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

Set pytrends library and Keywords define

```python
pytrends = TrendReq(hl='en-US', tz=360)
keyword = "cloud computing"
```

Data Request

```python
pytrends.build_payload([keyword],cat = 0, timeframe='today 12-m',geo = '', gprop='')
```

Country wise Interest

```python
region_data = pytrends.interest_by_region()
region_data = region_data.sort_values(by=keyword, ascending=False)
region_data.head(10)
```

|	cloud computing
geoName	
Nepal	100
India	76
St. Helena	73
Zimbabwe	71
Ethiopia	65
Ghana	58
Sri Lanka	53
Kenya	52
Cameroon	50
Nigeria	41

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

```python
plt.figure(figsize= (10,7))
sns.barplot(data=region_data.head(21), x=keyword, y=region_data.head(21).index , palette="bright")
```
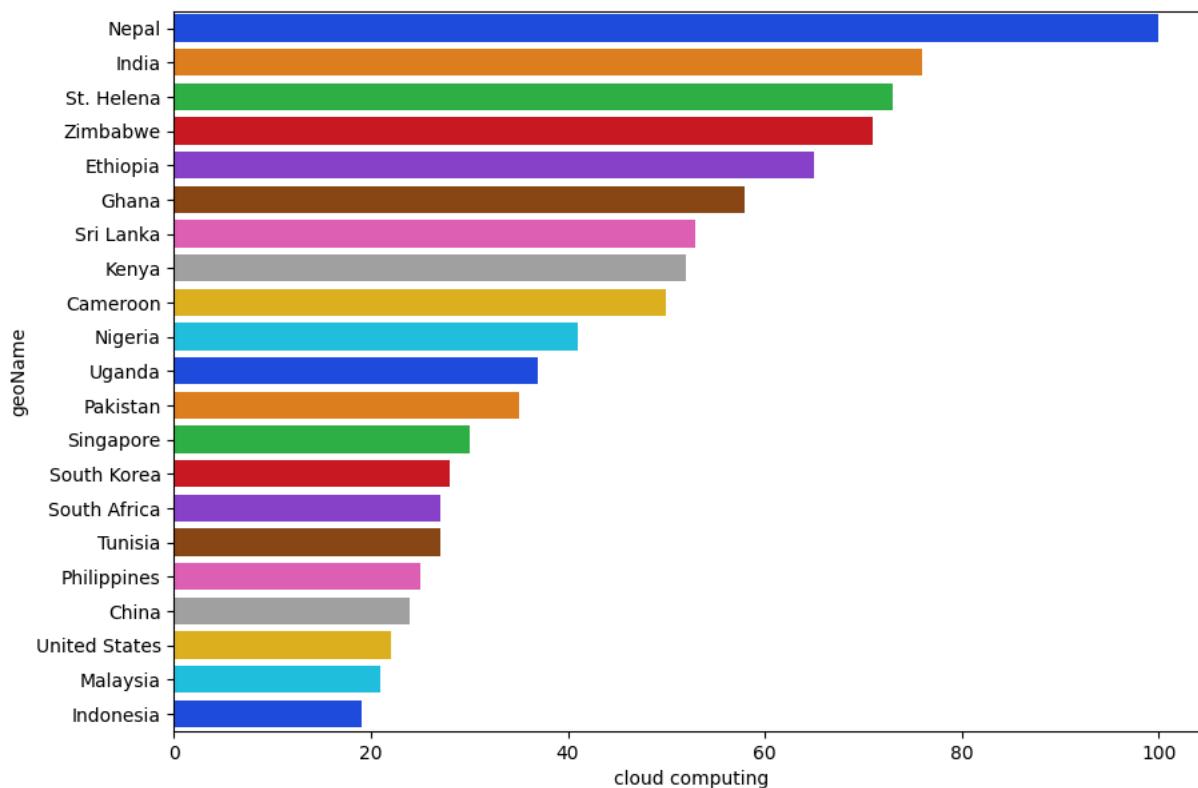
What can I help you build?

```
/tmp/ipython-input-36-631171207.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `y` variable to `hue` and set `legend

  sns.barplot(data=region_data.head(21), x=keyword, y=region_data.head(21).index , palette="bright")
<Axes: xlabel='cloud computing', ylabel='geoName'>
```
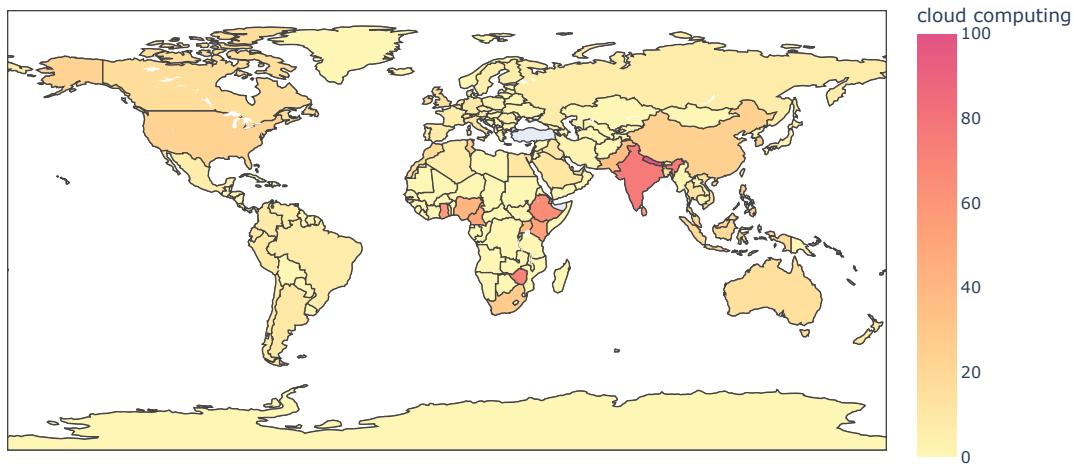

World Map

```
fig = px.choropleth(
    region_data,
    locations='geoName',
    locationmode='country names',
    color='cloud computing',
    color_continuous_scale='pinkyl',
    width=900,
    height=500
)

fig.show()
```

Time Wise Interset

```
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 in a future version. Call result.infer_objects(
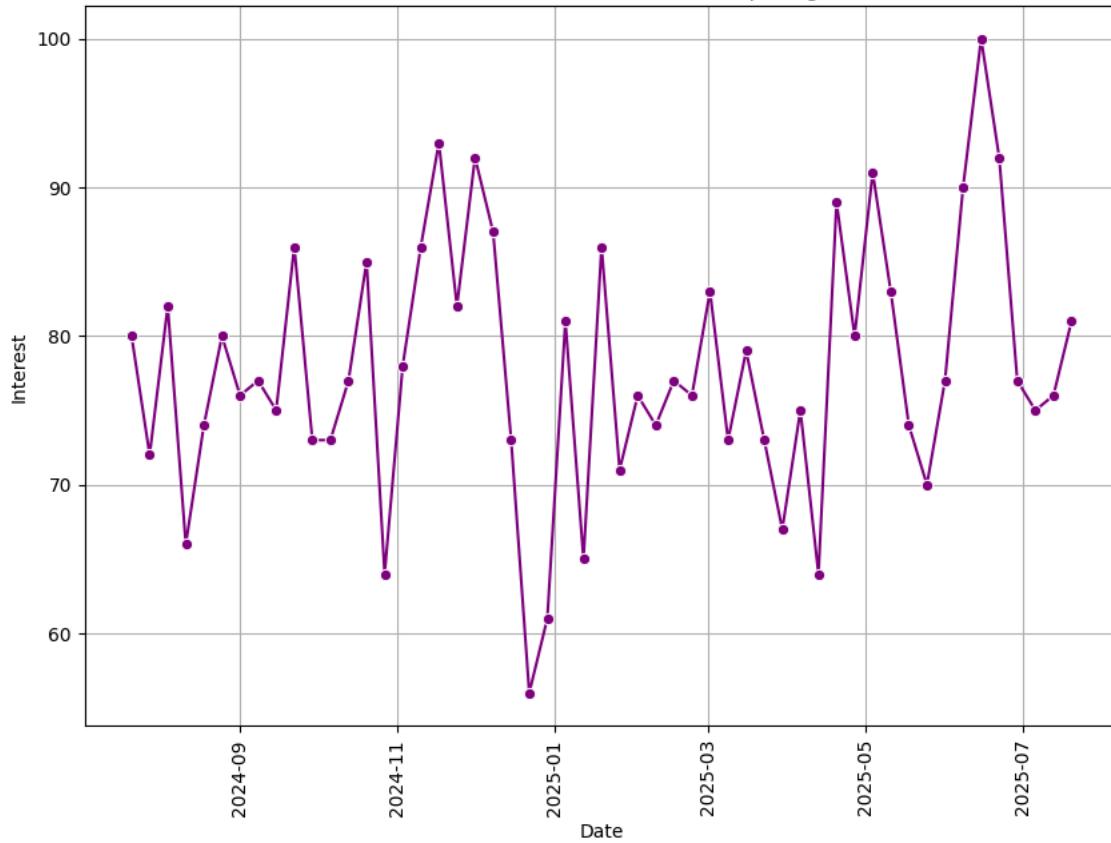
| date	cloud computing	isPartial
2024-07-21	80	False
2024-07-28	72	False
2024-08-04	82	False
2024-08-11	66	False
2024-08-18	74	False

Next steps: (Generate code with `time_df`)   (🔘 View recommended plots)   (New interactive sheet)

```
plt.figure(figsize=(10,7))
sns.lineplot(data=time_df, x=time_df.index, y=keyword,marker='o',color='purple')
plt.xticks(rotation=90)
plt.title(f'Interest Over Time for {keyword}')
plt.xlabel('Date')
plt.ylabel('Interest')
plt.grid(True)
plt.show()
```

Interest Over Time for cloud computing

Multiple Keywords Compare
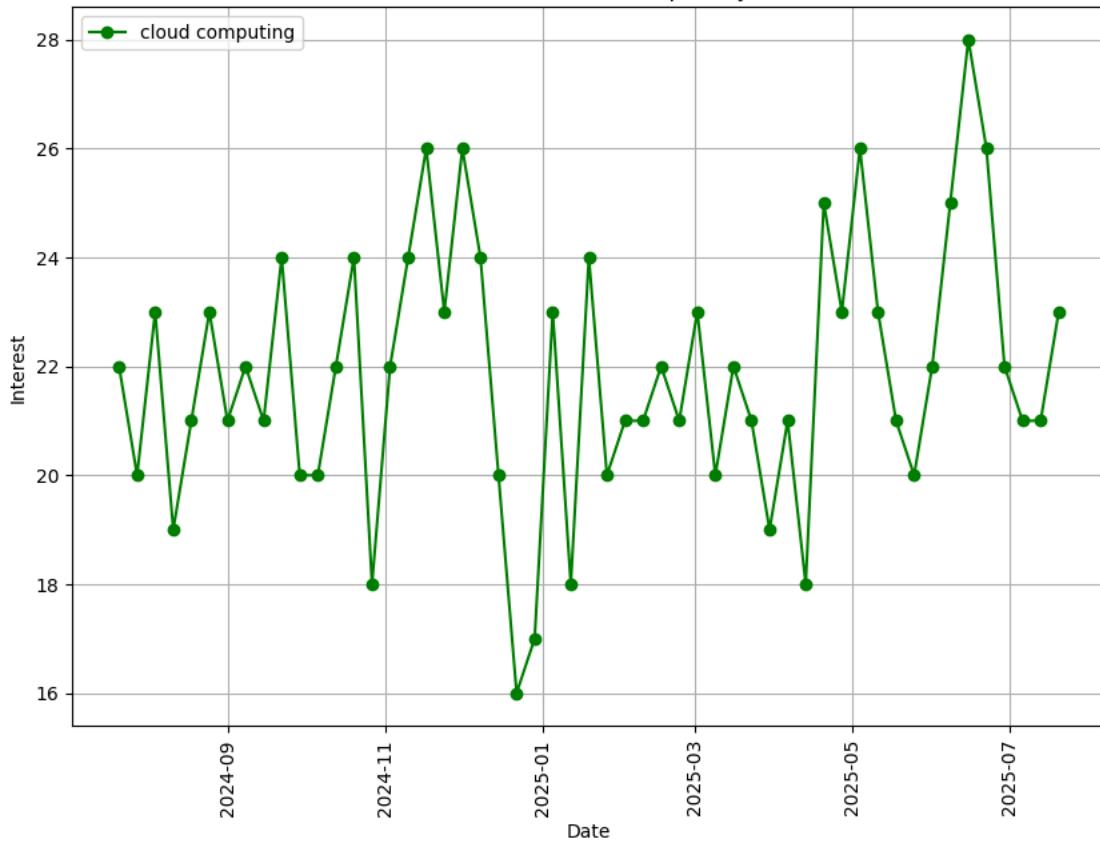
```
kw_list =["cloud computing","data science","machine learning"]
pytrends.build_payload(kw_list, cat=0, timeframe='today 12-m', geo='', gprop='')
compare_df = pytrends.interest_over_time()
plt.figure(figsize=(10,7))
for keyword in kw_list:
    plt.plot(compare_df.index, compare_df[keyword], marker='o', label=keyword,color='green')
    plt.xticks(rotation=90)
    plt.title('Interest Over Time for Multiple Keywords')
    plt.xlabel('Date')
    plt.ylabel('Interest')
    plt.legend()
    plt.grid(True)
    plt.show()

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 in a future version. Call result.infer_object