1. Problem Statement :

Here we are provided with netflix dataset which contains information about content(movies,tvshow) released on their websight.

We need to analyse this data and give some insights that can help the business.

2. Basic analysis and statistic

the shape of give data is 8807 rows and 12 columns

only one column 'release_year' is of type int64 other 11 columns are object type

All the other info can be seen in the notebook that I have uploaded

As a part of preprocessing of given dataset I have converted some of the nested data columns (containg list of values seperated by comma)

into a columns which contains one value per row. I have done this for country, director, listed_in, cast columns. Then I have merged the seperate dataframes

into one dataframe on title column.

3.Non-Graphical Analysis: Value counts and unique attributes
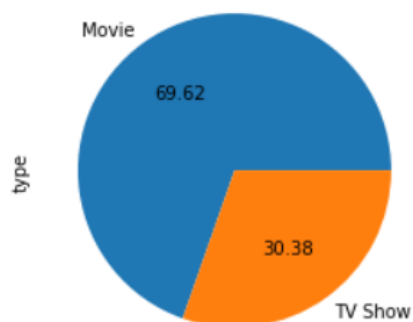
```
In [74]: df.describe(include='object').T
```

Out[74]:

	count	unique	top	freq
show_id	8807	8807	s7628	1
type	8807	2	Movie	6131
title	8807	8807	The Starling	1
director	6173	4528	Rajiv Chilaka	19
cast	7982	7692	David Attenborough	19
country	7976	748	United States	2818
date_added	8797	1767	January 1, 2020	109
rating	8803	17	TV-MA	3207
duration	8804	220	1 Season	1793
listed_in	8807	514	Dramas, International Movies	362
description	8807	8775	Paranormal activity at a lush, abandoned prope...	4

4. Visual Analysis - Univariate, Bivariate after pre-processing of the data
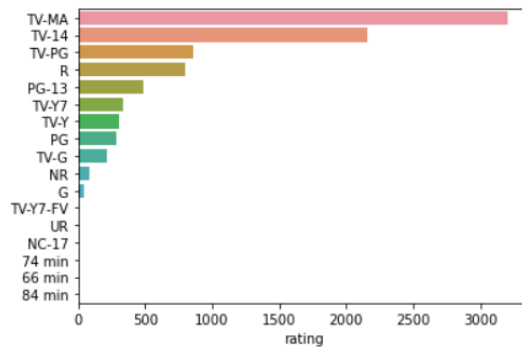
```
In [77]: df['type'].value_counts().plot(kind='pie',autopct="%.2f")
```

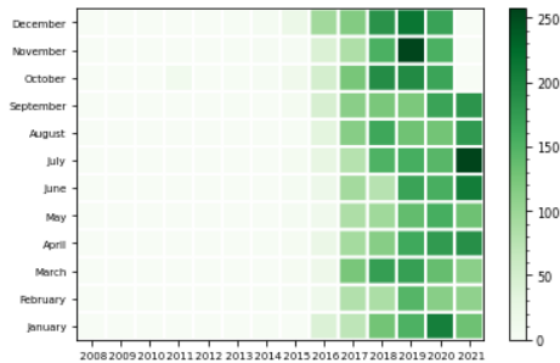Out[77]: <AxesSubplot:ylabel='type'>

So there is 70% moves and 30% TV Show in given dataset

```
n [97]:  sns.barplot(x=df['rating'].value_counts(),y=df['rating'].value_counts().index,data=df,orient='h')
```

```
ut[97]:  <AxesSubplot:xlabel='rating'>
```


So most of the content of our dataset is rated as TV-MA and TV-14

```
plt.figure().set_figwidth(10)
plt.figure().set_figheight(10)
plt.show()
```



```
<Figure size 720x288 with 0 Axes>
```

```
<Figure size 432x720 with 0 Axes>
```

Heat map to represent number of release by netflix for particular month and year

5. Missing Value & Outlier check

```
In [500]:  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
```

I have replaced missing values in duration column with 0, director with anonymous, cast with anonymous, country with not known.

6. Insights based on Non-Graphical and Visual Analysis

70% content is movie and 30% is tv shows in our dataset

Most of the content has rating of TV-MA and TV-14

2022 is the year in which highest number of content is released.

November, 2019 and July, 2021 is the months in which highest number of content is added by Netflix.

7. Business Insights

69.32 % content is movies and 30.69% content is TV shows.

```
tmp.sort_values(by='count',ascending=False).head(11)
```

	cast_y	title	count
25867	nan	[Dick Johnson Is Dead, Europe's Most Dangerous...	475
2105	Anupam Kher	[C Kkompany, Kyaa Kool Hai Hum, Kyaa Super Koo...	42
21781	Shah Rukh Khan	[Anjaam, Chennai Express, Duplicate, Kabhi Alv...	35
17193	Naseeruddin Shah	[The Dirty Picture, Ram Prasad Ki Tehrvi, Peep...	32
18064	Om Puri	[Disco Dancer, Bhaji In Problem, Project Marat...	30
638	Akshay Kumar	[Once Upon a Time in Mumbai Dobaara!, Awara Pa...	30
12031	Julie Tejwani	[Chhota Bheem - Dinosaur World, Chhota Bheem -...	28
18329	Paresh Rawal	[Ferrari Ki Sawaari, Awara Paagal Deewana, Phi...	28
1313	Amitabh Bachchan	[Shootout at Lokhandwala, Department, Wazir, T...	28
20692	Rupa Bhimani	[Chhota Bheem - Dinosaur World, Chhota Bheem -...	27
3354	Boman Irani	[3 Idiots, Ferrari Ki Sawaari, BluffMaster!, W...	27

List of top 10 artists worked in most number of movies.

	cast_y	title	count
14805	nan	[Jailbirds New Orleans, Vendetta: Truth, Lies ...	350
13230	Takahiro Sakurai	[Record of Ragnarok, JoJo's Bizarre Adventure,...	25
14580	Yuki Kaji	[The Seven Deadly Sins, Attack on Titan, JoJo'...	19
2874	Daisuke Ono	[Yowamushi Pedal, Kuroko's Basketball, Attack ...	17
252	Ai Kayano	[Darwin's Game, Food Wars!: Shokugeki no Soma,...	17
6804	Junichi Suwabe	[Yowamushi Pedal, Kuroko's Basketball, Record ...	17
14564	Yuichi Nakamura	[Yowamushi Pedal, SHAMAN KING, JoJo's Bizarre ...	16
14496	Yoshimasa Hosoya	[Kuroko's Basketball, Attack on Titan, The Way...	15
6761	Jun Fukuyama	[Yowamushi Pedal, The Seven Deadly Sins, Durar...	15
3127	David Attenborough	[Life in Color with David Attenborough, Our Pl...	14
14049	Vincent Tong	[Polly Pocket, LEGO Jurassic World: Secret Exh...	13

List of top 10 artists worked in most number of TV Shows. So we can say that Takahiro Sakurai is the most popular artist in TV show category.

	director_y	cast_y	title	count
34026	Rajiv Chilaka	Julie Tejwani	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	19
34032	Rajiv Chilaka	Rajesh Kava	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	19
34025	Rajiv Chilaka	Jigna Bhardwaj	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	18
34033	Rajiv Chilaka	Rupa Bhimani	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	18
34040	Rajiv Chilaka	Vatsal Dubey	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	16
34038	Rajiv Chilaka	Swapnil	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	13
34029	Rajiv Chilaka	Mousam	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	13
41463	Suhas Kadav	Saurav Chakraborty	[Motu Patlu in the Game of Zones, Motu Patlu i...	8
37266	S.S. Rajamouli	Nassar	[Baahubali: The Beginning (English Version), B...	7
37267	S.S. Rajamouli	Prabhas	[Baahubali: The Beginning (English Version), B...	7

List of pairs of director and artist worked together most frequently in Movies

	director_y	cast_y	title	count
62	Alastair Fothergill	David Attenborough	[Frozen Planet, Planet Earth: The Complete Col...	3
2022	Shin Won-ho	Lee Il-hwa	[Reply 1994, Reply 1997]	2
2106	Stan Lathan	Dave Chappelle	[Dave Chappelle: Equanimity & The Bird Revelat...	2
2028	Shin Won-ho	Sung Dong-il	[Reply 1994, Reply 1997]	2
1316	Lynn Novick	nan	[Ken Burns Presents: College Behind Bars: A Fi...	2
591	Gautham Vasudev Menon	Anjali	[Navarasa, Paava Kadhaigal]	2
607	Gautham Vasudev Menon	Prakash Raj	[Navarasa, Paava Kadhaigal]	2
598	Gautham Vasudev Menon	Gautham Vasudev Menon	[Navarasa, Paava Kadhaigal]	2
1115	Ken Burns	nan	[Ken Burns: The Roosevelts: An Intimate Histor...	2
0	Abhishek Chaubey	Akansha Ranjan Kapoor	[Ray]	1

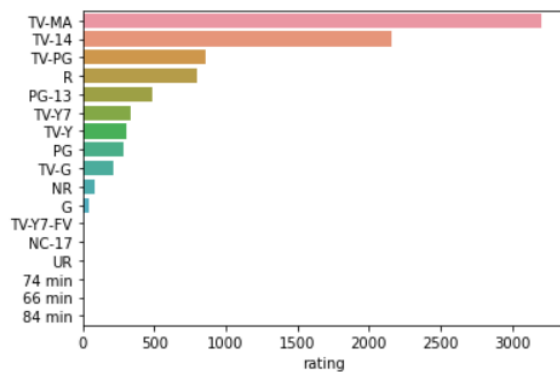## List of pairs of director and artist worked together most frequently in TV Shows

	director_y	title	count
4762	nan	[9to5: The Story of a Movement, Bridgerton - T...	188
3582	Rajiv Chilaka	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	22
1817	Jan Suter	[Coco y Raulito: Carrusel de ternura, Luciano ...	21
3633	Raúl Campos	[Coco y Raulito: Carrusel de ternura, Luciano ...	19
4261	Suhas Kadav	[Motu Patlu in Dragon's World, Motu Patlu in t...	16
2739	Marcus Raboy	[Taylor Tomlinson: Quarter-Life Crisis, Whitne...	15
1862	Jay Karas	[The Main Event, Demetri Martin: The Overthink...	15
727	Cathy Garcia-Molina	[Hello, Love, Goodbye, Unexpectedly Yours, My ...	13
4725	Youssef Chahine	[Return of the Prodigal Son, Destiny, The Emig...	12
2815	Martin Scorsese	[Shutter Island, No Direction Home: Bob Dylan,...	12
1859	Jay Chapman	[D.L. Hughley: Contrarian, Moshe Kasher: Live ...	12

List of directors who directed most number of movies

	director_y	title	count
299	nan	[Blood & Water, Jailbirds New Orleans, Kota Fa...	2446
146	Ken Burns	[Ken Burns: The Civil War, Ken Burns: The Roos...	3
8	Alastair Fothergill	[Frozen Planet, Planet Earth: The Complete Col...	3
140	Jung-ah Im	[Men on a Mission, Abnormal Summit]	2
128	Joe Berlinger	[Metallica: Some Kind of Monster, Crime Scene:...	2
100	Hsu Fu-chun	[Office Girls, The Rational Life]	2
259	Stan Lathan	[Dave Chappelle: Equanimity & The Bird Revelat...	2
84	Gautham Vasudev Menon	[Navarasa, Paava Kadhaigal]	2
168	Lynn Novick	[Ken Burns Presents: College Behind Bars: A Fi...	2
251	Shin Won-ho	[Reply 1994, Reply 1997]	2
103	Iginio Straffi	[World of Winx, Maggie & Bianca: Fashion Friends]	2

List of directors who directed most number of TV Shows

```
]: sns.barplot(x=df['rating'].value_counts(),y=df['rating'].value_counts().index,data=df,orient='h')
```
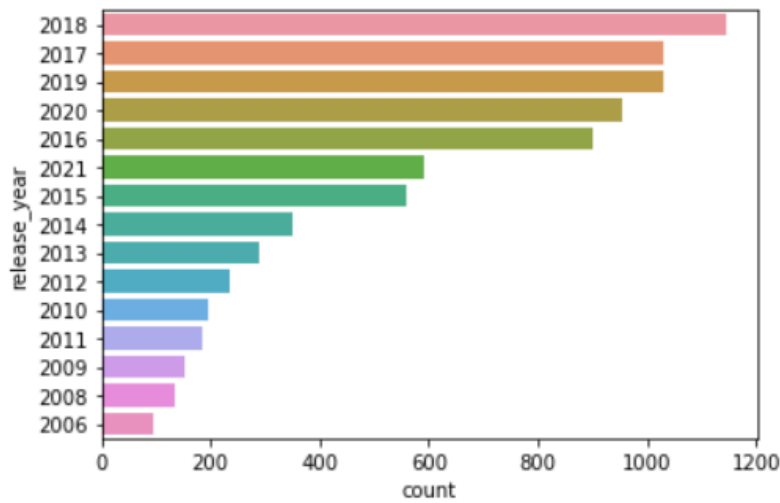
```
]: <AxesSubplot:xlabel='rating'>
```


	country_y	director_y	title	count
5707	United States	Marcus Raboy	[Patton Oswalt: I Love Everything, Taylor Toml...	15
5241	United States	Jay Karas	[The Main Event, Demetri Martin: The Overthink...	15
3093	Philippines	Cathy Garcia-Molina	[Hello, Love, Goodbye, Unexpectedly Yours, My ...	13
2830	Mexico	Jan Suter	[Coco y Raulito: Carrusel de ternura, Carlos B...	12
5753	United States	Martin Scorsese	[Shutter Island, No Direction Home: Bob Dylan,...	12
983	Egypt	Youssef Chahine	[Return of the Prodigal Son, Destiny, The Emig...	12
5240	United States	Jay Chapman	[D.L. Hughley: Contrarian, Moshe Kasher: Live ...	12
6394	United States	Steven Spielberg	[Jaws, Catch Me If You Can, The BFG, Indiana J...	11
4909	United States	Don Michael Paul	[Company of Heroes, Sniper: Legacy, Sniper: Gh...	10
2868	Mexico	Raúl Campos	[Coco y Raulito: Carrusel de ternura, Carlos B...	10
3758	Turkey	Yılmaz Erdoğan	[Have You Ever Seen Fireflies? - Theatre Play,...	9

List of country wise most famous directors

	country_y	rating	title	count
495	United States	TV-MA	[Sankofa, Dear White People, Paradise Hills, T...	1100
492	United States	R	[Safe House, Training Day, Kate, In the Cut, B...	660
196	India	TV-14	[Jeans, Angamaly Diaries, Anjaam, Gurgaon, Shi...	572
493	United States	TV-14	[Lucifer, The Guns of Navarone, Manifest, The ...	497
491	United States	PG-13	[Dick Johnson Is Dead, The Starling, Grown Ups...	433
496	United States	TV-PG	[Nailed It, Saved by the Bell, Major Dad, Spar...	304
198	India	TV-MA	[Kota Factory, Kyaa Kool Hai Hum, Kyaa Kool Ha...	266
478	United Kingdom	TV-MA	[Sankofa, Sex Education, Jack Whitehall: Trave...	251
490	United States	PG	[Jaws, Jaws 2, Jaws 3, Show Dogs, A Cinderella...	243
423	Spain	TV-MA	[Paradise Hills, La casa de papel, Valeria, Ta...	170
149	France	TV-MA	[On the Verge, 2 Alone in Paris, Gone for Good...	163

List containing country wise most number of Movies/TVshows rating

<AxesSubplot:xlabel='count', ylabel='release_year'>

Count plot which shows the number of releases per year

	director_y	release_year	title	count
4982	Raúl Campos	2018	[Coco y Raulito: Carrusel de ternura, Luciano ...	12
2456	Jan Suter	2018	[Coco y Raulito: Carrusel de ternura, Luciano ...	12
3711	Marcus Raboy	2017	[Judd Apatow: The Return, DeRay Davis: How to ...	6
4898	Rajiv Chilaka	2013	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem An...	6
4967	Rathindran R Prasad	2021	[Boomika, Boomika (Hindi), Boomika (Malayalam)...	5
2455	Jan Suter	2017	[Mea Culpa, El Especial de Alex Fernández, el ...	5
2223	Hidenori Inoue	2017	[Seven Souls in the Skull Castle: Season Moon ...	5
5907	Suhas Kadav	2018	[Motu Patlu Dino Invasion, Motu Patlu in the C...	4
2515	Jay Chapman	2017	[Todd Barry: Spicy Honey, Craig Ferguson: Tick...	4
1625	Edward Cotterill	2017	[Amelia: A Tale of Two Sisters, Jackie: A Tale...	4
2454	Jan Suter	2016	[Ricardo O'Farrill: Abrazo navideño, Carlos Ba...	4

List of directors who directed most number of content in single year

	cast_y	release_year	title	count
17038	Fortune Feimster	2021	[Bridgerton - The Afterparty, Bling Empire - T...	11
12803	David Spade	2021	[Bridgerton - The Afterparty, Bling Empire - T...	10
31978	London Hughes	2021	[Bridgerton - The Afterparty, Bling Empire - T...	10
55393	Vincent Tong	2019	[LEGO Ninjago: Masters of Spinjitzu, Super Mon...	8
3294	Andrea Libman	2018	[My Little Pony: Friendship Is Magic, Hatchima...	8
53090	Tiffany Haddish	2019	[The Last O.G., Tiffany Haddish: Black Mitzvah...	7
43209	Radhika Apte	2018	[The Wedding Guest, Bombairiya, Baazaar, Andha...	7
36700	Michela Luci	2019	[Abby Hatcher, True: Winter Wishes, True: Grab...	7
1736	Alessandro Juliani	2019	[Chip and Potato, Super Monsters Save Christma...	7
27881	Kathleen Barr	2019	[Super Monsters Save Christmas, Llama Llama, T...	7
51844	Tabitha St. Germain	2018	[My Little Pony: Friendship Is Magic, Littlest...	6

List of artist who worked on most number of movies/tvshows in a single year

```
1]: df_movies_original.describe()
```

1]:

	release_year	duration
count	6131.000000	6128.000000
mean	2013.121514	99.577187
std	9.678169	28.290593
min	1942.000000	3.000000
25%	2012.000000	87.000000
50%	2016.000000	98.000000
75%	2018.000000	114.000000
max	2021.000000	312.000000

```
country_y
Liechtenstein    200.000000
Montenegro       157.000000
Soviet Union     156.666667
Bahamas          145.000000
Cameroon         143.000000
                    ...
Guatemala         68.000000
Uganda            68.000000
Kazakhstan        67.000000
United Kingdom,   62.000000
Syria             52.000000
Name: duration, Length: 123, dtype: float64
```

Country wise Average length of movies

```
country_y
Malta                    4.000000
Hungary                  3.000000
United Arab Emirates     3.000000
Canada                   2.817460
Ireland                  2.571429
                           ...
Cyprus                   1.000000
Cuba                     1.000000
Azerbaijan               1.000000
Austria                  1.000000
Lebanon                  1.000000
Name: duration, Length: 67, dtype: float64
```
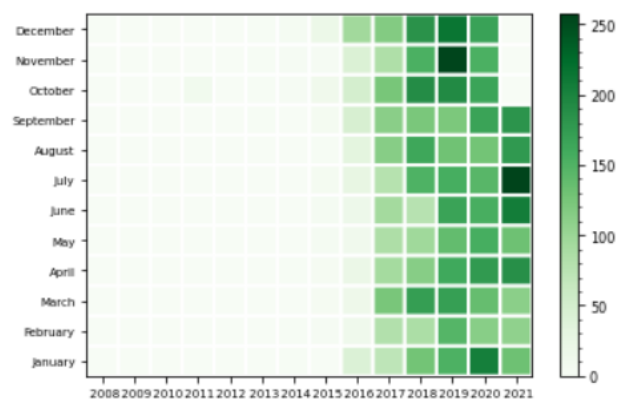
country wise average length of tv shows

	release_year	duration
count	2676.000000	2676.000000
mean	2016.605755	1.764948
std	5.740138	1.582752
min	1925.000000	1.000000
25%	2016.000000	1.000000
50%	2018.000000	1.000000
75%	2020.000000	2.000000
max	2021.000000	17.000000

Statistical anaalysis of duration of tv shows

```
6     33
7     23
8     17
9      9
10     7
13     3
12     2
11     2
15     2
17     1
Name: duration, dtype: int64
```

Tv shows with most number of seasons and their counts

```
<Figure size 720x288 with 0 Axes>

<Figure size 432x720 with 0 Axes>
```

Heat map to represent number of release by netflix for particular month and year

	listed_in_y	title	count
16	International Movies	[Sankofa, Je Suis Karl, Europe's Most Dangerou...	2752
12	Dramas	[Sankofa, The Starling, Je Suis Karl, Ankahi K...	2427
7	Comedies	[The Starling, Confessions of an Invisible Gir...	1674
17	International TV Shows	[Blood & Water, Ganglands, Kota Factory, Vende...	1351
10	Documentaries	[Dick Johnson Is Dead, Europe's Most Dangerous...	869
0	Action & Adventure	[The Stronghold, Birth of the Dragon, Jaws, Ja...	859
34	TV Dramas	[Blood & Water, Midnight Mass, Dear White Peop...	763
15	Independent Movies	[Sankofa, Ankahi Kahaniya, Dhanak, Wind River,...	756
4	Children & Family Movies	[My Little Pony: A New Generation, Confessions...	641
24	Romantic Movies	[Jeans, JJ+E, Afterlife of the Party, Bright S...	616
33	TV Comedies	[Kota Factory, Dear White People, Chicago Part...	581

Counts of content listed in each category. We can see that most content fall in International movies and dramas category.

	listed_in_y	title	count
11	International Movies	[Sankofa, Je Suis Karl, Europe's Most Dangerou...	2752
7	Dramas	[Sankofa, The Starling, Je Suis Karl, Ankahi K...	2427
4	Comedies	[The Starling, Confessions of an Invisible Gir...	1674
6	Documentaries	[Dick Johnson Is Dead, Europe's Most Dangerous...	869
0	Action & Adventure	[The Stronghold, Birth of the Dragon, Jaws, Ja...	859
10	Independent Movies	[Sankofa, Ankahi Kahaniya, Dhanak, Wind River,...	756
2	Children & Family Movies	[My Little Pony: A New Generation, Confessions...	641
15	Romantic Movies	[Jeans, JJ+E, Afterlife of the Party, Bright S...	616
19	Thrillers	[Intrusion, Paranoia, The Father Who Moves Mou...	577
14	Music & Musicals	[Minsara Kanavu, If I Leave Here Tomorrow: A F...	375
9	Horror Movies	[Dark Skies, Jaws 2, Jaws 3, Jaws: The Revenge...	357

Count of movies listed in each category

:

	listed_in_y	title	count
5	International TV Shows	[Blood & Water, Ganglands, Kota Factory, Vende...	1351
15	TV Dramas	[Blood & Water, Midnight Mass, Dear White Peop...	763
14	TV Comedies	[Kota Factory, Dear White People, Chicago Part...	581
3	Crime TV Shows	[Ganglands, Vendetta: Truth, Lies and The Mafi...	470
6	Kids' TV	[Tayo and Little Wizards, Angry Birds, Chhota ...	451
4	Docuseries	[Jailbirds New Orleans, Vendetta: Truth, Lies ...	395
9	Romantic TV Shows	[Kota Factory, The Smart Money Woman, Too Hot ...	370
8	Reality TV	[Jailbirds New Orleans, The Great British Baki...	255
1	British TV Shows	[The Great British Baking Show, Crime Stories:...	253
0	Anime Series	[Yowamushi Pedal, Pokémon Master Journeys: The...	176
11	Spanish-Language TV Shows	[Falsa identidad, Jaguar, La casa de papel, Mo...	174

Count of TV shows listed in each category

8. Recommendations

1. There are 70% movies and 30% TV shows in dataset so we can say that movies are more popular than tv shows

2. Anupam kher, Sharukh khan, Akshay kumar , nasrudeen shah are top 5 most popular artist in movies category so Netflix should try to purchase those movie rights which contains these actors.

 Takahiro Sakurai, Yuki Kaji, Daisuke Ono, Ai Kayano, Junichi Suwabe are top 5 most popular actors in tv show category so Netflix can buy rights for those tv shows which contains these actors.

3 Rajiv Chilaka and Julie Tejwani, Suhas Kadav and Saurav Chakraborty, S.S. Rajamouli and Rana Daggubati, S.S. Rajamouli and Sathyaraj are most popular pair of director and actor from movie category. Netflix can produce movies with them or buy stream rights of those movies

Alastair Fothergil and David Attenborough, Shin Won-hoand and Lee Il-hwa, Stan Lathan and Dave Chappelle are most popular pairs of director and actor for tv show category.

director_y	title	count
nan	[Blood & Water, Jailbirds New Orleans, Kota Fa...	2634
Rajiv Chilaka	[Chhota Bheem - Neeli Pahaadi, Chhota Bheem & ...	22
Jan Suter	[Coco y Raulito: Carrusel de ternura, Luciano ...	21
Raúl Campos	[Coco y Raulito: Carrusel de ternura, Luciano ...	19
Suhas Kadav	[Motu Patlu in Dragon's World, Motu Patlu in t...	16
Marcus Raboy	[Patton Oswalt: I Love Everything, Taylor Toml...	16
Jay Karas	[The Main Event, Demetri Martin: The Overthink...	15

4.

These are the most popular directors for movie category. Netflix should produce movies them.

	director_y	title	count
299	nan	[Blood & Water, Jailbirds New Orleans, Kota Fa...	2446
146	Ken Burns	[Ken Burns: The Civil War, Ken Burns: The Roos...	3
8	Alastair Fothergill	[Frozen Planet, Planet Earth: The Complete Col...	3
140	Jung-ah Im	[Men on a Mission, Abnormal Summit]	2
128	Joe Berlinger	[Metallica: Some Kind of Monster, Crime Scene:...	2
100	Hsu Fu-chun	[Office Girls, The Rational Life]	2
259	Stan Lathan	[Dave Chappelle: Equanimity & The Bird Revelat...	2
84	Gautham Vasudev Menon	[Navarasa, Paava Kadhaigal]	2
168	Lynn Novick	[Ken Burns Presents: College Behind Bars: A Fi...	2
251	Shin Won-ho	[Reply 1994, Reply 1997]	2

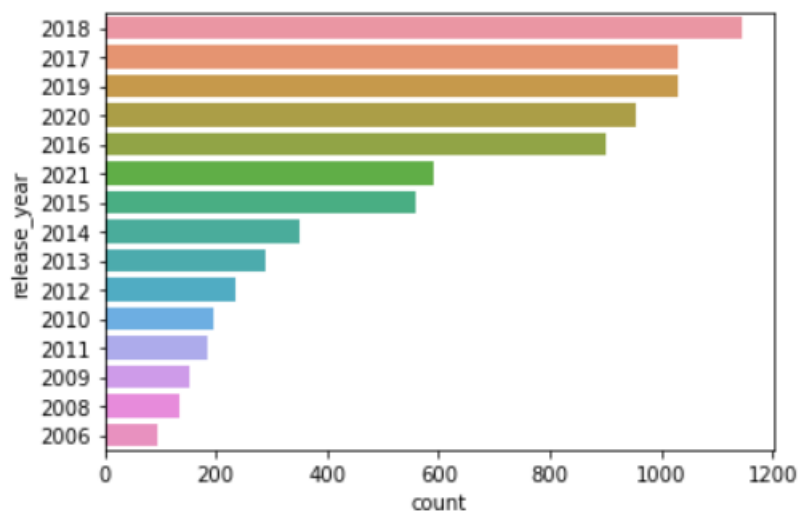These are the most popular director for tv show category.

5. Content with rating TV-MA, TV-14, TV-PG are most popular among audience so Netflix should stream this type of content more.

6. Netfix shoul produce movies with country wise most famous directors.

	country_y	director_y	title	count
5707	United States	Marcus Raboy	[Patton Oswalt: I Love Everything, Taylor Toml...	15
5241	United States	Jay Karas	[The Main Event, Demetri Martin: The Overthink...	15
3093	Philippines	Cathy Garcia-Molina	[Hello, Love, Goodbye, Unexpectedly Yours, My ...	13
2830	Mexico	Jan Suter	[Coco y Raulito: Carrusel de ternura, Carlos B...	12
5753	United States	Martin Scorsese	[Shutter Island, No Direction Home: Bob Dylan,...	12
983	Egypt	Youssef Chahine	[Return of the Prodigal Son, Destiny, The Emig...	12
5240	United States	Jay Chapman	[D.L. Hughley: Contrarian, Moshe Kasher: Live ...	12
6394	United States	Steven Spielberg	[Jaws, Catch Me If You Can, The BFG, Indiana J...	11
4909	United States	Don Michael Paul	[Company of Heroes, Sniper: Legacy, Sniper: Gh...	10
2868	Mexico	Raúl Campos	[Coco y Raulito: Carrusel de ternura, Carlos B...	10

7. With each year number of content release is increasing so Netflix have to be prepare for that.

<AxesSubplot:xlabel='count', ylabel='release_year'>

Count plot which shows the number of releases per year

8. I have found average duration of movies and tv shows for each country Netflix can follow that to produce new content.

	release_year	duration
count	6131.000000	6128.000000
mean	2013.121514	99.577187
std	9.678169	28.290593
min	1942.000000	3.000000
25%	2012.000000	87.000000
50%	2016.000000	98.000000
75%	2018.000000	114.000000
max	2021.000000	312.000000

Stastical measures of duration of movies

```
country_y
Liechtenstein       200.000000
Montenegro          157.000000
Soviet Union        156.666667
Bahamas             145.000000
Cameroon            143.000000
                       ...
Guatemala            68.000000
Uganda               68.000000
Kazakhstan           67.000000
United Kingdom,      62.000000
Syria                52.000000
Name: duration, Length: 123, dtype: float64
```
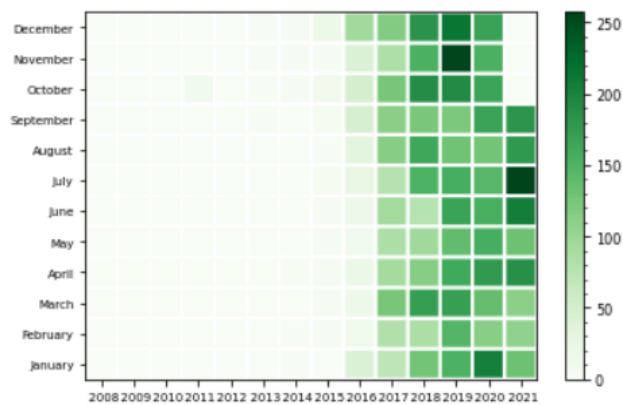
Country wise Average length of movies

```
country_y
Malta                 4.000000
Hungary               3.000000
United Arab Emirates  3.000000
Canada                2.817460
Ireland               2.571429
                       ...
Cyprus                1.000000
Cuba                  1.000000
Azerbaijan            1.000000
Austria               1.000000
Lebanon               1.000000
Name: duration, Length: 67, dtype: float64
```

country wise average length of tv shows

9. I have created heatmap to show the distribution of release of content by Netflix.


```
<Figure size 720x288 with 0 Axes>
```

```
<Figure size 432x720 with 0 Axes>
```

Heat map to represent number of release by netflix for particular month and year

Netflix has release more content towards the end of year(October, November,december). This is the best time as the main holiday season comes in this months.

10.

Most of the movies are listed in international movies, drama, comedies category. So Netflix should focus more on these category.

	listed_in_y	title	count
11	International Movies	[Sankofa, Je Suis Karl, Europe's Most Dangerou...	2752
7	Dramas	[Sankofa, The Starling, Je Suis Karl, Ankahi K...	2427
4	Comedies	[The Starling, Confessions of an Invisible Gir...	1674
6	Documentaries	[Dick Johnson Is Dead, Europe's Most Dangerous...	869
0	Action & Adventure	[The Stronghold, Birth of the Dragon, Jaws, Ja...	859
10	Independent Movies	[Sankofa, Ankahi Kahaniya, Dhanak, Wind River,...	756
2	Children & Family Movies	[My Little Pony: A New Generation, Confessions...	641
15	Romantic Movies	[Jeans, JJ+E, Afterlife of the Party, Bright S...	616
19	Thrillers	[Intrusion, Paranoia, The Father Who Moves Mou...	577
14	Music & Musicals	[Minsara Kanavu, If I Leave Here Tomorrow: A F...	375
9	Horror Movies	[Dark Skies, Jaws 2, Jaws 3, Jaws: The Revenge...	357

Count of movies listed in each category