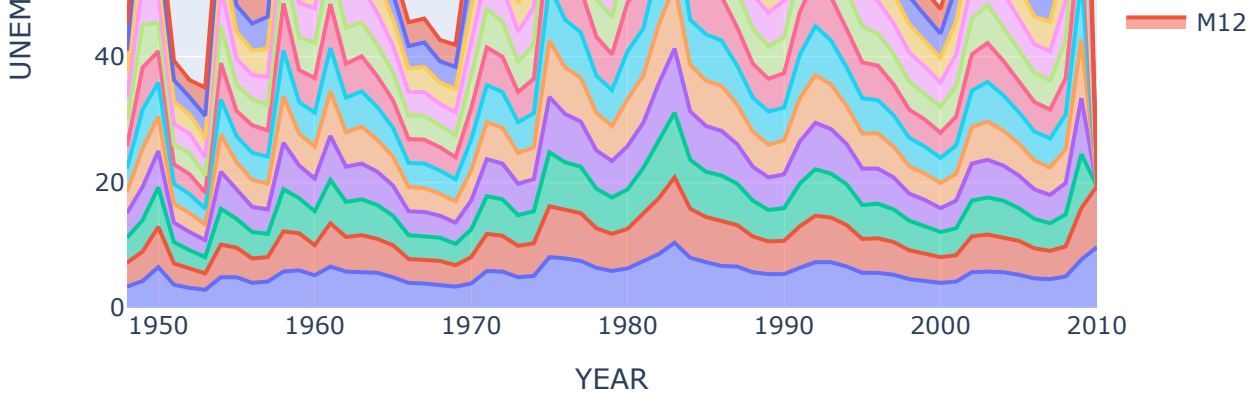
```
fig.update_layout(title = 'Python - Area Chart for Population by Year',
                  xaxis_title="Year",
                  yaxis_title="Population")
fig.show()
```



Stacked Area Chart

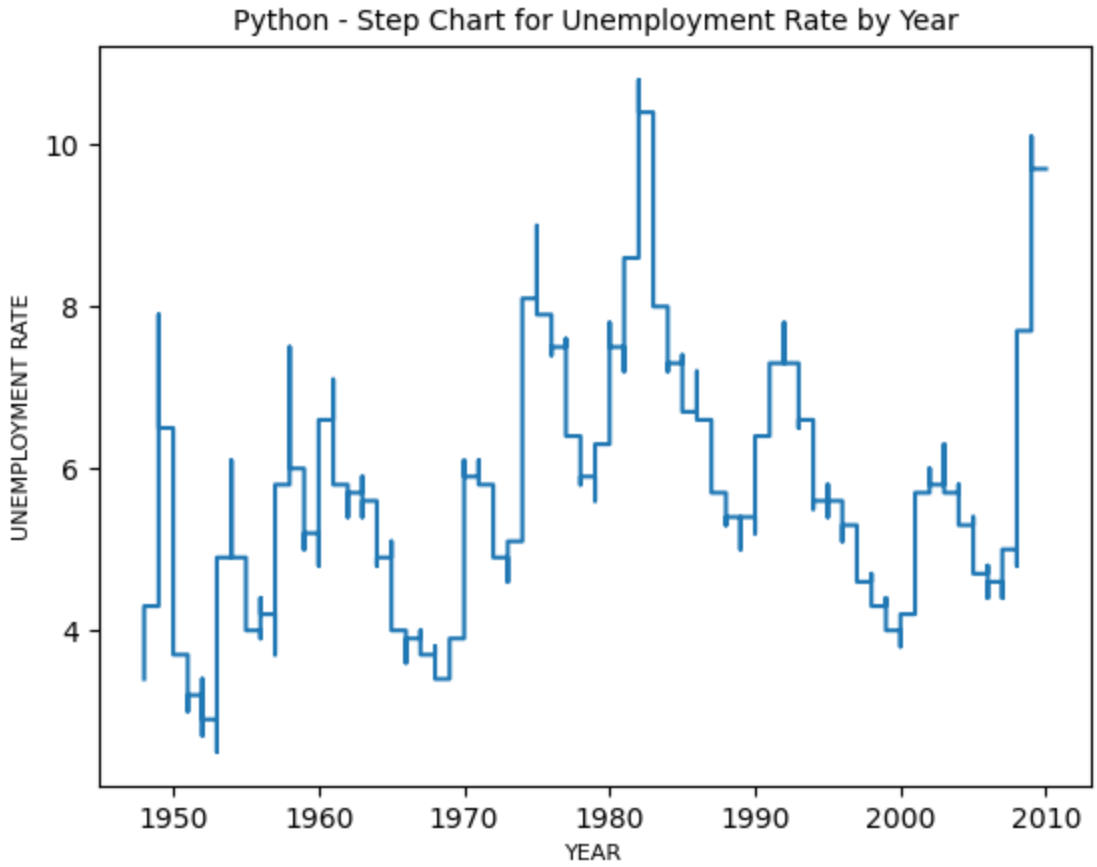
In [78]:
```
fig = px.area(unemployement_rate_df, x= 'Year' , y= 'Value', color="Period", line_group=
fig.update_layout(title = 'Python - Stacked Area Chart for Unemployment Rate by Year',
                  xaxis_title="YEAR",
                  yaxis_title="UNEMPLOYMENT RATE")
fig.show()
```





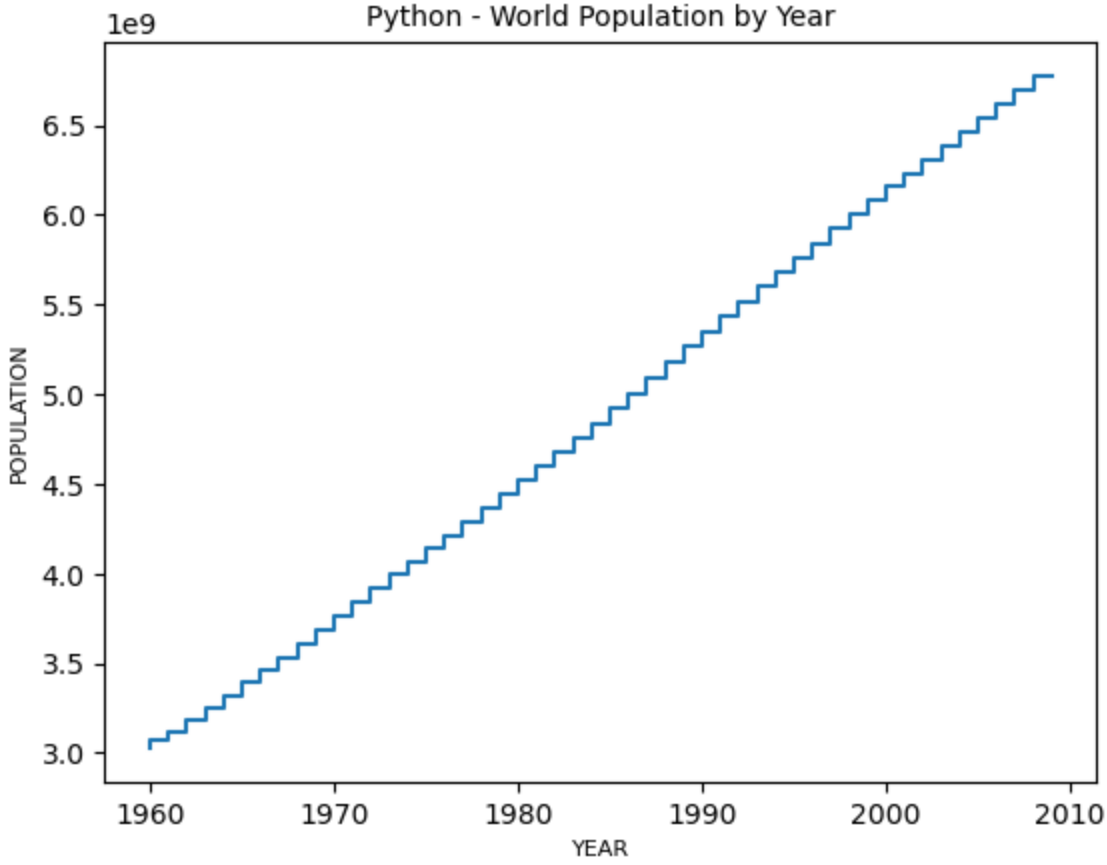
Step Chart

In [63]:
```
plt.step(unemployement_rate_df.Year, unemployement_rate_df.Value)
plt.title("Python - Step Chart for Unemployment Rate by Year",fontsize=10)
plt.xlabel('YEAR', fontsize=8)
plt.ylabel('UNEMPLOYMENT RATE',fontsize=8)
plt.show()
```



In [ ]:
```
## Aditional step chart using world population data for practice
```

In [71]:
```
plt.step(world_population_df.Year, world_population_df.Population)
plt.title("Python - World Population by Year",fontsize=10)
plt.xlabel('YEAR', fontsize=8)
plt.ylabel('POPULATION',fontsize=8)
plt.show()
```


Python - World Population by Year
1e9
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
POPULATION
1960
1970
1980
1990
2000
2010
YEAR