DATA VISUALIZATION WITH PYTHON

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Unlocking Insights: Exploring & Visualizing Data with Pandas and Matplotlib!

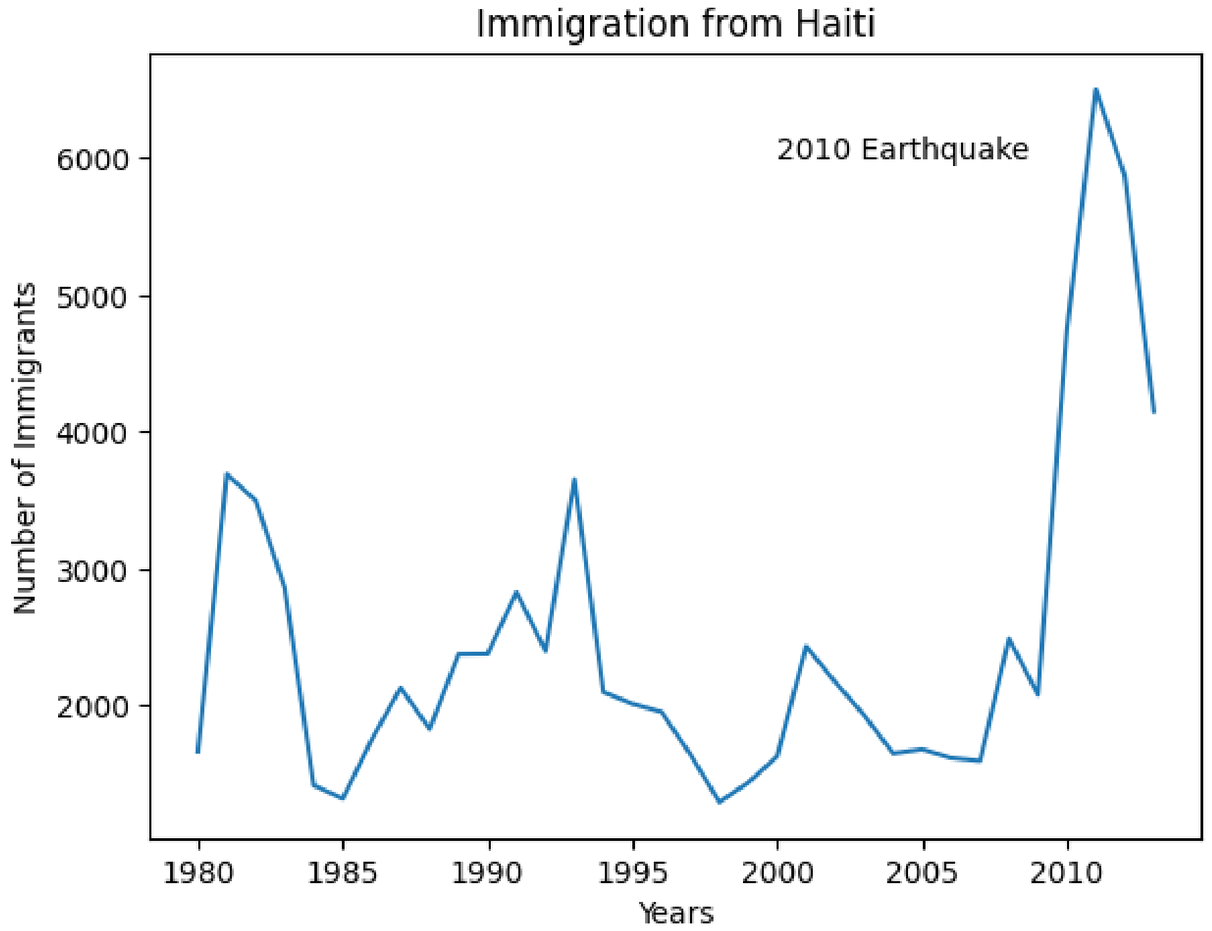
- Introduction to Matplotlib
- Line Plot
- Area Plot
- Histogram Plot
- Bar Plot

Line Plot

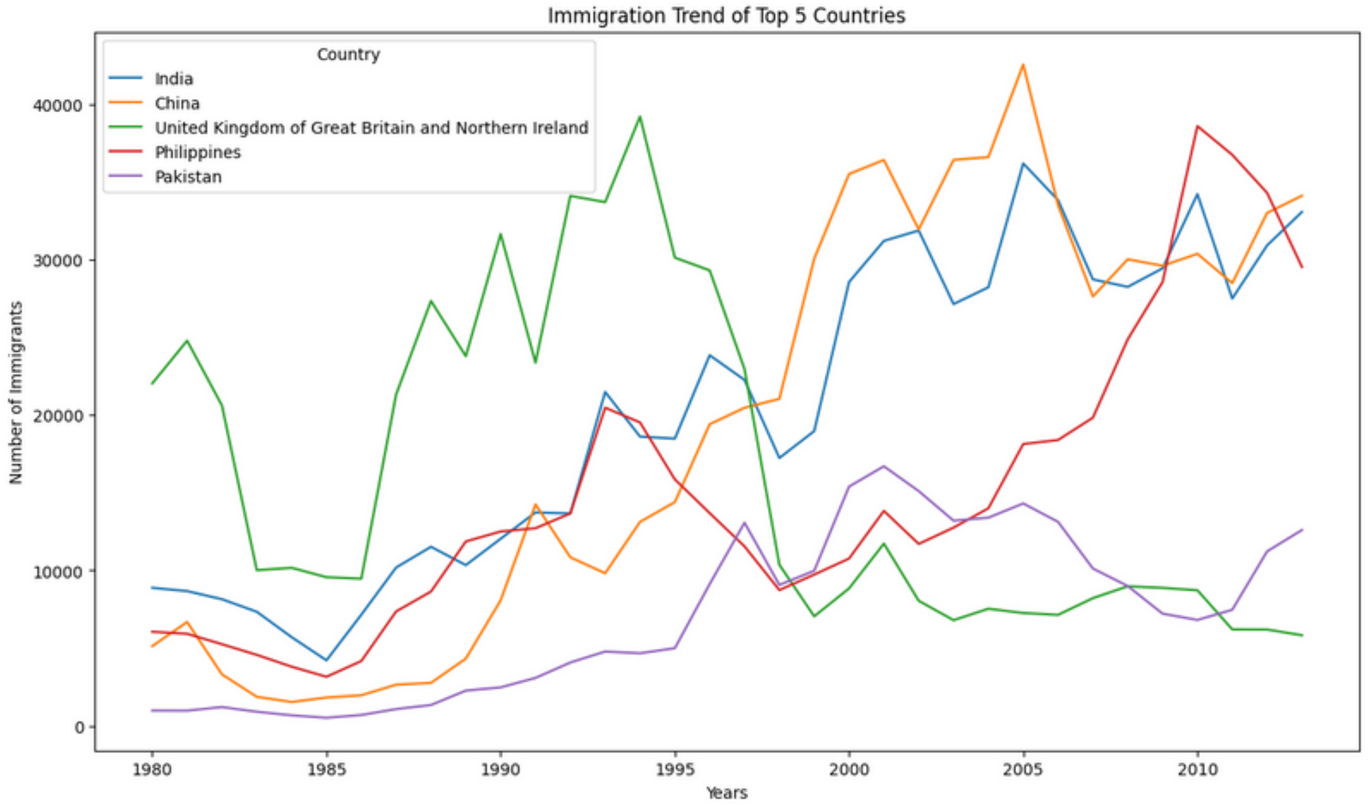
```
haiti.plot(kind='line')

plt.title('Immigration from Haiti')
plt.ylabel('Number of Immigrants')
plt.xlabel('Years')
# annotate the 2010 Earthquake.
# syntax: plt.text(x, y, label)
plt.text(20, 6000, '2010 Earthquake') # see note below

plt.show()
```

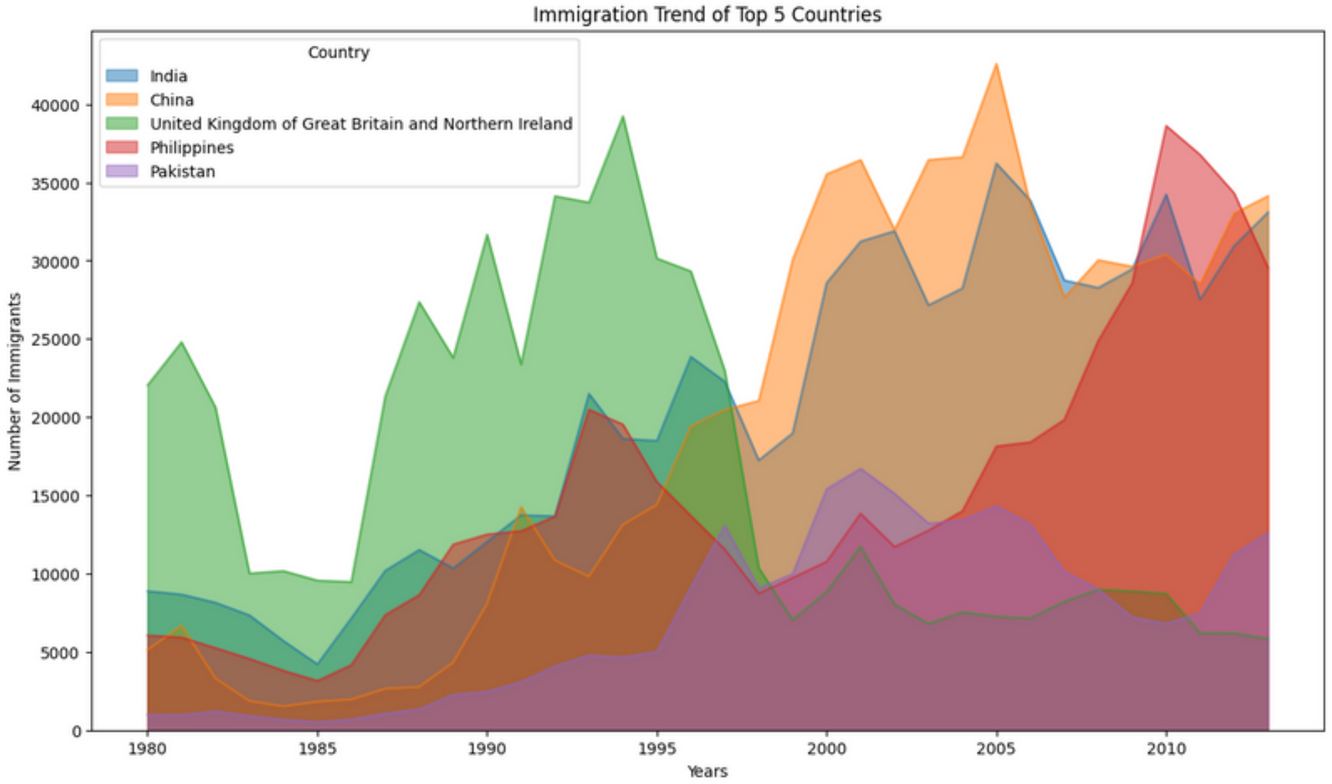


```python
#Total column that calculates cumulative immigration by country
df_can.sort_values(by='Total', ascending=False, axis=0, inplace=True)
# get the top 5 entries
df_top5 = df_can.head(5)
df_top5 = df_top5[years].transpose()
df_top5.head()
#Plot the dataframe
df_top5.plot(kind='line', figsize=(14, 8))
plt.title('Immigration Trend of Top 5 Countries')
plt.ylabel('Number of Immigrants')
plt.xlabel('Years')
plt.show()
```



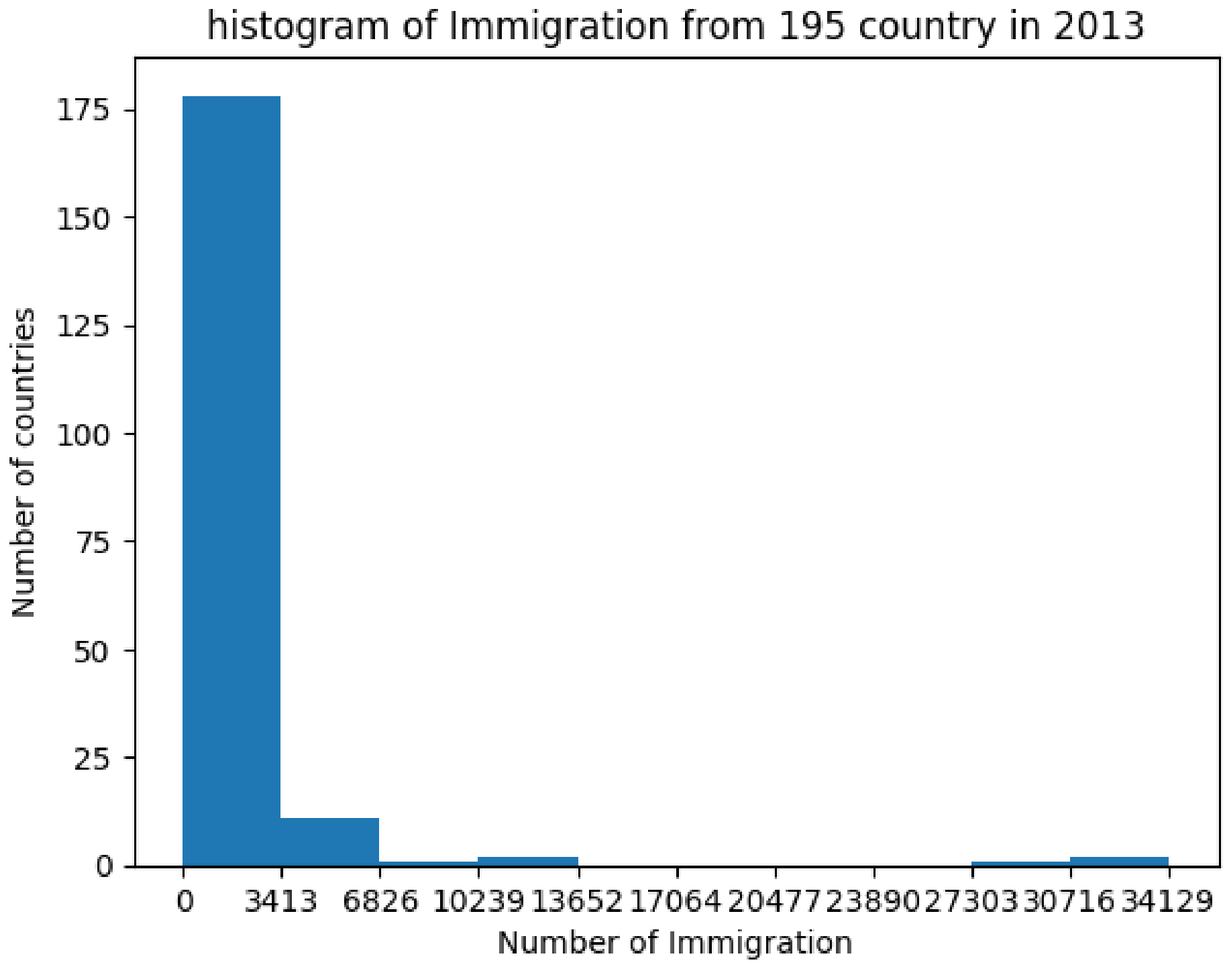
Area Plot

```
df_top5.plot(kind="area",stacked=False,figsize=(14,8))
plt.title('Immigration Trend of Top 5 Countries')
plt.ylabel('Number of Immigrants')
plt.xlabel('Years')
```



Histogram Plot

```
1
2  count,bin_edges=np.histogram(df_can['2013'])
3  df_can['2013'].plot(kind='hist',xticks=bin_edges)
4  plt.title('histogram of Immigration from 195 country in 2013')
5  plt.ylabel('Number of countries')
6  plt.xlabel('Number of Immigration')
7  plt.show()
```



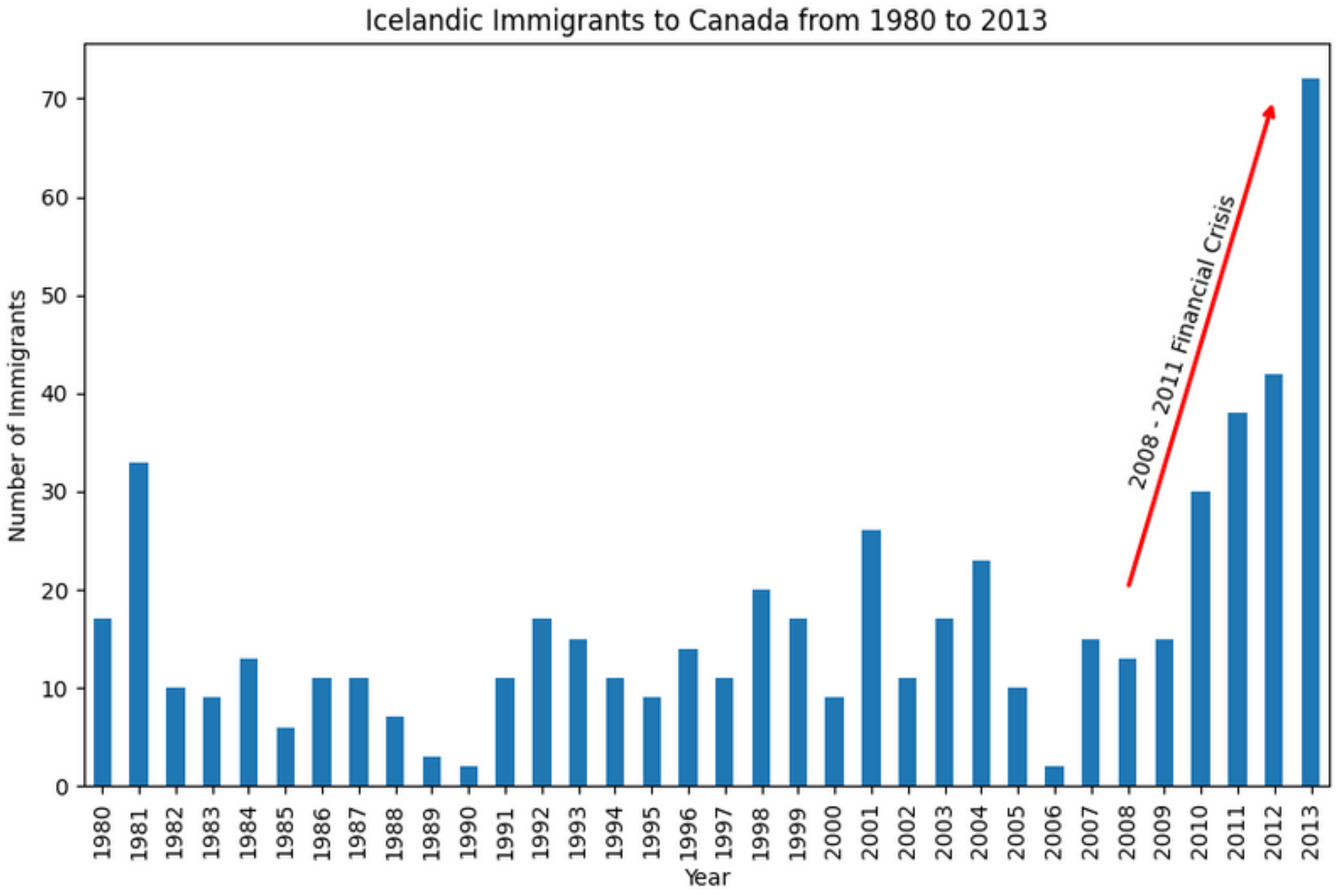
Bar Plot

```python
df_icland.plot(kind='bar', figsize=(10, 6), rot=90)

plt.xlabel('Year')
plt.ylabel('Number of Immigrants')
plt.title('Icelandic Immigrants to Canada from 1980 to 2013')

# Annotate arrow
plt.annotate('',  # s: str. will leave it blank for no text
             xy=(32, 70),  # place head of the arrow at point (year 2012 , pop 70)
             xytext=(28, 20),  # place base of the arrow at point (year 2008 , pop 20)
             xycoords='data',  # will use the coordinate system of the object being annotated
             arrowprops=dict(arrowstyle='->', connectionstyle='arc3', color='red', lw=2)
             )
# Annotate Text
plt.annotate('2008 - 2011 Financial Crisis',  # text to display
             xy=(28, 30),  # start the text at at point (year 2008 , pop 30)
             rotation=72.5,  # based on trial and error to match the arrow
             va='bottom',  # want the text to be vertically 'bottom' aligned
             ha='left',  # want the text to be horizontally 'left' algned.
             )

plt.show()
```



STAY TUNED FOR NEXT POST !

- Pie charts
- Box plot
- Scater plot
- Bubble plot
- Ploting Directly with Matplotlib
- Multiple plots and sub-plotting

THANK YOU