

```
#Importing the required libraries -- PANDAS,MATPLOTLIB,SEABORN
```

```
import pandas as pd
```

```
import matplotlib.pyplot as plt
```

```
import seaborn as sns
```

```
import numpy as np
```

Uploading the data file 'Netflix in CSV format.

```
df = pd.read_csv('netflix.csv')
```

```
df.head()
```

	show_id	type	title	director
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson
1	s2	TV Show	Blood & Water	NaN
2	s3	TV Show	Ganglands	Julien Leclercq
3	s4	TV Show	Jailbirds New Orleans	NaN
4	s5	TV Show	Kota Factory	NaN

	cast	country
0	NaN	United States
1	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa
2	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN
3	NaN	NaN
4	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India

	date_added	release_year	rating	duration
0	September 25, 2021	2020	PG-13	90 min
1	September 24, 2021	2021	TV-MA	2 Seasons
2	September 24, 2021	2021	TV-MA	1 Season
3	September 24, 2021	2021	TV-MA	1 Season
4	September 24, 2021	2021	TV-MA	2 Seasons

	listed_in
0	Documentaries
1	International TV Shows, TV Dramas, TV Mysteries
2	Crime TV Shows, International TV Shows, TV Act...
3	Docuseries, Reality TV
4	International TV Shows, Romantic TV Shows, TV ...

	description
0	As her father nears the end of his life, filmm...
1	After crossing paths at a party, a Cape Town t...
2	To protect his family from a powerful drug lor...
3	Feuds, flirtations and toilet talk go down amo...
4	In a city of coaching centers known to train I...

1.How has the number of movies released per year changed over last 20 -30 years.

```
# Filtering the data only belonging to the Movies type.
```

```
dm = df[df['type']=='Movie']
```

```
dm.head()
```

	show_id	type	title	\
0	s1	Movie	Dick Johnson Is Dead	
6	s7	Movie	My Little Pony: A New Generation	
7	s8	Movie	Sankofa	
9	s10	Movie	The Starling	
12	s13	Movie	Je Suis Karl	

	director	\
0	Kirsten Johnson	
6	Robert Cullen, José Luis Ucha	
7	Haile Gerima	
9	Theodore Melfi	
12	Christian Schwochow	

	cast	\
0	NaN	
6	Vanessa Hudgens, Kimiko Glenn, James Marsden, ...	
7	Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D...	
9	Melissa McCarthy, Chris O'Dowd, Kevin Kline, T...	
12	Luna Wedler, Jannis Niewöhner, Milan Peschel, ...	

	country	
date_added	\	
0	United States	September 25, 2021
6	NaN	September 24, 2021
7	United States, Ghana, Burkina Faso, United Kin...	September 24, 2021
9	United States	September 24, 2021
12	Germany, Czech Republic	September 23, 2021

	release_year	rating	duration	\
0	2020	PG-13	90 min	
6	2021	PG	91 min	
7	1993	TV-MA	125 min	
9	2021	PG-13	104 min	
12	2021	TV-MA	127 min	

	listed_in	\
0	Documentaries	

```

6           Children & Family Movies
7   Dramas, Independent Movies, International Movies
9           Comedies, Dramas
12          Dramas, International Movies

```

```

description
0   As her father nears the end of his life, filmm...
6   Equestria's divided. But a bright-eyed hero be...
7   On a photo shoot in Ghana, an American model s...
9   A woman adjusting to life after a loss contend...
12  After most of her family is murdered in a terr...

```

Cond1 and Cond2 represents the required for the question

```
cond1 = dm['release_year'] > 1990
```

```
cond2 = dm['release_year'] < 2022
```

Assigning the condition to mask variable

```
mask = (cond1) & (cond2)
```

assigning the mask to the dataframe['dm'] to get the required dataframe.

```
dm = dm[mask]
```

```
dm.head()
```

	show_id	type	title \
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
7	s8	Movie	Sankofa
9	s10	Movie	The Starling
12	s13	Movie	Je Suis Karl

	director \
0	Kirsten Johnson
6	Robert Cullen, José Luis Ucha
7	Haile Gerima
9	Theodore Melfi
12	Christian Schwochow

	cast \
0	NaN
6	Vanessa Hudgens, Kimiko Glenn, James Marsden, ...
7	Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D...
9	Melissa McCarthy, Chris O'Dowd, Kevin Kline, T...
12	Luna Wedler, Jannis Niewöhner, Milan Peschel, ...

	country
date_added \	
0	United States
2021	September 25,
6	NaN
2021	September 24,
7	United States, Ghana, Burkina Faso, United Kin...
2021	September 24,
9	United States
2021	September 24,
12	Germany, Czech Republic
2021	September 23,

	release_year	rating	duration	\
0	2020	PG-13	90 min	
6	2021	PG	91 min	
7	1993	TV-MA	125 min	
9	2021	PG-13	104 min	
12	2021	TV-MA	127 min	

	listed_in	\
0	Documentaries	
6	Children & Family Movies	
7	Dramas, Independent Movies, International Movies	
9	Comedies, Dramas	
12	Dramas, International Movies	

	description
0	As her father nears the end of his life, filmm...
6	Equestria's divided. But a bright-eyed hero be...
7	On a photo shoot in Ghana, an American model s...
9	A woman adjusting to life after a loss contend...
12	After most of her family is murdered in a terr...

Grouping by the release_year of the Movies to get the count of Movies each years within in the farme of past 20 - 30 years of 2021-1991.

```
dmc = dm.groupby('release_year')
[['release_year', 'title']].agg(title_count = ('title', 'count'))
```

Resetting the index to get the index numbers.

```
dmc.reset_index()
```

	release_year	title_count
0	1991	16
1	1992	20

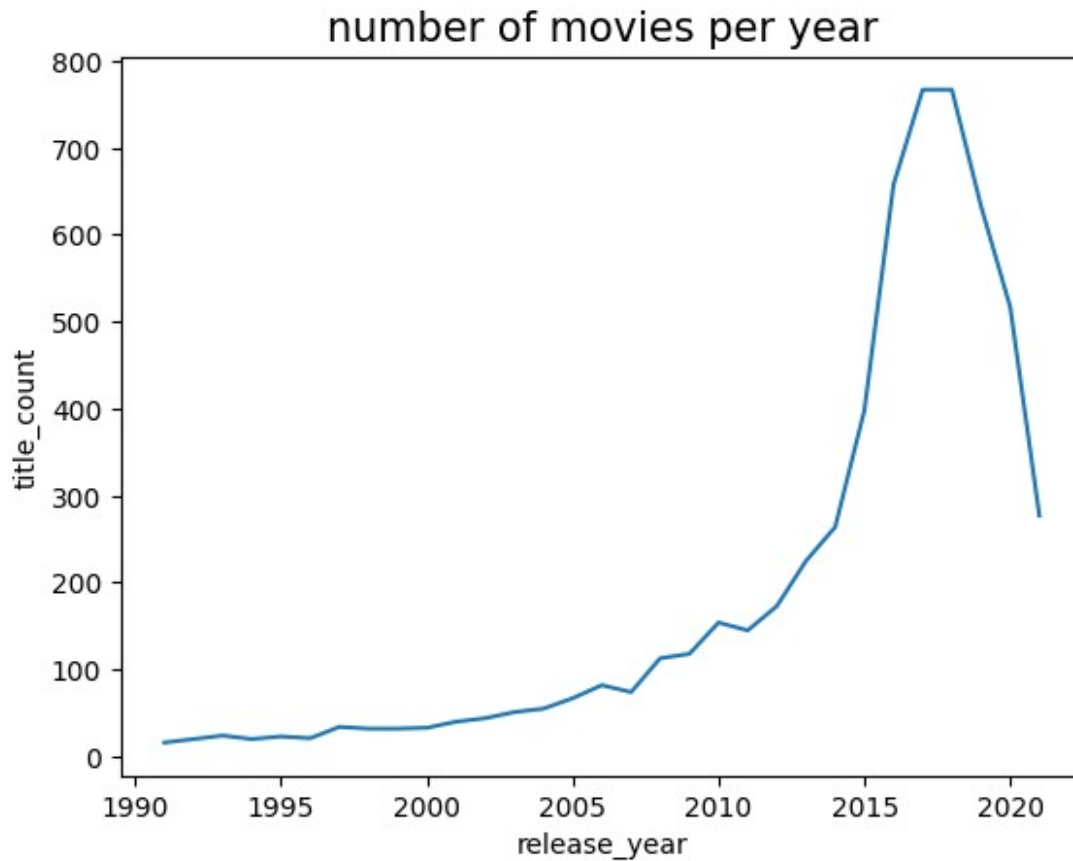
2	1993	24
3	1994	20
4	1995	23
5	1996	21
6	1997	34
7	1998	32
8	1999	32
9	2000	33
10	2001	40
11	2002	44
12	2003	51
13	2004	55
14	2005	67
15	2006	82
16	2007	74
17	2008	113
18	2009	118
19	2010	154
20	2011	145
21	2012	173
22	2013	225
23	2014	264
24	2015	398
25	2016	658
26	2017	767
27	2018	767
28	2019	633
29	2020	517
30	2021	277

Now, we have got the required pf movie counts of past 20-30 years per each year.

-- Next we will plot a graphical representation of our data.

Using the seaborn lineplot for the Graphical representation.

```
sns.lineplot(
    x = 'release_year',
    y = 'title_count',
    data = dmc,
)
plt.title('number of movies per year', fontsize = 15)
Text(0.5, 1.0, 'number of movies per year')
```



From the above graphical representation we can clearly get that number of movies released of given range.

-- From the representation the Movie releases have been constantly raising from beginning.

-- from 2015 to 2019 the releases were high and reached the peak level in between these ranges.

-- In 2021 the releases have been slightly decreased compared to previous 2-3 years.

```
df.head()
```

	show_id	type	title	director	\
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	
1	s2	TV Show	Blood & Water		NaN
2	s3	TV Show	Ganglands	Julien Leclercq	
3	s4	TV Show	Jailbirds New Orleans		NaN
4	s5	TV Show	Kota Factory		NaN

	cast	country	\
0	NaN	United States	
1	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	
2	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...		NaN
3	NaN		NaN
4	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...		India

```

      date_added  release_year rating  duration \
0  September 25, 2021         2020  PG-13      90 min
1  September 24, 2021         2021  TV-MA    2 Seasons
2  September 24, 2021         2021  TV-MA    1 Season
3  September 24, 2021         2021  TV-MA    1 Season
4  September 24, 2021         2021  TV-MA    2 Seasons

      listed_in \
0      Documentaries
1  International TV Shows, TV Dramas, TV Mysteries
2  Crime TV Shows, International TV Shows, TV Act...
3      Docuseries, Reality TV
4  International TV Shows, Romantic TV Shows, TV ...

      description
0  As her father nears the end of his life, filmm...
1  After crossing paths at a party, a Cape Town t...
2  To protect his family from a powerful drug lor...
3  Feuds, flirtations and toilet talk go down amo...
4  In a city of coaching centers known to train I...

```

DATA CLEANING -- UNNESTING THE DATA.

```
# Assigning the data to new variable df1 for cleaning and unnesting of data.
```

```
df1 = df
```

```
df1
```

```

      show_id  type  title  director \
0         s1  Movie  Dick Johnson Is Dead  Kirsten Johnson
1         s2  TV Show      Blood & Water      NaN
2         s3  TV Show      Ganglands  Julien Leclercq
3         s4  TV Show  Jailbirds New Orleans      NaN
4         s5  TV Show      Kota Factory      NaN
...      ...      ...      ...      ...
8802    s8803  Movie      Zodiac  David Fincher
8803    s8804  TV Show  Zombie Dumb      NaN
8804    s8805  Movie  Zombieland  Ruben Fleischer
8805    s8806  Movie      Zoom  Peter Hewitt
8806    s8807  Movie      Zubaan  Mozez Singh

```

```

      cast  country
\
0      NaN  United States
1  Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...  South Africa

```

2	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN
3		NaN
4	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India
...
8802	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States
8803		NaN
8804	Jesse Eisenberg, Woody Harrelson, Emma Stone, ...	United States
8805	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States
8806	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India

	date_added	release_year	rating	duration	\
0	September 25, 2021	2020	PG-13	90 min	
1	September 24, 2021	2021	TV-MA	2 Seasons	
2	September 24, 2021	2021	TV-MA	1 Season	
3	September 24, 2021	2021	TV-MA	1 Season	
4	September 24, 2021	2021	TV-MA	2 Seasons	
...	
8802	November 20, 2019	2007	R	158 min	
8803	July 1, 2019	2018	TV-Y7	2 Seasons	
8804	November 1, 2019	2009	R	88 min	
8805	January 11, 2020	2006	PG	88 min	
8806	March 2, 2019	2015	TV-14	111 min	

	listed_in	\
0	Documentaries	
1	International TV Shows, TV Dramas, TV Mysteries	
2	Crime TV Shows, International TV Shows, TV Act...	
3	Docuseries, Reality TV	
4	International TV Shows, Romantic TV Shows, TV ...	
...	...	
8802	Cult Movies, Dramas, Thrillers	
8803	Kids' TV, Korean TV Shows, TV Comedies	
8804	Comedies, Horror Movies	
8805	Children & Family Movies, Comedies	
8806	Dramas, International Movies, Music & Musicals	

	description
0	As her father nears the end of his life, filmm...
1	After crossing paths at a party, a Cape Town t...
2	To protect his family from a powerful drug lor...


```
3     Feuds, flirtations and toilet talk go down amo...
4     In a city of coaching centers known to train I...
...
8802  A political cartoonist, a crime reporter and a...
8803  While living alone in a spooky town, a young g...
8804  Looking to survive in a world taken over by zo...
8805  Dragged from civilian life, a former superhero...
8806  A scrappy but poor boy worms his way into a ty...
```

```
[8807 rows x 12 columns]
```

```
# Unnesting the list column 'cast' by splitting at ',':
```

```
df1['cast'] = df1['cast'].str.split(',')
```

```
# Converting the str to row form of cast:
```

```
cast = df1['cast'].explode()
```

```
# Converting the list column 'Country' by splitting at ',':
```

```
df1['country'] = df1['country'].str.split(',')
```

```
# Converting the str to row form of country:
```

```
Country = df1['country'].explode()
```

```
# Converting the list column 'listed_in' by splitting at ',':
```

```
df1['listed_in'] = df1['listed_in'].str.split(',')
```

```
# Converting the str to row form of 'liste_in' renaming as 'Genre':
```

```
genre = df1['listed_in'].explode(',')
```

```
# Merging the 'cast' column rename as 'Actors' to dataframe df1:
```

```
df1 = df1.merge(cast.rename('Actors'), left_index = True, right_index  
= True)
```

```
# Merging the 'country' column as 'Country' to dataframe df1:
```

```
df1 = df1.merge(Country.rename('Country'), left_index =
```

```
True, right_index = True)
```

```
# Merging the 'Genre' column to dataframe df1
```

```
df1 = df1.merge(genre.rename('Genre'), left_index = True, right_index = True)
```

```
# Dropping the unwanted columns from the dataframe df1:
```

```
df1.drop(['cast', 'listed_in', 'country'], axis = 1, inplace = True)
```

```
# We have the required dataframe for analysis:
```

```
df1.head(20)
```

[illegible]

24, 2021	1	s2	TV Show	Blood & Water	NaN	September
24, 2021	1	s2	TV Show	Blood & Water	NaN	September
24, 2021	1	s2	TV Show	Blood & Water	NaN	September
24, 2021	1	s2	TV Show	Blood & Water	NaN	September
24, 2021	1	s2	TV Show	Blood & Water	NaN	September
24, 2021	1	s2	TV Show	Blood & Water	NaN	September

	release_year	rating	duration	\
0	2020	PG-13	90 min	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	

	description
Actors \	
0	As her father nears the end of his life, filmm...
NaN	
1	After crossing paths at a party, a Cape Town t... Ama Qamata
1	After crossing paths at a party, a Cape Town t... Khosi Ngema
1	After crossing paths at a party, a Cape Town t... Gail Mabalane
1	After crossing paths at a party, a Cape Town t... Thabang Molaba
1	After crossing paths at a party, a Cape Town t... Dillon Windvogel
1	After crossing paths at a party, a Cape Town t... Natasha

Thahane		
1 After crossing paths at a party, a Cape Town t...		Arno Greeff
1 After crossing paths at a party, a Cape Town t...		Xolile Tshabalala
1 After crossing paths at a party, a Cape Town t...		Getmore Sithole
1 After crossing paths at a party, a Cape Town t...		Cindy Mahlangu
1 After crossing paths at a party, a Cape Town t...		Ryle De Morny
1 After crossing paths at a party, a Cape Town t...		Greteli Fincham
1 After crossing paths at a party, a Cape Town t...		Sello Maake Ka-Ncube
1 After crossing paths at a party, a Cape Town t...		Odwa Gwanya
1 After crossing paths at a party, a Cape Town t...		Mekaila Mathys
1 After crossing paths at a party, a Cape Town t...		Sandi Schultz
1 After crossing paths at a party, a Cape Town t...		Duane Williams
1 After crossing paths at a party, a Cape Town t...		Shamilla Miller
1 After crossing paths at a party, a Cape Town t...		Patrick Mofokeng

[illegible]

Dropping the duplicates to avoid miscellaneous:

```
df1.drop_duplicates()
```

	show_id	type	title	director	\
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	
1	s2	TV Show	Blood & Water	NaN	
1	s2	TV Show	Blood & Water	NaN	
1	s2	TV Show	Blood & Water	NaN	
1	s2	TV Show	Blood & Water	NaN	
...	
8806	s8807	Movie	Zubaan	Mozez Singh	
8806	s8807	Movie	Zubaan	Mozez Singh	
8806	s8807	Movie	Zubaan	Mozez Singh	
8806	s8807	Movie	Zubaan	Mozez Singh	
8806	s8807	Movie	Zubaan	Mozez Singh	

	date_added	release_year	rating	duration	\
0	September 25, 2021	2020	PG-13	90 min	
1	September 24, 2021	2021	TV-MA	2 Seasons	
1	September 24, 2021	2021	TV-MA	2 Seasons	
1	September 24, 2021	2021	TV-MA	2 Seasons	
1	September 24, 2021	2021	TV-MA	2 Seasons	
...	
8806	March 2, 2019	2015	TV-14	111 min	
8806	March 2, 2019	2015	TV-14	111 min	
8806	March 2, 2019	2015	TV-14	111 min	
8806	March 2, 2019	2015	TV-14	111 min	
8806	March 2, 2019	2015	TV-14	111 min	

	description	\
0	As her father nears the end of his life, filmm...	
1	After crossing paths at a party, a Cape Town t...	
1	After crossing paths at a party, a Cape Town t...	
1	After crossing paths at a party, a Cape Town t...	
1	After crossing paths at a party, a Cape Town t...	
...	...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	

	Actors	Country	Genre
0	NaN	United States	Documentaries
1	Ama Qamata	South Africa	International TV Shows
1	Khosi Ngema	South Africa	International TV Shows
1	Gail Mabalane	South Africa	International TV Shows

1	Thabang Molaba	South Africa	International TV Shows
...
8806	Manish Chaudhary	India	International TV Shows
8806	Meghna Malik	India	International TV Shows
8806	Malkeet Rauni	India	International TV Shows
8806	Anita Shabdish	India	International TV Shows
8806	Chittaranjan Tripathy	India	International TV Shows

[81737 rows x 12 columns]

df1.head()

show_id	type	title	director
date_added	\		
0	s1	Movie	Dick Johnson Is Dead
25, 2021			Kirsten Johnson
1	s2	TV Show	Blood & Water
24, 2021			NaN
1	s2	TV Show	Blood & Water
24, 2021			NaN
1	s2	TV Show	Blood & Water
24, 2021			NaN
1	s2	TV Show	Blood & Water
24, 2021			NaN

release_year	rating	duration	\
0	2020	PG-13	90 min
1	2021	TV-MA	2 Seasons
1	2021	TV-MA	2 Seasons
1	2021	TV-MA	2 Seasons
1	2021	TV-MA	2 Seasons

	description	Actors
\		
0	As her father nears the end of his life, filmm...	NaN
1	After crossing paths at a party, a Cape Town t...	Ama Qamata
1	After crossing paths at a party, a Cape Town t...	Khosi Ngema
1	After crossing paths at a party, a Cape Town t...	Gail Mabalane
1	After crossing paths at a party, a Cape Town t...	Thabang Molaba

	Country	Genre
0	United States	Documentaries
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows

```

# Checking for the NAN values from df:

df1.isna().sum()

show_id      0
type         0
title        0
director    21937
date_added   69
release_year  0
rating       38
duration      3
description   0
Actors       1006
Country      5053
Genre        0
dtype: int64

# Filling the NaN values in 'director' column as 'unknown_director':

df1['director'] = df1['director'].fillna('unknown_director')

# Filling the NaN values in 'date_added' column to mode() of the date:

df1['date_added'] = df1['date_added'].fillna(df1['date_added'].mode()[0])

# Filling the NaN values in 'rating' column to mode() of the rating:

df1['rating'] = df1['rating'].fillna(df1['rating'].mode()[0])

# Filling the NaN values in 'duration' column as 'unknown_duration':

df1['duration'] = df1['duration'].fillna('unknown_duration')

# Filling the NaN values in 'Actors' column as 'unknown_dactors':

df1['Actors'] = df1['Actors'].fillna('unknown_actors')

# Filling the NaN values in 'Country' column as 'unknown_country':

df1['Country'] = df1['Country'].fillna('unknown_country')

# We got the required dataframe df1:

df1.head()

```

	show_id	type	title		director	\
0	s1	Movie	Dick Johnson	Is Dead	Kirsten Johnson	
1	s2	TV Show	Blood & Water		unknown_director	
1	s2	TV Show	Blood & Water		unknown_director	
1	s2	TV Show	Blood & Water		unknown_director	
1	s2	TV Show	Blood & Water		unknown_director	

	date_added	release_year	rating	duration	\
0	September 25, 2021	2020	PG-13	90 min	
1	September 24, 2021	2021	TV-MA	2 Seasons	
1	September 24, 2021	2021	TV-MA	2 Seasons	
1	September 24, 2021	2021	TV-MA	2 Seasons	
1	September 24, 2021	2021	TV-MA	2 Seasons	

	description		Actors
0	As her father nears the end of his life, filmm...		unknown_actors
1	After crossing paths at a party, a Cape Town t...		Ama Qamata
1	After crossing paths at a party, a Cape Town t...		Khosi Ngema
1	After crossing paths at a party, a Cape Town t...		Gail Mabalane
1	After crossing paths at a party, a Cape Town t...		Thabang Molaba

	Country	Genre
0	United States	Documentaries
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows

2.Comparison of tv shows v/s movies

filtering the data of movies from the dataframe:

```
dm1 = df1[df1['type']=='Movie']
```

dm1

	show_id	type	title		\
0	s1	Movie	Dick Johnson	Is Dead	
6	s7	Movie	My Little Pony: A New Generation		
6	s7	Movie	My Little Pony: A New Generation		
6	s7	Movie	My Little Pony: A New Generation		
6	s7	Movie	My Little Pony: A New Generation		

...
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan

rating \	director	date_added	release_year
0	Kirsten Johnson	September 25, 2021	2020
PG-13			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
...

...			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			

duration		description \
0	90 min	As her father nears the end of his life, filmm...
6	91 min	Equestria's divided. But a bright-eyed hero be...
6	91 min	Equestria's divided. But a bright-eyed hero be...
6	91 min	Equestria's divided. But a bright-eyed hero be...
6	91 min	Equestria's divided. But a bright-eyed hero be...
...
8806	111 min	A scrappy but poor boy worms his way into a ty...
8806	111 min	A scrappy but poor boy worms his way into a ty...
8806	111 min	A scrappy but poor boy worms his way into a ty...
8806	111 min	A scrappy but poor boy worms his way into a ty...
8806	111 min	A scrappy but poor boy worms his way into a ty...

Actors	Country	Genre
0	unknown_actors	United States Documentaries
6	Vanessa Hudgens	unknown_country TV Action & Adventure

6	Kimiko Glenn	unknown_country	TV Action & Adventure
6	James Marsden	unknown_country	TV Action & Adventure
6	Sofia Carson	unknown_country	TV Action & Adventure
...
8806	Manish Chaudhary	India	International TV Shows
8806	Meghna Malik	India	International TV Shows
8806	Malkeet Rauni	India	International TV Shows
8806	Anita Shabdish	India	International TV Shows
8806	Chittaranjan Tripathy	India	International TV Shows

[58564 rows x 12 columns]

Filtering the data for TV Shows from the dataframe:

```
dtv1 = df1[df1['type']=='TV Show']
```

Dropping the duplicates for TV Shows df:

```
dtv1.drop_duplicates()
```

	show_id	type	title	director \
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
...
8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director
8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director
8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director
8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director
8803	s8804	TV Show	Zombie Dumb	unknown_director

	date_added	release_year	rating	duration \
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons

...
8800	December 15, 2016	2012	TV-PG	1 Season
8800	December 15, 2016	2012	TV-PG	1 Season
8800	December 15, 2016	2012	TV-PG	1 Season
8800	December 15, 2016	2012	TV-PG	1 Season
8803	July 1, 2019	2018	TV-Y7	2 Seasons

		description	
Actors \			
1	After crossing paths at a party, a Cape Town t...		Ama
Qamata			
1	After crossing paths at a party, a Cape Town t...		Khosi
Ngema			
1	After crossing paths at a party, a Cape Town t...		Gail
Mabalane			
1	After crossing paths at a party, a Cape Town t...		Thabang
Molaba			
1	After crossing paths at a party, a Cape Town t...		Dillon
Windvogel			
...			...
...			
8800	Strong-willed, middle-class Kashaf and carefre...		Samina
Peerzada			
8800	Strong-willed, middle-class Kashaf and carefre...		Waseem
Abbas			
8800	Strong-willed, middle-class Kashaf and carefre...		Javed
Sheikh			
8800	Strong-willed, middle-class Kashaf and carefre...		Hina Khawaja
Bayat			
8803	While living alone in a spooky town, a young g...		
unknown_actors			

	Country	Genre
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
...
8800	Pakistan	Docuseries
8800	Pakistan	Docuseries
8800	Pakistan	Docuseries
8800	Pakistan	Docuseries
8803	unknown_country	Comedies

[23177 rows x 12 columns]

Dropping duplicate sfor the Movies dataframe:

```
dm1.drop_duplicates()
```

	show_id	type	title \
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
...
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan
8806	s8807	Movie	Zubaan

	director	date_added	release_year
rating \			
0	Kirsten Johnson	September 25, 2021	2020
PG-13			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
6	Robert Cullen, José Luis Ucha	September 24, 2021	2021
PG			
...
...			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			
8806	Mozez Singh	March 2, 2019	2015
TV-14			

	duration	description \
0	90 min	As her father nears the end of his life, filmm...
6	91 min	Equestria's divided. But a bright-eyed hero be...
6	91 min	Equestria's divided. But a bright-eyed hero be...
6	91 min	Equestria's divided. But a bright-eyed hero be...
6	91 min	Equestria's divided. But a bright-eyed hero be...
...
8806	111 min	A scrappy but poor boy worms his way into a ty...
8806	111 min	A scrappy but poor boy worms his way into a ty...

```

8806  111 min  A scrappy but poor boy worms his way into a ty...
8806  111 min  A scrappy but poor boy worms his way into a ty...
8806  111 min  A scrappy but poor boy worms his way into a ty...

```

	Actors	Country	Genre
0	unknown_actors	United States	Documentaries
6	Vanessa Hudgens	unknown_country	TV Action & Adventure
6	Kimiko Glenn	unknown_country	TV Action & Adventure
6	James Marsden	unknown_country	TV Action & Adventure
6	Sofia Carson	unknown_country	TV Action & Adventure
...
8806	Manish Chaudhary	India	International TV Shows
8806	Meghna Malik	India	International TV Shows
8806	Malkeet Rauni	India	International TV Shows
8806	Anita Shabdish	India	International TV Shows
8806	Chittaranjan Tripathy	India	International TV Shows

```
[58560 rows x 12 columns]
```

```
# Counting the Movies from the dataframe
```

```
df_movie_count = df[df['type']=='Movie']
```

```
df_movie_count.head()
```

	show_id	type	title \
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
7	s8	Movie	Sankofa
9	s10	Movie	The Starling
12	s13	Movie	Je Suis Karl

	director \
0	Kirsten Johnson
6	Robert Cullen, José Luis Ucha
7	Haile Gerima
9	Theodore Melfi
12	Christian Schwochow

```

                                cast \
0                                NaN
6  [Vanessa Hudgens, Kimiko Glenn, James Marsde...
7  [Kofi Ghanaba, Oyafunmike Ogunlano, Alexandr...
9  [Melissa McCarthy, Chris O'Dowd, Kevin Kline...
12 [Luna Wedler, Jannis Niewöhner, Milan Pesche...

                                country
date_added \
0                                [United States] September 25,
2021
6                                NaN September 24,
2021
7  [United States, Ghana, Burkina Faso, United... September 24,
2021
9                                [United States] September 24,
2021
12                                [Germany, Czech Republic] September 23,
2021

```

```

release_year rating duration \
0          2020  PG-13    90 min
6          2021   PG    91 min
7          1993 TV-MA   125 min
9          2021  PG-13   104 min
12         2021 TV-MA   127 min

```

```

                                listed_in \
0                                [Documentaries]
6                                [Children & Family Movies]
7  [Dramas, Independent Movies, International M...
9                                [Comedies, Dramas]
12                                [Dramas, International Movies]

```

```

                                description
0  As her father nears the end of his life, filmm...
6  Equestria's divided. But a bright-eyed hero be...
7  On a photo shoot in Ghana, an American model s...
9  A woman adjusting to life after a loss contend...
12 After most of her family is murdered in a terr...

```

Countig the TV Shows from the dataframe:

```
df_tv_count = df[df['type']=='TV Show']
```

```
df_tv_count.head()
```

```

show_id  type  title  director \
1      s2  TV Show  Blood & Water  NaN
2      s3  TV Show  Ganglands  Julien Leclercq

```

```

3      s4  TV Show  Jailbirds New Orleans      NaN
4      s5  TV Show      Kota Factory      NaN
5      s6  TV Show      Midnight Mass      Mike Flanagan

cast
country \
1  [Ama Qamata, Khosi Ngema, Gail Mabalane, Th...  [South Africa]
2  [Sami Bouajila, Tracy Gotoas, Samuel Jouy, ...      NaN
3                                     NaN      NaN
4  [Mayur More, Jitendra Kumar, Ranjan Raj, Al...  [India]
5  [Kate Siegel, Zach Gilford, Hamish Linklater...      NaN

date_added  release_year  rating  duration \
1  September 24, 2021      2021  TV-MA  2 Seasons
2  September 24, 2021      2021  TV-MA  1 Season
3  September 24, 2021      2021  TV-MA  1 Season
4  September 24, 2021      2021  TV-MA  2 Seasons
5  September 24, 2021      2021  TV-MA  1 Season

listed_in \
1  [International TV Shows, TV Dramas, TV Myste...
2  [Crime TV Shows, International TV Shows, TV ...
3                                     [Docuseries, Reality TV]
4  [International TV Shows, Romantic TV Shows, ...
5                                     [TV Dramas, TV Horror, TV Mysteries]

description
1  After crossing paths at a party, a Cape Town t...
2  To protect his family from a powerful drug lor...
3  Feuds, flirtations and toilet talk go down amo...
4  In a city of coaching centers known to train I...
5  The arrival of a charismatic young priest brin...

```

Counting the movies grouped by year:

```

movie_count = df_movie_count.groupby('release_year')
[['release_year', 'title']].agg(title_count = ('title', 'count')
)

```

Resetting the index for the movies_count:

```

movie_count.reset_index()

```

	release_year	title_count
0	1942	2
1	1943	3
2	1944	3
3	1945	3
4	1946	1
...
68	2017	767
69	2018	767
70	2019	633
71	2020	517
72	2021	277

[73 rows x 2 columns]

Grpuping by release_year and counting th TV Shows:

```
tv_count = df_tv_count.groupby('release_year')
[['title', 'release_year']].agg(title_count = ('title', 'count'))
```

Resetting the index for Tv_count :

```
tv_count.reset_index()
```

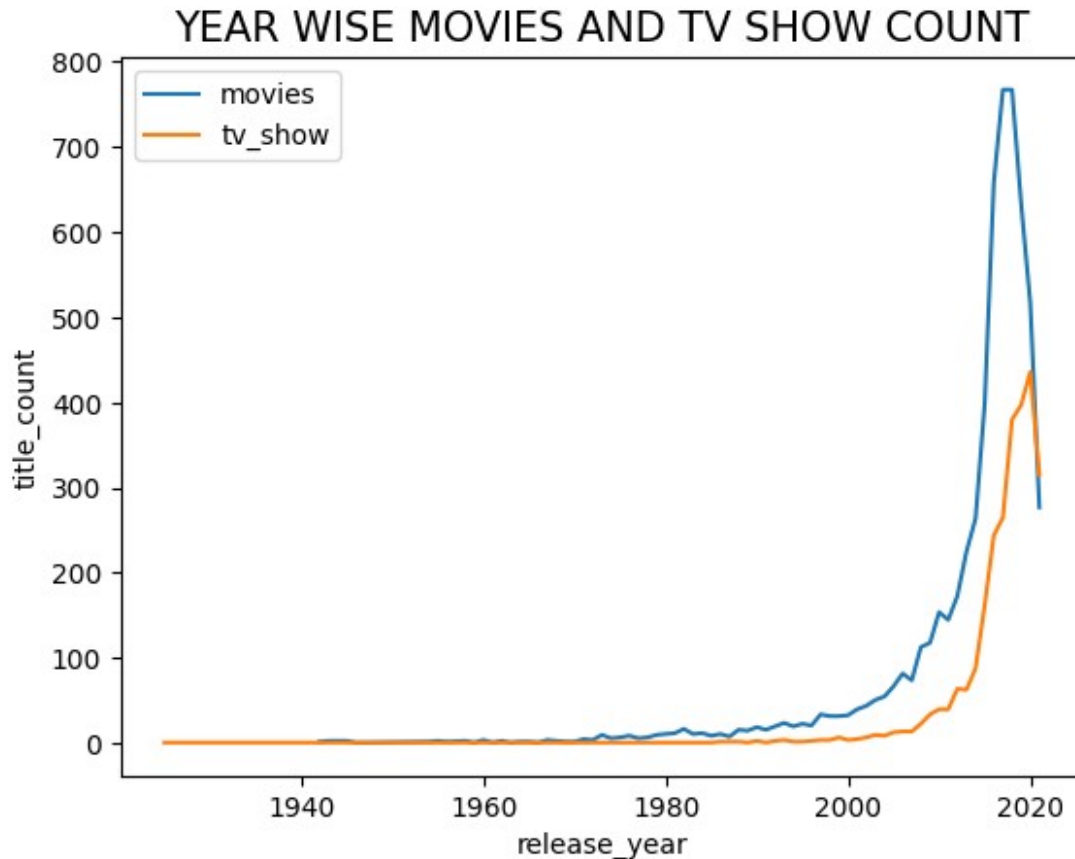
	release_year	title_count
0	1925	1
1	1945	1
2	1946	1
3	1963	1
4	1967	1
5	1972	1
6	1974	1
7	1977	1
8	1979	1
9	1981	1
10	1985	1
11	1986	2
12	1988	2
13	1989	1
14	1990	3
15	1991	1
16	1992	3
17	1993	4
18	1994	2
19	1995	2
20	1996	3
21	1997	4
22	1998	4

23	1999	7
24	2000	4
25	2001	5
26	2002	7
27	2003	10
28	2004	9
29	2005	13
30	2006	14
31	2007	14
32	2008	23
33	2009	34
34	2010	40
35	2011	40
36	2012	64
37	2013	63
38	2014	88
39	2015	162
40	2016	244
41	2017	265
42	2018	380
43	2019	397
44	2020	436
45	2021	315

--TV SHOWS VS MOVIES RELEASE YEAR COMPARISON BY GRAPHICAL REPRESENTATION

```
sns.lineplot(
    x = 'release_year',
    y = 'title_count',
    data = movie_count,
    label = 'movies'
)

sns.lineplot(
    x = 'release_year',
    y = 'title_count',
    data = tv_count,
    label = 'tv_show'
)
plt.title('YEAR WISE MOVIES AND TV SHOW COUNT',fontsize = 15)
plt.show()
```



-- We can see from the graphical representation that the movies are far ahead in terms of releases per year than TV Shows.

COMPARISON BETWEEN TV SHOW AND MOVIES COUNTRY WISE IN NETFLIX PLATFORM

```
dm1['Country'].value_counts().index[:20]
Index(['United States', 'India', 'United States', 'unknown_country',
       'United Kingdom', 'Canada', 'France', 'United Kingdom', 'Canada',
       'France', 'Spain', 'Germany', 'Japan', 'Nigeria', 'Egypt',
       'Indonesia',
       'Turkey', 'Philippines', 'Belgium', 'Hong Kong'],
      dtype='object')

dtv1['Country'].value_counts().index[:20]
Index(['United States', 'unknown_country', 'Japan', 'United Kingdom',
       'South Korea', 'United States', 'Canada', 'Mexico', 'Spain',
       'Taiwan',
       'France', 'India', 'Australia', 'Canada', 'China', 'Japan',
       'Turkey',
       'Colombia', 'Thailand', 'Brazil'],
      dtype='object')
```

```
# Top 20 movies per country:
top20_movie_country = dm1['Country'].value_counts()
top20_tv_country = dtv1['Country'].value_counts()
```

```
top20_movie_country = top20_movie_country[:20]
```

```
# top 20 TV Shows per Country:
```

```
top20_tv_country = top20_tv_country[:20]
```

```
top20_mv_ind = top20_movie_country.index[:20]
```

```
top20_tv_ind = top20_tv_country.index[:20]
```

```
top20_movie_country
```

United States	17536
India	7087
United States	3206
unknown_country	2713
United Kingdom	2537
Canada	1349
France	1338
United Kingdom	1281
Canada	1161
France	1097
Spain	985
Germany	850
Japan	841
Nigeria	770
Egypt	722
Indonesia	680
Turkey	680
Philippines	663
Belgium	593
Hong Kong	579

Name: Country, dtype: int64

```
top20_tv_country
```

United States	5905
unknown_country	2340
Japan	2031
United Kingdom	1448
South Korea	1246
United States	823
Canada	670
Mexico	581

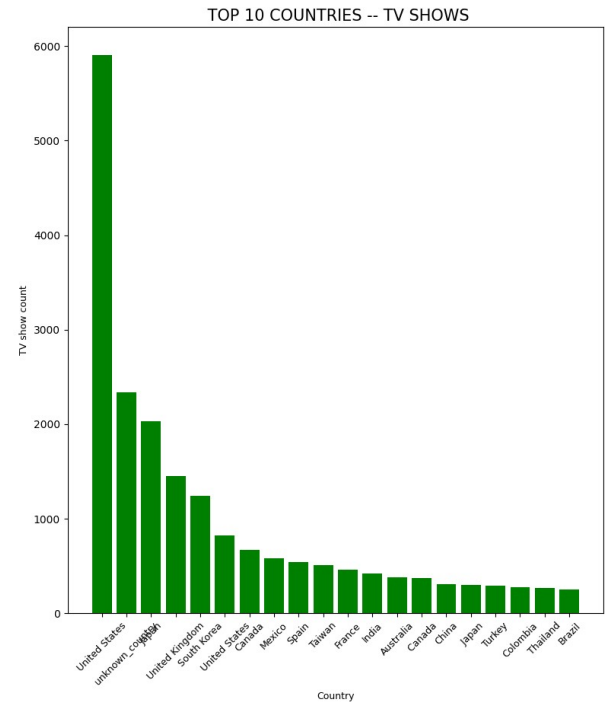
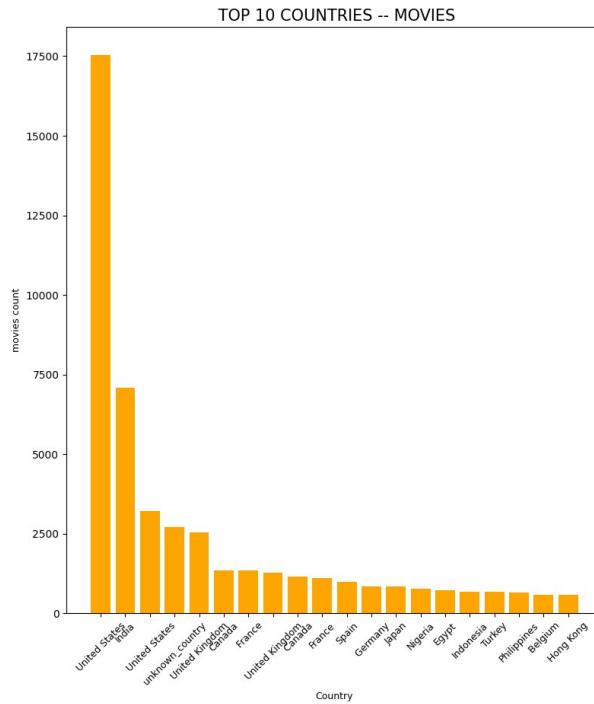
Spain	543
Taiwan	508
France	461
India	421
Australia	377
Canada	370
China	309
Japan	302
Turkey	291
Colombia	277
Thailand	272
Brazil	250

Name: Country, dtype: int64

TOP 20 COUNTRIES COMPARISON BETWEEN TV SHOW AND MOVIES COUNTS.

```
plt.figure(figsize=(20,10))
plt.subplot(1,2,1)
plt.bar(top20_mv_ind,top20_movie_country,color='orange')
plt.xticks(rotation = 45,fontsize = 9)
plt.title(' TOP 10 COUNTRIES -- MOVIES',fontsize = 15)
plt.xlabel('Country',fontsize = 9)
plt.ylabel('movies count',fontsize = 9)

plt.subplot(1,2,2)
plt.bar(top20_tv_ind,top20_tv_country,width = 0.8,color = 'green')
plt.xticks(rotation = 45,fontsize = 9)
plt.title(' TOP 10 COUNTRIES -- TV SHOWS',fontsize = 15)
plt.xlabel('Country',fontsize = 9)
plt.ylabel('TV show count',fontsize = 9)
plt.show()
```



df1

	show_id	type	title	director
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
...
8806	s8807	Movie	Zubaan	Mozez Singh
8806	s8807	Movie	Zubaan	Mozez Singh
8806	s8807	Movie	Zubaan	Mozez Singh
8806	s8807	Movie	Zubaan	Mozez Singh
8806	s8807	Movie	Zubaan	Mozez Singh

	date_added	release_year	rating	duration
0	September 25, 2021	2020	PG-13	90 min
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
...
8806	March 2, 2019	2015	TV-14	111 min
8806	March 2, 2019	2015	TV-14	111 min
8806	March 2, 2019	2015	TV-14	111 min
8806	March 2, 2019	2015	TV-14	111 min
8806	March 2, 2019	2015	TV-14	111 min

```

description \
0    As her father nears the end of his life, filmm...
1    After crossing paths at a party, a Cape Town t...
1    After crossing paths at a party, a Cape Town t...
1    After crossing paths at a party, a Cape Town t...
1    After crossing paths at a party, a Cape Town t...
...
8806 A scrappy but poor boy worms his way into a ty...
8806 A scrappy but poor boy worms his way into a ty...
8806 A scrappy but poor boy worms his way into a ty...
8806 A scrappy but poor boy worms his way into a ty...
8806 A scrappy but poor boy worms his way into a ty...

```

	Actors	Country	Genre
0	unknown_actors	United States	Documentaries
1	Ama Qamata	South Africa	International TV Shows
1	Khosi Ngema	South Africa	International TV Shows
1	Gail Mabalane	South Africa	International TV Shows
1	Thabang Molaba	South Africa	International TV Shows
...
8806	Manish Chaudhary	India	International TV Shows
8806	Meghna Malik	India	International TV Shows
8806	Malkeet Rauni	India	International TV Shows
8806	Anita Shabdish	India	International TV Shows
8806	Chittaranjan Tripathy	India	International TV Shows

```
[81741 rows x 12 columns]
```

```
top10genre = df1['Genre'].value_counts().index[:10]
```

```
top10genre
```

```

Index([' International Movies', 'Dramas', 'Comedies', ' TV Dramas',
      'International TV Shows', 'Action & Adventure', ' Dramas',
      ' International TV Shows', ' Romantic Movies',
      'Children & Family Movies'],
      dtype='object')

```

```
top10director = df1['director'].value_counts().index[1:11]
```

```

top10data = df1.loc[(df1['Genre'].isin(top10genre)) &
                    (df1['director'].isin(top10director))]

```

```
top10data
```

	show_id	type	title	director
\				
406	s407	Movie	Chhota Bheem - Neeli Pahaadi	Rajiv Chilaka
406	s407	Movie	Chhota Bheem - Neeli Pahaadi	Rajiv Chilaka

406	s407	Movie	Chhota Bheem - Neeli Pahaadi	Rajiv Chilaka
406	s407	Movie	Chhota Bheem - Neeli Pahaadi	Rajiv Chilaka
406	s407	Movie	Chhota Bheem - Neeli Pahaadi	Rajiv Chilaka
...
8735	s8736	Movie	Who's That Knocking at My Door?	Martin Scorsese
8735	s8736	Movie	Who's That Knocking at My Door?	Martin Scorsese
8735	s8736	Movie	Who's That Knocking at My Door?	Martin Scorsese
8735	s8736	Movie	Who's That Knocking at My Door?	Martin Scorsese
8735	s8736	Movie	Who's That Knocking at My Door?	Martin Scorsese

	date_added	release_year	rating	duration	\
406	July 22, 2021	2013	TV-Y7	64 min	
406	July 22, 2021	2013	TV-Y7	64 min	
406	July 22, 2021	2013	TV-Y7	64 min	
406	July 22, 2021	2013	TV-Y7	64 min	
406	July 22, 2021	2013	TV-Y7	64 min	
...	
8735	July 1, 2019	1967	R	90 min	
8735	July 1, 2019	1967	R	90 min	
8735	July 1, 2019	1967	R	90 min	
8735	July 1, 2019	1967	R	90 min	
8735	July 1, 2019	1967	R	90 min	

	description
Actors \	
406	Things get spooky when Bheem and his buddies t... Vatsal Dubey
406	Things get spooky when Bheem and his buddies t... Julie Tejwani
406	Things get spooky when Bheem and his buddies t... Rupa Bhimani
406	Things get spooky when Bheem and his buddies t... Jigna Bhardwaj
406	Things get spooky when Bheem and his buddies t... Rajesh Kava
...	...
...	
8735	A woman's revelation that she was once raped s... Michael Scala
8735	A woman's revelation that she was once raped s... Harry Northup

```

8735 A woman's revelation that she was once raped s...
Susan Wood
8735 A woman's revelation that she was once raped s... Marissa
Mathes
8735 A woman's revelation that she was once raped s... Catherine
Scorsese

```

	Country	Genre
406	unknown_country	International TV Shows
406	unknown_country	International TV Shows
406	unknown_country	International TV Shows
406	unknown_country	International TV Shows
406	unknown_country	International TV Shows
...
8735	United States	Comedies
8735	United States	Comedies
8735	United States	Comedies
8735	United States	Comedies
8735	United States	Comedies

```
[713 rows x 12 columns]
```

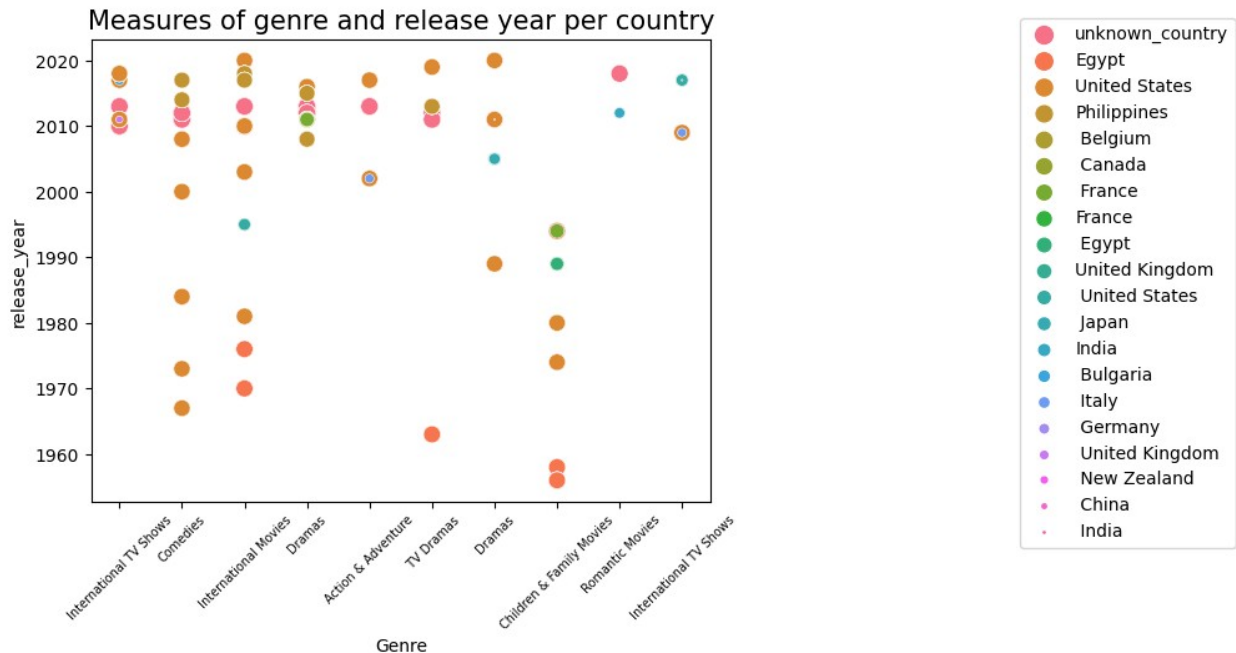
--YEAR WISE TOP 10 COUNTRIES THAT PRODUCED DIFFRENT GENRE OF MOVIES AND TV SHOWS

```

sns.scatterplot(
    x = 'Genre',
    y = 'release_year',
    hue = "Country",
    sizes = (1,100),
    size = 'Country',
    data = top10data
)

plt.title('Measures of genre and release year per country',fontsize =
15)
plt.legend(loc = (1.5,-0.1))
plt.xticks(rotation = 45,fontsize = 7)
plt.show()

```

3. What is the best time to launch TV Show

```
df1.head()
```

	show_id	type	title	director
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director

	date_added	release_year	rating	duration
0	September 25, 2021	2020	PG-13	90 min
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons

	description	Actors
0	As her father nears the end of his life, filmm...	unknown_actors
1	After crossing paths at a party, a Cape Town t...	Ama Qamata
1	After crossing paths at a party, a Cape Town t...	Khosi Ngema
1	After crossing paths at a party, a Cape Town t...	Gail Mabalane
1	After crossing paths at a party, a Cape Town t...	Thabang Molaba

	Country	Genre
0	United States	Documentaries
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows

```
df_date = df1
```

```
df_date.head()
```

	show_id	type	title	director \
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director
1	s2	TV Show	Blood & Water	unknown_director

	date_added	release_year	rating	duration \
0	September 25, 2021	2020	PG-13	90 min
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons
1	September 24, 2021	2021	TV-MA	2 Seasons

	description	Actors
0	As her father nears the end of his life, filmm...	unknown_actors
1	After crossing paths at a party, a Cape Town t...	Ama Qamata
1	After crossing paths at a party, a Cape Town t...	Khosi Ngema
1	After crossing paths at a party, a Cape Town t...	Gail Mabalane
1	After crossing paths at a party, a Cape Town t...	Thabang Molaba

	Country	Genre
0	United States	Documentaries
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows

```
# Converting the datatype of date_added from object to datetime:
```

```
df_date['date_added'] = pd.to_datetime(df_date['date_added'])
```

```
df_date.head(5)
```

	show_id	type	title	director	date_added
\					
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	2021-09-25
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

	release_year	rating	duration	\
0	2020	PG-13	90 min	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	

	description	Actors
\		
0	As her father nears the end of his life, filmm...	unknown_actors
1	After crossing paths at a party, a Cape Town t...	Ama Qamata
1	After crossing paths at a party, a Cape Town t...	Khosi Ngema
1	After crossing paths at a party, a Cape Town t...	Gail Mabalane
1	After crossing paths at a party, a Cape Town t...	Thabang Molaba

	Country	Genre
0	United States	Documentaries
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows
1	South Africa	International TV Shows

```
# Extracting the 'day' of week from the date_added column:
```

```
df_date['day'] = df_date['date_added'].dt.day_name()
```

```
df_date.head(5)
```

	show_id	type	title	director	date_added
\					
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	2021-09-25

1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

	release_year	rating	duration	\
0	2020	PG-13	90 min	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	

	description	Actors
\		
0	As her father nears the end of his life, filmm...	unknown_actors
1	After crossing paths at a party, a Cape Town t...	Ama Qamata
1	After crossing paths at a party, a Cape Town t...	Khosi Ngema
1	After crossing paths at a party, a Cape Town t...	Gail Mabalane
1	After crossing paths at a party, a Cape Town t...	Thabang Molaba

	Country	Genre	day
0	United States	Documentaries	Saturday
1	South Africa	International TV Shows	Friday
1	South Africa	International TV Shows	Friday
1	South Africa	International TV Shows	Friday
1	South Africa	International TV Shows	Friday

Extracting the 'month' from the date_added column:

```
df_date['month'] = df_date['date_added'].dt.month_name()
```

```
df_date.head()
```

	show_id	type	title	director	date_added
\					
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	2021-09-25
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

	release_year	rating	duration	\
0	2020	PG-13	90 min	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	

		description	Actors
\			
0	As her father nears the end of his life, filmm...		unknown_actors
1	After crossing paths at a party, a Cape Town t...		Ama Qamata
1	After crossing paths at a party, a Cape Town t...		Khosi Ngema
1	After crossing paths at a party, a Cape Town t...		Gail Mabalane
1	After crossing paths at a party, a Cape Town t...		Thabang Molaba

	Country	Genre	day	month
0	United States	Documentaries	Saturday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September

Filtering the required data of Tv show from the dataframe:

```
df_datetv = df_date[df_date['type']=='TV Show']
```

```
df_datetv.head()
```

show_id	type	title	director	date_added
release_year	\			
1	s2	TV Show	Blood & Water	unknown_director
2021				2021-09-24
1	s2	TV Show	Blood & Water	unknown_director
2021				2021-09-24
1	s2	TV Show	Blood & Water	unknown_director
2021				2021-09-24
1	s2	TV Show	Blood & Water	unknown_director
2021				2021-09-24
1	s2	TV Show	Blood & Water	unknown_director
2021				2021-09-24

	rating	duration		description
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...	
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...	
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...	
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...	
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...	

	Actors	Country	Genre	day
month				
1	Ama Qamata	South Africa	International TV Shows	Friday
September				
1	Khosi Ngema	South Africa	International TV Shows	Friday
September				
1	Gail Mabalane	South Africa	International TV Shows	Friday
September				
1	Thabang Molaba	South Africa	International TV Shows	Friday
September				
1	Dillon Windvogel	South Africa	International TV Shows	Friday
September				

Grouping the data by 'month' and counting the number of shows:

```
df_datetv_month = df_datetv.groupby('month')
[['month', 'title']].agg(title_count = ('title', 'count')).reset_index()
```

sorting values by number of shows highest:

```
df_datetv_month.sort_values(by = 'title_count', ascending = False)
```

	month	title_count
4	January	2204
2	December	2185
5	July	2135
1	August	2072
11	September	2032
6	June	2009
9	November	1935
0	April	1828
7	March	1798
10	October	1731

8	May	1695
3	February	1553

grouping the data by day of week and counting the numbe of shows:

```
df_datetv_day = df_datetv.groupby('day')  
[['day','title']].agg(title_count = ('title','count')).reset_index()
```

sorting values by number of shows highest:

```
df_datetv_day.sort_values(by = 'title_count',ascending = False)
```

	day	title_count
0	Friday	8709
4	Thursday	3272
5	Tuesday	2877
6	Wednesday	2752
2	Saturday	2347
1	Monday	1796
3	Sunday	1424

plotting the two outputs of month and weekday :

```
plt.figure(figsize = (30,8))
```

```
plt.subplot(1,3,1)
```

```
sns.barplot(  
    x= 'day',  
    y = 'title_count',  
    data = df_datetv_day  
)
```

```
plt.title('TV SHOW FOR DAYS',fontsize = 15)
```

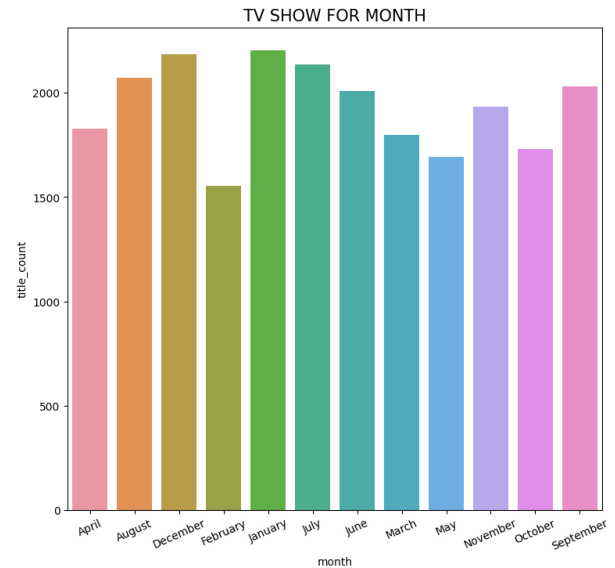
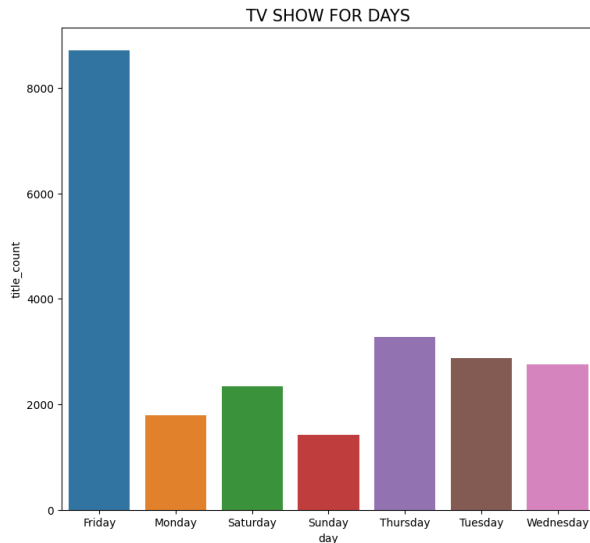
```
plt.subplot(1,3,2)
```

```
sns.barplot(  
    x = 'month',  
    y = 'title_count',  
    data = df_datetv_month  
)
```

```
plt.xticks(rotation = 24,fontsize = 10)
```

```
plt.title('TV SHOW FOR MONTH',fontsize =15)
```

```
plt.show()
```



1.From the above plots we can clearly see that the friday has th ehigh number o tv Show releases on Netflix as it ist the weekend day for many of the audience for diffrent age groups.

2.Followed by Thursday and othe days contribute almost same releases as they are working days.

3.Coming to the month to release a TV Show --"DECEMBER' and "JANUARY" stands top as more releases were happende in these months for past 96 years('data set age').

4.Followed by "SEPTEMBER", "JULY","AUAGUST","JUNE" are also the months for the best possible release of the TV Shows.

CONCLUSION:

Almost all the months have the same success rate for the show relases but the day has been grabbed by 'FRIDAY' which is far more ahead than other days.

df_datetv

	show_id	type	title	director	date_added
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
...
8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director	2016-12-15

8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director	2016-12-15
8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director	2016-12-15
8800	s8801	TV Show	Zindagi Gulzar Hai	unknown_director	2016-12-15
8803	s8804	TV Show	Zombie Dumb	unknown_director	2019-07-01

	release_year	rating	duration	\
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
...	
8800	2012	TV-PG	1 Season	
8800	2012	TV-PG	1 Season	
8800	2012	TV-PG	1 Season	
8800	2012	TV-PG	1 Season	
8803	2018	TV-Y7	2 Seasons	

		description	
Actors	\		
1	After crossing paths at a party, a Cape Town t...		Ama Qamata
1	After crossing paths at a party, a Cape Town t...		Khosi Ngema
1	After crossing paths at a party, a Cape Town t...		Gail Mabalane
1	After crossing paths at a party, a Cape Town t...		Thabang Molaba
1	After crossing paths at a party, a Cape Town t...		Dillon Windvogel
...		...	
...			
8800	Strong-willed, middle-class Kashaf and carefre...		Samina Peerzada
8800	Strong-willed, middle-class Kashaf and carefre...		Waseem Abbas
8800	Strong-willed, middle-class Kashaf and carefre...		Javed Sheikh
8800	Strong-willed, middle-class Kashaf and carefre...		Hina Khawaja Bayat
8803	While living alone in a spooky town, a young g...		unknown_actors

	Country	Genre	day	month
1	South Africa	International TV Shows	Friday	September

1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
...
8800	Pakistan	Docuseries	Thursday	December
8800	Pakistan	Docuseries	Thursday	December
8800	Pakistan	Docuseries	Thursday	December
8800	Pakistan	Docuseries	Thursday	December
8803	unknown_country	Comedies	Monday	July

[23177 rows x 14 columns]

4. Analysis of actors/directors of different types of shows/movies

```
df1.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 81741 entries, 0 to 8806
Data columns (total 14 columns):
#   Column                Non-Null Count  Dtype
---  -
0   show_id               81741 non-null  object
1   type                  81741 non-null  object
2   title                 81741 non-null  object
3   director              81741 non-null  object
4   date_added            81741 non-null  datetime64[ns]
5   release_year          81741 non-null  int64
6   rating                81741 non-null  object
7   duration              81741 non-null  object
8   description            81741 non-null  object
9   Actors                81741 non-null  object
10  Country               81741 non-null  object
11  Genre                 81741 non-null  object
12  day                   81741 non-null  object
13  month                 81741 non-null  object
dtypes: datetime64[ns](1), int64(1), object(12)
memory usage: 9.4+ MB
```

```
df1
```

	show_id	type	title	director	date_added
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	2021-09-25
1	s2	TV Show	Blood & Water	unknown_director	2021-09-

24	1	s2	TV Show	Blood & Water	unknown_director	2021-09-
24	1	s2	TV Show	Blood & Water	unknown_director	2021-09-
24	1	s2	TV Show	Blood & Water	unknown_director	2021-09-
...
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-	02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-	02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-	02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-	02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-	02

	release_year	rating	duration	\
0	2020	PG-13	90 min	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
...	
8806	2015	TV-14	111 min	
8806	2015	TV-14	111 min	
8806	2015	TV-14	111 min	
8806	2015	TV-14	111 min	
8806	2015	TV-14	111 min	

	description	\
0	As her father nears the end of his life, filmm...	
1	After crossing paths at a party, a Cape Town t...	
1	After crossing paths at a party, a Cape Town t...	
1	After crossing paths at a party, a Cape Town t...	
1	After crossing paths at a party, a Cape Town t...	
...	...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	
8806	A scrappy but poor boy worms his way into a ty...	

	Actors	Country
Genre \		
0	unknown_actors	United States
		Documentaries

1	Ama Qamata	South Africa	International TV Shows
1	Khosi Ngema	South Africa	International TV Shows
1	Gail Mabalane	South Africa	International TV Shows
1	Thabang Molaba	South Africa	International TV Shows
...
8806	Manish Chaudhary	India	International TV Shows
8806	Meghna Malik	India	International TV Shows
8806	Malkeet Rauni	India	International TV Shows
8806	Anita Shabdish	India	International TV Shows
8806	Chittaranjan Tripathy	India	International TV Shows

	day	month
0	Saturday	September
1	Friday	September
1	Friday	September
1	Friday	September
1	Friday	September
...
8806	Saturday	March
8806	Saturday	March
8806	Saturday	March
8806	Saturday	March
8806	Saturday	March

[81741 rows x 14 columns]

DIRECTOR ANALYSIS:

```
data_dir = df1
data_dir
```

	show_id	type	title	director	date_added
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	2021-09-25
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
...
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-02
8806	s8807	Movie	Zubaan	Mozez Singh	2019-03-02
	release_year	rating	duration	\	
0	2020	PG-13	90 min		
1	2021	TV-MA	2 Seasons		
1	2021	TV-MA	2 Seasons		
1	2021	TV-MA	2 Seasons		
1	2021	TV-MA	2 Seasons		
...		
8806	2015	TV-14	111 min		
8806	2015	TV-14	111 min		
8806	2015	TV-14	111 min		
8806	2015	TV-14	111 min		
8806	2015	TV-14	111 min		
	description \				
0	As her father nears the end of his life, filmm...				
1	After crossing paths at a party, a Cape Town t...				
1	After crossing paths at a party, a Cape Town t...				
1	After crossing paths at a party, a Cape Town t...				
1	After crossing paths at a party, a Cape Town t...				
...	...				
8806	A scrappy but poor boy worms his way into a ty...				
8806	A scrappy but poor boy worms his way into a ty...				
8806	A scrappy but poor boy worms his way into a ty...				
8806	A scrappy but poor boy worms his way into a ty...				
8806	A scrappy but poor boy worms his way into a ty...				
	Actors		Country		
Genre \					
0	unknown_actors	United States	Documentaries		
1	Ama Qamata	South Africa	International TV Shows		
1	Khosi Ngema	South Africa	International TV Shows		

1	Gail Mabalane	South Africa	International TV Shows
1	Thabang Molaba	South Africa	International TV Shows
...
8806	Manish Chaudhary	India	International TV Shows
8806	Meghna Malik	India	International TV Shows
8806	Malkeet Rauni	India	International TV Shows
8806	Anita Shabdish	India	International TV Shows
8806	Chittaranjan Tripathy	India	International TV Shows

	day	month
0	Saturday	September
1	Friday	September
1	Friday	September
1	Friday	September
1	Friday	September
...
8806	Saturday	March
8806	Saturday	March
8806	Saturday	March
8806	Saturday	March
8806	Saturday	March

[81741 rows x 14 columns]

Grouping the data by director and counting the Number of movies,start year,last year:

```
data_dir_group = data_dir.groupby(['director'])
[['title','release_year']].agg(title_count = ('title','count'),
```

```
min_year = ('release_year','min'),
```

```
max_year = ('release_year','max'))
```

```
data_dir_group.reset_index(inplace = True)
```

Calculating the years active column:

```
data_dir_group['years_active'] = data_dir_group['max_year'] -
data_dir_group['min_year']
```

```

data_dir_group

```

	director	title_count	min_year	max_year
years_active				
0	A. L. Vijay	14	2016	2019
3				
1	A. Raajdheep	5	2020	2020
0				
2	A. Salaam	10	1975	1975
0				
3	A.R. Murugadoss	12	2017	2018
1				
4	Aadish Keluskar	4	2018	2018
0				
...
..				
4524	Çagan Irmak	10	2005	2005
0				
4525	Ísold Uggadóttir	9	2018	2018
0				
4526	Óskar Thór Axelsson	10	2017	2017
0				
4527	Ömer Faruk Sorak	18	2004	2011
7				
4528	Şenol Sönmez	16	2015	2019
4				

```

[4529 rows x 5 columns]

## Sorting the values by hihest number of movies:

data_dir_group.sort_values(by = 'title_count',ascending =
False,inplace = True)

data_dir_group['years_active'] = data_dir_group['max_year'] -
data_dir_group['min_year']

data_dir_group['movies_per_year'] =
data_dir_group['title_count']/data_dir_group['years_active']

dir_counts = data_dir_group.head(11)

dir_counts.drop(4516,axis = 0,inplace = True)

<ipython-input-941-60861069287e>:1: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation:
https://pandas.pydata.org/pandas-docs/stable/user\_guide/indexing.html#

```

```
returning-a-view-versus-a-copy
dir_counts.drop(4516,axis = 0,inplace = True)
```

```
dir_counts
```

	director	title_count	min_year	max_year
years_active \				
2671	Martin Scorsese	217	1967	2019
52				
4020	Steven Spielberg	205	1975	2016
41				
2665	Martin Campbell	154	1995	2017
22				
3383	Raja Gosnell	154	2005	2018
13				
2749	McG	150	2000	2020
20				
4480	Youssef Chahine	150	1954	1999
45				
1105	Don Michael Paul	132	2013	2020
7				
685	Cathy Garcia-Molina	125	2008	2019
11				
3617	Ron Howard	123	2000	2020
20				
3392	Rajiv Chilaka	121	2009	2018
9				

	movies_per_year
2671	4.173077
4020	5.000000
2665	7.000000
3383	11.846154
2749	7.500000
4480	3.333333
1105	18.857143
685	11.363636
3617	6.150000
3392	13.444444

```
# Plotting the graphs for directors:
```

```
plt.figure(figsize = (20,7))
```

```
plt.subplot(1,3,1)
```

```
plt.title('Number of movies per Director',fontsize = 15)
```

```
sns.lineplot(
```

```
    x = 'director',
```

```
    y = 'title_count',
```

```
    data = dir_counts,
```



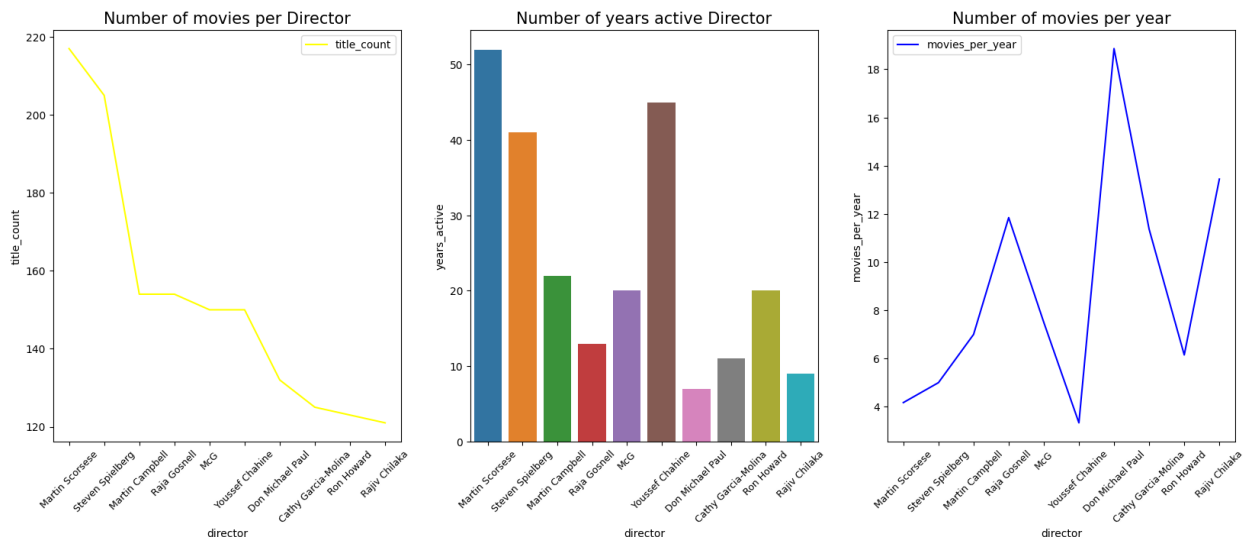
```

        label = 'title_count',
        color = 'yellow'
    )
plt.xticks(rotation = 45, fontsize = 9)

plt.subplot(1,3,2)
plt.title('Number of years active Director', fontsize = 15)
sns.barplot(
    x = 'director',
    y = 'years_active',
    data = dir_counts,
    label = 'years_active'
)
plt.xticks(rotation = 45, fontsize = 9)

plt.subplot(1,3,3)
plt.title('Number of movies per year', fontsize = 15)
sns.lineplot(
    x = 'director',
    y = 'movies_per_year',
    data = dir_counts,
    label = 'movies_per_year',
    color = 'blue'
)
plt.xticks(rotation = 45, fontsize = 9)
plt.show()

```



--ACTORS ANALYSIS:

Grouping the data by Actors and calculating the number of movies or shows, first_year, last_year :

```
data_actor_grp = data_dir.groupby(['Actors'])
[['title','release_year']].agg(title_count = ('title','count'),

min_year = ('release_year','min'),

max_year = ('release_year','max'))
```

```
data_actor_grp.reset_index(inplace = True)
```

```
# Calculating the years_active(duration) for actors:
```

```
data_actor_grp['years_active'] = data_actor_grp['max_year'] -
data_actor_grp['min_year']
```

```
data_actor_grp
```

	Actors	title_count	min_year	max_year
years_active				
0	Jr.	2	2017	2020
3				
1	"Riley" Lakdhar Dridi	1	2019	2019
0				
2	'Najite Dede	1	2016	2016
0				
3	2 Chainz	1	2018	2018
0				
4	2Mex	1	2008	2008
0				
...
...				
39292	İbrahim Büyükek	1	2016	2016
0				
39293	İbrahim Çelikkol	1	2016	2016
0				
39294	Şahin Irmak	1	2018	2018
0				
39295	Şükrü Özyıldız	1	2014	2014
0				
39296	Şoçe'Dirísù	1	2020	2020
0				

```
[39297 rows x 5 columns]
```

```
# Sorting the values by number of shows/movies highest:
```

```
data_actor_grp.sort_values(by = 'title_count',ascending =
False,inplace = True)
```

```
data_actor_grp
```

	Actors	title_count	min_year	max_year
years_active				
39283	unknown_actors	1006	1925	2021
96				
35083	David Attenborough	45	2001	2021
20				
2612	Anupam Kher	42	1990	2018
28				
32293	Vincent Tong	36	2011	2021
10				
1905	Andrea Libman	36	2014	2021
7				
...
..				
8332	Dozie Onyiriuka	1	2017	2017
0				
8333	Doğa Konakoğlu	1	2015	2015
0				
22304	Nabiha Akkari	1	2021	2021
0				
22303	Nabhaan Rizwan	1	2021	2021
0				
39296	Şöpe'Dirísù	1	2020	2020
0				

```
[39297 rows x 5 columns]
```

```
# Calculating the average movies per year of Actors:
```

```
data_actor_grp['movies_per_year'] =  
data_actor_grp['title_count']/data_actor_grp['years_active']
```

```
data_actor_grp
```

	Actors	title_count	min_year	max_year
years_active \				
39283	unknown_actors	1006	1925	2021
96				
35083	David Attenborough	45	2001	2021
20				
2612	Anupam Kher	42	1990	2018
28				
32293	Vincent Tong	36	2011	2021
10				
1905	Andrea Libman	36	2014	2021
7				
...

```

..
8332      Dozie Onyiriuka      1      2017      2017
0
8333      Doğa Konakoğlu      1      2015      2015
0
22304     Nabiha Akkari      1      2021      2021
0
22303     Nabhaan Rizwan      1      2021      2021
0
39296     Şope'Dirísù      1      2020      2020
0

      movies_per_year
39283      10.479167
35083      2.250000
2612       1.500000
32293      3.600000
1905       5.142857
...
8332      inf
8333      inf
22304      inf
22303      inf
39296      inf

[39297 rows x 6 columns]

```

TOP 10 ACTORS ANALYSIS

```

act_counts = data_actor_grp.head(11)
# Dropping the unknown elements:
act_counts.drop(39283,axis = 0,inplace = True)
<ipython-input-953-254dd6ecdf20>:3: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation:
https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#
returning-a-view-versus-a-copy
    act_counts.drop(39283,axis = 0,inplace = True)

act_counts

```

years_active	Actors	title_count	min_year	max_year
35083	David Attenborough	45	2001	2021

2612	Anupam Kher	42	1990	2018
28				
32293	Vincent Tong	36	2011	2021
10				
1905	Andrea Libman	36	2014	2021
7				
14589	John Cleese	35	1972	2021
49				
1205	Alfred Molina	35	1981	2021
40				
23624	Om Puri	32	1982	2017
35				
26941	Rupa Bhimani	31	2009	2021
12				
4335	Brendan Gleeson	31	2002	2019
17				
30303	Takahiro Sakurai	30	2008	2021
13				

	movies_per_year
35083	2.250000
2612	1.500000
32293	3.600000
1905	5.142857
14589	0.714286
1205	0.875000
23624	0.914286
26941	2.583333
4335	1.823529
30303	2.307692

Rounding the data for convineance:

```
act_counts['movies_per_year'] =
np.round(act_counts['movies_per_year'],2)
```

<ipython-input-955-e4fb84ab6428>:3: 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

```
act_counts['movies_per_year'] =
np.round(act_counts['movies_per_year'],2)
```

```
act_counts
```

	Actors	title_count	min_year	max_year
years_active	\			

35083	David Attenborough	45	2001	2021
2612	Anupam Kher	42	1990	2018
32293	Vincent Tong	36	2011	2021
1905	Andrea Libman	36	2014	2021
14589	John Cleese	35	1972	2021
1205	Alfred Molina	35	1981	2021
23624	Om Puri	32	1982	2017
26941	Rupa Bhimani	31	2009	2021
4335	Brendan Gleeson	31	2002	2019
30303	Takahiro Sakurai	30	2008	2021

	movies_per_year
35083	2.25
2612	1.50
32293	3.60
1905	5.14
14589	0.71
1205	0.88
23624	0.91
26941	2.58
4335	1.82
30303	2.31

Plotting the graphs for directors and their respective measures:

```
plt.figure(figsize = (20,7))

plt.subplot(1,3,1)
plt.title('Number of movies per Actor',fontsize = 15)
sns.scatterplot(
    x = 'Actors',
    y = 'title_count',
    data = act_counts,
    sizes = (200,300),
    size = 'title_count',
    color = 'blue')
```

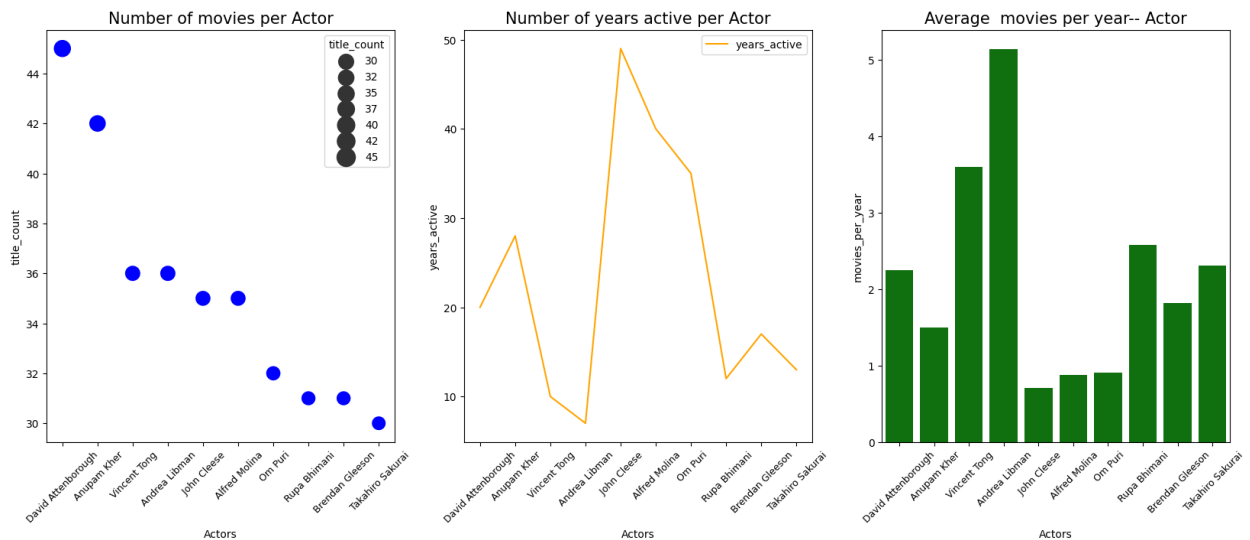
```

)
plt.xticks(rotation = 45, fontsize = 9)

plt.subplot(1,3,2)
plt.title('Number of years active per Actor', fontsize = 15)
sns.lineplot(
    x = 'Actors',
    y = 'years_active',
    data = act_counts,
    label = 'years_active',
    color = 'orange'
)
plt.xticks(rotation = 45, fontsize = 9)

plt.subplot(1,3,3)
plt.title('Average movies per year-- Actor', fontsize = 15)
sns.barplot(
    x = 'Actors',
    y = 'movies_per_year',
    data = act_counts,
    label = 'movies_per_year',
    color = 'green'
)
plt.xticks(rotation = 45, fontsize = 9)
plt.show()

```



1. DOES NETFLIX HAS MORE FOCUS ON TV SHOWS THAN MOVIES IN RECENT YEARS

```
dtv1.head()
```

show_id	type	title	director
1	s2	TV Show	Blood & Water
1	s2	TV Show	Blood & Water
1	s2	TV Show	Blood & Water
1	s2	TV Show	Blood & Water
1	s2	TV Show	Blood & Water

release_year	rating	duration
1	2021	TV-MA
1	2021	TV-MA
1	2021	TV-MA
1	2021	TV-MA
1	2021	TV-MA

description
1 After crossing paths at a party, a Cape Town t... Ama Qamata
1 After crossing paths at a party, a Cape Town t... Khosi Ngema
1 After crossing paths at a party, a Cape Town t... Gail Mabalané
1 After crossing paths at a party, a Cape Town t... Thabang Molaba
1 After crossing paths at a party, a Cape Town t... Dillon Windvogel

Country	Genre
1 South Africa	International TV Shows
1 South Africa	International TV Shows
1 South Africa	International TV Shows
1 South Africa	International TV Shows
1 South Africa	International TV Shows

Analysis for the Movies:

```
# Converting the date_added column datatype from object of datetime:
```

```
dm1['date_added'] = pd.to_datetime(dm1['date_added'])
```

```
<ipython-input-959-e458ba95eeea>:3: 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

```
dm1['date_added'] = pd.to_datetime(dm1['date_added'])
```

```
dm1.head()
```

	show_id	type	title \
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation

	duration \	director	date_added	release_year	rating
0		Kirsten Johnson	2021-09-25	2020	PG-13 90 min
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min	
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min	
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min	
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min	

	description	Actors
0	As her father nears the end of his life, filmm...	unknown_actors
6	Equestria's divided. But a bright-eyed hero be...	Vanessa Hudgens
6	Equestria's divided. But a bright-eyed hero be...	Kimiko Glenn
6	Equestria's divided. But a bright-eyed hero be...	James Marsden
6	Equestria's divided. But a bright-eyed hero be...	Sofia Carson

	Country	Genre
0	United States	Documentaries
6	unknown_country	TV Action & Adventure
6	unknown_country	TV Action & Adventure
6	unknown_country	TV Action & Adventure
6	unknown_country	TV Action & Adventure

```
df_5_mv = dm1
```

```
df_5_mv.head()
```

show_id	type	title \	
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation

	director	date_added	release_year	rating
duration \				
0	Kirsten Johnson	2021-09-25	2020	PG-13 90 min
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91 min

	description	Actors
\		
0	As her father nears the end of his life, filmm...	unknown_actors
6	Equestria's divided. But a bright-eyed hero be...	Vanessa Hudgens
6	Equestria's divided. But a bright-eyed hero be...	Kimiko Glenn
6	Equestria's divided. But a bright-eyed hero be...	James Marsden
6	Equestria's divided. But a bright-eyed hero be...	Sofia Carson

	Country	Genre
0	United States	Documentaries
6	unknown_country	TV Action & Adventure
6	unknown_country	TV Action & Adventure
6	unknown_country	TV Action & Adventure
6	unknown_country	TV Action & Adventure

Extracting the date_added column year of datetime:

```
df_5_mv['added_year'] = dm1['date_added'].dt.strftime('%Y')
```

<ipython-input-963-b5b498aa2d89>:3: 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
```

```
df_5_mv['added_year'] = dm1['date_added'].dt.strftime('%Y')
```

```
df_5_mv.head()
```

	show_id	type	title \
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation

	duration \	director	date_added	release_year	rating
0	min	Kirsten Johnson	2021-09-25	2020	PG-13 90
6	min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91
6	min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91
6	min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91
6	min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91

	description	Actors
0	As her father nears the end of his life, filmm...	unknown_actors
6	Equestria's divided. But a bright-eyed hero be...	Vanessa Hudgens
6	Equestria's divided. But a bright-eyed hero be...	Kimiko Glenn
6	Equestria's divided. But a bright-eyed hero be...	James Marsden
6	Equestria's divided. But a bright-eyed hero be...	Sofia Carson

	Country	Genre	added_year
0	United States	Documentaries	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021

Grouping by 'added_year' and counting the movies:

```
last_5_mv = df_5_mv.groupby('added_year',)
[['title', 'added_year']].agg(title_count = ('title', 'count'))
```

```
# Resetting the index:
last_5_mv.reset_index(inplace = True)

# Sorting the values by Movies highest:
last_5_mv.sort_values(by = 'added_year',ascending = False,inplace = True)

last_5_mv1 = last_5_mv.head(6)
last_5_mv1
```

	added_year	title_count
13	2021	10851
12	2020	13662
11	2019	13664
10	2018	10867
9	2017	6841
8	2016	1855

Analysis for Tv Shows

```
# Converting the date_added column datatype from object of datetime:
dtv1['date_added'] =pd.to_datetime(dtv1['date_added'])

<ipython-input-970-27333ff20ae3>:3: 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
    dtv1['date_added'] =pd.to_datetime(dtv1['date_added'])

df_5_tv = dtv1
df_5_tv.head()
```

	show_id	type	title	director	date_added
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
2021					

	Actors	Country			Genre
1	Ama Qamata	South Africa	International	TV	Shows
1	Khosi Ngema	South Africa	International	TV	Shows
1	Gail Mabalane	South Africa	International	TV	Shows
1	Thabang Molaba	South Africa	International	TV	Shows
1	Dillon Windvogel	South Africa	International	TV	Shows

```
df_5_tv['added_year'] = dtv1['date_added'].dt.strftime('%Y')
```

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

```
df %>% tv.head()
```

show_id	type	title	director	date_added	
release_year \					
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
2021					
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
2021					
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
2021					
1	s2	TV Show	Blood & Water	unknown director	2021-09-24

2021

```
1      s2  TV Show  Blood & Water  unknown_director 2021-09-24
```

2021

	rating	duration	description
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...
1	TV-MA	2 Seasons	After crossing paths at a party, a Cape Town t...

	Actors	Country	Genre	added_year
1	Ama Qamata	South Africa	International TV Shows	2021
1	Khosi Ngema	South Africa	International TV Shows	2021
1	Gail Mabalane	South Africa	International TV Shows	2021
1	Thabang Molaba	South Africa	International TV Shows	2021
1	Dillon Windvogel	South Africa	International TV Shows	2021

Grouping by 'added_year' and counting the movies:

```
last_5_tv = df_5_tv.groupby('added_year')
[['title', 'added_year']].agg(title_count = ('title', 'count'))
```

Resetting the index:

```
last_5_tv.reset_index(inplace = True)
```

sorting the values by highest

```
last_5_tv.sort_values(by = 'added_year', ascending = False, inplace = True)
```

```
last_5_tv1 = last_5_tv.head(6)
```

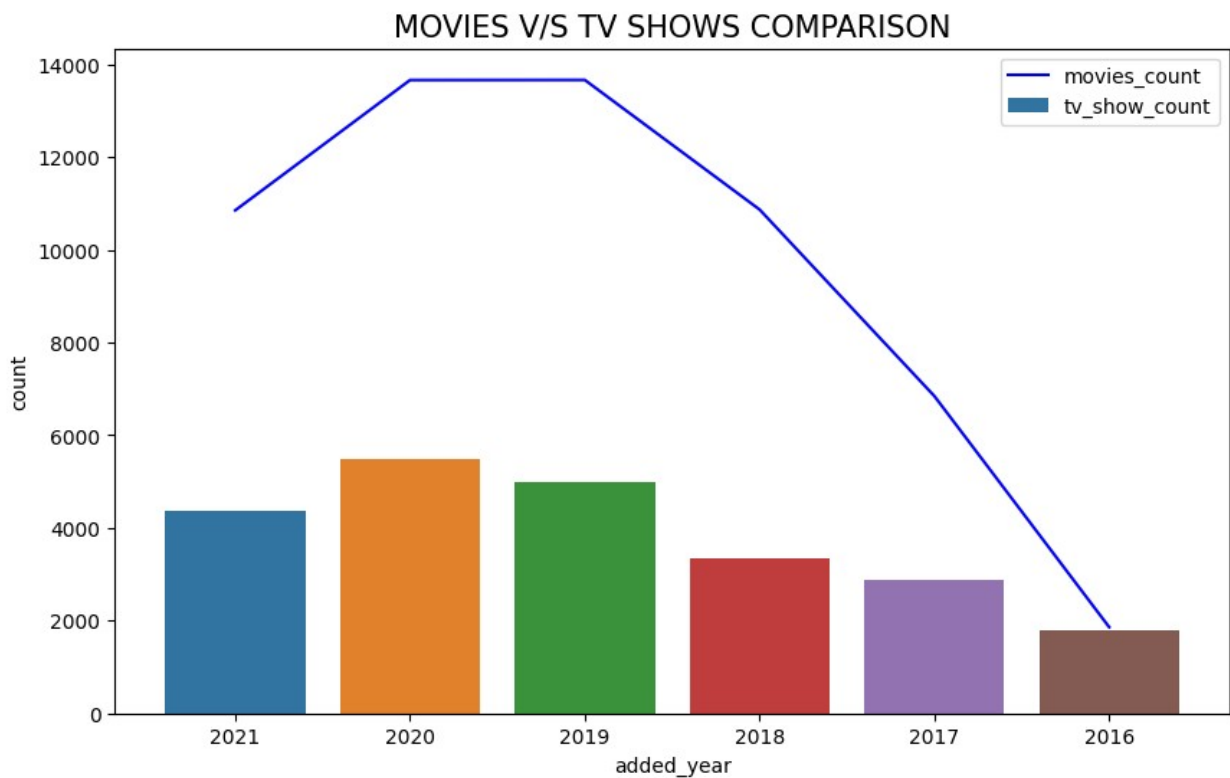
```
last_5_tv1
```

	added_year	title_count
9	2021	4368
8	2020	5480

7	2019	4973
6	2018	3342
5	2017	2870
4	2016	1791

Plotting the graphs for both Movies and Tv Shows with respect to their measures:

```
plt.figure(figsize = (10,6))
plt.title('MOVIES V/S TV SHOWS COMPARISON',fontsize= 15,color =
'black' )
sns.barplot(
    x = 'added_year',
    y = 'title_count',
    data = last_5_tv1,
    label = 'tv_show_count'
)
sns.lineplot(
    x = 'added_year',
    y = 'title_count',
    data = last_5_mv1,
    label = 'movies_count',
    color = 'blue'
)
plt.ylabel('count')
plt.show()
```



- clearly from the above plot the movies are dominating in the netflix
- we the data for past 6 years and Movies are always ahead of TV shows.

```
df1.head()
```

	show_id	type	title	director	date_added
\					
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	2021-09-25
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

	release_year	rating	duration	\
0	2020	PG-13	90 min	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	

		description	Actors
\			
0	As her father nears the end of his life, filmm...	unknown_actors	
1	After crossing paths at a party, a Cape Town t...	Ama Qamata	
1	After crossing paths at a party, a Cape Town t...	Khosi Ngema	
1	After crossing paths at a party, a Cape Town t...	Gail Mabalane	
1	After crossing paths at a party, a Cape Town t...	Thabang Molaba	

	Country	Genre	day	month
0	United States	Documentaries	Saturday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September

1. UNDERSTANDING THE CONTENT AVAILABLE IN DIFFERENT COUNTRIES

```
df1.head()
```

	show_id	type	title	director	date_added
\					

0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	2021-09-25
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24
1	s2	TV Show	Blood & Water	unknown_director	2021-09-24

	release_year	rating	duration	\
0	2020	PG-13	90 min	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	
1	2021	TV-MA	2 Seasons	

	description	Actors
0	As her father nears the end of his life, filmm...	unknown_actors
1	After crossing paths at a party, a Cape Town t...	Ama Qamata
1	After crossing paths at a party, a Cape Town t...	Khosi Ngema
1	After crossing paths at a party, a Cape Town t...	Gail Mabalane
1	After crossing paths at a party, a Cape Town t...	Thabang Molaba

	Country	Genre	day	month
0	United States	Documentaries	Saturday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September
1	South Africa	International TV Shows	Friday	September

```
df_6 = df1
```

```
# grouping by the Country column and counting the actors
counts,ratings count,genre count,directors count:
```

```
df_6_grp = df_6.groupby('Country')
[['Actors', 'release_year', 'rating', 'Genre', 'director']].agg(actors_cou
nt = ('Actors', 'count'),

rating_count = ('rating', 'count'),

genre_count = ('Genre', 'count'),
```

```

director_count = ('director','count'),
)

# Resetting the index
df_6_grp.head().reset_index(inplace = True)

# Sorting the values by highest first:
df_6_grp.sort_values(by = 'actors_count',ascending = False,inplace = True)

df_6_grp.reset_index(inplace = True)

# Dropping the unwanted unknown columns:
df_6_grp.drop(2,axis = 0,inplace = True)
df_6_grp1 = df_6_grp.head(10)
df_6_grp1

```

	Country	actors_count	rating_count	genre_count
director_count				
0	United States	23441	23441	23441
1	India	7508	7508	7508
3	United States	4029	4029	4029
4	United Kingdom	3985	3985	3985
5	Japan	2872	2872	2872
6	Canada	2019	2019	2019
7	South Korea	1609	1609	1609
8	France	1576	1576	1576
9	France	1558	1558	1558
10	Canada	1531	1531	1531

```

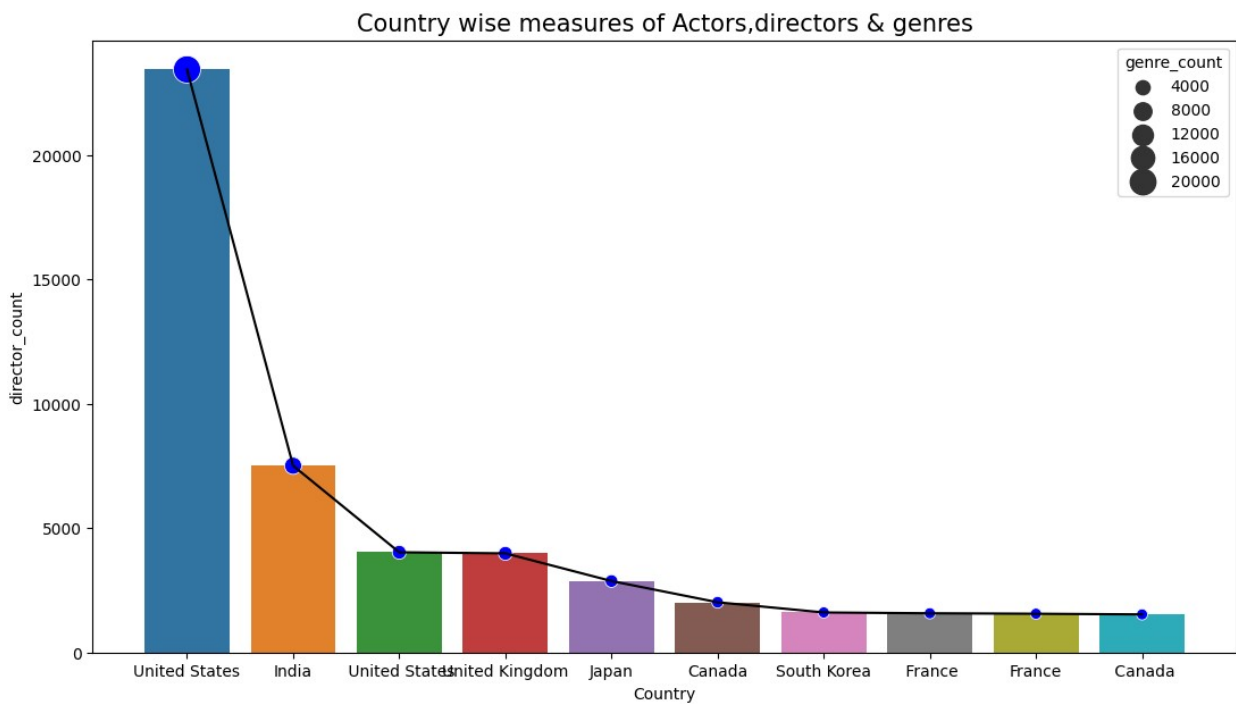
# Plotting the Country garphs withbtheir respected measures:

```

```

plt.figure(figsize = (13,7))
plt.title('Country wise measures of Actors,directors &
genres',fontsize = 15)
sns.lineplot(
    x = 'Country',
    y = 'actors_count',
    data = df_6_grp1,
    color = 'black'
)
sns.barplot(
    x = 'Country',
    y = 'director_count',
    data = df_6_grp1
)
sns.scatterplot(
    x = 'Country',
    y = 'genre_count',
    sizes = (50,300),
    size = 'genre_count',
    data = df_6_grp1,
    color = 'blue'
)
plt.show()

```



```
dm1.head()
```

	show_id	type	title \
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation

	director	date_added	release_year	rating
0	Kirsten Johnson	2021-09-25	2020	PG-13
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG
6	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG

	description	Actors
0	As her father nears the end of his life, filmm...	unknown_actors
6	Equestria's divided. But a bright-eyed hero be...	Vanessa Hudgens
6	Equestria's divided. But a bright-eyed hero be...	Kimiko Glenn
6	Equestria's divided. But a bright-eyed hero be...	James Marsden
6	Equestria's divided. But a bright-eyed hero be...	Sofia Carson

	Country	Genre	added_year
0	United States	Documentaries	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021

```
df_6_mv = dm1
```

```
df_6_mv.head()
```

	show_id	type	title \
0	s1	Movie	Dick Johnson Is Dead
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation
6	s7	Movie	My Little Pony: A New Generation

duration	director	date_added	release_year	rating
0 min	Kirsten Johnson	2021-09-25	2020	PG-13 90
6 min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91
6 min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91
6 min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91
6 min	Robert Cullen, José Luis Ucha	2021-09-24	2021	PG 91

	description	Actors
0	As her father nears the end of his life, filmm...	unknown_actors
6	Equestria's divided. But a bright-eyed hero be...	Vanessa Hudgens
6	Equestria's divided. But a bright-eyed hero be...	Kimiko Glenn
6	Equestria's divided. But a bright-eyed hero be...	James Marsden
6	Equestria's divided. But a bright-eyed hero be...	Sofia Carson

	Country	Genre	added_year
0	United States	Documentaries	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021
6	unknown_country	TV Action & Adventure	2021

grouping the data by country and getting the required measures:

```
df_6_mv_grp = df_6_mv.groupby('Country')
[['type', 'Actors', 'Genre', 'release_year', 'director']].agg(movie_count
= ('type', 'count'),
                                actors_count =
                                director_count =
                                genre_count =
                                min_year =
                                max_year =
                                ('Actors', 'count'),
                                ('director', 'count'),
                                ('Genre', 'count'),
                                ('release_year', 'min'),
                                ('release_year', 'max'))
```

Calculating years_active column

```

df_6_mv_grp['years_active'] = df_6_mv_grp['max_year'] -
df_6_mv_grp['min_year']

# reset index:

df_6_mv_grp.reset_index(inplace = True)

# Calculating average movies per year:

df_6_mv_grp['movies_per_year'] =
df_6_mv_grp['movie_count']/df_6_mv_grp['years_active']

df_6_mv_grp.sort_values(by = 'movie_count',ascending = False,inplace =
True)

df_6_mv_grp.drop(187,axis = 0,inplace = True)

df_6_mv_grp1 = df_6_mv_grp.head(10)

df_6_mv_grp1

```

	Country	movie_count	actors_count	director_count
genre_count \				
181	United States	17536	17536	17536
17536				
136	India	7087	7087	7087
7087				
103	United States	3206	3206	3206
3206				
180	United Kingdom	2537	2537	2537
2537				
118	Canada	1349	1349	1349
1349				
32	France	1338	1338	1338
1338				
102	United Kingdom	1281	1281	1281
1281				
18	Canada	1161	1161	1161
1161				
127	France	1097	1097	1097
1097				
172	Spain	985	985	985
985				

	min_year	max_year	years_active	movies_per_year
181	1942	2021	79	221.974684
136	1959	2021	62	114.306452
103	1961	2021	60	53.433333
180	1961	2021	60	42.283333
118	1997	2021	24	56.208333

32	1955	2021	66	20.272727
102	1944	2021	77	16.636364
18	1979	2021	42	27.642857
127	1974	2021	47	23.340426
172	2004	2021	17	57.941176

```
df_6_tv = dtv1
```

```
df_6_tv.head(9)
```

[illegible][illegible]

```
1 TV-MA 2 Seasons After crossing paths at a party, a Cape Town t...
1 TV-MA 2 Seasons After crossing paths at a party, a Cape Town t...
```

	Actors	Country	Genre	added_year
1	Ama Qamata	South Africa	International TV Shows	2021
1	Khosi Ngema	South Africa	International TV Shows	2021
1	Gail Mabalane	South Africa	International TV Shows	2021
1	Thabang Molaba	South Africa	International TV Shows	2021
1	Dillon Windvogel	South Africa	International TV Shows	2021
1	Natasha Thahane	South Africa	International TV Shows	2021
1	Arno Greeff	South Africa	International TV Shows	2021
1	Xolile Tshabalala	South Africa	International TV Shows	2021
1	Getmore Sithole	South Africa	International TV Shows	2021

#grouping data by country for directors dataset:

```
df_6_tv_grp = df_6_tv.groupby('Country')
[['type', 'Actors', 'Genre', 'release_year', 'director']].agg(tv_count =
('type', 'count'),
('Actors', 'count'),
('director', 'count'),
('Genre', 'count'),
('release_year', 'min'),
('release_year', 'max')
)
```

Calculating the years_active column:

```
df_6_tv_grp['years_active'] = df_6_tv_grp['max_year'] -
df_6_tv_grp['min_year']
```

Calculating average movies per directors in each country:


```

df_6_tv_grp['movies_per_year'] =
df_6_tv_grp['tv_count']/df_6_tv_grp['years_active']

df_6_tv_grp.reset_index(inplace = True)

# Sorting values:

df_6_tv_grp.sort_values(by = 'tv_count',ascending = False,inplace =
True)

# resetting index:

df_6_tv_grp.drop(102,axis = 0,inplace = True)

df_6_tv_grp1 = df_6_tv_grp.head(10)
df_6_tv_grp1

```

	Country	tv_count	actors_count	director_count
genre_count \				
100	United States	5905	5905	5905
5905				
69	Japan	2031	2031	2031
2031				
99	United Kingdom	1448	1448	1448
1448				
90	South Korea	1246	1246	1246
1246				
42	United States	823	823	823
823				
50	Canada	670	670	670
670				
76	Mexico	581	581	581
581				
91	Spain	543	543	543
543				
94	Taiwan	508	508	508
508				
60	France	461	461	461
461				

	min_year	max_year	years_active	movies_per_year
100	1945	2021	76	77.697368
69	1981	2021	40	50.775000
99	1972	2021	49	29.551020
90	2009	2021	12	103.833333
42	1986	2021	35	23.514286
50	1997	2021	24	27.916667

76	1979	2021	42	13.833333
91	2013	2021	8	67.875000
94	2002	2020	18	28.222222
60	2000	2021	21	21.952381

Plotting garphs for the measures :

```
plt.figure(figsize = (30,9))
```

```
plt.subplot(1,3,1)
```

```
sns.lineplot(
```

```
    x = 'Country',
```

```
    y = 'movies_per_year',
```

```
    data = df_6_tv_grpl
```

```
)
```

```
plt.title('Tv shows per year in each Country',fontsize = 15)
```

```
plt.xticks(rotation = 45,fontsize = 9)
```

```
plt.subplot(1,3,2)
```

```
sns.barplot(
```

```
    y = 'movies_per_year',
```

```
    x = 'Country',
```

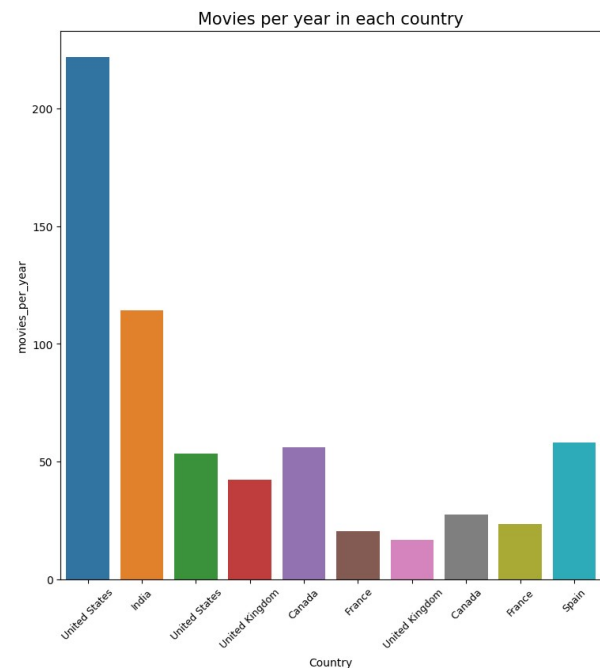
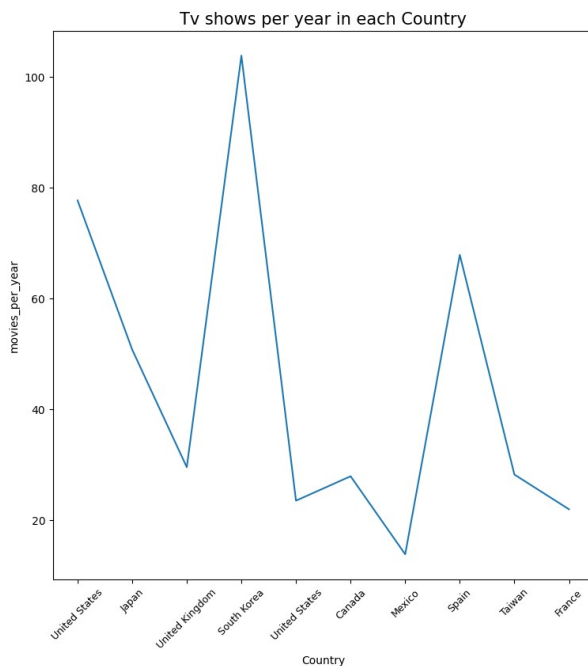
```
    data = df_6_mv_grpl
```

```
)
```

```
plt.title('Movies per year in each country',fontsize = 15)
```

```
plt.xticks(rotation = 45,fontsize = 9)
```

```
plt.show()
```



As from the above plots we can conclude the measures of different categories like actors, directors, Genre and their counts has been represented graphically.

CONCLUSION:

1. The given Data of 'Netflix' has the data of movies and TV shows for the year ranges of nearly 90 years (1931-2021).
2. The Netflix has been the Market leader of OTT for most of the years and will be by adding some of my insights:
3. The TV shows became so popular now-a-days the Netflix series are so popular increasing the content and number of series makes the audience more tied to Netflix.
4. The Movies has been slightly decreasing pattern in year 2021, Focusing on TV Shows is the good way but Movies are also stress busters for many of audience.
5. Focusing on the age groups, countries and the screening time may yield the best possible results for the platform.