Google Search Analysis with Python

Approximately 3.5 billion searches are performed on Google daily, which means that approximately 40,000 searches are performed every second on Google. So Google search is a great use case for analyzing data based on search queries.

Google doesn't give much access to the data about daily search queires but another application of google known as Google Trends can be used for the task of Google search analysis. Google Trends provides an API that can be used to analyze the daily searches on Google. This API is known as pytrends you can easily install it in your systems by using the pip command: pip install pytrends.

1. pip install pytrends
2. pip install plotly
3. pip install opencv-python

If an error of Google returned a response with code 429, Then install pip install pytrends --upgrade.

```python
In [1]:  # Import Libraries
```

```python
In [2]:  import pandas as pd
         import numpy as np
         import seaborn as sns
         import matplotlib.pyplot as plt
         import plotly.express as px
         import cv2

         from pytrends.request import TrendReq
         trends = TrendReq()

         %matplotlib inline
```

```
In [3]: trends.build_payload(kw_list=["Amazon"])
        data = trends.interest_by_region()
        data = data.sort_values(by="Amazon",ascending=False)
        data = data.head(25)
        print(data)
```

```
                        Amazon
geoName
Germany                    100
Italy                       98
Austria                     96
Spain                       93
United Kingdom              93
United States               78
Canada                      60
France                      60
Ireland                     45
India                       42
Japan                       35
United Arab Emirates        35
Dominican Republic          32
Mexico                      29
Belgium                     28
Ecuador                     20
Venezuela                   20
Australia                   17
Portugal                    17
Switzerland                 15
Singapore                   15
Israel                      14
Colombia                    12
Brazil                      12
Chile                       10
```

```
data.reset_index().plot(x = "geoName",y = "Amazon",figsize=(12,6), kind="bar")
plt.style.use('fivethirtyeight')
plt.rc('font',size=16)
plt.title('Total Google Searches for amazon',fontweight = 'bold')
plt.show()
```

Total Google Searches for amazon
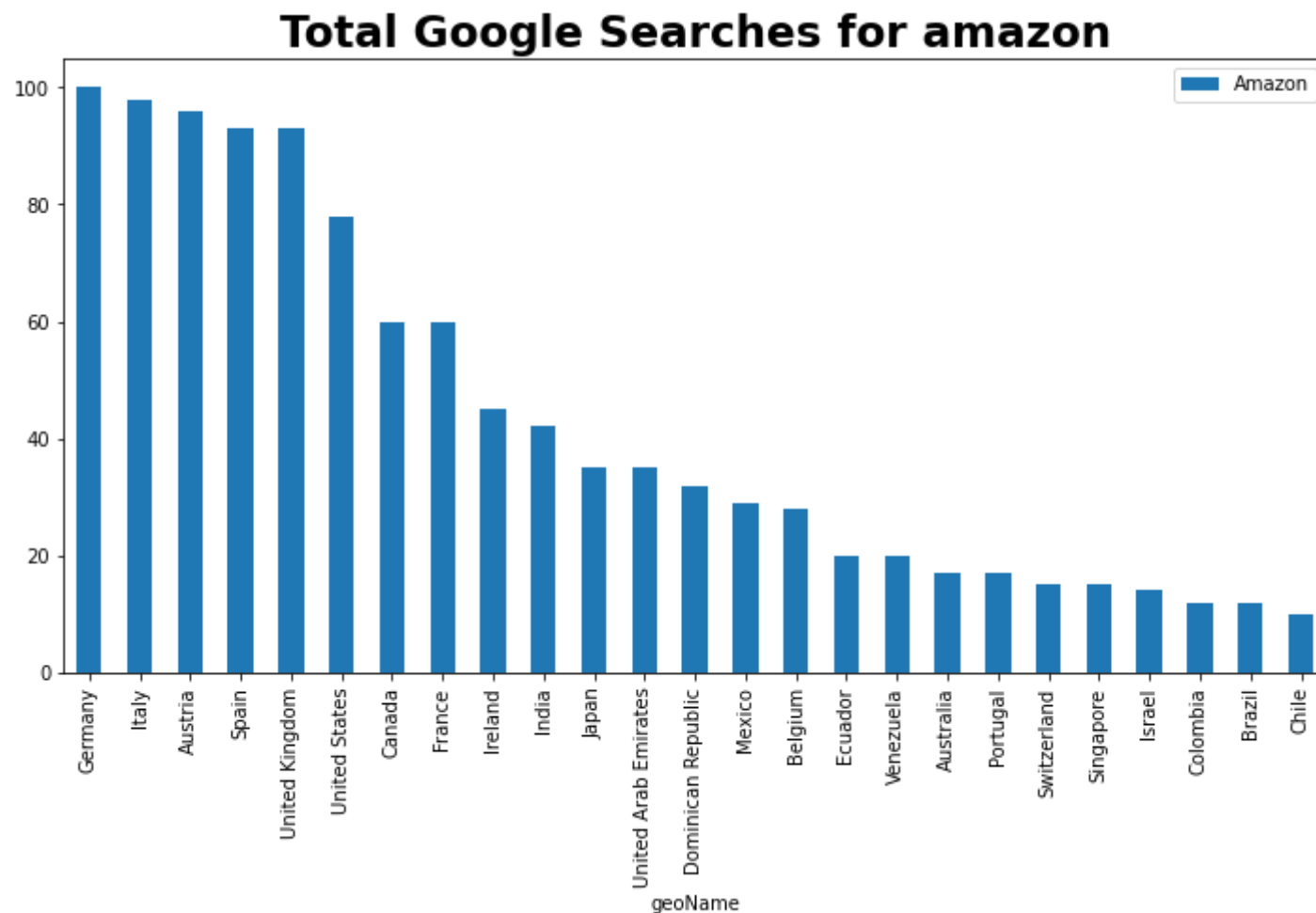
According to the above results, the search queires based on "amazon" are mostl done from Germany. It is vizualised in bar chart

```
In [5]: data = TrendReq(hl='en-US', tz=360)
        data.build_payload(kw_list=['amazon'])
        data = data.interest_over_time()
        fig, ax = plt.subplots(figsize=(12,6))
        data['amazon'].plot()
        plt.style.use('fivethirtyeight')
        plt.title('Total Google Searches for amazon',fontweight = 'bold')
        plt.xlabel('Year')
        plt.ylabel('TotalCount')
        plt.show()
```

Observation

It is clear that searches based on "amazon" on Google started to increase in 2018 and the highest searches were done in 2020-2021. This was COVID Period. So more people depend online purchase during covid period. This is how we can analyze Google searches based on any keyword. A business can perform Google search analysis to understand what people are looking for on Google at any given time.