



Library

```
In [2]: import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
from wordcloud import WordCloud
```

Data

```
In [3]: data = pd.read_csv("netflix.csv")
```

```
In [4]: data.head(3)
```

```
Out[4]:
```

	show_id	type	title	director	cast	country	date_added	release_
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	:
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	:
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	:

```
In [5]: data.info()
```

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8807 entries, 0 to 8806
Data columns (total 12 columns):
#   Column                Non-Null Count  Dtype
---  -
0   show_id                8807 non-null   object
1   type                   8807 non-null   object
2   title                  8807 non-null   object
3   director               6173 non-null   object
4   cast                   7982 non-null   object
5   country                7976 non-null   object
6   date_added             8797 non-null   object
7   release_year           8807 non-null   int64
8   rating                 8803 non-null   object
9   duration               8804 non-null   object
10  listed_in              8807 non-null   object
11  description             8807 non-null   object
dtypes: int64(1), object(11)
memory usage: 825.8+ KB

```

Data cleaning

```
In [6]: data.isnull().sum()
```

```

Out[6]: show_id                0
        type                  0
        title                  0
        director             2634
        cast                  825
        country              831
        date_added            10
        release_year           0
        rating                 4
        duration               3
        listed_in              0
        description            0
        dtype: int64

```

```
In [7]: data.shape
```

```
Out[7]: (8807, 12)
```

```
In [8]: data.drop_duplicates(inplace=True)
```

```
In [9]: data.dropna(subset=['director', 'cast', 'country'], inplace=True)
```

```
In [10]: data.shape
```

```
Out[10]: (5336, 12)
```

```
In [11]: data['rating'] = data['rating'].fillna(data['rating'].mode()[0])
```

```
In [12]: data['duration'] = data['duration'].fillna(data['duration'].mode()[0])
```

```
In [13]: data.isnull().sum()
```

```
Out[13]: show_id      0
         type         0
         title        0
         director     0
         cast         0
         country      0
         date_added   0
         release_year 0
         rating       0
         duration     0
         listed_in    0
         description  0
         dtype: int64
```

```
In [14]: data['date_added'] = pd.to_datetime(data['date_added'].str.strip())
         data['year_added'] = data['date_added'].dt.year
         data['month_added'] = data['date_added'].dt.month
```

```
In [15]: data.reset_index(drop=True, inplace=True)
```

```
In [16]: data.head(3)
```

```
Out[16]:
```

	show_id	type	title	director	cast	country	date_added	release
0	s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D...	United States, Ghana, Burkina Faso, United Kin...	2021-09-24	
1	s9	TV Show	The Great British Baking Show	Andy Devonshire	Mel Giedroyc, Sue Perkins, Mary Berry, Paul Ho...	United Kingdom	2021-09-24	
2	s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy, Chris O'Dowd, Kevin Kline, T...	United States	2021-09-24	

```
In [17]: data.dtypes
```

```
Out[17]: show_id      object
         type         object
         title        object
         director     object
         cast         object
         country      object
         date_added   datetime64[ns]
         release_year int64
         rating       object
         duration     object
         listed_in    object
         description  object
         year_added   int32
         month_added  int32
         dtype: object
```

EDA

Content Strategy

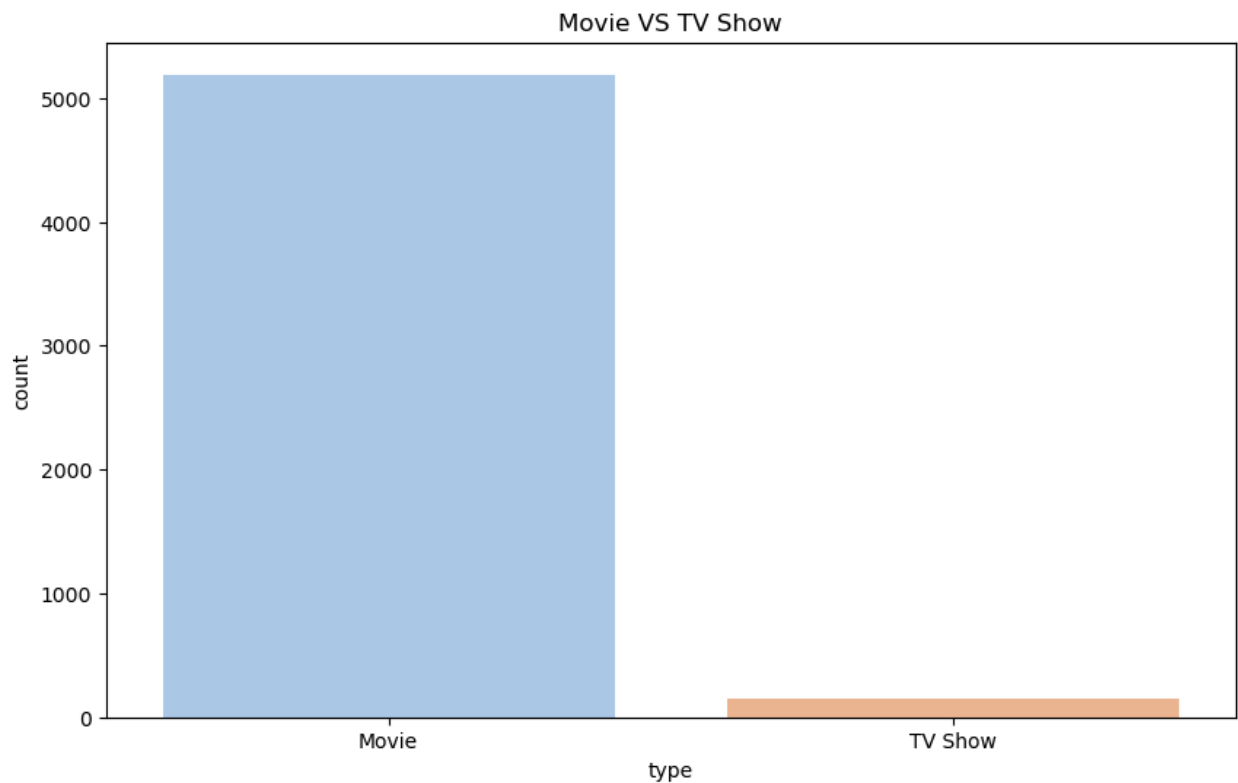
```
In [18]: type_count = data['type'].value_counts()
```

```
In [19]: plt.figure(figsize=(10,6))
         sns.barplot(type_count,palette='pastel')
         plt.title("Movie VS TV Show")
         plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_63837/2822086694.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(type_count,palette='pastel')
```



```
In [20]: data['genres'] = data['listed_in'].str.split(', ')
data['genres']
```

```
Out[20]: 0      [Dramas, Independent Movies, International Mov...
1              [British TV Shows, Reality TV]
2              [Comedies, Dramas]
3              [Dramas, International Movies]
4      [Comedies, International Movies, Romantic Movies]
...
5331      [Dramas, International Movies, Thrillers]
5332      [Cult Movies, Dramas, Thrillers]
5333      [Comedies, Horror Movies]
5334      [Children & Family Movies, Comedies]
5335      [Dramas, International Movies, Music & Musicals]
Name: genres, Length: 5336, dtype: object
```

```
In [22]: all_genres = sum(data['genres'], [])
```

```
In [ ]: pd.Series(all_genres).value_counts().head(10)
```

```
Out[ ]: International Movies      2369
        Dramas                  2294
        Comedies                 1553
        Action & Adventure        806
        Independent Movies        740
        Romantic Movies           579
        Thrillers                 547
        Children & Family Movies  503
        Documentaries             391
        Horror Movies             336
        Name: count, dtype: int64
```

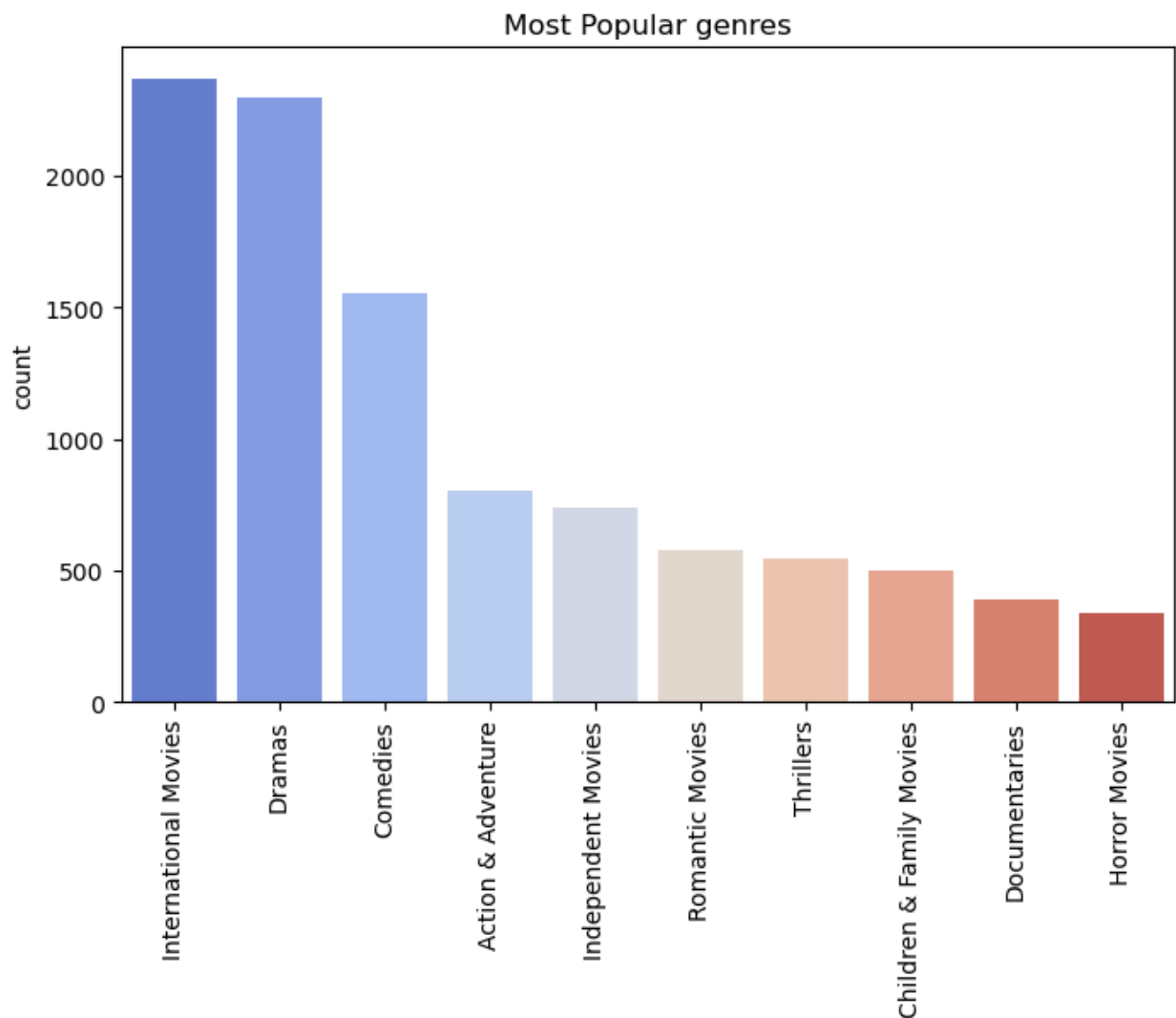
```
In [ ]: top_10_genre = pd.Series(all_genres).value_counts().head(10)
```

```
In [ ]: plt.figure(figsize=(8,5))
        sns.barplot(top_10_genre,palette='coolwarm')
        plt.title("Most Popular genres")
        plt.xticks(rotation=90)
        plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/1480826799.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_10_genre,palette='coolwarm')
```

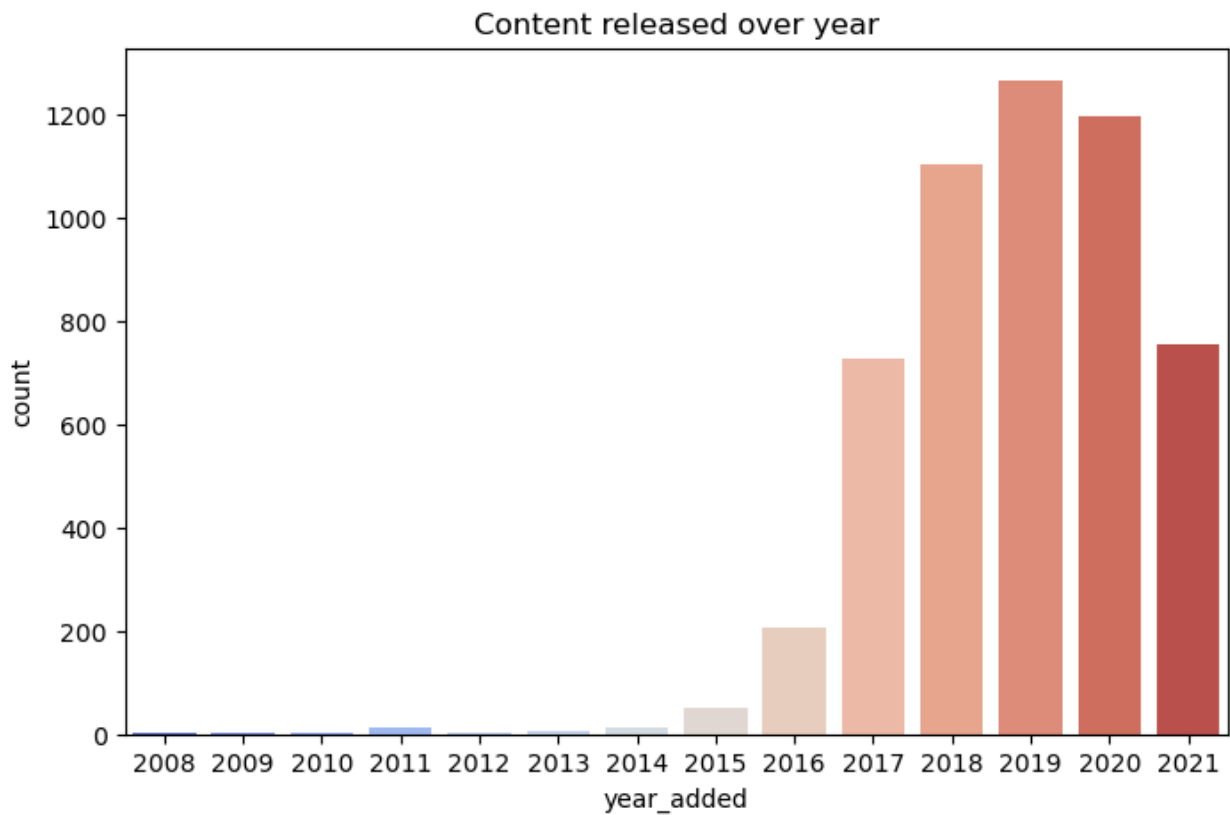


```
In [ ]: plt.figure(figsize=(8,5))
sns.countplot(x='year_added', data=data, palette='coolwarm')
plt.title("Content released over year")
plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/1572699664.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.countplot(x='year_added', data=data, palette='coolwarm')
```



```
In [ ]: data['country'].value_counts().head(10)
```

```
Out[ ]: country
United States    1849
India            875
United Kingdom   183
Canada          107
Spain           91
Egypt           90
Nigeria         88
Japan           83
Turkey          79
Indonesia       76
Name: count, dtype: int64
```

```
In [ ]: top_10_country = data['country'].value_counts().head(10)
```

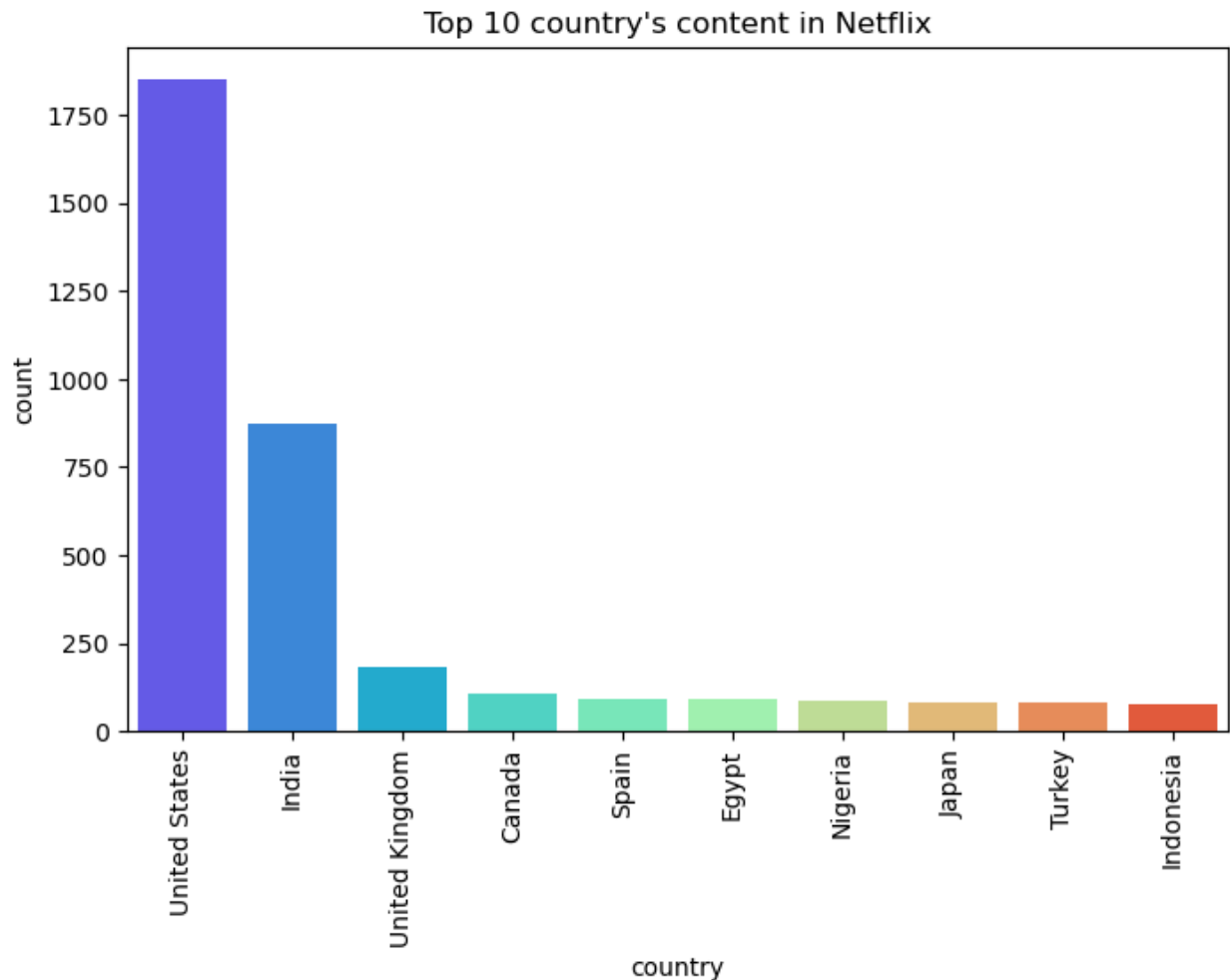
```
In [ ]: plt.figure(figsize=(8,5))
sns.barplot(top_10_country,palette='rainbow')
plt.title("Top 10 country's content in Netflix")
plt.xticks(rotation=90)
plt.show()
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/1082547634.p  
y:2: FutureWarning:
```

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_10_country,palette='rainbow')
```

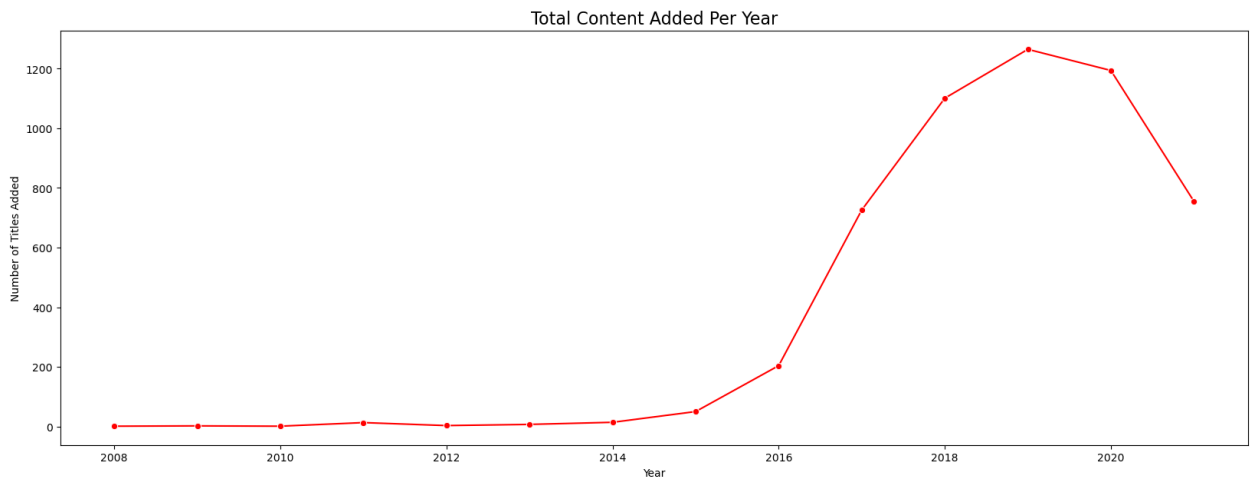


```
In [ ]: year_counts = data['year_added'].value_counts().sort_index()
```

```
In [ ]: plt.figure(figsize=(20, 7))
```

```
year_counts = data['year_added'].value_counts().sort_index()
```

```
sns.lineplot(x=year_counts.index, y=year_counts.values, marker='o',color='r')  
plt.title('Total Content Added Per Year', fontsize=16)  
plt.xlabel('Year')  
plt.ylabel('Number of Titles Added')  
plt.show()
```



User Demographics & Targeting

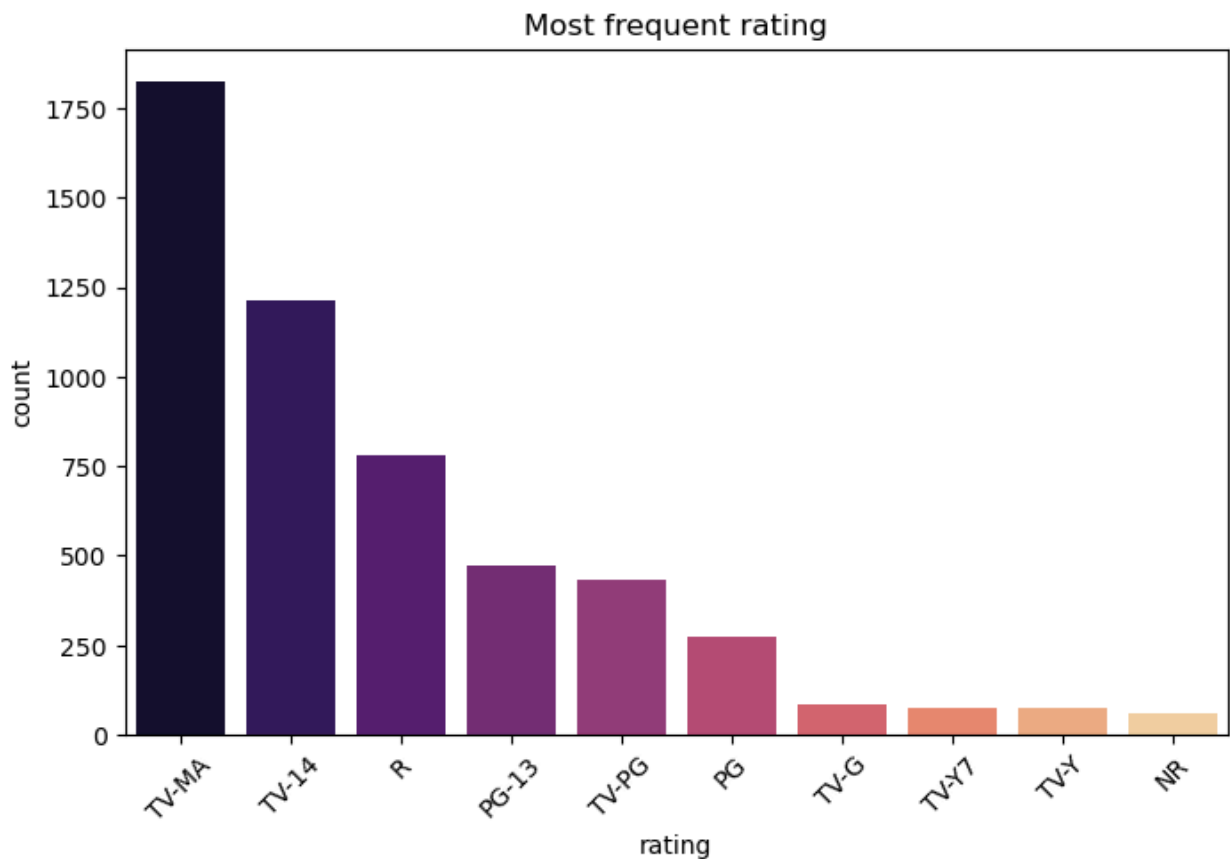
```
In [ ]: top_10_rating = data['rating'].value_counts().head(10)
```

```
In [ ]: plt.figure(figsize=(8,5))
sns.barplot(top_10_rating,palette='magma')
plt.title("Most frequent rating")
plt.xticks(rotation=45)
plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr000000gn/T/ipykernel_18960/3283740672.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_10_rating,palette='magma')
```



```
In [ ]: mature_content = data[data['rating'] == 'TV-MA']
```

```
In [ ]: mature_countries = mature_content['country'].str.split(', ').explode()
```

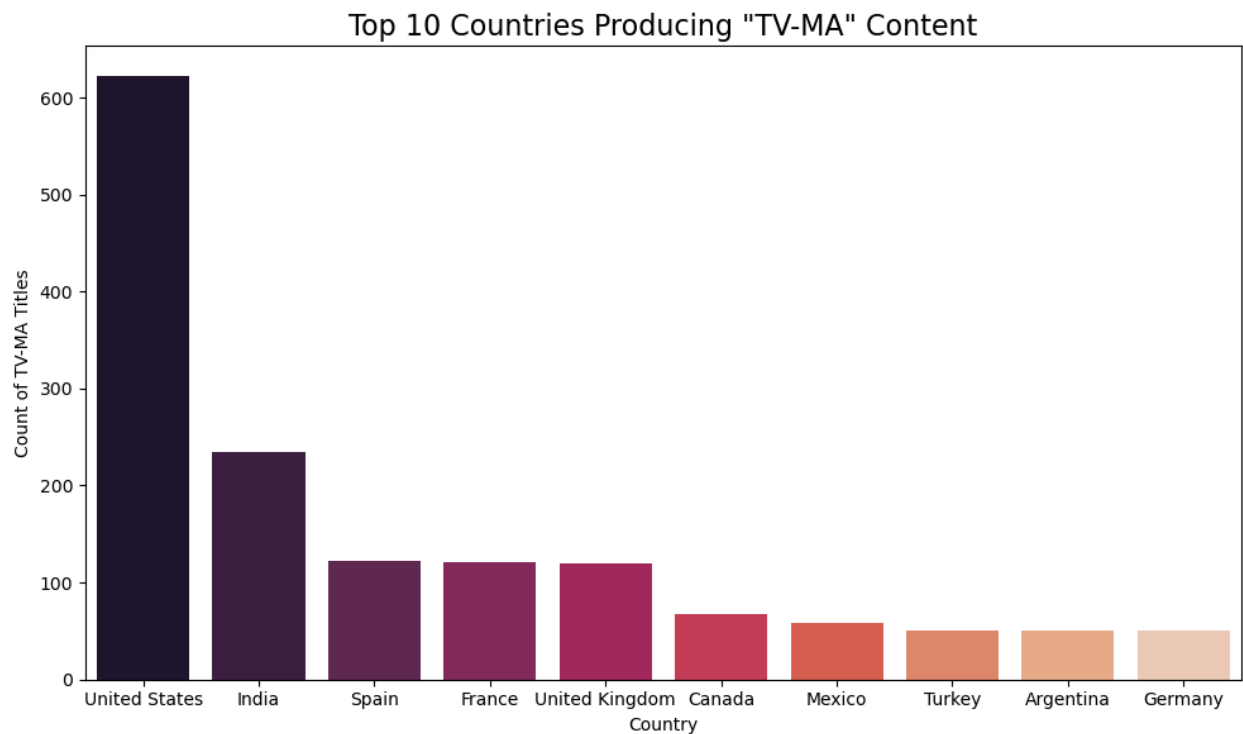
```
In [ ]: top_mature_countries = mature_countries.value_counts().head(10)
```

```
In [ ]: plt.figure(figsize=(10, 6))
sns.barplot(top_mature_countries, palette='rocket')
plt.title('Top 10 Countries Producing "TV-MA" Content', fontsize=16)
plt.ylabel('Count of TV-MA Titles')
plt.xlabel('Country')
plt.tight_layout()
plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/592894383.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_mature_countries, palette='rocket')
```



```
In [ ]: movies = data[data['type'] == 'Movie']  
show = data[data['type'] == 'TV Show']
```

```
In [ ]: movie_genres = movies['genres'].explode()  
top_10_movie_genres = movie_genres.value_counts().head(10)  
show_genres = show['genres'].explode()  
top_10_show_genres = show_genres.value_counts().head(10)
```

```
In [ ]: plt.figure(figsize=(10, 8))  
sns.barplot(top_10_movie_genres, palette='Blues_r')  
plt.title('Top 10 Movie Genres', fontsize=12)  
plt.xlabel('Count')  
plt.xticks(rotation=90)  
  
plt.figure(figsize=(10, 8))  
sns.barplot(top_10_show_genres, palette='Oranges_r')  
plt.title('Top 10 TV Show Genres', fontsize=12)  
plt.xlabel('Count')  
plt.xticks(rotation=90)  
  
plt.show()
```

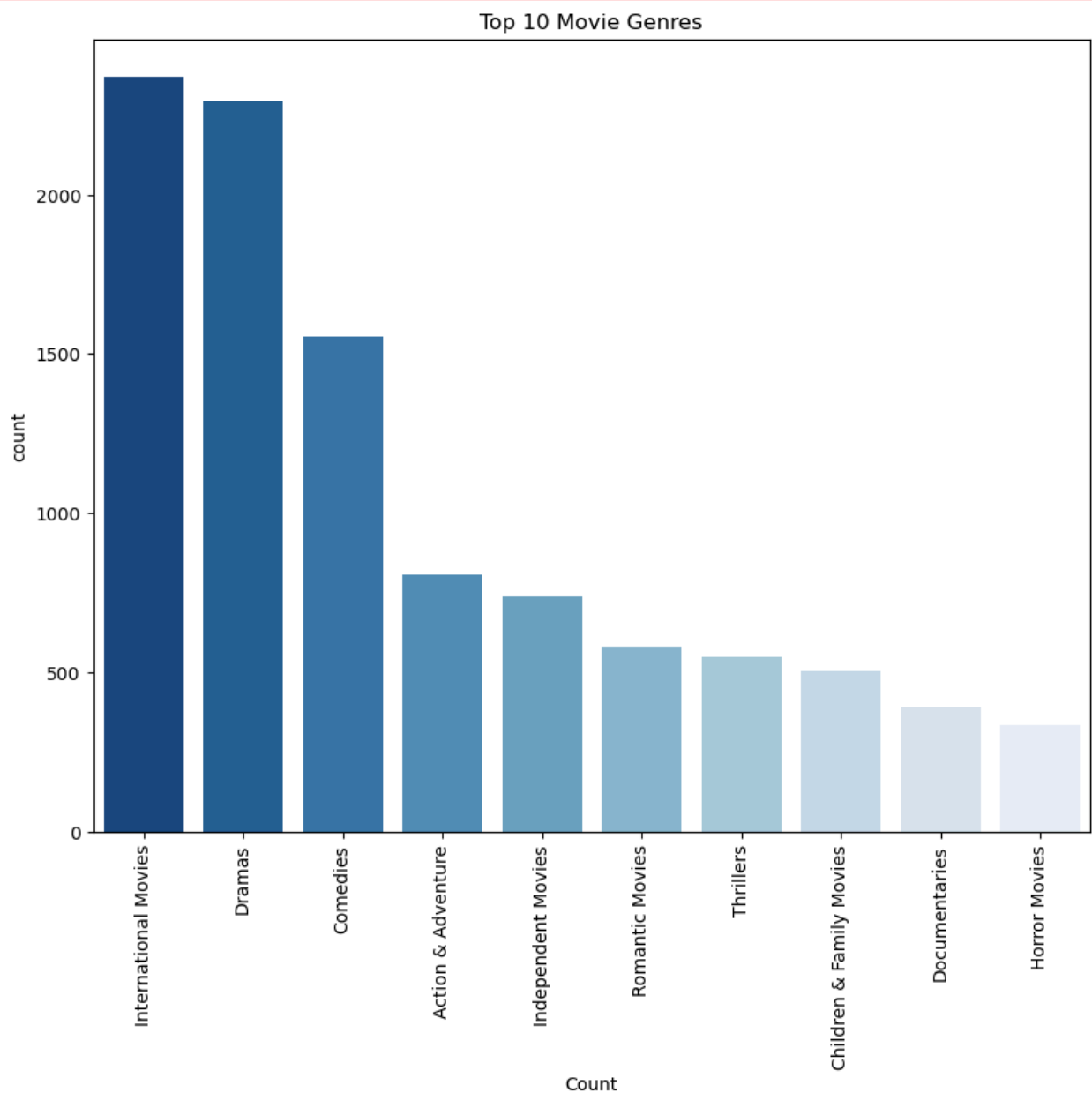
```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/4202424965.p  
y:2: FutureWarning:
```

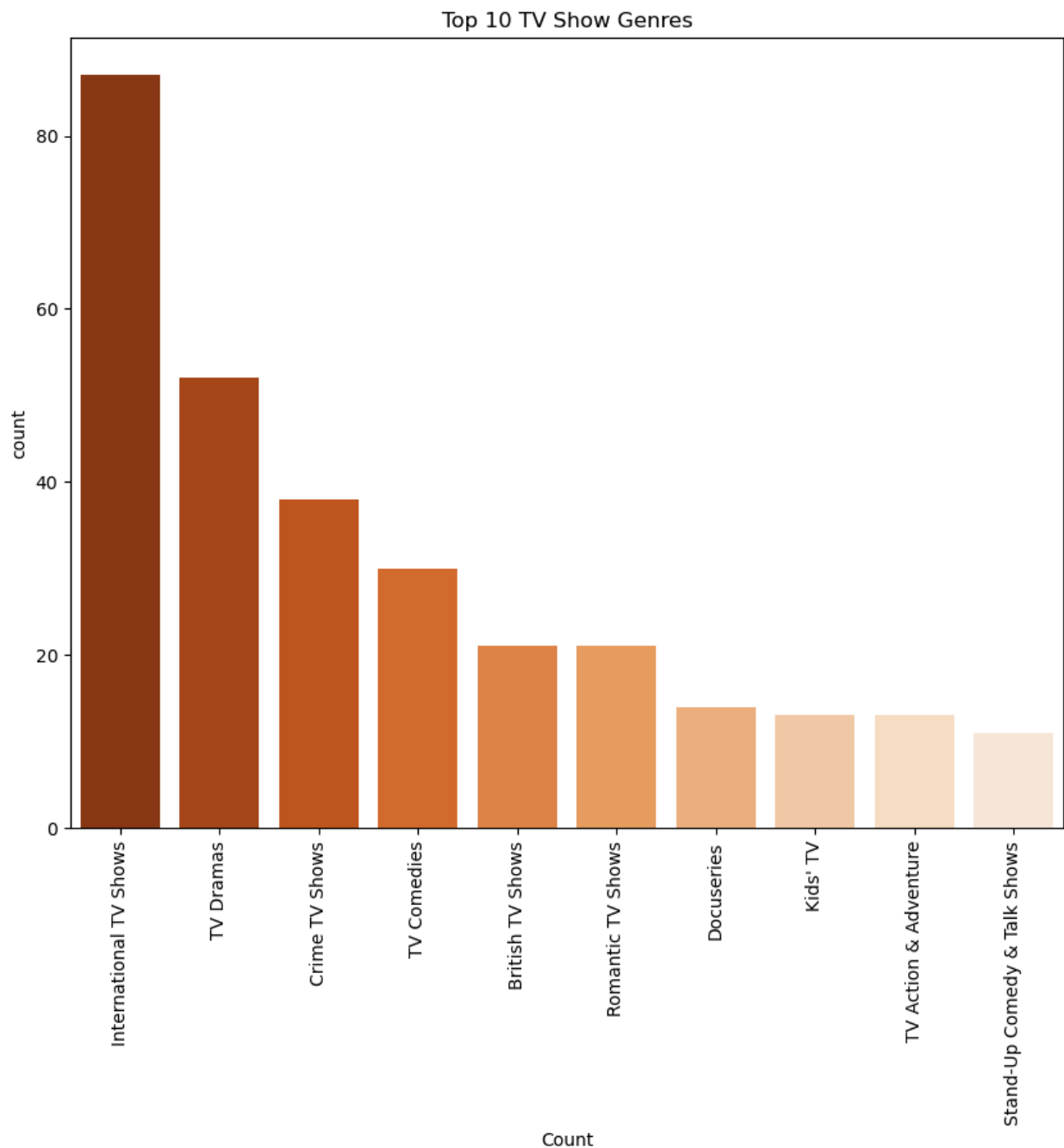
Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_10_movie_genres, palette='Blues_r')  
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/4202424965.p  
y:9: FutureWarning:
```

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_10_show_genres, palette='Oranges_r')
```





```
In [ ]: us_data = data[data['country'].str.contains('United States')]
        other_country_data = data[~data['country'].str.contains('United States')]
```

```
In [ ]: us_genres = us_data['genres'].explode().value_counts().head(10)
        other_genres = other_country_data['genres'].explode().value_counts().head(10)
```

```
In [ ]: plt.figure(figsize=(10, 8))
        sns.barplot(us_genres, palette='cividis')
        plt.title('Top 10 Genres in the U.S.')
        plt.xticks(rotation=90)

        plt.figure(figsize=(10, 8))
```

```
sns.barplot(other_genres, palette='magma')
plt.title('Top 10 Genres (Outside U.S.)')
plt.xticks(rotation=90)
plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/2199287004.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

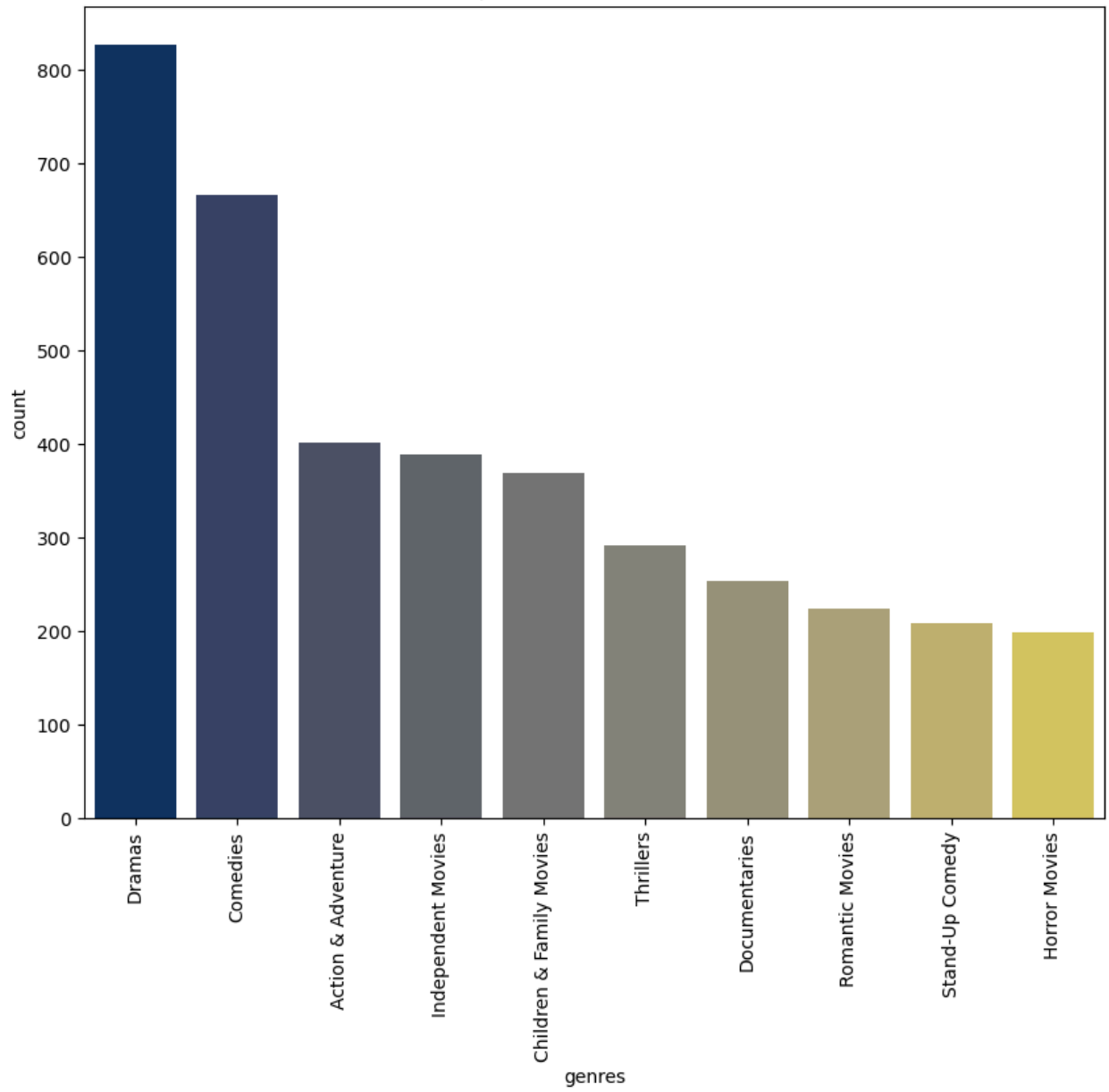
```
sns.barplot(us_genres, palette='cividis')
```

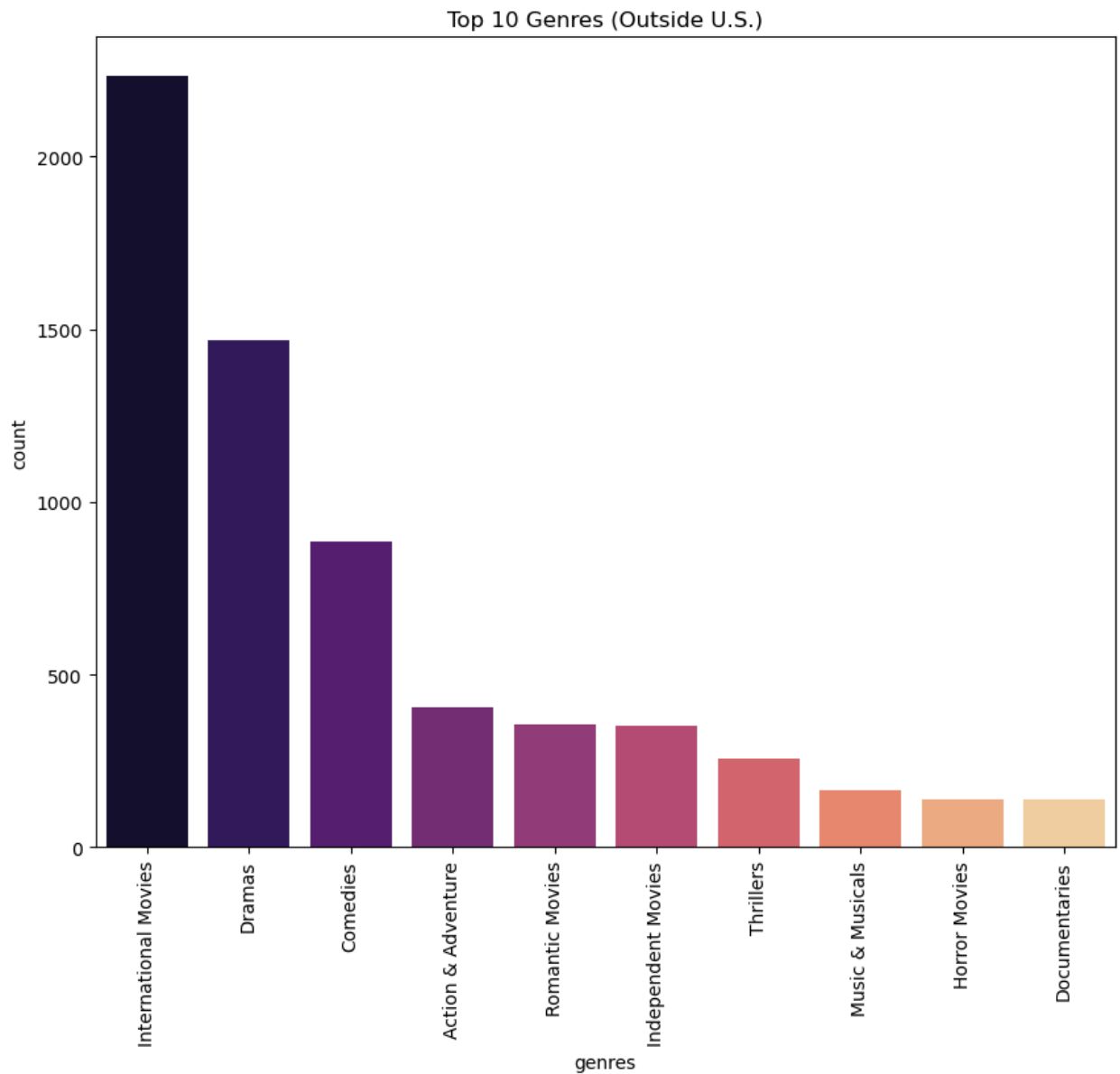
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/2199287004.py:7: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(other_genres, palette='magma')
```

Top 10 Genres in the U.S.





```
In [ ]: ly = data['year_added'].max()
last3year_data = data[data['year_added'] >= (ly-2)]
```

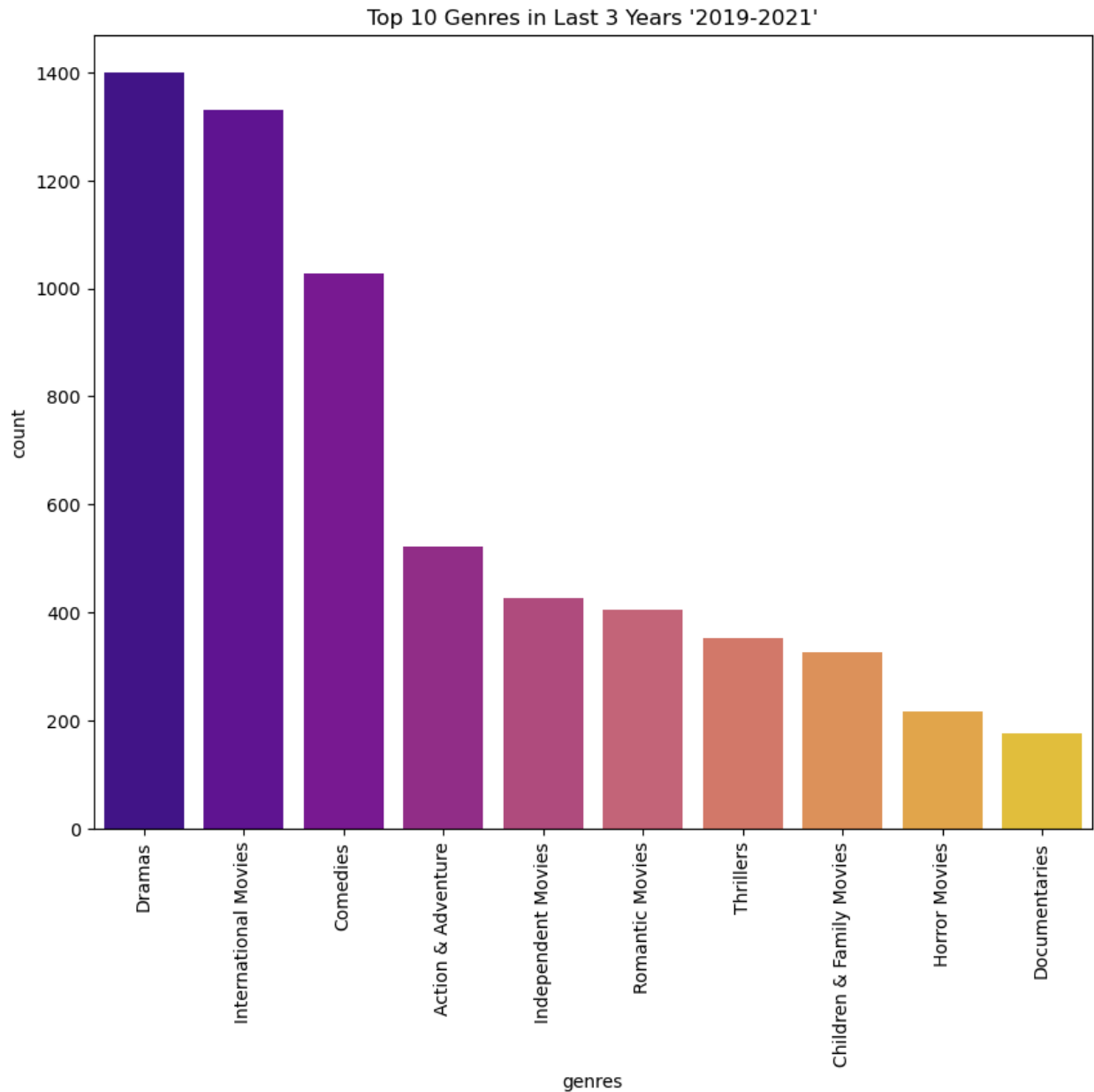
```
In [ ]: genres_last3years = last3year_data['genres'].explode().value_counts().head(10)
```

```
In [ ]: plt.figure(figsize=(10,8))
sns.barplot(genres_last3years, palette='plasma')
plt.title(f"Top 10 Genres in Last 3 Years '{int(ly-2)}-{ly}'")
plt.xticks(rotation=90)
plt.show()
```

```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/4269155871.p  
y:2: FutureWarning:
```

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(genres_last3years, palette='plasma')
```



Talent Acquisition & Partnerships

```
In [ ]: top_director = data['director'].value_counts().head(10)
```

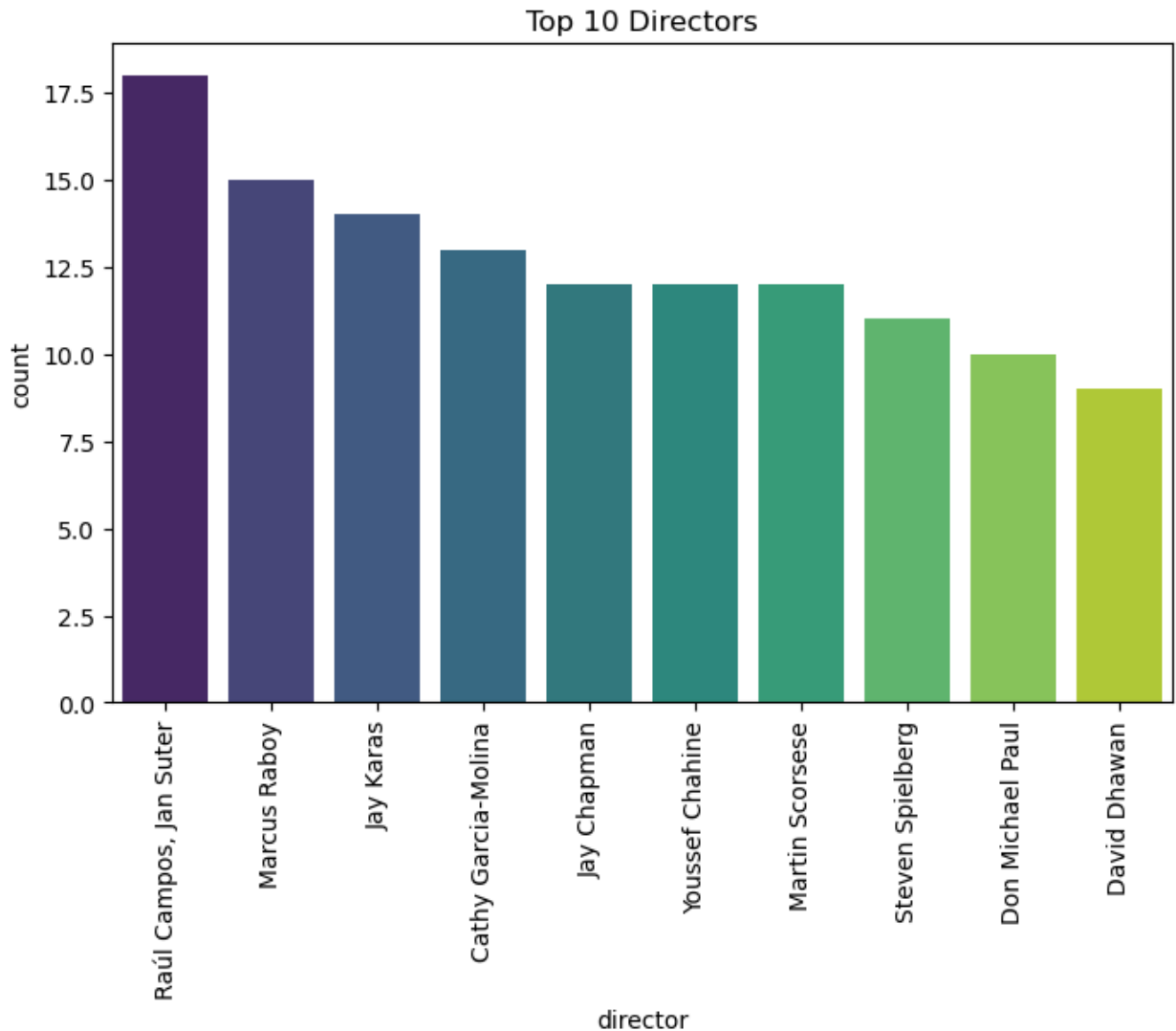
```
In [ ]: plt.figure(figsize=(8,5))  
sns.barplot(top_director,palette='viridis')
```

```
plt.title("Top 10 Directors")
plt.xticks(rotation=90)
plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/153428102.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_director,palette='viridis')
```



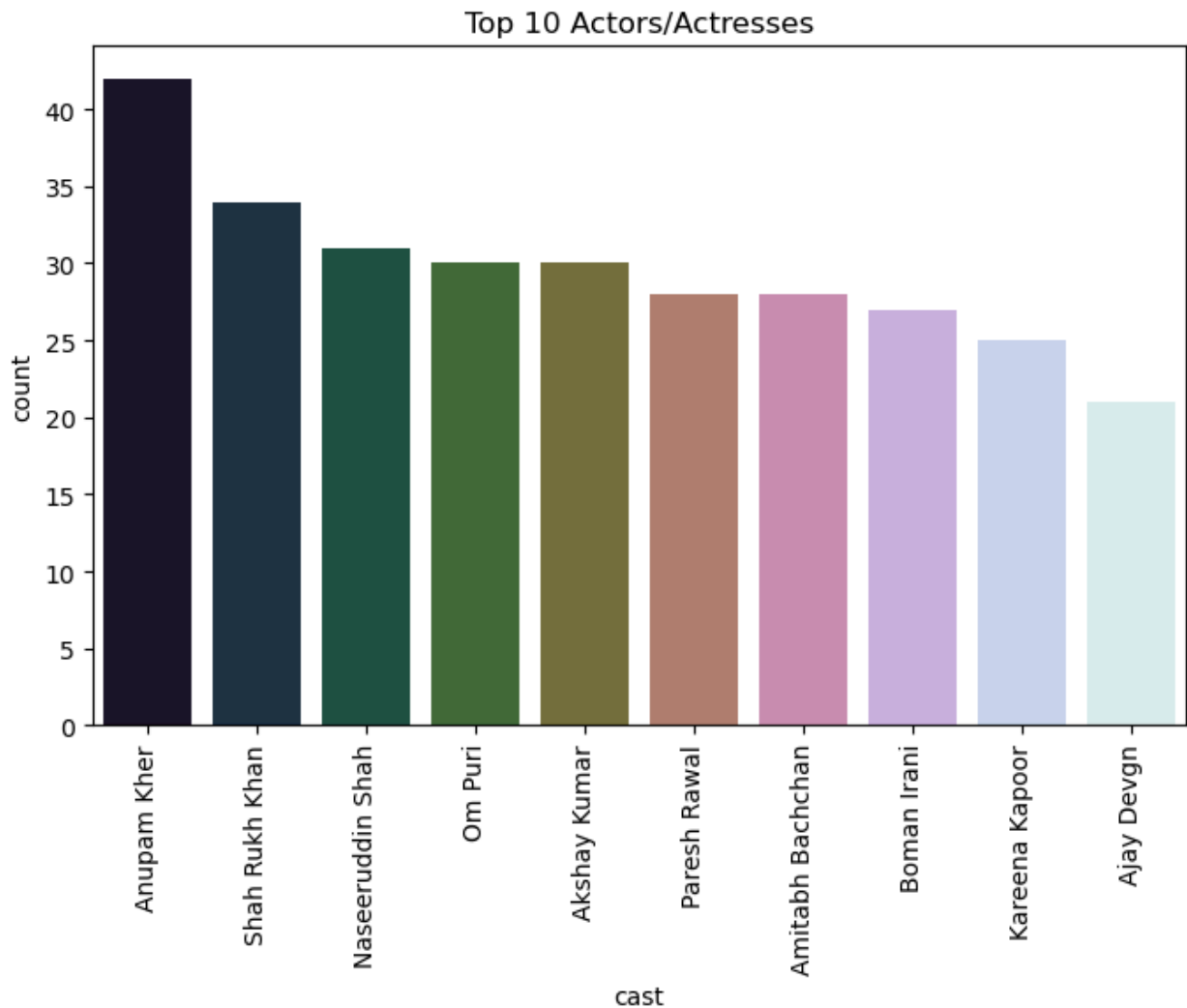
```
In [ ]: all_cast = data['cast'].str.split(', ').explode()
top_10_actor = all_cast.value_counts().head(10)
```

```
In [ ]: plt.figure(figsize=(8,5))
sns.barplot(top_10_actor,palette='cubehelix')
plt.title("Top 10 Actors/Actresses")
plt.xticks(rotation=90)
plt.show()
```

```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/2733191044.p  
y:2: FutureWarning:
```

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

```
sns.barplot(top_10_actor,palette='cubehelix')
```



```
In [ ]: direct_genre = data[['director', 'genres']]  
direct_genre = direct_genre.assign(genres=direct_genre['genres']).explode('genres')  
direct_genre = direct_genre.assign(director=direct_genre['director'].str.split(' ', expand=True))
```

```
In [ ]: direct_genre.groupby(['director', 'genres']).size().nlargest(10).reset_index()
```

Out[]:

	director	genres	count
0	Jan Suter	Stand-Up Comedy	21
1	Raúl Campos	Stand-Up Comedy	19
2	Jay Karas	Stand-Up Comedy	14
3	Marcus Raboy	Stand-Up Comedy	14
4	Cathy Garcia-Molina	International Movies	13
5	Jay Chapman	Stand-Up Comedy	12
6	Youssef Chahine	Dramas	12
7	Youssef Chahine	International Movies	10
8	Cathy Garcia-Molina	Dramas	9
9	David Dhawan	Comedies	9

```
In [ ]: pair_counts = direct_genre.groupby(['director', 'genres']).size().nlargest(10)
pair_counts_df = pair_counts.reset_index(name='count')
pair_counts_df['pair']=pair_counts_df['director'] + " - " + pair_counts_df['ge
```

```
In [ ]: pair_counts_df
```

Out[]:

	director	genres	count	pair
0	Jan Suter	Stand-Up Comedy	21	Jan Suter - Stand-Up Comedy
1	Raúl Campos	Stand-Up Comedy	19	Raúl Campos - Stand-Up Comedy
2	Jay Karas	Stand-Up Comedy	14	Jay Karas - Stand-Up Comedy
3	Marcus Raboy	Stand-Up Comedy	14	Marcus Raboy - Stand-Up Comedy
4	Cathy Garcia-Molina	International Movies	13	Cathy Garcia-Molina - International Movies
5	Jay Chapman	Stand-Up Comedy	12	Jay Chapman - Stand-Up Comedy
6	Youssef Chahine	Dramas	12	Youssef Chahine - Dramas
7	Youssef Chahine	International Movies	10	Youssef Chahine - International Movies
8	Cathy Garcia-Molina	Dramas	9	Cathy Garcia-Molina - Dramas
9	David Dhawan	Comedies	9	David Dhawan - Comedies

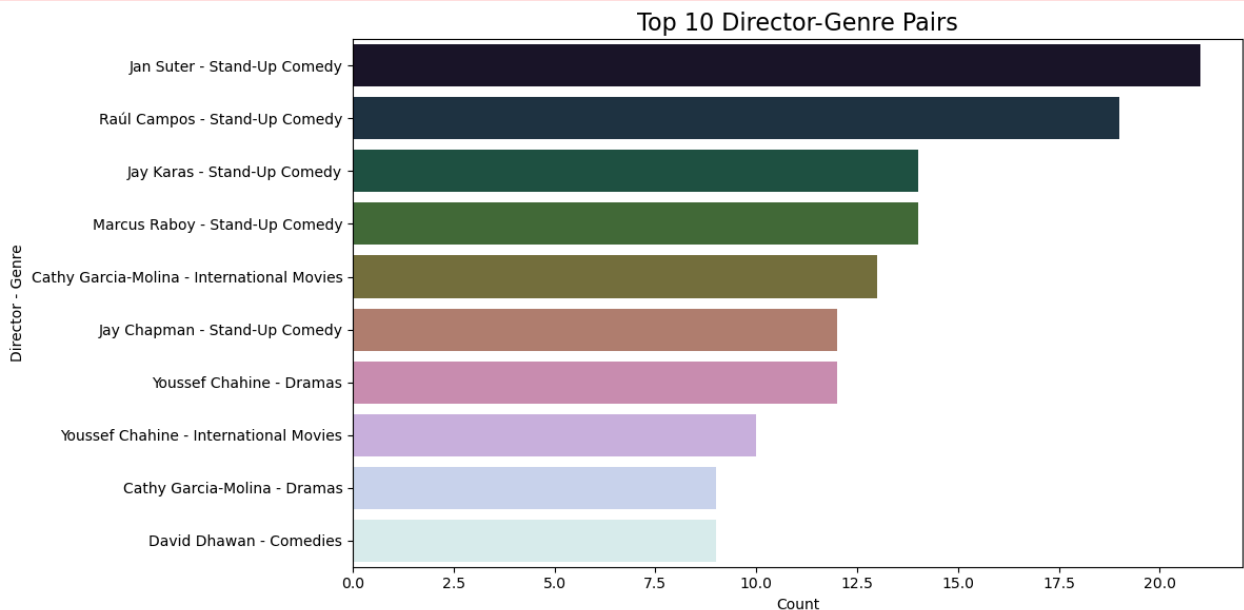
```
In [ ]: plt.figure(figsize=(12, 6))
```

```
sns.barplot(data=pair_counts_df, x='count', y='pair', palette='cubehelix')
plt.title('Top 10 Director-Genre Pairs', fontsize=16)
plt.xlabel('Count')
plt.ylabel('Director - Genre')
plt.tight_layout()
plt.show()
```

/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/2565140505.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=False` for the same effect.

```
sns.barplot(data=pair_counts_df, x='count', y='pair', palette='cubehelix')
```



Duration & Engagement

```
In [ ]: Movie_durations = data[data['type'] == 'Movie']['duration']
Avg_time = Movie_durations.str.split(" ").str[0].astype(int).mean()
print(f"The average duration of movies on Netflix is {Avg_time:.2f} minutes.")
```

The average duration of movies on Netflix is 102.70 minutes.

```
In [ ]: Show_durations = data[data['type'] == 'TV Show']['duration']
Avg_time = Show_durations.str.split(" ").str[0].astype(int).mean()
print(f"The average duration of TV shows on Netflix is {Avg_time:.1f} seasons.")
```

The average duration of TV shows on Netflix is 1.9 seasons.

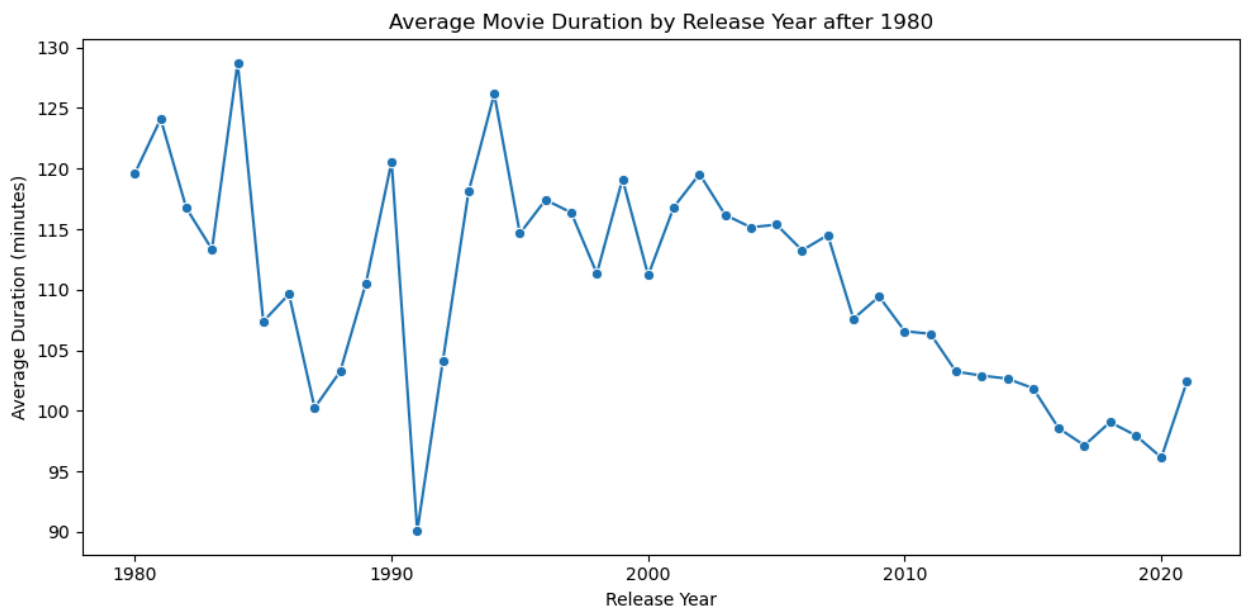
```
In [ ]: movies = data[(data['type'] == 'Movie') & (data['release_year'] >= 1980)]
movies['duration'] = movies['duration'].str.split(" ").str[0].astype(int)
avg_duration_by_year = movies.groupby('release_year')['duration'].mean()
```

```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/3266459499.p
y:2: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead
```

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy

```
movies['duration'] = movies['duration'].str.split(" ").str[0].astype(int)
```

```
In [ ]: plt.figure(figsize=(10, 5))
sns.lineplot(avg_duration_by_year, marker='o')
plt.title('Average Movie Duration by Release Year after 1980')
plt.xlabel('Release Year')
plt.ylabel('Average Duration (minutes)')
plt.tight_layout()
plt.show()
```

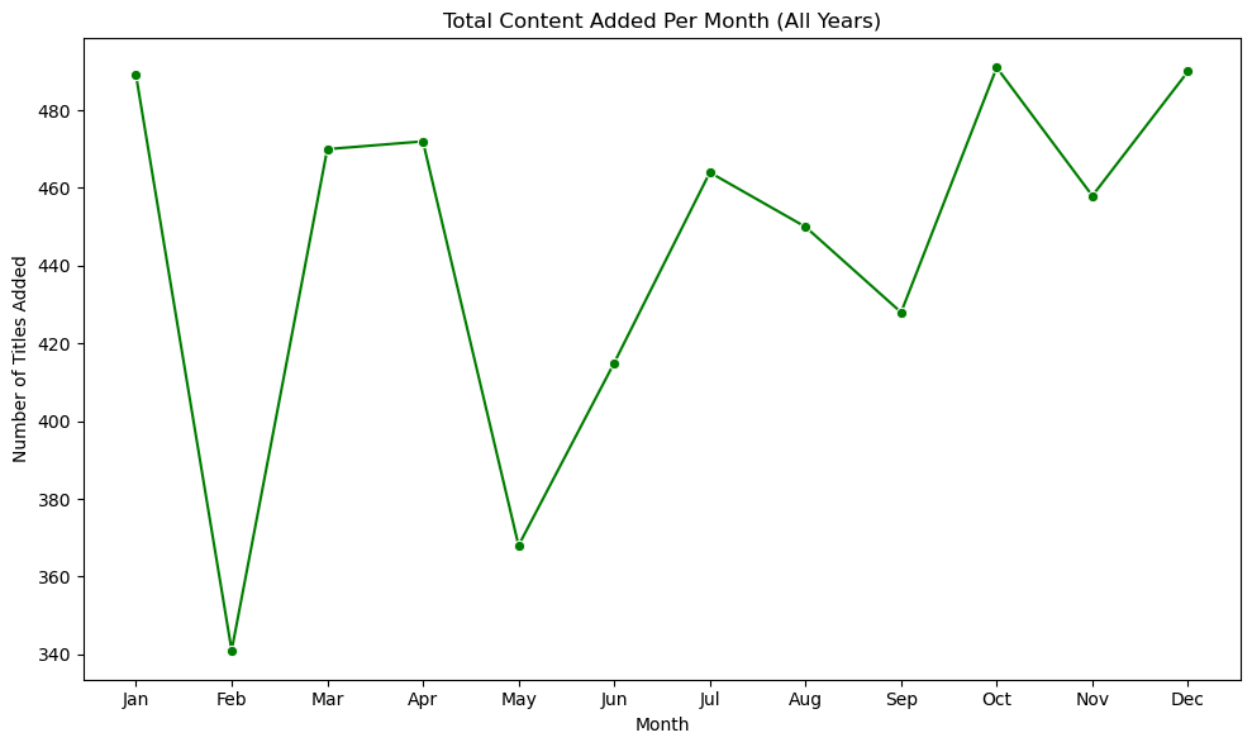


Content Launch Strategy

```
In [ ]: month_counts = data['month_added'].value_counts().sort_index()
month_labels = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep',

plt.figure(figsize=(10, 6))
sns.lineplot(x=month_counts.index, y=month_counts.values, marker='o', color='g')
plt.title('Total Content Added Per Month (All Years)')
plt.xlabel('Month')
plt.ylabel('Number of Titles Added')
plt.xticks(ticks=range(1, 13), labels=month_labels)

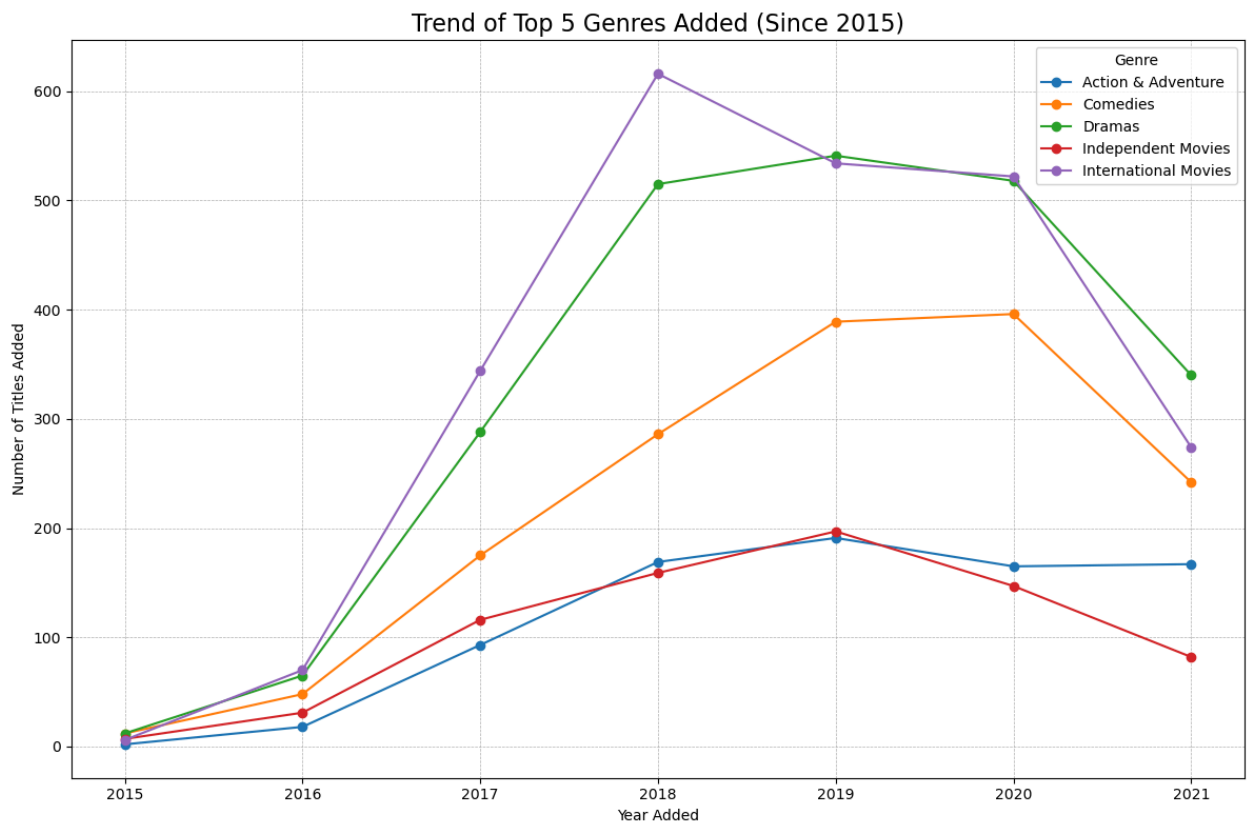
plt.tight_layout()
plt.show()
```



```
In [ ]: genre_year_df = data.assign(genre=data['listed_in'].str.split(', ').explode('
top_5_genres = genre_year_df['genre'].value_counts().head(5).index.tolist()
genre_year_top5 = genre_year_df[genre_year_df['genre'].isin(top_5_genres)]
genre_year_top5 = genre_year_top5[genre_year_top5['year_added'] >= 2015]
genre_trends = genre_year_top5.groupby(['year_added', 'genre']).size().unstack
```

```
In [ ]: plt.figure(figsize=(12, 8))
genre_trends.plot(kind='line', marker='o', figsize=(12, 8))
plt.title('Trend of Top 5 Genres Added (Since 2015)', fontsize=16)
plt.xlabel('Year Added')
plt.ylabel('Number of Titles Added')
plt.legend(title='Genre')
plt.grid(True, which='both', linestyle='--', linewidth=0.5)
plt.tight_layout()
plt.show()
```

<Figure size 1200x800 with 0 Axes>



```
In [ ]: data['genres'].value_counts().head(10)
```

```
Out[ ]: genres
[Dramas, International Movies]      336
[Stand-Up Comedy]                  286
[Comedies, Dramas, International Movies]  257
[Dramas, Independent Movies, International Movies]  243
[Children & Family Movies, Comedies]  179
[Dramas, International Movies, Romantic Movies]  160
[Documentaries]                    156
[Comedies, International Movies]    152
[Comedies, International Movies, Romantic Movies]  143
[Dramas]                           134
Name: count, dtype: int64
```

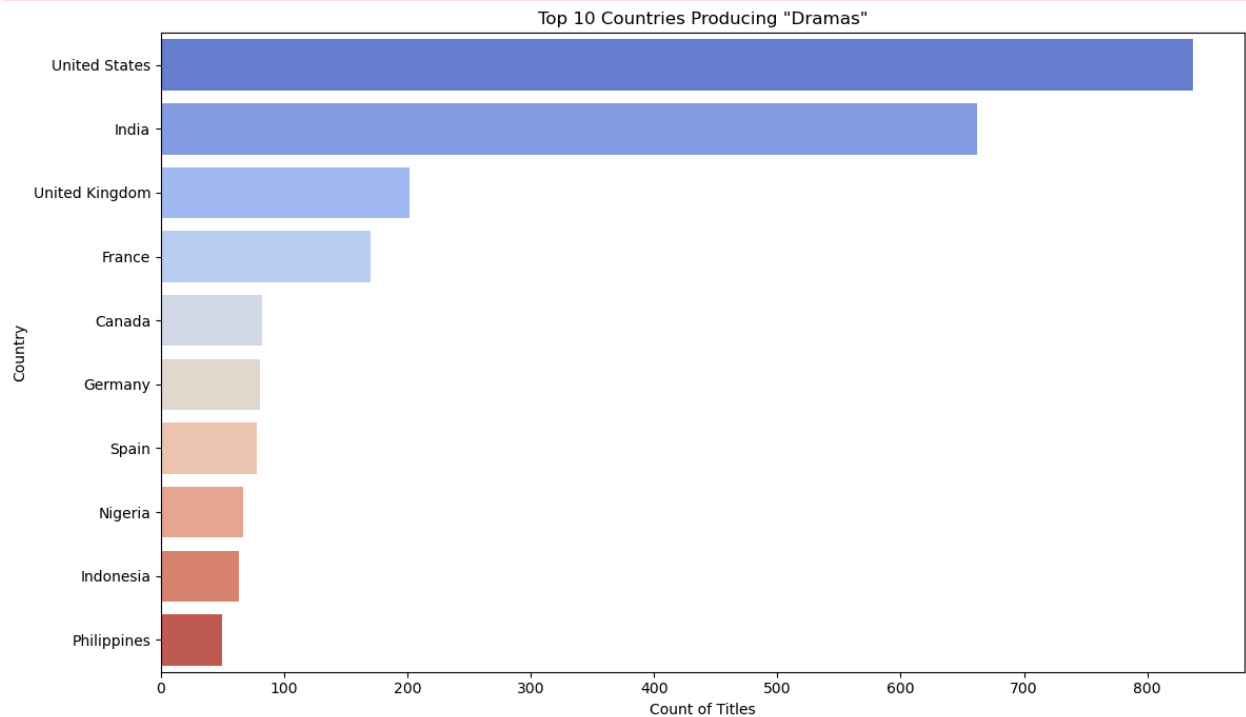
```
In [ ]: genre_to_check = ['Dramas', 'Stand-Up Comedy', 'Documentaries', 'Comedies', 'Action & Adventure']
for i in genre_to_check:
    df = data[data['listed_in'].str.contains(i)]
    countries = df['country'].str.split(', ').explode()
    top_countries = countries.value_counts().head(10)

    plt.figure(figsize=(12, 7))
    sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
    plt.title(f'Top 10 Countries Producing "{i}"')
    plt.xlabel('Count of Titles')
    plt.ylabel('Country')
    plt.tight_layout()
    plt.show()
```

```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

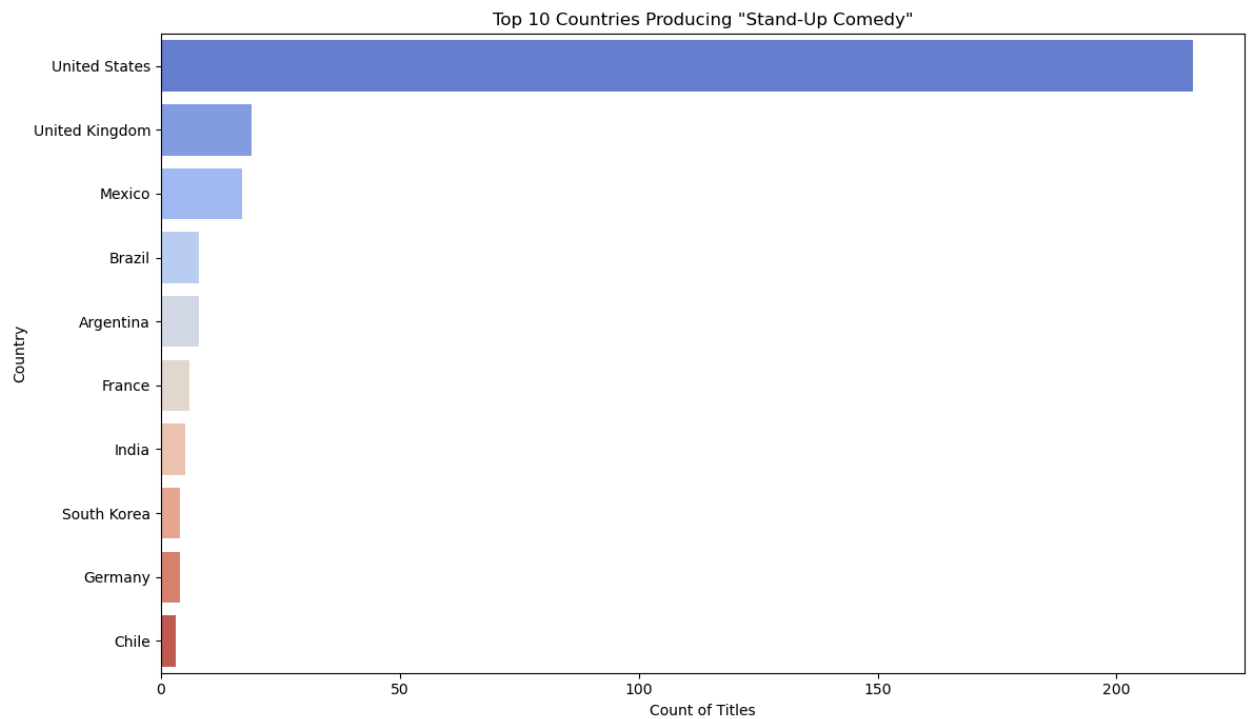
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

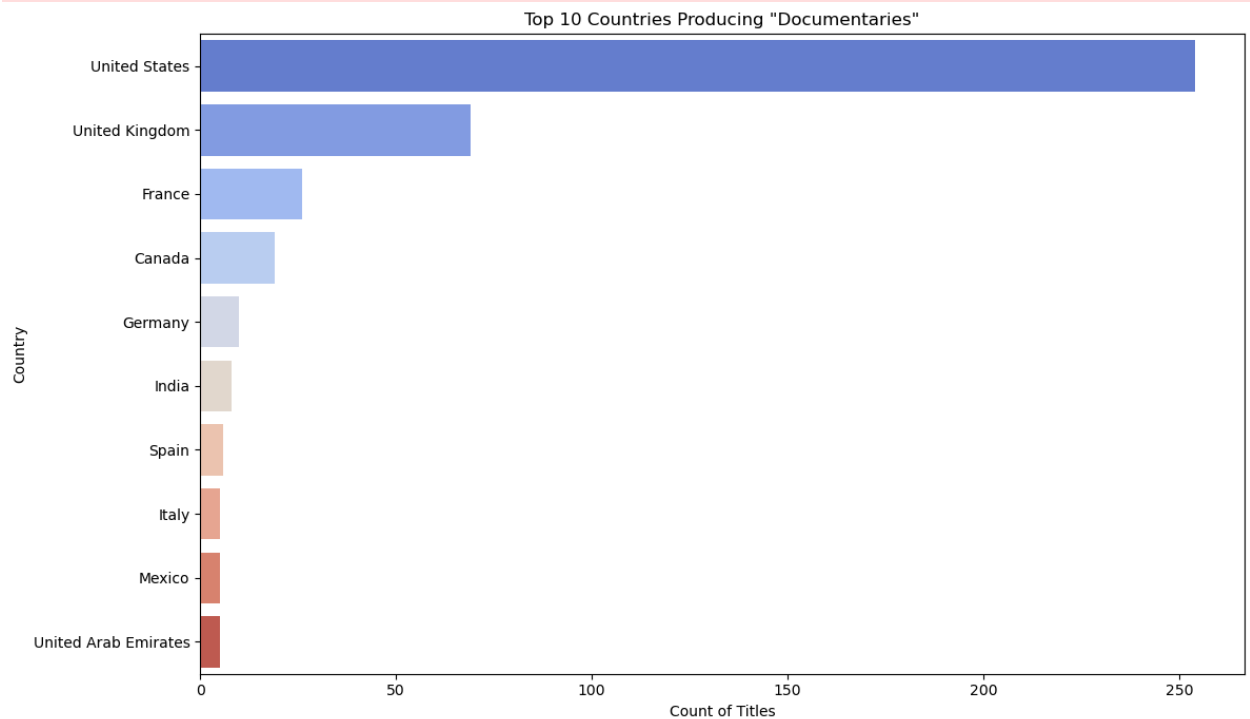
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

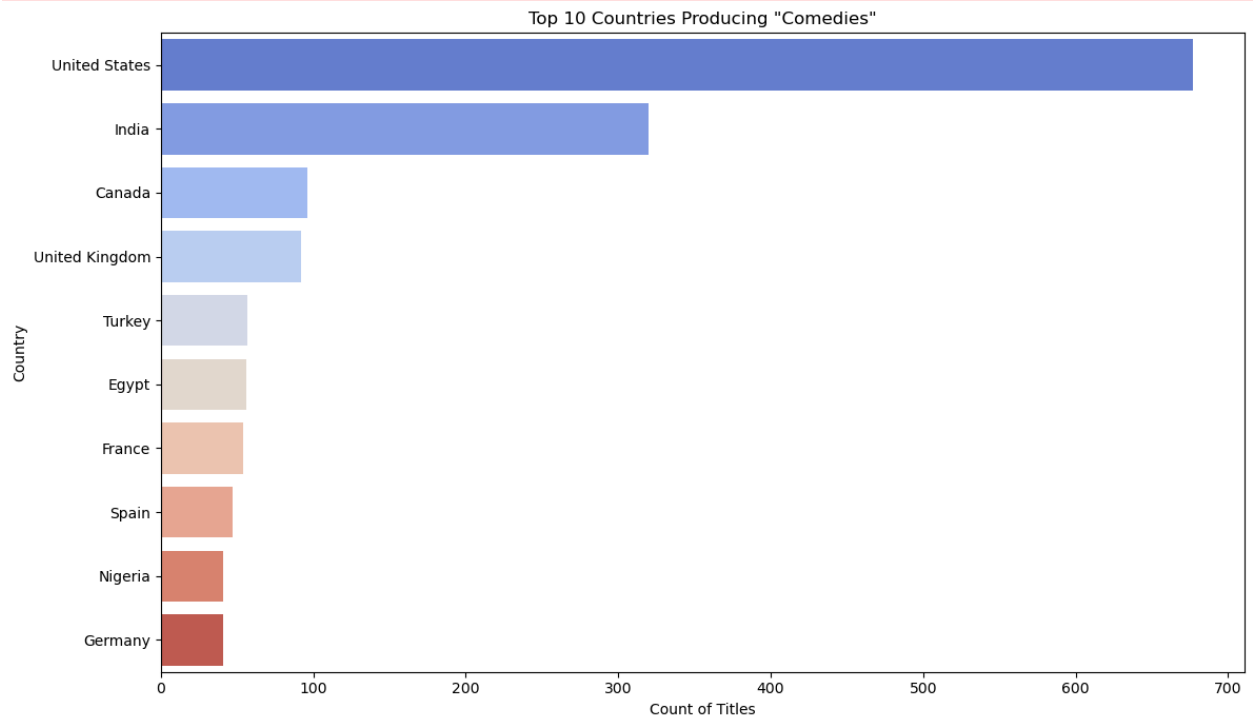
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

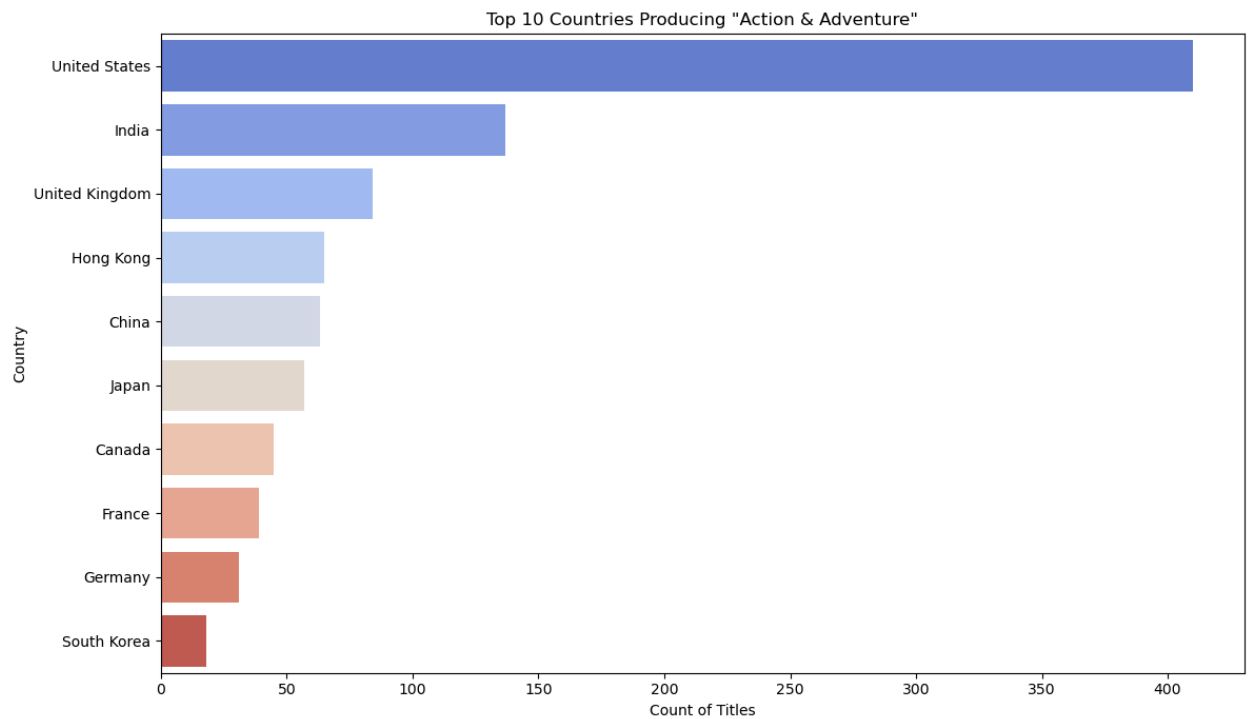
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

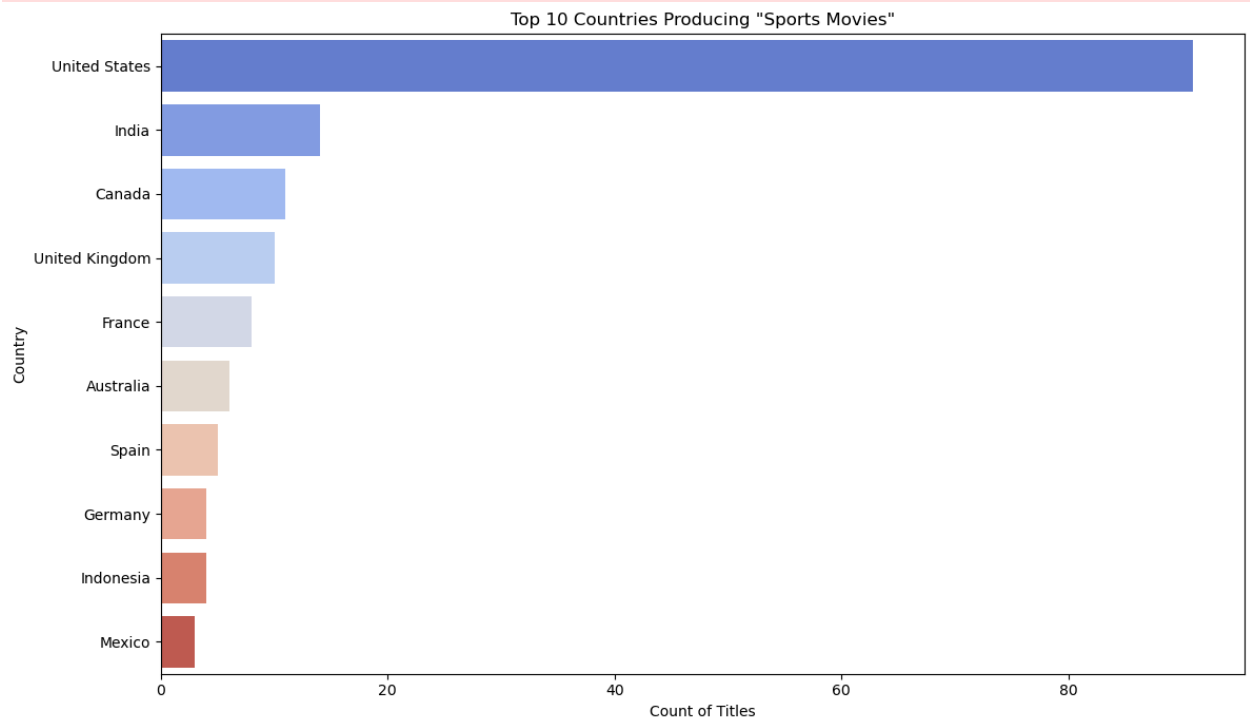
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

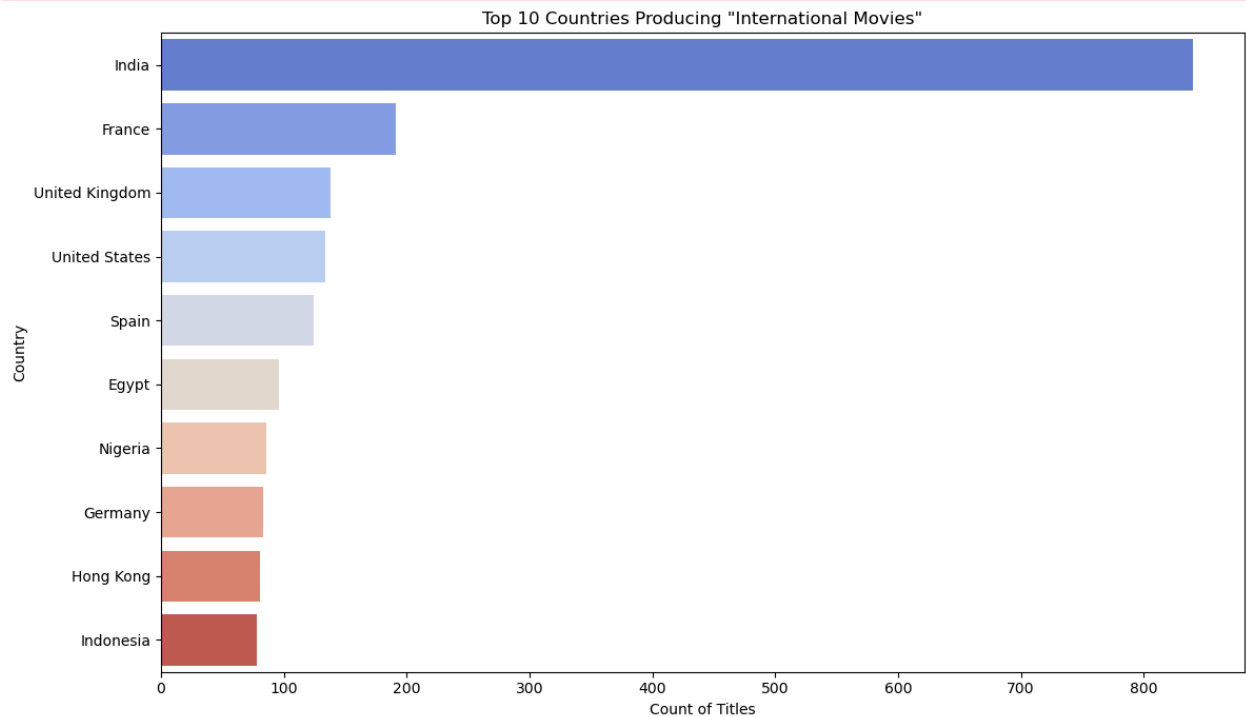
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

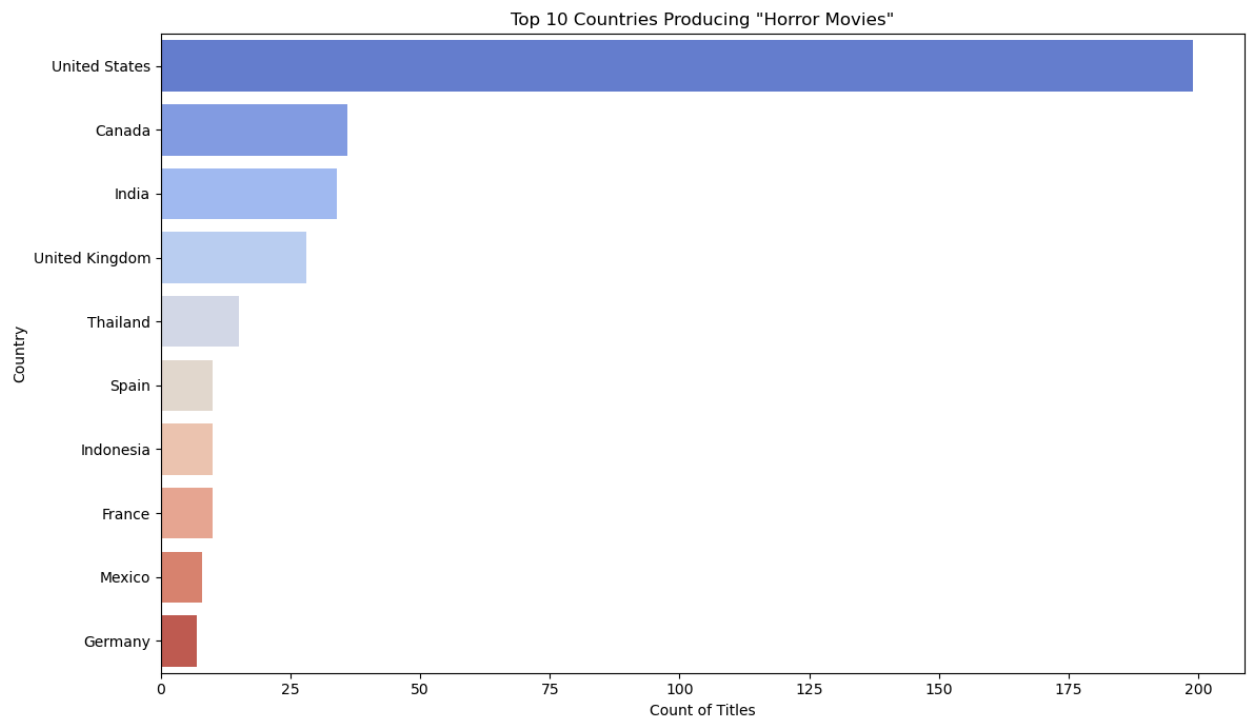
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

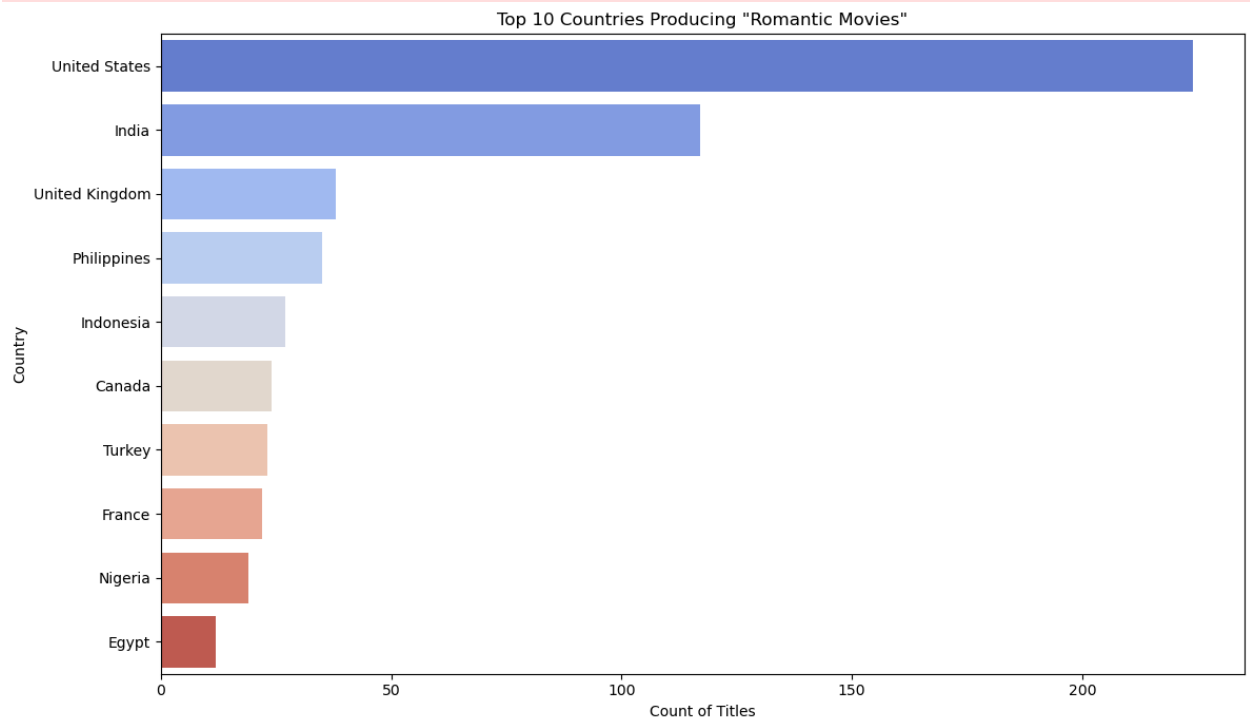
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.py:8: 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=False` for the same effect.

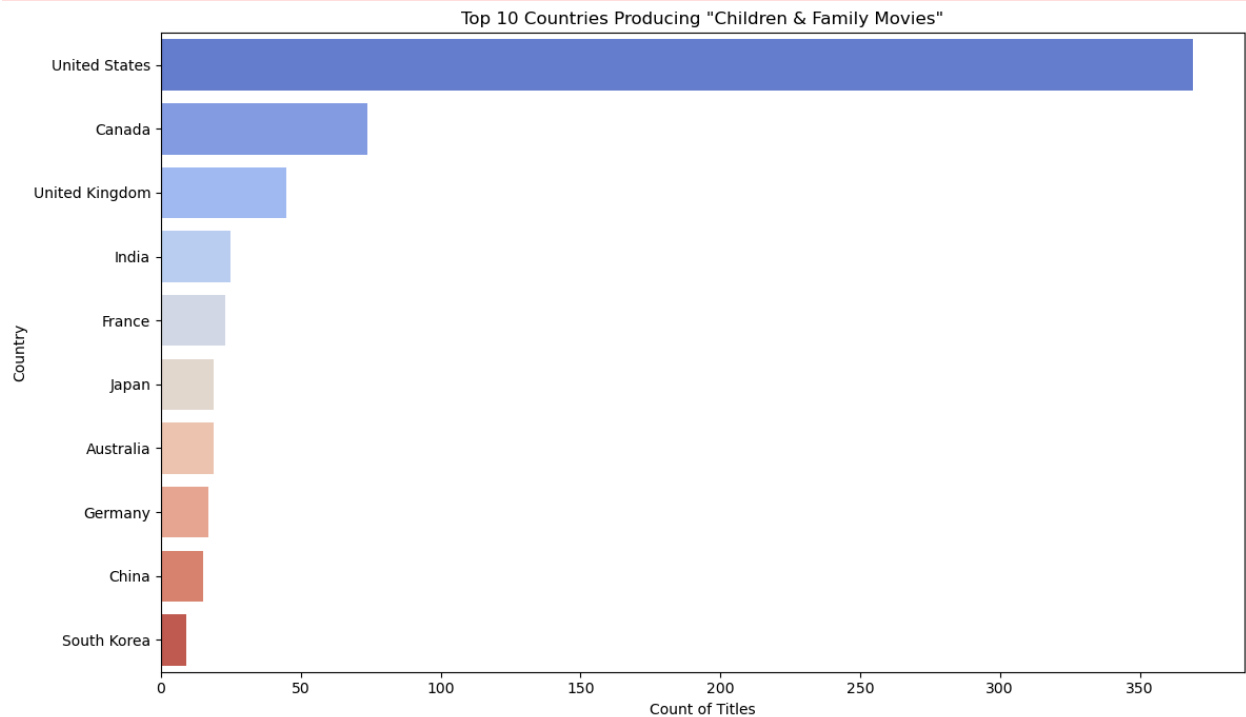
```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwarm')
```



```
/var/folders/v1/vk_cs_rd5mg9d6dw2hntnlr00000gn/T/ipykernel_18960/100379886.p  
y:8: 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=False` for the same effect.

```
sns.barplot(x=top_countries.values, y=top_countries.index, palette='coolwar  
m')
```



Word Cloud

```
In [ ]: movie_titles = data[data['type'] == 'Movie']['title']
```

```
In [ ]: wordcloud = WordCloud(width=1400, height=900).generate(" ".join(movie_titles))
```

```
In [ ]: plt.figure(figsize=(16,8))  
plt.imshow(wordcloud, interpolation='bilinear')  
plt.show()
```