```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
```

```
data = pd.read_csv('/content/drive/MyDrive/unified projects/netlfix/netflix.csv')
```

```
data.head(10)
```

	show_id	type	title	director	country	date_added	release_year	rating	duration	listed_in
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	United States	25-09-2021	2020	PG-13	90 min	Documentaries
1	s3	TV Show	Ganglands	Julien Leclercq	France	24-09-2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...
2	s6	TV Show	Midnight Mass	Mike Flanagan	United States	24-09-2021	2021	TV-MA	1 Season	TV Dramas, TV Horror, TV Mysteries
3	s14	Movie	Confessions of an Invisible Girl	Bruno Garotti	Brazil	22-09-2021	2021	TV-PG	91 min	Children & Family Movies, Comedies
4	s8	Movie	Sankofa	Haile Gerima	United States	24-09-2021	1993	TV-MA	125 min	Dramas, Independent Movies, International Movies
5	s9	TV	The Great British	Andy	United	24-09-2021	2021	TV-14	9	British TV Shows,

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```
data.shape
```

```
(8790, 10)
```

```
data.info()        #checking null values
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8790 entries, 0 to 8789
Data columns (total 10 columns):
 #   Column        Non-Null Count  Dtype 
---  ------        --------------  ----- 
 0   show_id       8790 non-null   object
 1   type          8790 non-null   object
 2   title         8790 non-null   object
 3   director      8790 non-null   object
 4   country       8790 non-null   object
 5   date_added    8790 non-null   object
 6   release_year  8790 non-null   int64 
 7   rating        8790 non-null   object
 8   duration      8790 non-null   object
 9   listed_in     8790 non-null   object
dtypes: int64(1), object(9)
memory usage: 686.8+ KB
```

```
# Convert 'date_added' to a standard datetime format
data['date_added'] = pd.to_datetime(data['date_added'], errors='coerce')

# Preview the standardized date column
print(data[['date_added']].head())
```

```
  date_added
0 2021-09-25
1 2021-09-24
2 2021-09-24
3 2021-09-22
4 2021-09-24
<ipython-input-43-0211676aedec>:2: UserWarning: Parsing dates in %d-%m-%Y format when dayfirst=False (the default) was specified. Pa
  data['date_added'] = pd.to_datetime(data['date_added'], errors='coerce')
```

```
# Check for rows with invalid dates
invalid_dates = data[data['date_added'].isna()]
print("Invalid Dates:", invalid_dates)
```

```
Invalid Dates: Empty DataFrame
Columns: [show_id, type, title, director, country, date_added, release_year, rating, duration, listed_in]
Index: []
```

```
data = data.drop_duplicates()  #droping duplicates
```

```
data = data.drop_duplicates()  #droping duplicates
```

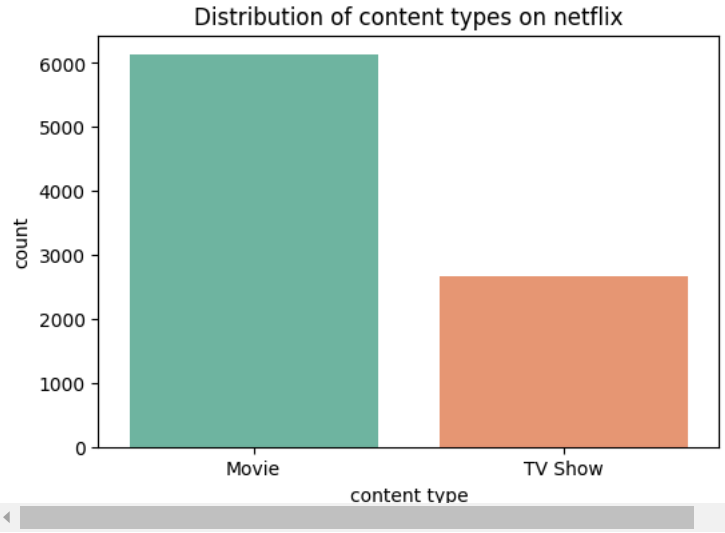
```
type_counts = data['type'].value_counts()
```

```
type_counts
```

type	count
Movie	6126
TV Show	2664

```
plt.figure(figsize=(6,4))
sns.barplot(x=type_counts.index, y=type_counts.values, palette='Set2')        #palette is for colors
plt.title('Distribution of content types on netflix')
plt.xlabel('content type')
plt.ylabel('count')
plt.show()
```

```
<ipython-input-48-ad2a103cb7a7>: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 `le

  sns.barplot(x=type_counts.index, y=type_counts.values, palette='Set2')        #palette is for colors
```




```
data['country'].value_counts()
```

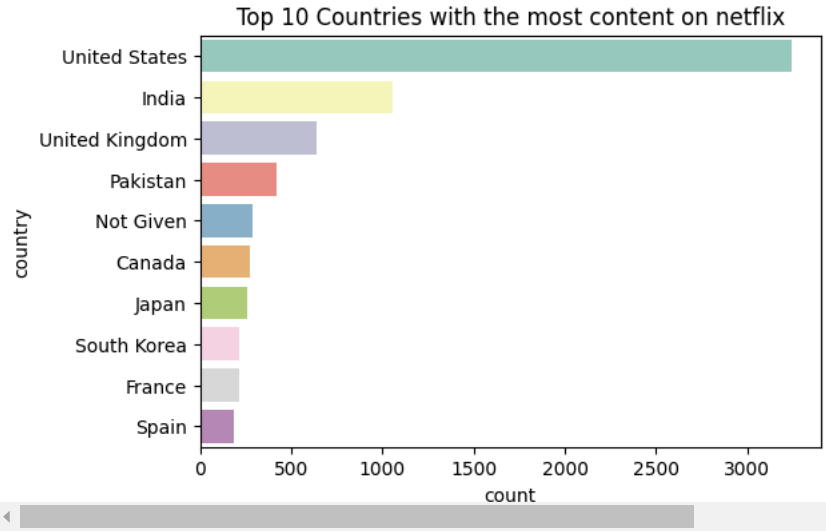
country	count
United States	3240
India	1057
United Kingdom	638
Pakistan	421
Not Given	287
...	...
Iran	1
West Germany	1
Greece	1
Zimbabwe	1
Soviet Union	1

86 rows × 1 columns

```
top_10_countries = data['country'].value_counts().head(10)
```

```
plt.figure(figsize=(6,4))
sns.barplot(x=top_10_countries.values,y=top_10_countries.index, palette='Set3')
plt.title('Top 10 Countries with the most content on netflix')
plt.xlabel('count')
plt.ylabel('country')
plt.show()
```

```
<ipython-input-51-6d7d42819e7e>: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 `le

  sns.barplot(x=top_10_countries.values,y=top_10_countries.index, palette='Set3')
```




```
top_10_ratings = data['rating'].value_counts()
```

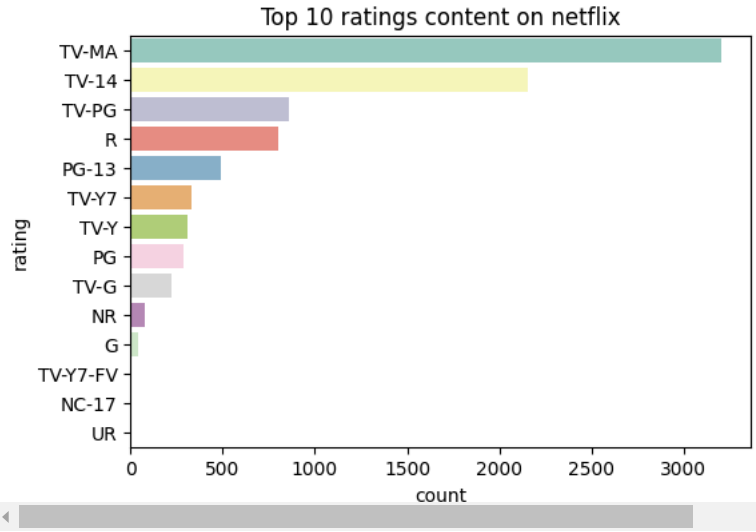
```
top_10_ratings
```

rating	count
TV-MA	3205
TV-14	2157
TV-PG	861
R	799
PG-13	490
TV-Y7	333
TV-Y	306
PG	287
TV-G	220
NR	79
G	41
TV-Y7-FV	6
NC-17	3
UR	3

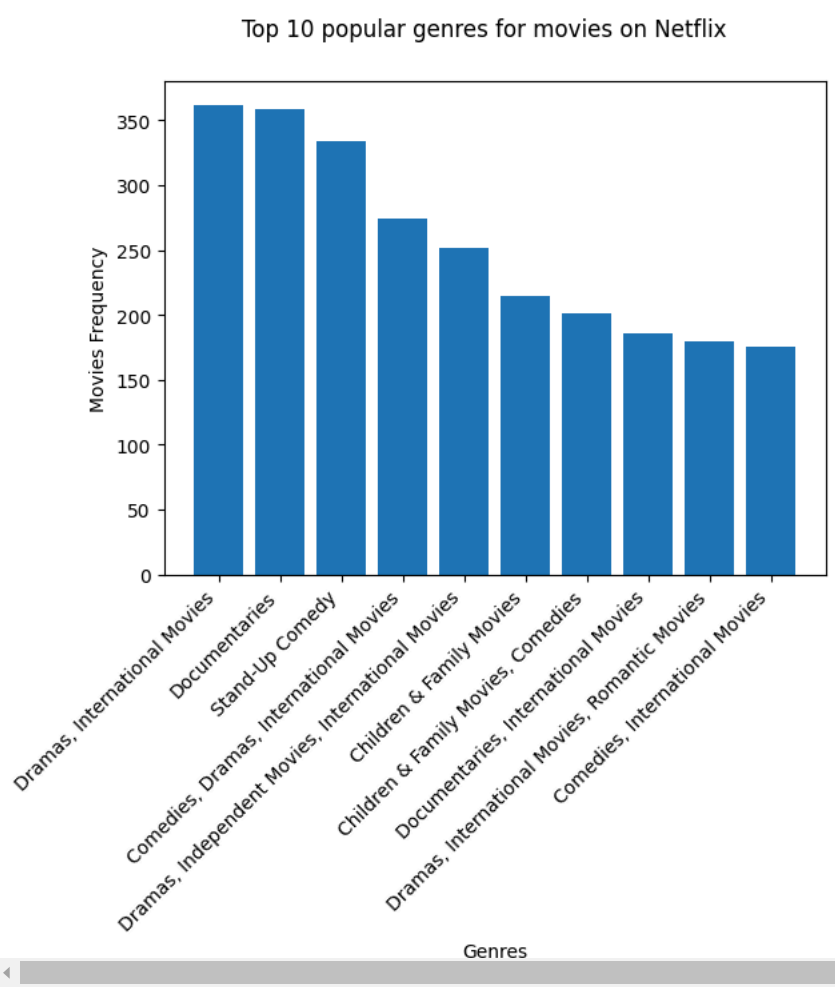
dtype: int64

```
plt.figure(figsize=(6,4))
sns.barplot(x=top_10_ratings.values,y=top_10_ratings.index, palette='Set3')
plt.title('Top 10 ratings content on netflix')
plt.xlabel('count')
plt.ylabel('rating')
plt.show()
```

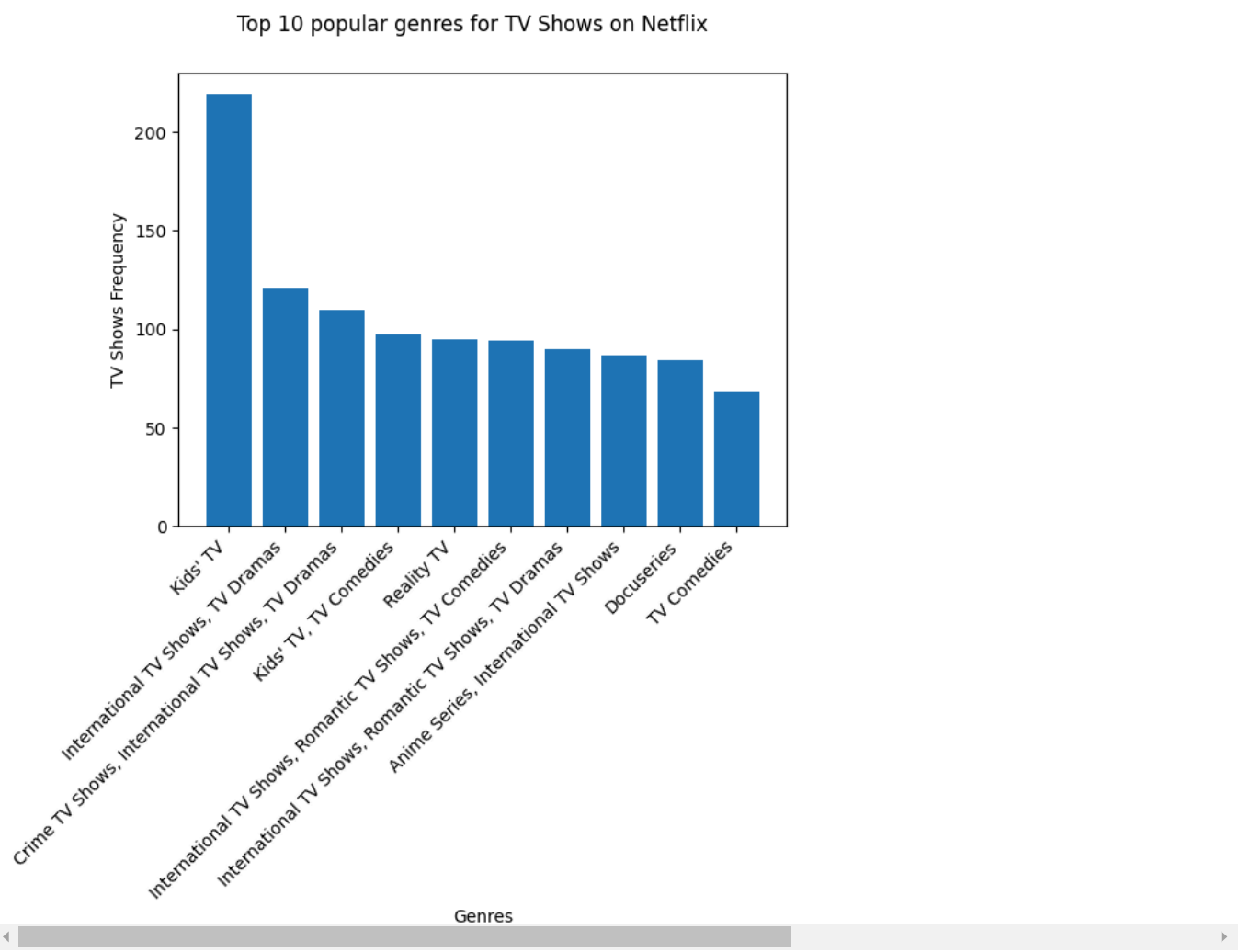
```
<ipython-input-54-a630e78014ad>:2: FutureWarning:

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

  sns.barplot(x=top_10_ratings.values,y=top_10_ratings.index, palette='Set3')
```



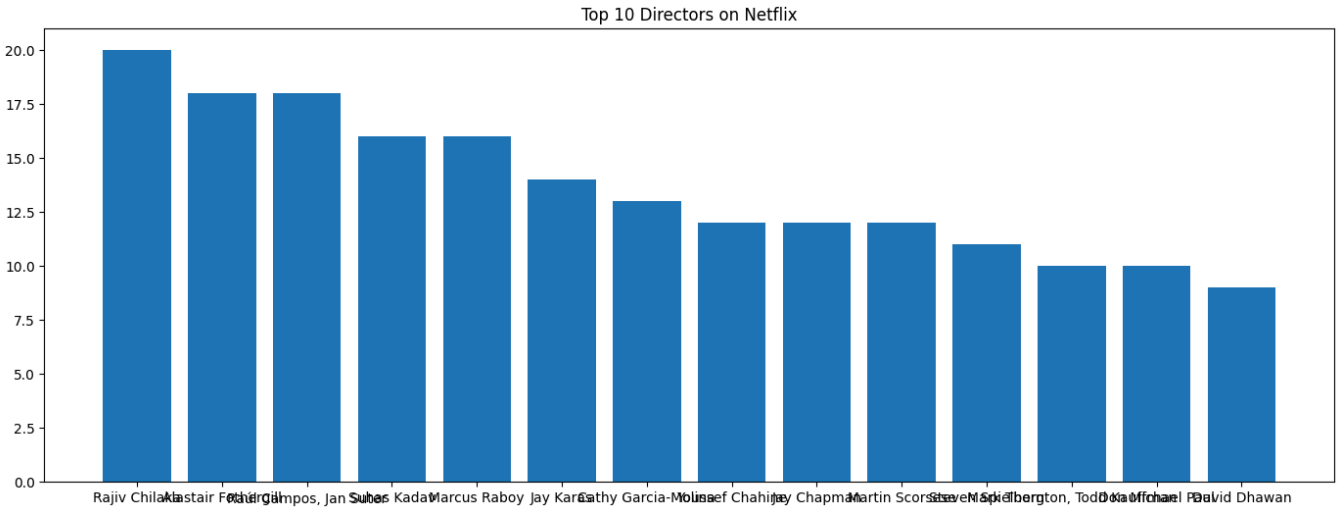

```
popular_movie_genre=data[data['type']=='Movie'].groupby("listed_in").size().sort_values(ascending=False)[:10]
popular_series_genre=data[data['type']=='TV Show'].groupby("listed_in").size().sort_values(ascending=False)[:10]
plt.bar(popular_movie_genre.index, popular_movie_genre.values)
plt.xticks(rotation=45, ha='right')
plt.xlabel("Genres")
plt.ylabel("Movies Frequency")
plt.suptitle("Top 10 popular genres for movies on Netflix")
plt.show()
```




```
plt.bar(popular_series_genre.index, popular_series_genre.values)
plt.xticks(rotation=45, ha='right')
plt.xlabel("Genres")
plt.ylabel("TV Shows Frequency")
plt.suptitle("Top 10 popular genres for TV Shows on Netflix")
plt.show()
```

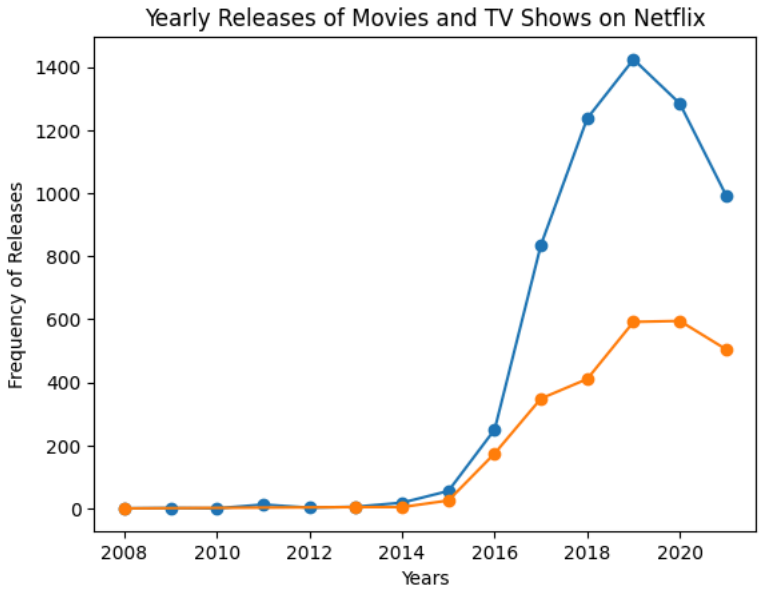



```
directors= data['director'].value_counts().reset_index().sort_values(by='count', ascending=False)[1:15]
plt.figure(figsize=(17,6))
plt.bar(directors['director'], directors['count'])
plt.title("Top 10 Directors on Netflix")
plt.show()
```

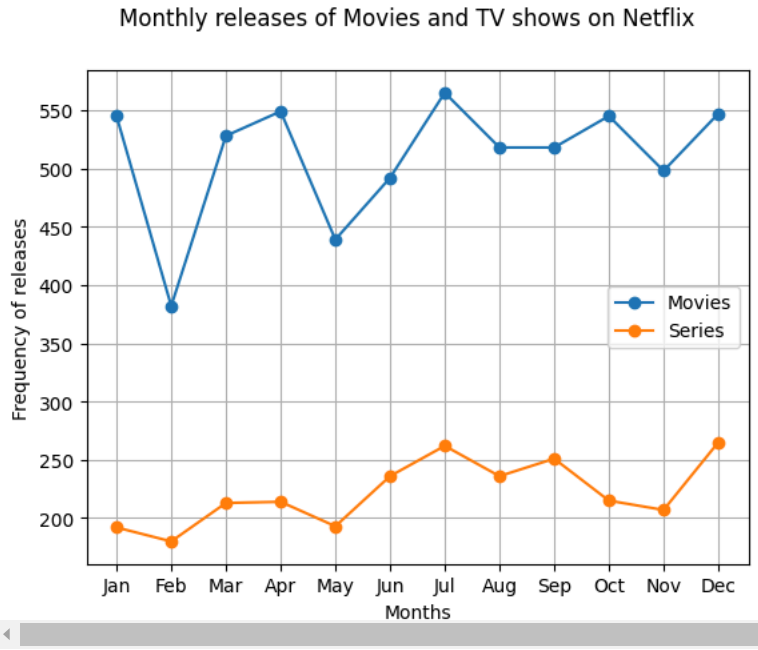



```
# Convert 'date_added' back to datetime
data['date_added'] = pd.to_datetime(data['date_added'], errors='coerce')

# Now you can extract the year
data['year_added'] = data['date_added'].dt.year
```

```
# Filter yearly release data for Movies and TV Shows
yearly_movie_releases = data.loc[data['type'] == 'Movie', 'year_added'].value_counts().sort_index()
yearly_series_releases = data.loc[data['type'] == 'TV Show', 'year_added'].value_counts().sort_index()

# Plot yearly releases
import matplotlib.pyplot as plt

plt.plot(yearly_movie_releases, marker='o')
plt.plot(yearly_series_releases, marker='o')
plt.xlabel("Years")
plt.ylabel("Frequency of Releases")
plt.title("Yearly Releases of Movies and TV Shows on Netflix")
plt.show()
```




```
data['month'] = data['date_added'].dt.month


monthly_movie_release=data[data['type']=='Movie']['month'].value_counts().sort_index()
monthly_series_release=data[data['type']=='TV Show']['month'].value_counts().sort_index()
plt.plot(monthly_movie_release.index, monthly_movie_release.values, label='Movies', marker = 'o')
plt.plot(monthly_series_release.index, monthly_series_release.values, label='Series', marker = 'o')
plt.xlabel("Months")
plt.ylabel("Frequency of releases")
plt.xticks(range(1, 13), ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec'])
plt.legend()
plt.grid(True)
plt.suptitle("Monthly releases of Movies and TV shows on Netflix")
plt.show()
```



```
data.head(15)
```

	show_id	type	title	director	country	date_added	release_year	rating	duration	listed_in	year_added	month
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	United States	2021-09-25	2020	PG-13	90 min	Documentaries	2021	9
1	s3	TV Show	Ganglands	Julien Leclercq	France	2021-09-24	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	2021	9
2	s6	TV Show	Midnight Mass	Mike Flanagan	United States	2021-09-24	2021	TV-MA	1 Season	TV Dramas, TV Horror, TV Mysteries	2021	9
3	s14	Movie	Confessions of an Invisible Girl	Bruno Garotti	Brazil	2021-09-22	2021	TV-PG	91 min	Children & Family Movies, Comedies	2021	9
4	s8	Movie	Sankofa	Haile Gerima	United States	2021-09-24	1993	TV-MA	125 min	Dramas, Independent Movies, International Movies	2021	9
5	s9	TV Show	The Great British Baking Show	Andy Devonshire	United Kingdom	2021-09-24	2021	TV-14	9 Seasons	British TV Shows, Reality TV	2021	9
6	s10	Movie	The Starling	Theodore Melfi	United States	2021-09-24	2021	PG-13	104 min	Comedies, Dramas	2021	9
7	s939	Movie	Motu Patlu in the Game of Zones	Suhas Kadav	India	2021-05-01	2019	TV-Y7	87 min	Children & Family Movies, Comedies, Music & Mu...	2021	5
8	s13	Movie	Je Suis Karl	Christian	Germany	2021-09-23	2021	TV-MA	127 min	Dramas, International	2021	9

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