```
pip install pytrends matplotlib seaborn plotly pandas
```

```
Requirement already satisfied: pytrends in /usr/local/lib/python3.11/dist-packages (4.9.
Requirement already satisfied: matplotlib in /usr/local/lib/python3.11/dist-packages (3.
Requirement already satisfied: seaborn in /usr/local/lib/python3.11/dist-packages (0.13.
Requirement already satisfied: plotly in /usr/local/lib/python3.11/dist-packages (5.24.1
Requirement already satisfied: pandas in /usr/local/lib/python3.11/dist-packages (2.2.2)
Requirement already satisfied: requests>=2.0 in /usr/local/lib/python3.11/dist-packages
Requirement already satisfied: lxml in /usr/local/lib/python3.11/dist-packages (from pyt
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.11/dist-packag
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.11/dist-packages (
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.11/dist-packa
Requirement already satisfied: kiwisolver>=1.3.1 in /usr/local/lib/python3.11/dist-packa
Requirement already satisfied: numpy>=1.23 in /usr/local/lib/python3.11/dist-packages (f
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.11/dist-package
Requirement already satisfied: pillow>=8 in /usr/local/lib/python3.11/dist-packages (fro
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.11/dist-packag
Requirement already satisfied: python-dateutil>=2.7 in /usr/local/lib/python3.11/dist-pa
Requirement already satisfied: tenacity>=6.2.0 in /usr/local/lib/python3.11/dist-package
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.11/dist-packages (
Requirement already satisfied: tzdata>=2022.7 in /usr/local/lib/python3.11/dist-packages
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.11/dist-packages (from
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dis
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.11/dist-packages (
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-pack
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.11/dist-pack
```

Import library

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import plotly.express as px
from pytrends.request import TrendReq
```

```
Start coding or generate with AI.
```

(1) write a code where, by changing just the keyword, we can search for multiple things

PyTrends Setup aur Keyword Define

```
pytrends = TrendReq(hl='en-US', tz=360)
keyword_list = ["Cloud Computing"]
```

Data Request

```
pytrends.build_payload(keyword_list, cat=0, timeframe='today 12-m', geo='', gprop='')
```

Top 15 countries where the keywords are searched the most, and also create visual representation of it

```
#Country-Wise intrest
region_data=pytrends.interest_by_region()
region_data=region_data.sort_values(by=keyword_list[0],ascending=False)
```

```
region_data.head(15)
```

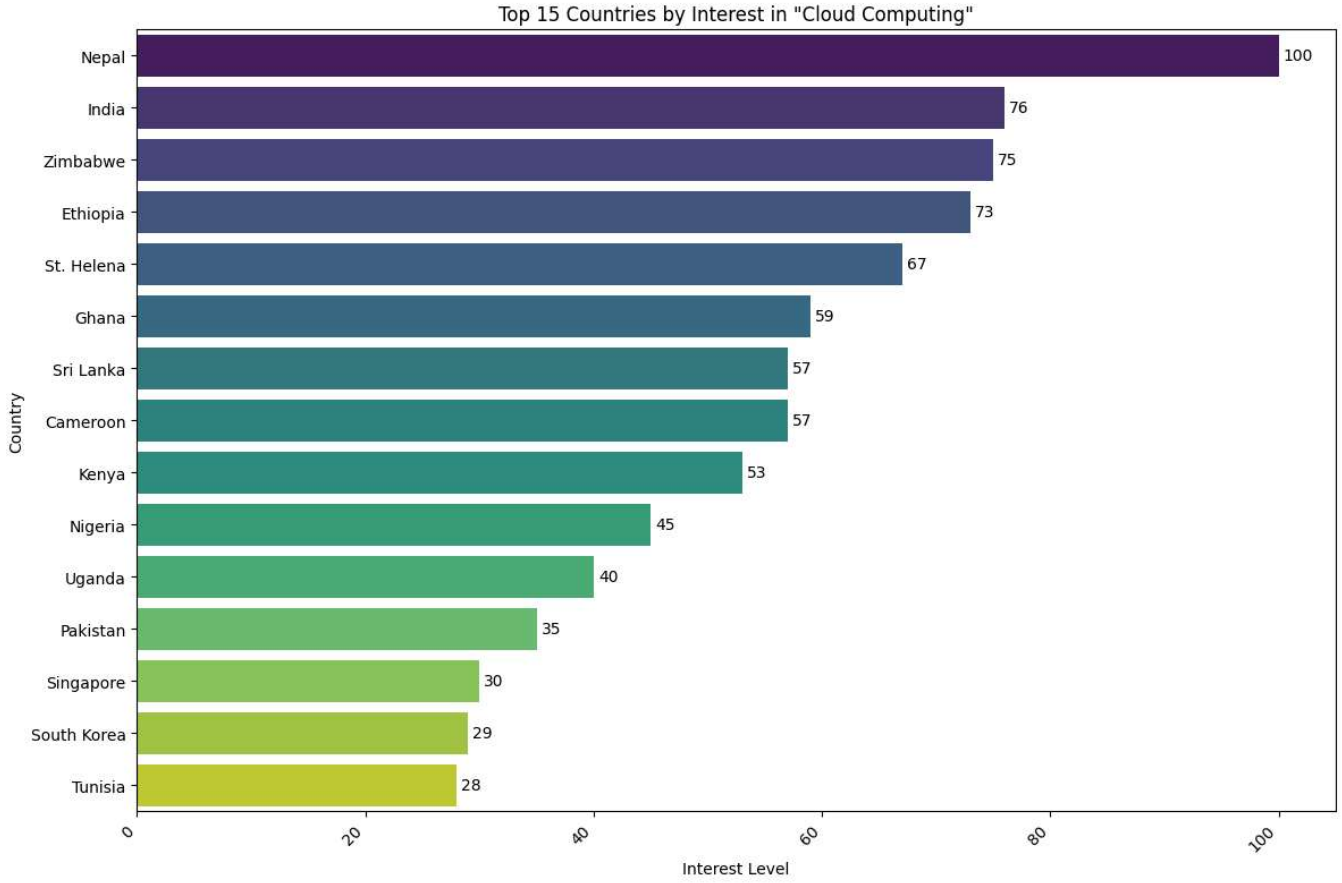
geoName	Cloud Computing
Nepal	100
India	80
Zimbabwe	76
Ethiopia	72
St. Helena	67
Ghana	59
Sri Lanka	57
Cameroon	56
Kenya	53
Nigeria	45
Uganda	39
Pakistan	34
South Korea	31
Singapore	30
South Africa	27

Next steps: Generate code with region_data | View recommended plots | New interactive sheet

```
plt.figure(figsize=(12, 8))
ax = sns.barplot(x=top_15_countries[keyword_list[0]], y=top_15_countries.index, palette='vir
```

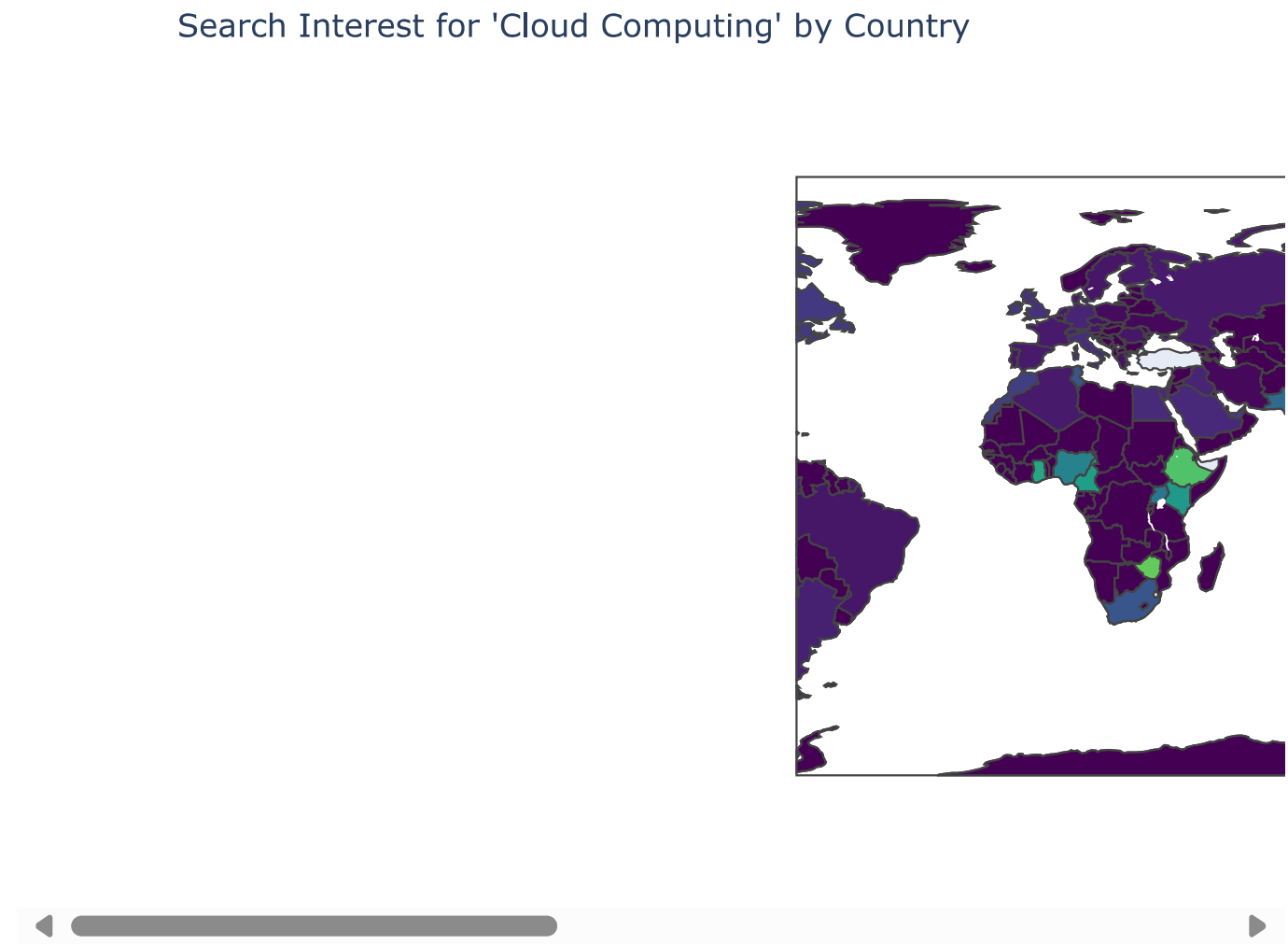
```
    plt.xticks(rotation=45)
    plt.title(f'Top 15 Countries by Interest in "{keyword_list[0]}"')
    plt.ylabel('Country')
    plt.xlabel('Interest Level')
    plt.xticks(rotation=45, ha='right')
    plt.tight_layout()

    # Add values on top of the bars
    for p in ax.containers:
       plt.bar_label(p,fmt='%.0f',label_type='edge',color='black',padding=3)


    plt.tight_layout()
    plt.show()
```

```
<ipython-input-33-972d7256911b>:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0.

  ax = sns.barplot(x=top_15_countries[keyword_list[0]], y=top_15_countries.index, palett
```



(3) A world map needs to be plotted showing the countries that search the keyword the most.

```
fig = px.choropleth(region_data,
locations='geoName',
locationmode='country names',
color=keyword_list[0],
title=f"Search Interest for '{keyword_list[0]}' by Country",
color_continuous_scale='viridis')
fig.show()
```



(4) We need to extract the time-wise interest of the keyword — how it trended in different years

```
time_df=pytrends.interest_over_time()
time_df.head()
```

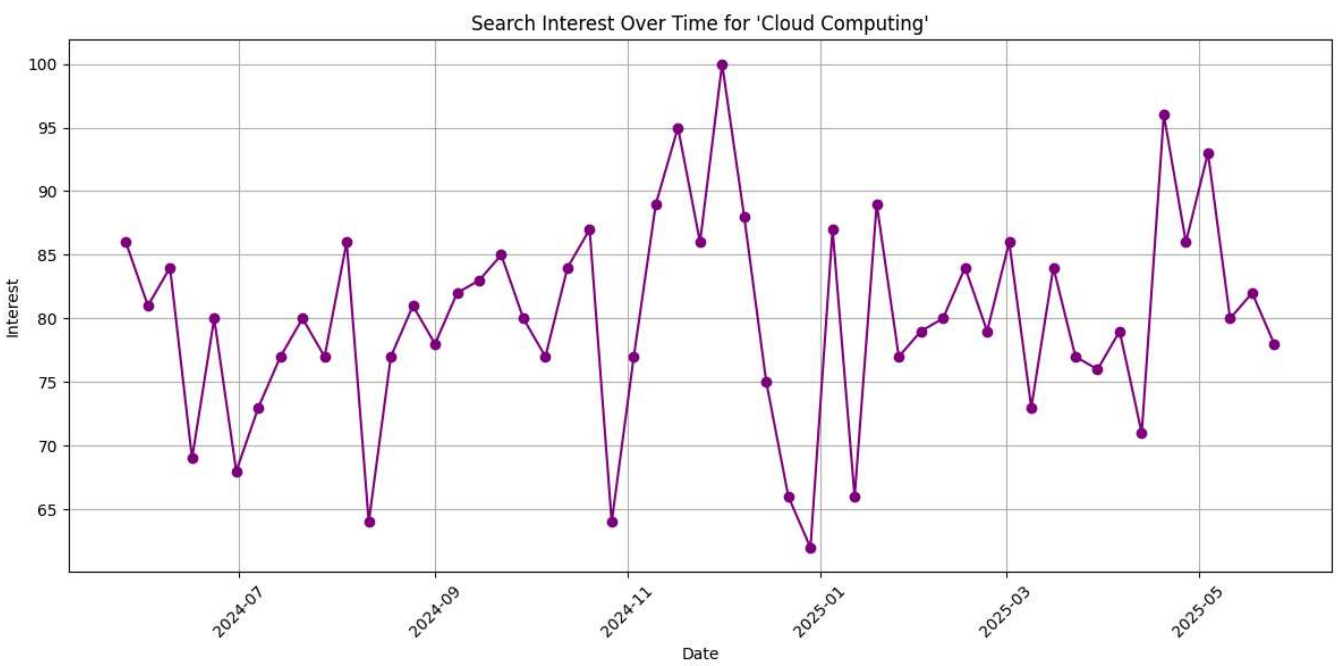
```
/usr/local/lib/python3.11/dist-packages/pytrends/request.py:260: FutureWarning:

Downcasting object dtype arrays on .fillna, .ffill, .bfill is deprecated and will change
```

date	Cloud Computing	isPartial
2024-05-26	86	False
2024-06-02	81	False
2024-06-09	84	False
2024-06-16	69	False
2024-06-23	80	False

Next steps: Generate code with `time_df` | View recommended plots | New interactive sheet

Line Plot

```
plt.figure(figsize=(12,6))
plt.plot(time_df.index, time_df[keyword_list[0]], marker='o', color='purple')
plt.title(f"Search Interest Over Time for '{keyword_list[0]}'")
plt.xlabel("Date")
plt.ylabel("Interest")
plt.grid(True)
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
```



(5) Compare related keywords and plot the graph.

```
kw_list = ["cloud computing", "data science", "machine learning","deep learning"]
pytrends.build_payload(kw_list, cat=0, timeframe='today 12-m', geo='', gprop='')
```

```
# Comparision Plot
compare_df = pytrends.interest_over_time()
compare_df.head()
```

```
/usr/local/lib/python3.11/dist-packages/pytrends/request.py:260: FutureWarning:

Downcasting object dtype arrays on .fillna, .ffill, .bfill is deprecated and will change
```

date	cloud computing	data science	machine learning	deep learning	isPartial
2024-05-26	26	77	91	30	False
2024-06-02	25	78	87	30	False

Next steps: Generate code with compare_df | View recommended plots | New interactive sheet