Netflix - (Business Case-Study)

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

+ Code + Text

```
!gdown 1Rbs1er7UZU5KPCk9ZAPvd0WTEJR6Jqk_
```

```
Downloading...
From: https://drive.google.com/uc?id=1Rbs1er7UZU5KPCk9ZAPvd0WTEJR6Jqk_
To: /content/Netflix_DataSet.csv
100% 3.40M/3.40M [00:00<00:00, 172MB/s]
```

```
df = pd.read_csv('/content/Netflix_DataSet.csv')
df.head()
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	To protect his family from a powerful drug lor...
		TV	Jailbirds				September				Docuseries,	Feuds, flirtations and

```
df.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
```

```
df.describe()
```

	release_year
count	8807.000000
mean	2014.180198
std	8.819312
min	1925.000000
25%	2013.000000
50%	2017.000000
75%	2019.000000
max	2021.000000

```
df.describe(include='object')
```

	show_id	type	title	director	cast	country	date_added	rating	d
count	8807	8807	8807	6173	7982	7976	8797	8803	
unique	8807	2	8807	4528	7692	748	1767	17	
top	s1	Movie	Dick Johnson Is Dead	Rajiv Chilaka	David Attenborough	United States	January 1, 2020	TV-MA	

```
df.shape
```

```
(8807, 12)
```

Brief Info about columns present in the given dataset.

- Show ID : The ID of the show
- Type: Identifier - A Movie or TV Show
- Title: Title of the Movie / Tv Show
- Director: Director of the Movie
- Cast: Actors involved in the movie/show
- Country: Country where the movie/show was produced
- Date_added: Date it was added on Netflix
- Release_year: Actual Release year of the movie/show
- Rating: TV Rating of the movie/show
- Duration: Total Duration - in minutes or number of seasons
- Listed_in: Genre
- Description: The summary description

Step 1: Un-nesting the columns (having multile comma separated values in multiple rows.)

```
Cast = df['cast'].str.split(', ').explode()
Cast
```

```
0                       NaN
1                Ama Qamata
1                Khosi Ngema
1              Gail Mabalane
1            Thabang Molaba
                 ...
8806         Manish Chaudhary
8806             Meghna Malik
8806            Malkeet Rauni
8806           Anita Shabdish
8806    Chittaranjan Tripathy
Name: cast, Length: 64951, dtype: object
```

```
df
```

	show_id	type	title	director	cast	country	date_added	release_ye
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	20
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	20
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	20
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	20
4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	20
...	...	...	...	...	...	...	...	

```
df['cast'] = df['cast'].str.split(', ')
df = df.explode('cast')

df['listed_in'] = df['listed_in'].str.split(', ')
df = df.explode('listed_in')

df = df.reset_index(drop = True)
```

```
df['country'] = df['country'].str.split(', ')
df = df.explode('country')

df = df.reset_index(drop = True)
```

```
df
```

	show_id	type	title	director	cast	country	date_added	release_ye
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2(
1	s2	TV Show	Blood & Water	NaN	Ama Qamata	South Africa	September 24, 2021	2(
2	s2	TV Show	Blood & Water	NaN	Ama Qamata	South Africa	September 24, 2021	2(
3	s2	TV Show	Blood & Water	NaN	Ama Qamata	South Africa	September 24, 2021	2(
4	s2	TV Show	Blood & Water	NaN	Khosi Ngema	South Africa	September 24, 2021	2(
...	...	...	...	...	...	...	...	
149507	s8807	Movie	Zubaan	Mozez Singh	Anita Shabdish	India	March 2, 2019	2(
149508	s8807	Movie	Zubaan	Mozez Singh	Anita Shabdish	India	March 2, 2019	2(

```
# director, cast, country, date_added, rating, duration has null values
```

```
df['director'].fillna('unknown director', inplace = True)
```

```
df['cast'].fillna('unknown cast', inplace = True)
```

```
df['country'].fillna('unknown country', inplace = True)
```

```
df
```

	show_id	type	title	director	cast	country	date_added	release_ye
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	unknown cast	United States	September 25, 2021	2(
1	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	September 24, 2021	2(
2	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	September 24, 2021	2(
3	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	September 24, 2021	2(
4	s2	TV Show	Blood & Water	unknown director	Khosi Ngema	South Africa	September 24, 2021	2(
...	...	...	...	...	...	...	...	
149507	s8807	Movie	Zubaan	Mozez Singh	Anita Shabdish	India	March 2, 2019	2(
149508	s8807	Movie	Zubaan	Mozez Singh	Anita Shabdish	India	March 2, 2019	2(

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 149512 entries, 0 to 149511
Data columns (total 12 columns):
 #   Column        Non-Null Count   Dtype 
---  ------        --------------   ----- 
 0   show_id       149512 non-null  object
 1   type          149512 non-null  object
 2   title         149512 non-null  object
 3   director      149512 non-null  object
 4   cast          149512 non-null  object
 5   country       149512 non-null  object
 6   date_added    149354 non-null  object
 7   release_year  149512 non-null  int64 
 8   rating        149445 non-null  object
 9   duration      149509 non-null  object
 10  listed_in     149512 non-null  object
 11  description   149512 non-null  object
dtypes: int64(1), object(11)
memory usage: 13.7+ MB
```

```
df.columns
```

```
Index(['show_id', 'type', 'title', 'director', 'cast', 'country', 'date_added',
       'release_year', 'rating', 'duration', 'listed_in', 'description',
       'date'],
      dtype='object')
```

```
df
```

	show_id	type	title	director	cast	country	release_year	rating
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	unknown cast	United States	2020	PG-13
1	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
2	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
3	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
4	s2	TV Show	Blood & Water	unknown director	Khosi Ngema	South Africa	2021	TV-MA
...	...	...	...	...	...	...	...	...

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 149512 entries, 0 to 149511
Data columns (total 12 columns):
 #   Column        Non-Null Count   Dtype
---  ------        --------------   -----
 0   show_id       149512 non-null  object
 1   type          149512 non-null  object
 2   title         149512 non-null  object
 3   director      149512 non-null  object
 4   cast          149512 non-null  object
 5   country       149512 non-null  object
 6   release_year  149512 non-null  int64
 7   rating        149445 non-null  object
 8   duration      149509 non-null  object
 9   listed_in     149512 non-null  object
 10  description   149512 non-null  object
 11  date          149354 non-null  datetime64[ns]
dtypes: datetime64[ns](1), int64(1), object(10)
memory usage: 13.7+ MB
```

```
df['duration'].fillna('unknown duration',inplace=True)
```

```
df
```

	show_id	type	title	director	cast	country	release_year	rating
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	unknown cast	United States	2020	PG-13
1	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
2	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
3	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
4	s2	TV Show	Blood & Water	unknown director	Khosi Ngema	South Africa	2021	TV-MA
...	...	...	...	...	...	...	...	...
					Mozez	Anita		

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 149512 entries, 0 to 149511
Data columns (total 12 columns):
 #   Column        Non-Null Count   Dtype
---  ------        --------------   -----
 0   show_id       149512 non-null  object
 1   type          149512 non-null  object
 2   title         149512 non-null  object
 3   director      149512 non-null  object
 4   cast          149512 non-null  object
 5   country       149512 non-null  object
 6   release_year  149512 non-null  int64
 7   rating        149445 non-null  object
 8   duration      149512 non-null  object
 9   listed_in     149512 non-null  object
 10  description   149512 non-null  object
 11  date          149354 non-null  datetime64[ns]
dtypes: datetime64[ns](1), int64(1), object(10)
memory usage: 13.7+ MB
```

```
df['date'].fillna(0,inplace=True)
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 149512 entries, 0 to 149511
Data columns (total 12 columns):
 #   Column        Non-Null Count   Dtype
```

```
---  ------        --------------   -----
 0   show_id       149512 non-null  object
 1   type          149512 non-null  object
 2   title         149512 non-null  object
 3   director      149512 non-null  object
 4   cast          149512 non-null  object
 5   country       149512 non-null  object
 6   release_year  149512 non-null  int64
 7   rating        149445 non-null  object
 8   duration      149512 non-null  object
 9   listed_in     149512 non-null  object
 10  description   149512 non-null  object
 11  date          149512 non-null  object
dtypes: int64(1), object(11)
memory usage: 13.7+ MB
```

```
df['rating'].fillna('unknown rating', inplace=True)
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 149512 entries, 0 to 149511
Data columns (total 12 columns):
 #   Column        Non-Null Count   Dtype
---  ------        --------------   -----
 0   show_id       149512 non-null  object
 1   type          149512 non-null  object
 2   title         149512 non-null  object
 3   director      149512 non-null  object
 4   cast          149512 non-null  object
 5   country       149512 non-null  object
 6   release_year  149512 non-null  int64
 7   rating        149512 non-null  object
 8   duration      149512 non-null  object
 9   listed_in     149512 non-null  object
 10  description   149512 non-null  object
 11  date          149512 non-null  object
dtypes: int64(1), object(11)
memory usage: 13.7+ MB
```

```
# Now the data is unnested and null values are removed. Lets do some analysis.
```

```
df
```

	show_id	type	title	director	cast	country	release_year	rating
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	unknown cast	United States	2020	PG-13
1	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
2	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
3	s2	TV Show	Blood & Water	unknown director	Ama Qamata	South Africa	2021	TV-MA
4	s2	TV Show	Blood & Water	unknown director	Khosi Ngema	South Africa	2021	TV-MA
...	...	...	...	...	...	...	...	...
149507	s8807	Movie	Zubaan	Mozez Singh	Anita Shabdish	India	2015	TV-14
149508	s8807	Movie	Zubaan	Mozez Singh	Anita Shabdish	India	2015	TV-14

```
df.groupby(['director'])['title'].value_counts()
```

```
director             title
A. L. Vijay          Abhinetri               24
                     Watchman                18
A. Raajdheep         Asura Guru              10
A. Salaam            Salaakhen               30
A.R. Murugadoss      Sarkar                  18
                                             ..
Óskar Thór Axelsson  Ég man þig              20
Ömer Faruk Sorak     G.O.R.A                 30
                     Aşk Tesadüfleri Sever   24
Şenol Sönmez         Hayat Öpücügü           24
                     Kill Me If You Dare     24
Name: title, Length: 8807, dtype: int64
```

```
df.groupby(['country'])['director'].value_counts()
```

```
country           director
, France, Algeria  Najwa Najjar                            24
, South Korea      unknown director                          8
Argentina          unknown director                        414
                   Alejandro Doria                          60
                   Gabriel Grieco                           36
                                                          ...
unknown country    Tiller Russell                            1
                   Todd Biermann                             1
                   Tyler Greco                               1
                   Xavier Maingon, Marc-Antoine Hélard       1
```

```
                    Yoo Byung-jae                           1
Name: director, Length: 5180, dtype: int64
```

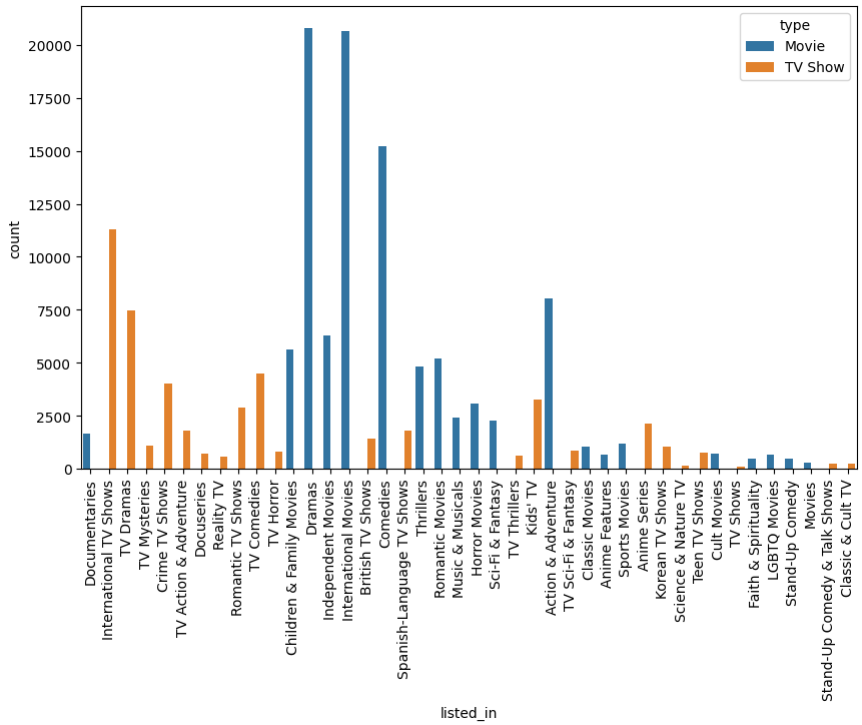
```
df.groupby(['director'])['listed_in'].value_counts()
```

```
director          listed_in
A. L. Vijay       Comedies                14
                  International Movies    14
                  Sci-Fi & Fantasy         8
                  Dramas                   6
A. Raajdheep      Dramas                   5
                                          ..
Ömer Faruk Sorak  Romantic Movies          8
Şenol Sönmez      Comedies                16
                  International Movies    16
                  Dramas                   8
                  Romantic Movies          8
Name: listed_in, Length: 10975, dtype: int64
```

```
df.groupby(['release_year'])['title'].value_counts()
```

```
release_year  title
1925          Pioneers: First Women Filmmakers*               1
1942          The Battle of Midway                            4
              Prelude to War                                  2
1943          Undercover: How to Operate Behind Enemy Lines   2
              WWII: Report from the Aleutians                 1
                                                             ..
2021          The World's Most Amazing Vacation Rentals       1
              Top Secret UFO Projects: Declassified           1
              Turning Point: 9/11 and the War on Terror       1
              We Are: The Brooklyn Saints                     1
              Why Did You Kill Me?                            1
Name: title, Length: 8807, dtype: int64
```

```
plt.figure(figsize=(10,6))
sns.countplot(data=df,x='listed_in',hue='type')
plt.xticks(rotation=90)
plt.show()
```




```
# Recommendation: We can say that in terms of genre (dramas and international movies), under movies category are
```

```
df.groupby(['country','type'])['title'].count()
```

```
country                                            type
, France, Algeria                                  Movie        24
, South Korea                                      TV Show       8
Argentina                                          Movie       569
                                                   TV Show     426
Argentina, Brazil, France, Poland, Germany, Denmark Movie        15
                                                               ...
Vietnam                                            Movie       118
West Germany                                       Movie         2
Zimbabwe                                           Movie        36
unknown country                                    Movie      5708
                                                   TV Show    5437
Name: title, Length: 849, dtype: int64
```

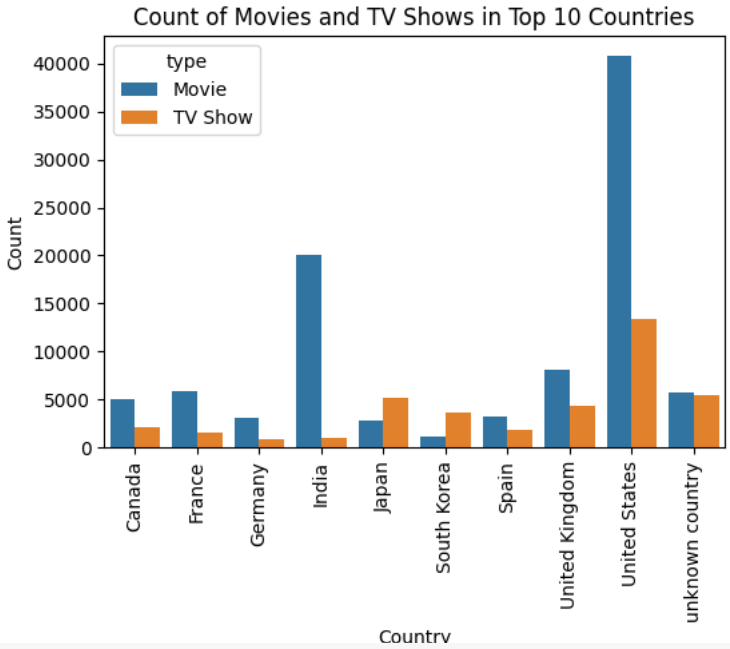
```
grouped_counts = df.groupby(['country', 'type'])['title'].count()
reshaped_counts = grouped_counts.unstack()
sorted_countries = grouped_counts.sort_values(ascending=False)
top_10_countries = sorted_countries.head(10)
top_10_countries
```

```
country          type
United States    Movie      28635
India            Movie      18817
United States    TV Show     9916
unknown country  Movie       5708
                 TV Show     5437
Japan            TV Show     4529
South Korea      TV Show     3459
United Kingdom   TV Show     3167
Japan            Movie       2055
Nigeria          Movie       2014
Name: title, dtype: int64
```

```
# Group the dataframe by "country" and "type", and count the occurrences
grouped_counts = df.groupby(['country', 'type'])['title'].count()


reshaped_counts = grouped_counts.unstack()

# Print the result
print(reshaped_counts)
```

```
type                                               Movie  TV Show
country
, France, Algeria                                   24.0      NaN
, South Korea                                        NaN      8.0
Argentina                                          569.0    426.0
Argentina, Brazil, France, Poland, Germany, Den...  15.0      NaN
Argentina, Chile                                    37.0      NaN
...                                                  ...      ...
Venezuela, Colombia                                  2.0      NaN
Vietnam                                            118.0      NaN
West Germany                                         2.0      NaN
Zimbabwe                                            36.0      NaN
unknown country                                   5708.0   5437.0

[749 rows x 2 columns]
```

```
# Group the dataframe by "country" and "type", and count the occurrences
grouped_counts = df.groupby(['country', 'type'])['title'].count().reset_index()

# Get the top 10 countries based on total count of movies and TV shows
top_10_countries = grouped_counts.groupby('country')['title'].sum().nlargest(10).index

# Filter the grouped counts to include only the top 10 countries
filtered_counts = grouped_counts[grouped_counts['country'].isin(top_10_countries)]

# Plot the count of movies and TV shows for the top 10 countries
plt.figure(figsize=(6, 4))
sns.barplot(x='country', y='title', hue='type', data=filtered_counts)
plt.title('Count of Movies and TV Shows in Top 10 Countries')
plt.xlabel('Country')
plt.ylabel('Count')
plt.xticks(rotation=90)
plt.show()
```




```
# We can say that US has made more movies and tv shows compared to other top 9 countries.
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 186325 entries, 0 to 186324
Data columns (total 12 columns):
 #   Column        Non-Null Count   Dtype 
---  ------        --------------   ----- 
 0   show_id       186325 non-null  object
 1   type          186325 non-null  object
 2   title         186325 non-null  object
 3   director      186325 non-null  object
 4   cast          186325 non-null  object
 5   country       186325 non-null  object
 6   release_year  186325 non-null  int64 
 7   rating        186325 non-null  object
 8   duration      186325 non-null  object
 9   listed_in     186325 non-null  object
 10  description   186325 non-null  object
 11  date          186325 non-null  object
dtypes: int64(1), object(11)
memory usage: 17.1+ MB
```

```
df['date'] = pd.to_datetime(df['date'], errors='coerce')
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 186325 entries, 0 to 186324
Data columns (total 12 columns):
 #   Column        Non-Null Count   Dtype 
---  ------        --------------   ----- 
 0   show_id       186325 non-null  object
```

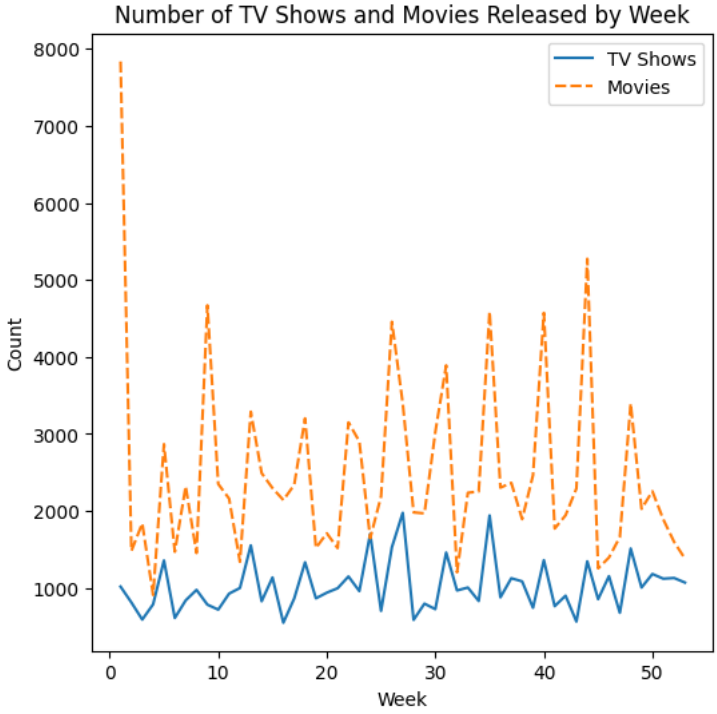
```
 1   type          186325 non-null  object
 2   title         186325 non-null  object
 3   director      186325 non-null  object
 4   cast          186325 non-null  object
 5   country       186325 non-null  object
 6   release_year  186325 non-null  int64
 7   rating        186325 non-null  object
 8   duration      186325 non-null  object
 9   listed_in     186325 non-null  object
 10  description   186325 non-null  object
 11  date          186167 non-null  datetime64[ns]
dtypes: datetime64[ns](1), int64(1), object(10)
memory usage: 17.1+ MB
```

```
df['week'] = df['date'].dt.week

# Separate TV shows and movies
tvshow_df = df[df['type'] == 'TV Show']
movie_df = df[df['type'] == 'Movie']

# Group by the week column and count the total number of TV shows and movies in each week
tvshow_counts = tvshow_df.groupby('week').size()
movie_counts = movie_df.groupby('week').size()

# Analyze the count of TV shows and movies to identify the best week for each category
best_week_tvshow = tvshow_counts.idxmax()
best_week_movie = movie_counts.idxmax()

print(f"The best week to release TV shows is week {best_week_tvshow}")
print(f"The best week to release movies is week {best_week_movie}")
```

```
<ipython-input-106-2b57008c5d14>:1: FutureWarning: Series.dt.weekofyear and Series.dt.week have been deprecated. Please use Series.d
  df['week'] = df['date'].dt.week
The best week to release TV shows is week 27.0
The best week to release movies is week 1.0
```

```
# Create a new column to extract the week number from the date
df['week'] = df['date'].dt.week

# Separate TV shows and movies
tvshow_df = df[df['type'] == 'TV Show']
movie_df = df[df['type'] == 'Movie']

# Group by the week column and count the total number of TV shows and movies in each week
tvshow_counts = tvshow_df.groupby('week').size()
movie_counts = movie_df.groupby('week').size()

# Convert the counts to a dataframe
counts_df = pd.DataFrame({'TV Shows': tvshow_counts, 'Movies': movie_counts})

# Sort the dataframe by week number
counts_df = counts_df.sort_index()

# Plot the results using Seaborn line plot
plt.figure(figsize=(6,6))
sns.lineplot(data=counts_df)

# Set the labels and title of the plot
plt.xlabel('Week')
plt.ylabel('Count')
plt.title('Number of TV Shows and Movies Released by Week')

# Display the plot
plt.show()
```

```
<ipython-input-158-dfdac164aa64>:2: FutureWarning: Series.dt.weekofyear and Series.dt
  df['week'] = df['date'].dt.week
```

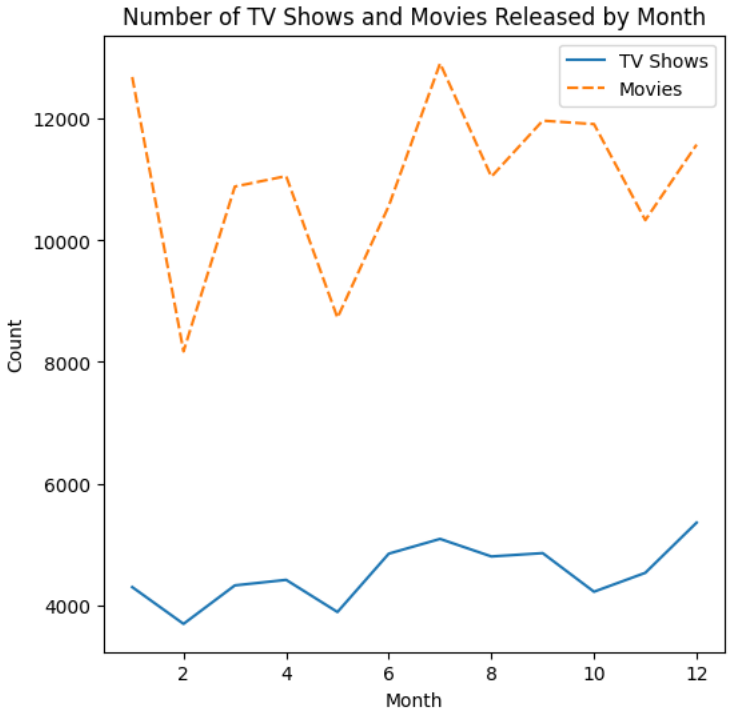



```
# From above graph we can say that the best week to realease movie is week 1st
# From above graph we can say that the best week to realease TV Show is week 27th
```

```
df['month'] = df['date'].dt.month

# Separate TV shows and movies
tvshow_df = df[df['type'] == 'TV Show']
movie_df = df[df['type'] == 'Movie']

# Group by the week column and count the total number of TV shows and movies in each week
tvshow_counts = tvshow_df.groupby('month').size()
movie_counts = movie_df.groupby('month').size()

# Analyze the count of TV shows and movies to identify the best week for each category
best_month_tvshow = tvshow_counts.idxmax()
best_month_movie = movie_counts.idxmax()

print(f"The best week to release TV shows is week {best_month_tvshow}")
print(f"The best week to release movies is week {best_month_movie}")
```

```
The best week to release TV shows is week 12.0
The best week to release movies is week 7.0
```

```
# Create a new column to extract the week number from the date
df['month'] = df['date'].dt.month

# Separate TV shows and movies
tvshow_df = df[df['type'] == 'TV Show']
movie_df = df[df['type'] == 'Movie']

# Group by the week column and count the total number of TV shows and movies in each week
tvshow_counts = tvshow_df.groupby('month').size()
movie_counts = movie_df.groupby('month').size()

# Convert the counts to a dataframe
counts_df = pd.DataFrame({'TV Shows': tvshow_counts, 'Movies': movie_counts})

# Sort the dataframe by week number
counts_df = counts_df.sort_index()

# Plot the results using Seaborn line plot
plt.figure(figsize=(6,6))
sns.lineplot(data=counts_df)

# Set the labels and title of the plot
plt.xlabel('Month')
plt.ylabel('Count')
plt.title('Number of TV Shows and Movies Released by Month')

# Display the plot
plt.show()
```

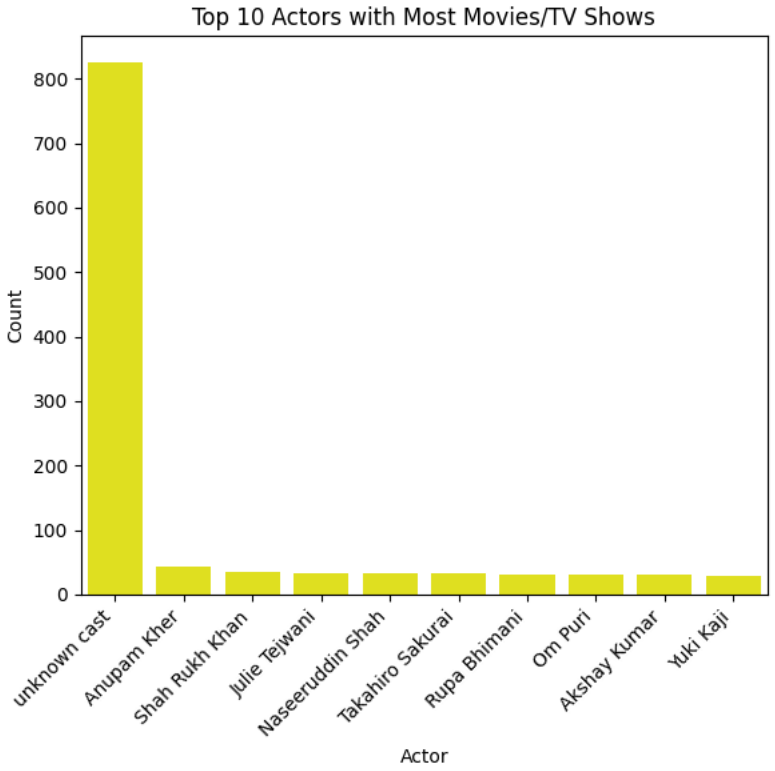



```
# # From above graph we can say that the best week to realease movie is Month 7st
# From above graph we can say that the best week to realease TV Show is Month 12th
```

```
# Group by each actor and count the number of unique titles
actor_counts = df.groupby('cast')['title'].nunique()

# Sort the actor counts in descending order
sorted_actors = actor_counts.sort_values(ascending=False)

# Get the top 10 actors
top_10_actors = sorted_actors.head(10)

# Print the top 10 actors
print(top_10_actors)
```

```
cast
unknown cast        825
Anupam Kher          43
Shah Rukh Khan       35
Julie Tejwani        33
Naseeruddin Shah     32
Takahiro Sakurai     32
Rupa Bhimani         31
Om Puri              30
Akshay Kumar         30
Yuki Kaji            29
Name: title, dtype: int64
```

```
plt.figure(figsize=(6,6))
sns.barplot(x=top_10_actors.index, y=top_10_actors.values, color='yellow')

# Set the labels and title of the plot
plt.xlabel('Actor')
plt.ylabel('Count')
plt.title('Top 10 Actors with Most Movies/TV Shows')

# Rotate x-axis labels for better readability
plt.xticks(rotation=45, ha='right')

# Display the plot
plt.tight_layout()
plt.show()
```




```
# Group by each actor and count the number of unique titles
director_counts = df.groupby('director')['title'].nunique()

# Sort the actor counts in descending order
sorted_directors = director_counts.sort_values(ascending=False)

# Get the top 10 actors
top_10_director = sorted_directors.head(10)

# Print the top 10 actors
print(top_10_director)
```