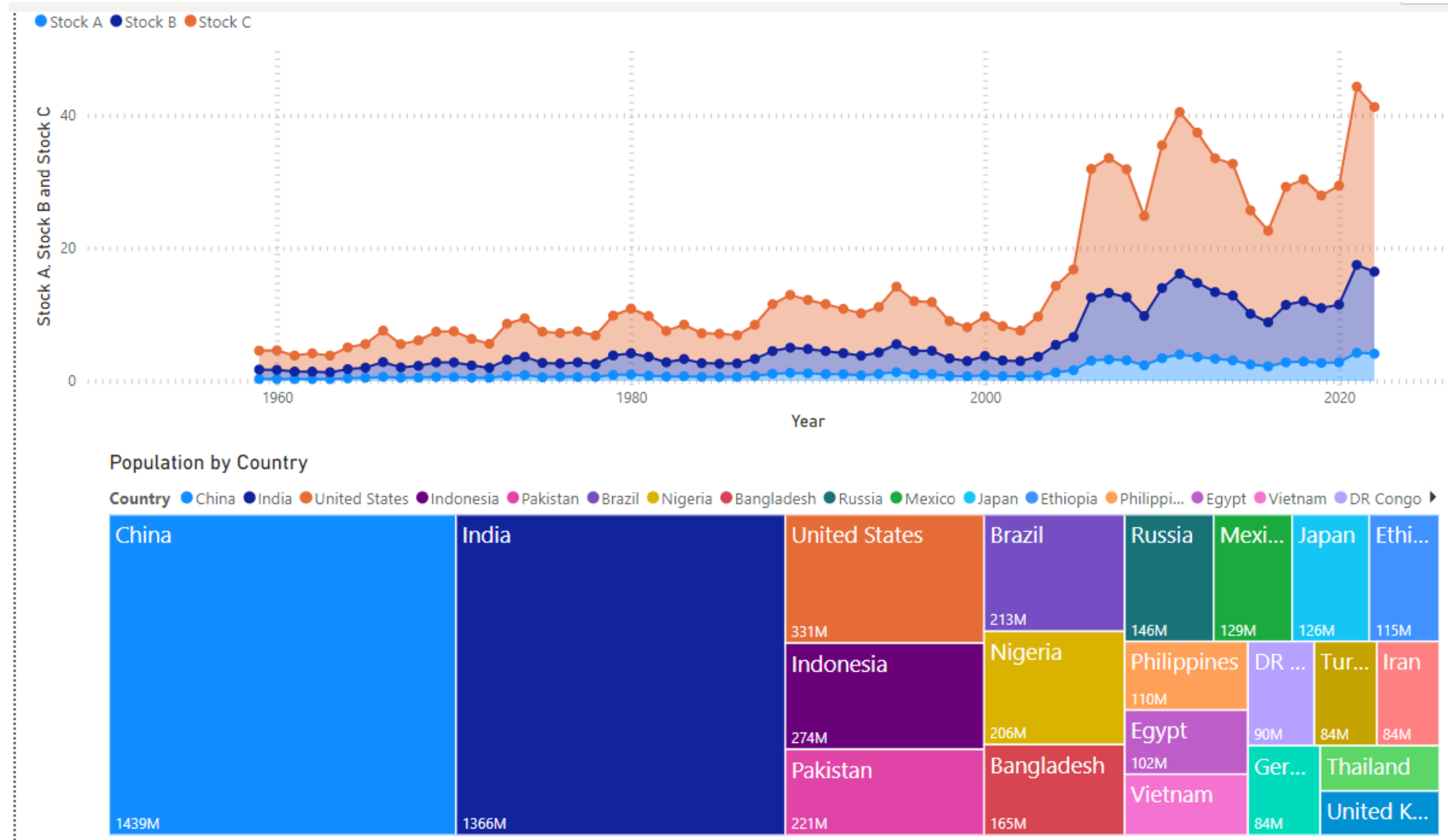


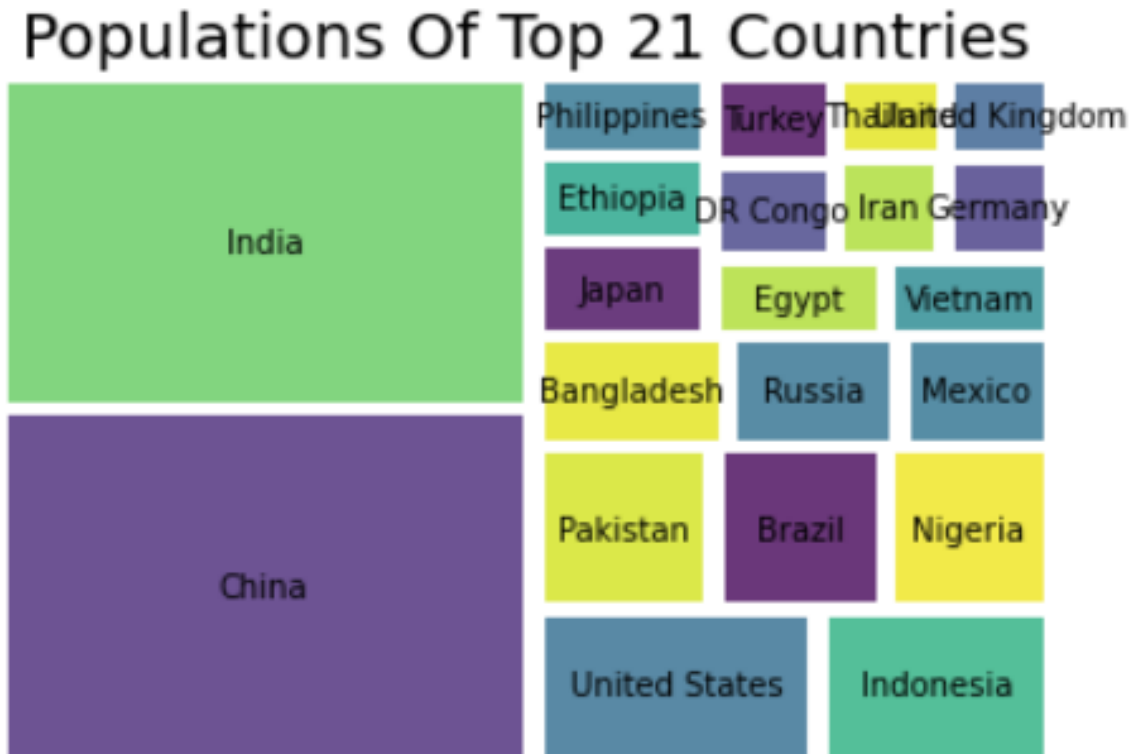
DSC 640 – Week 5 & 6

Michael Ersevim

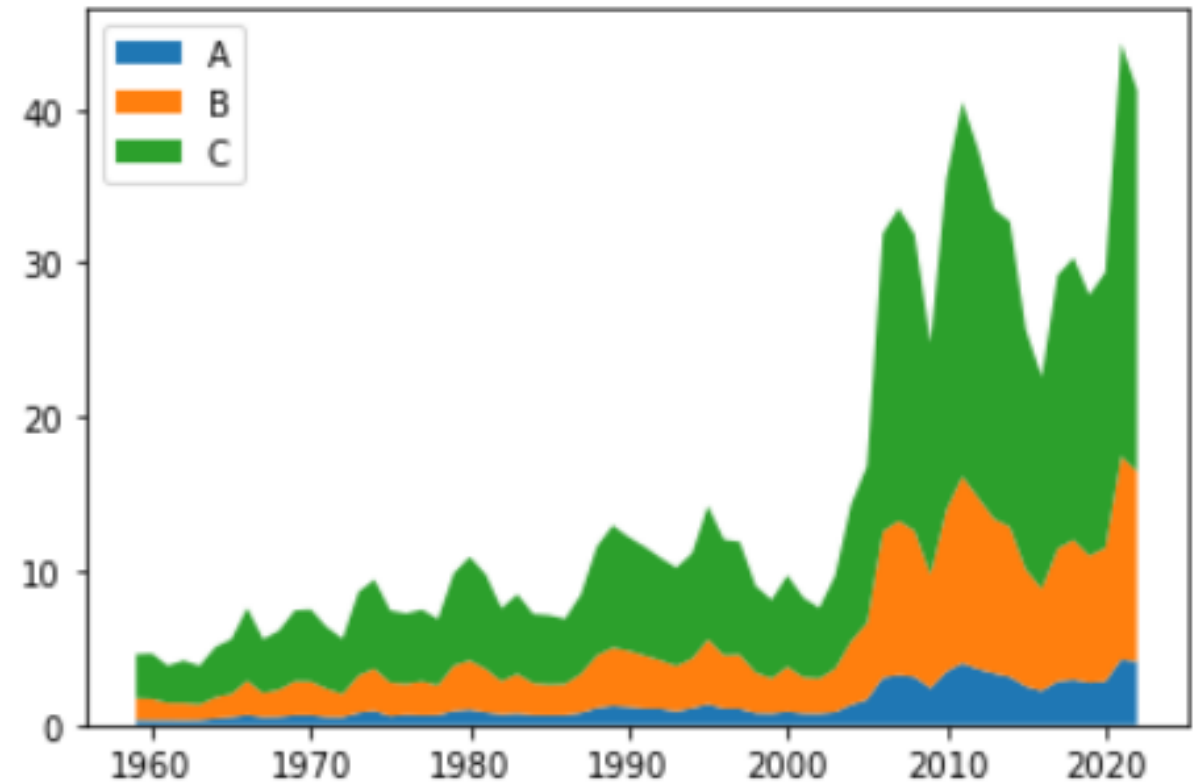
Power BI: Stacked Area graph of 3 stocks and Treemap of largest countries



Python: Treemap of
world population



Python: Stacked Area
graph of stock prices



Python: CODE for generating prior graphs

DSCC640 - Michael Ersevrim - Week 5&6 assignment

```
In [21]: # call in libraries
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
import squarify as sq    #(algorithm for treemap)
```

```
In [56]: # create stock price dataframe from excel file
df = pd.read_excel('C:\\Users\\Kate\\Documents\\Bellevue DS classes\\DSC640\\DSC640_stock_prices.xlsx')
df.head()
```

Out[56]:

	Year	Price	Stock
0	1959	0.31	A
1	1960	0.30	A
2	1961	0.30	A
3	1962	0.29	A
4	1963	0.30	A

```
In [5]: # create Top 21 World population countries dataframe from excel file
df2 = pd.read_excel('C:\\Users\\Kate\\Documents\\Bellevue DS classes\\DSC640\\Top_20_population.xlsx')
df2.head()
```

Out[5]:

	Country	Population	World %
0	China	1439323776	0.184700

Python: CODE for generating prior graphs

Out[5]:

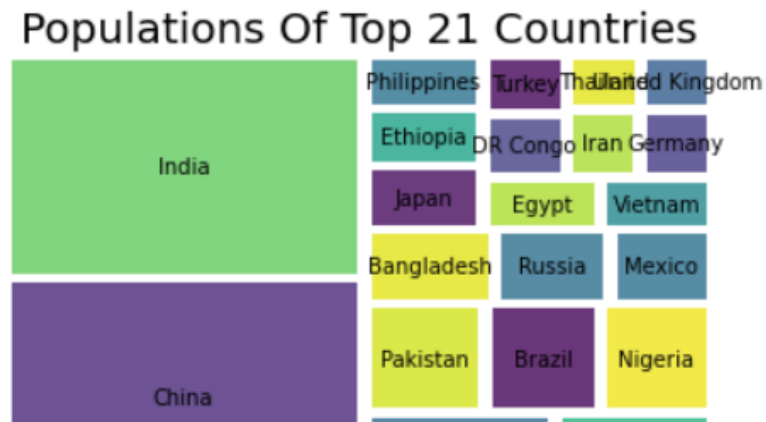
	Country	Population	World %
0	China	1439323776	0.184700
1	India	1366417825	0.175344
2	United States	331002651	0.042500
3	Indonesia	273523615	0.035100
4	Pakistan	220892340	0.028300

```
In [34]: # plot Population data
squarify.plot(sizes=df2['Population'], label=df2['Country'], alpha=.8, pad=True)

plt.axis('off')

plt.title("Populations Of Top 21 Countries", fontsize=20)

plt.show()
```

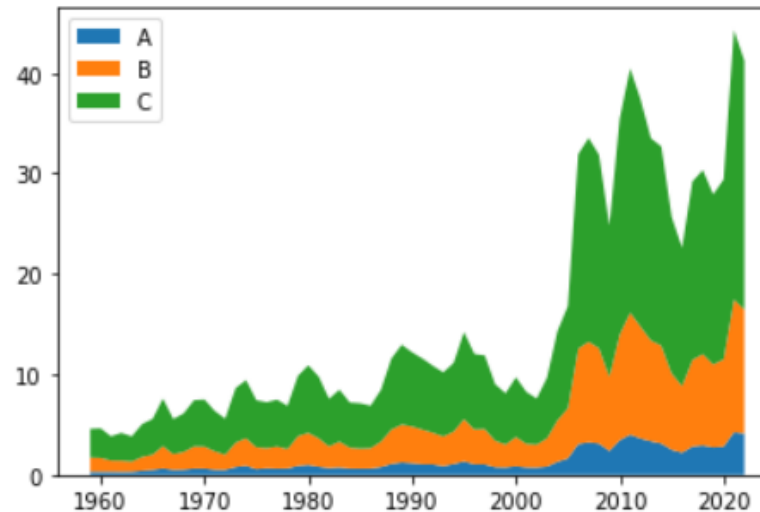


Python: CODE for generating prior graphs

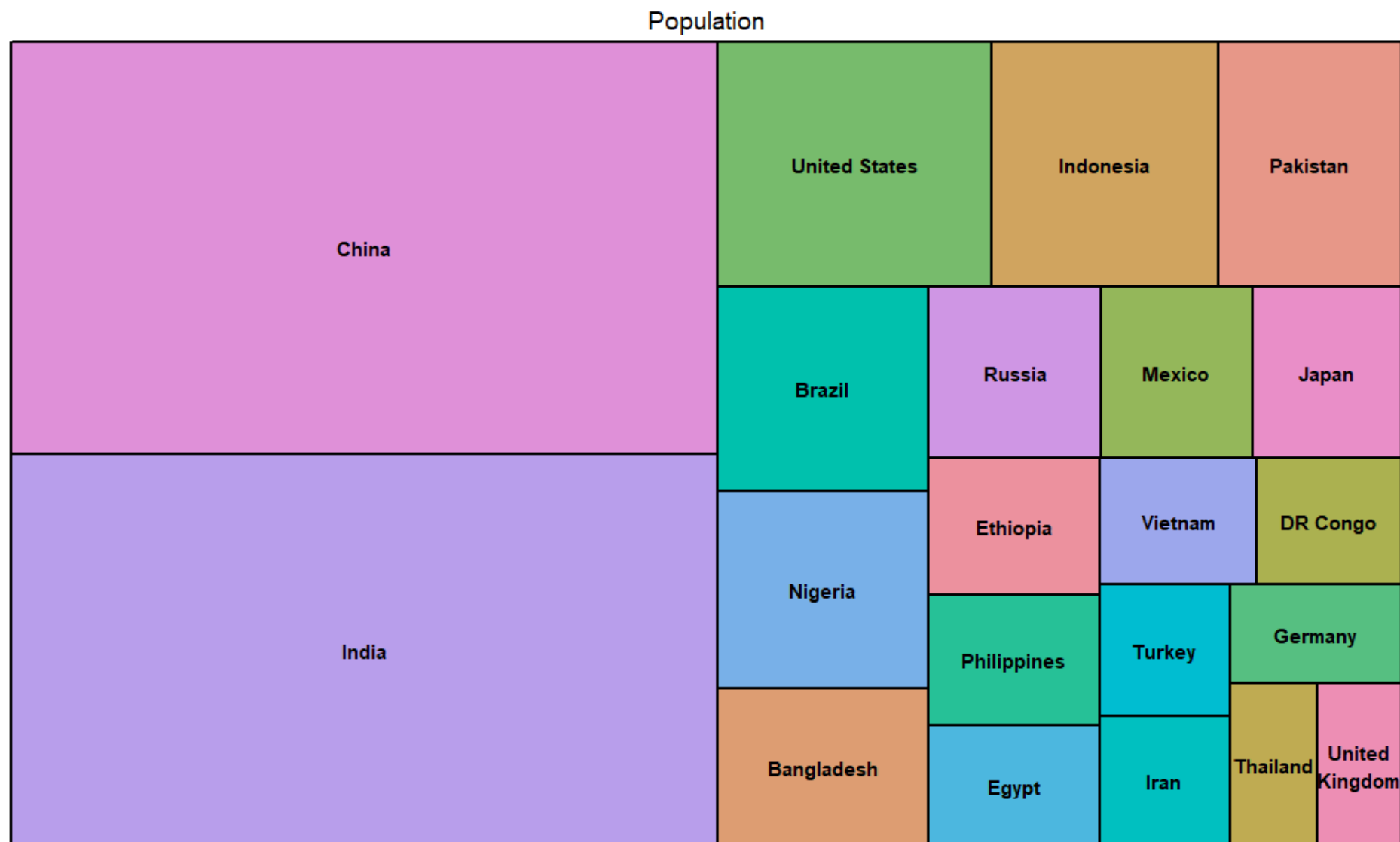
```
In [59]: x = [ ]    #Create range for years
         for i in range(1959,2023):
             x.append(i)

         y1 = df.loc[df['Stock'] == 'A', 'Price']
         y2 = df.loc[df['Stock'] == 'B', 'Price']
         y3 = df.loc[df['Stock'] == 'C', 'Price']
         y = [y1,y2,y3]
```

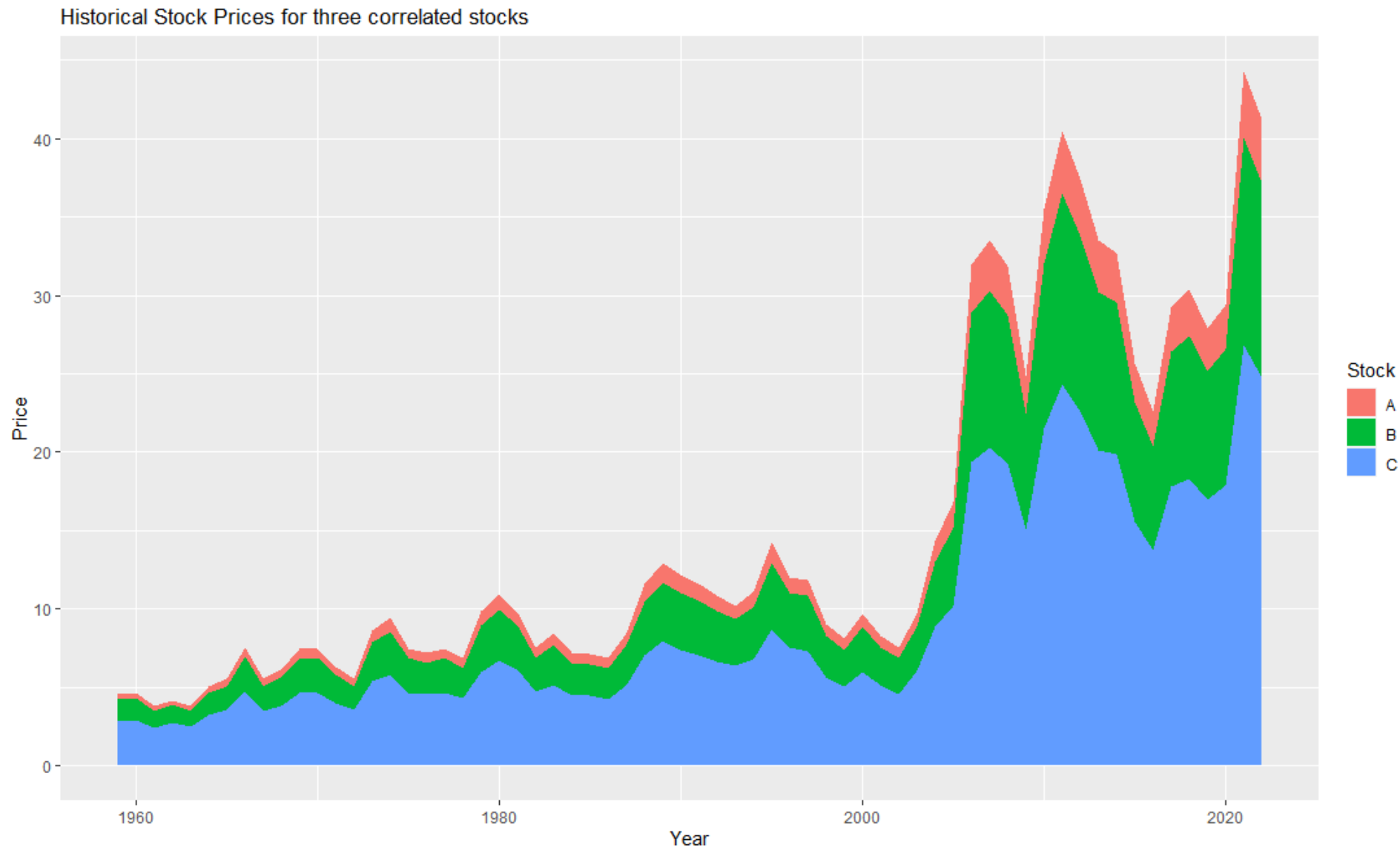
```
In [60]: plt.stackplot(x, y, labels=['A', 'B', 'C'])
         plt.legend(loc='upper left')
         plt.show()
```



R: Treemap of world population



R: Stacked Area graph of 3 stocks



R: Code for Stacked Area Graph and Treemap of world population

```
1 'Michael Ersevim - DSC640'
2 'Week 5&6 graphs assignment'
3
4 # Set wd to find and store files
5 setwd("C:/Users/Kate/Documents/Bellevue DS classes/DSC640")
6
7 # calling libraries
8 library(ggplot2)
9 library(readxl)
10 library(lessR)
11 library(dplyr)
12 library(tidyverse)
13 library(treemap)
14
15 # Read in data
16 data_pop <- read_excel("top_20_population.xlsx")
17 data_stock <- read_excel("DSC640_stock_prices.xlsx")
18
19 print(data_pop) #Test it worked right
20 print(data_stock) #Test it worked right
21
22 #Create stacked area plot of stock prices
23 ggplot(data_stock, aes(x=Year, y=Price, fill=Stock)) + geom_area() +
24   ggtitle('Historical Stock Prices for three correlated stocks')
25
26 #Create treemap to display relative sizes of top 21 countries
27 treemap(data_pop,
28         index="Country",
29         vsize="Population",
30         type="index")
31
```