

```
In [1]: 1 import pandas as pd
2 import numpy as np
3 import seaborn as sns
4 import matplotlib.pyplot as plt
```

```
In [2]: 1 data=pd.read_csv("netflix_titles.csv")
```

```
In [3]: 1 data.head(5)
```

Out[3]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	fatty...tl
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	Fat...Ca
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	T...C
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	...
4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, Romantic TV Shows, TV ...	Ir...

```
In [4]: 1 data.columns
```

```
Out[4]: Index(['show_id', 'type', 'title', 'director', 'cast', 'country', 'date_added',
   'release_year', 'rating', 'duration', 'listed_in', 'description'],
   dtype='object')
```

In [5]: 1 data.info()

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

In [6]: 1 data.size

Out[6]: 105684

In [7]: 1 data.describe()

Out[7]:

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

In [8]: 1 data.isnull().sum()

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

In [9]: 1 data['director'].dtype

Out[9]: dtype('O')

```
In [10]: 1 data['show_id'].value_counts()
```

```
Out[10]: show_id
s1      1
s5875   1
s5869   1
s5870   1
s5871   1
..
s2931   1
s2930   1
s2929   1
s2928   1
s8807   1
Name: count, Length: 8807, dtype: int64
```

```
In [11]: 1 data['type'].value_counts()
```

```
Out[11]: type
Movie      6131
TV Show    2676
Name: count, dtype: int64
```

```
In [12]: 1 data.head(2)
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat Cape

Count the number of Movies vs TV Show

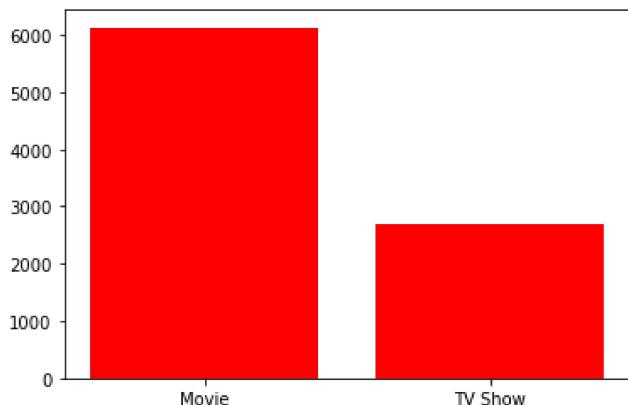
```
In [13]: 1 data['type'].value_counts()
```

```
Out[13]: type
Movie      6131
TV Show    2676
Name: count, dtype: int64
```

```
In [14]: 1 value_cnt_type=data['type'].value_counts()
```

In [15]: 1 plt.bar(value_cnt_type.index,value_cnt_type.values , color='r')

Out[15]: <BarContainer object of 2 artists>



In [16]: 1 data.head(2)

Out[16]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the if
1	s2	TV Show	Blood & Water	Nan	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cape

Find the most common rating for movies and TV shows

In [17]: 1 data['rating'].value_counts()

Out[17]: rating

TV-MA	3207
TV-14	2160
TV-PG	863
R	799
PG-13	490
TV-Y7	334
TV-Y	307
PG	287
TV-G	220
NR	80
G	41
TV-Y7-FV	6
NC-17	3
UR	3
74 min	1
84 min	1
66 min	1

Name: count, dtype: int64

```
In [18]: 1 data['rating'].value_counts().max()
```

Out[18]: 3207

```
In [19]: 1 cout_rating=data['rating'].value_counts()
```

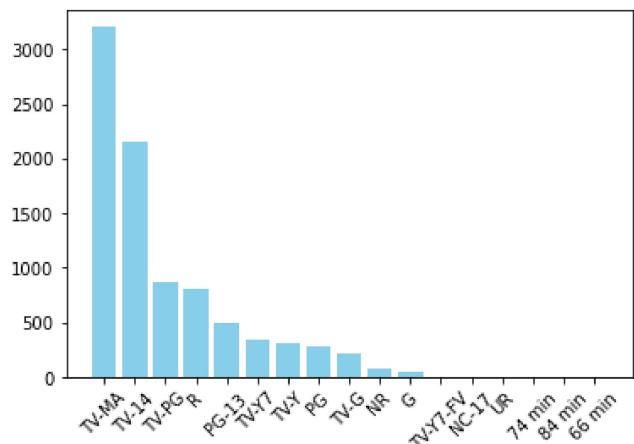
```
In [20]: 1 maxi=cout_rating.max()
2 name_maxi=cout_rating.idxmax()
```

```
In [21]: 1 print(maxi)
2 print(name_maxi)
```

3207

TV-MA

```
In [22]: 1 plt.bar(cout_rating.index,cout_rating.values, color='skyblue')
2 plt.xticks(rotation=45)
3 plt.show()
```



List all movies released in a specific year (e.g. 2000)

```
In [23]: 1 data.head(2)
```

Out[23]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	Nan	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	Nan	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	Seasons 2	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cap

```
In [24]: 1 data.groupby('release_year')['title'].count()
```

```
Out[24]: release_year
1925      1
1942      2
1943      3
1944      3
1945      4
...
2017    1032
2018    1147
2019    1030
2020     953
2021     592
Name: title, Length: 74, dtype: int64
```

```
In [25]: 1 release_2000=data[data['release_year']==2000]
```

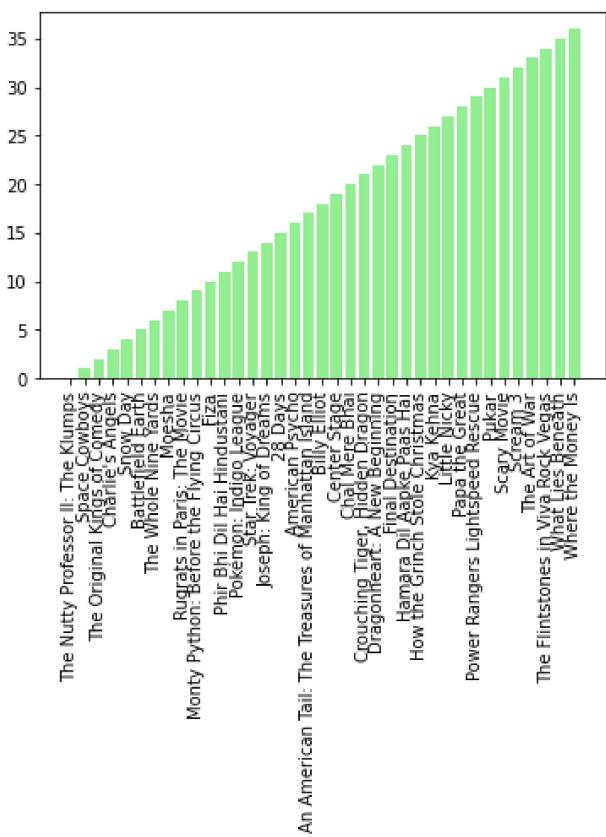
```
In [26]: 1 print(release_2000)
```

	show_id	type	title
180	s181	Movie	The Nutty Professor II: The Klumps
350	s351	Movie	Space Cowboys
359	s360	Movie	The Original Kings of Comedy
566	s567	Movie	Charlie's Angels
593	s594	Movie	Snow Day
779	s780	Movie	Battlefield Earth
952	s953	Movie	The Whole Nine Yards
2173	s2174	TV Show	Moesha
3472	s3473	Movie	Rugrats in Paris: The Movie
4545	s4546	Movie	Monty Python: Before the Flying Circus
4723	s4724	Movie	Fiza
4956	s4957	Movie	Phir Bhi Dil Hai Hindustani
5098	s5099	TV Show	Pokémon: Indigo League
5245	s5246	TV Show	Star Trek: Voyager
5953	s5954	Movie	Joseph: King of Dreams
6006	s6007	Movie	28 Days
6147	s6148	Movie	American Psycho
6154	s6155	Movie	An American Tail: The Treasures of Manhattan I...
6211	s6212	Movie	Billy Elliot
6212	s6213	Movie	Center Stage
6213	s6214	Movie	Chal Mere Bhai
6214	s6215	Movie	Crouching Tiger, Hidden Dragon
6215	s6216	Movie	Dragonheart: A New Beginning
6216	s6217	Movie	Final Destination
6217	s6218	Movie	Hamara Dil Aapke Paas Hai
6218	s6219	Movie	How the Grinch Stole Christmas
6219	s6220	Movie	Kya Kehna
6220	s6221	Movie	Little Nicky
6221	s6222	Movie	Papa the Great
6222	s6223	Movie	Power Rangers Lightspeed Rescue
6223	s6224	Movie	Pukar
6224	s6225	Movie	Scary Movie
6225	s6226	Movie	Scream 3
6226	s6227	Movie	The Art of War
6227	s6228	Movie	The Flintstones in Viva Rock Vegas
6228	s6229	Movie	What Lies Beneath
6229	s6230	Movie	Where the Money Is

```
In [27]: 1 print(release_2000['title'].tolist())
2
```

```
['The Nutty Professor II: The Klumps', 'Space Cowboys', 'The Original Kings of Comedy', "Charlie's Angels", 'Snow Day', 'Battlefield Earth', 'The Whole Nine Yards', 'Moesha', 'Rugrats in Paris: The Movie', 'Monty Python: Before the Flying Circus', 'Fiza', 'Phir Bhi Dil Hai Hindustani', 'Pokémon: Indigo League', 'Star Trek: Voyager', 'Joseph: King of Dreams', '28 Days', 'American Psycho', 'An American Tail: The Treasures of Manhattan Island', 'Billy Elliot', 'Center Stage', 'Chal Mere Bhai', 'Crouching Tiger, Hidden Dragon', 'Dragonheart: A New Beginning', 'Final Destination', 'Hamara Dil Aapke Paas Hai', 'How the Grinch Stole Christmas', 'Kya Kehna', 'Little Nicky', 'Papa the Great', 'Power Rangers Lightspeed Rescue', 'Pukar', 'Scary Movie', 'Scream 3', 'The Art of War', 'The Flintstones in Viva Rock Vegas', 'What Lies Beneath', 'Where the Money Is']
```

```
In [28]: 1 plt.bar(release_2000['title'], range(len(release_2000)), color='lightgreen')
2 plt.xticks(rotation=90)
3 plt.show()
```



Find the top 5 countries with the most content on Netflix

```
In [29]: 1 data.head(2)
```

Out[29]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	Nan	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cape

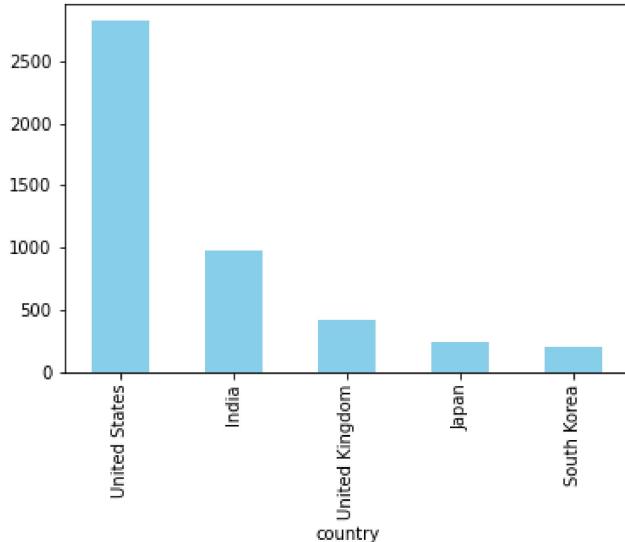
```
In [30]: 1 top_5_countries = data.groupby('country')['title'].count().sort_values(ascending=False).head(5)
```

In [31]: 1 print(top_5_countries)

```
country
United States    2818
India            972
United Kingdom   419
Japan             245
South Korea      199
Name: title, dtype: int64
```

In [32]: 1 top_5_countries.plot(kind='bar', color='skyblue')

Out[32]: <AxesSubplot:xlabel='country'>



Identify the longest movie or TV show duration

In [33]: 1 data.head(2)

Out[33]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	Nan	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cape

```
In [34]: 1 data['duration']
```

```
Out[34]: 0      90 min
1      2 Seasons
2      1 Season
3      1 Season
4      2 Seasons
...
8802    158 min
8803    2 Seasons
8804    88 min
8805    88 min
8806    111 min
Name: duration, Length: 8807, dtype: object
```

```
In [35]: 1 data1 = pd.DataFrame({
2     'duration': ['90 min', '2 Seasons', '1 Season', '1 Season', '2 Seasons', '158 min', '2 Sea
3 })
```

```
In [36]: 1 data1
```

```
Out[36]:
duration
_____
0   90 min
1  2 Seasons
2  1 Season
3  1 Season
4  2 Seasons
5  158 min
6  2 Seasons
7  88 min
8  88 min
9  111 min
```

```
In [37]: 1 def convert_to_minutes(duration):
2     try:
3         if 'min' in duration:
4             # Extract the number of minutes
5             return int(duration.replace(' min', ''))
6         elif 'Season' in duration:
7             # Assuming each season has 10 episodes, and each episode is 30 minutes
8             return int(duration.replace(' Seasons', '')) * 10 * 30
9         else:
10            return 0
11     except ValueError:
12         # Handle the case where conversion fails
13         return 0
```

```
In [38]: 1 data1['duration_minutes'] = data1['duration'].apply(convert_to_minutes)
2
```

```
In [39]: 1 max_duration = data1['duration_minutes'].max()
2 max_duration_entry = data1.loc[data1['duration_minutes'] == max_duration]
3
4 print("The longest duration is:")
5 print(max_duration_entry)
```

The longest duration is:
duration duration_minutes
1 2 Seasons 600
4 2 Seasons 600
6 2 Seasons 600

Find all the movies/ TV shows by director 'Rajiv Chi taka' !

```
In [40]: 1 data.head(2)
```

Out[40]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cap

```
In [41]: 1 filtered_data = data[data['director'] == 'Rajiv Chi taka']
```

```
In [42]: 1 grouped_by_type = filtered_data.groupby('type').size()
```

```
In [43]: 1 print(grouped_by_type)
```

Series([], dtype: int64)

```
In [44]: 1 filtered_data
```

Out[44]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
---------	------	-------	----------	------	---------	------------	--------------	--------	----------	-----------	-------------

```
In [45]: 1 filtered_data.groupby('type').count()
```

Out[45]:

type	show_id	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
------	---------	-------	----------	------	---------	------------	--------------	--------	----------	-----------	-------------

List all TV shows with more than 5 seasons

```
In [46]: 1 def extract_seasons(duration):
2     try:
3         if 'Season' in duration:
4             return int(duration.replace(' Seasons', '')) 
5         return 0
6     except ValueError:
7         return 0
```

```
In [47]: 1 # Filter the DataFrame to include only TV shows
2 tv_shows = data[data['type'] == 'TV Show']
3
4 # Apply the function to get the number of seasons
5 tv_shows['seasons'] = tv_shows['duration'].apply(extract_seasons)
6
7 # Filter TV shows with more than 5 seasons
8 tv_shows_long = tv_shows[tv_shows['seasons'] > 5]
9
10 # List the titles of TV shows with more than 5 seasons
11 print(tv_shows_long[['title', 'seasons']])
```

	title	seasons
8	The Great British Baking Show	9
55	Nailed It	6
65	Numberblocks	6
67	Saved by the Bell	9
82	Lucifer	6
...
8189	The Andy Griffith Show	8
8378	The L Word	6
8442	The Office (U.S.)	9
8557	The West Wing	7
8710	Weeds	8

[99 rows x 2 columns]

C:\Users\91825\AppData\Local\Temp\ipykernel_7492/2355419622.py:5: 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 (https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy)

tv_shows['seasons'] = tv_shows['duration'].apply(extract_seasons)

Count the number of content items in each genre

```
In [48]: 1 data.head(2)
```

Out[48]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the life
1	s2	TV Show	Blood & Water	Nan	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	crime, caper

```
In [49]: 1 data['cast'] = data['cast'].str.split(', ')
```

```
In [50]: 1 data['cast']
```

```
Out[50]: 0                               NaN  
1      [Ama Qamata, Khosi Ngema, Gail Mabalane, Thaba...  
2      [Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nab...  
3                               NaN  
4      [Mayur More, Jitendra Kumar, Ranjan Raj, Alam ...  
     ...  
8802     [Mark Ruffalo, Jake Gyllenhaal, Robert Downey ...  
8803                               NaN  
8804     [Jesse Eisenberg, Woody Harrelson, Emma Stone,...  
8805     [Tim Allen, Courteney Cox, Chevy Chase, Kate M...  
8806     [Vicky Kaushal, Sarah-Jane Dias, Raaghav Chana...  
Name: cast, Length: 8807, dtype: object
```

```
In [51]: 1 exploded_data = data.explode('cast')
```

In [52]: 1 exploded_data

Out[52]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries
1	s2	TV Show	Blood & Water	NaN	Ama Qamata	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries
1	s2	TV Show	Blood & Water	NaN	Khosi Ngema	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries
1	s2	TV Show	Blood & Water	NaN	Gail Mabalane	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries
1	s2	TV Show	Blood & Water	NaN	Thabang Molaba	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries
...
8806	s8807	Movie	Zubaan	Mozez Singh	Manish Chaudhary	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals
8806	s8807	Movie	Zubaan	Mozez Singh	Meghna Malik	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals
8806	s8807	Movie	Zubaan	Mozez Singh	Malkeet Rauni	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals
8806	s8807	Movie	Zubaan	Mozez Singh	Anita Shabdis	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals
8806	s8807	Movie	Zubaan	Mozez Singh	Chittaranjan Tripathy	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals

64951 rows × 12 columns

```
In [53]: 1 genre_counts = exploded_data['cast'].value_counts()
2
```

```
In [54]: 1 genre_counts
```

Out[54]: cast

Anupam Kher	43
Shah Rukh Khan	35
Julie Tejwani	33
Naseeruddin Shah	32
Takahiro Sakurai	32
..	
Maryam Zaree	1
Melanie Straub	1
Gabriela Maria Schmeide	1
Helena Zengel	1
Chittaranjan Tripathy	1

Name: count, Length: 36439, dtype: int64

Find each year and the average numbers of content release in India on netflix.

```
In [55]: 1 data.head(2)
```

Out[55]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	NaN	[Ama Qamata, Khosi Ngema, Gail Mabalane, Thaba...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cap

In [56]: 1 data[data['country']=='India']

Out[56]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in
4	s5	TV Show	Kota Factory	NaN	[Mayur More, Jitendra Kumar, Ranjan Raj, Alam ...]	India	September 24, 2021	2021	TV-MA	2 Seasons	International TV Show, Romantic TV Show, TV
24	s25	Movie	Jeans	S. Shankar	[Prashanth, Aishwarya Rai Bachchan, Sri Lakshmi...]	India	September 21, 2021	1998	TV-14	166 min	Comedy, International Movie, Romantic Movie
39	s40	TV Show	Chhota Bheem	NaN	[Vatsal Dubey, Julie Tejwani, Rupa Bhimani, Ji...]	India	September 16, 2021	2021	TV-Y7	3 Seasons	Kids' TV
50	s51	TV Show	Dharmakshetra	NaN	[Kashmira Irani, Chandan Anand, Dinesh Mehta, ...]	India	September 15, 2021	2014	TV-PG	1 Season	International TV Show, TV Drama, TV Sci-Fi &
66	s67	TV Show	Raja Rasoi Aur Anya Kahaniyan	NaN	NaN	India	September 15, 2021	2014	TV-G	1 Season	Docuseries, International TV Show
...
8773	s8774	Movie	Yanda Kartavya Aahe	Kedar Shinde	[Ankush Choudhary, Smita Shewale, Mohan Joshi, ...]	India	January 1, 2018	2006	TV-PG	151 min	Comedy, Drama, International Movie
8775	s8776	TV Show	Yeh Meri Family	NaN	[Vishesh Bansal, Mona Singh, Akarsh Khurana, A...]	India	August 31, 2018	2018	TV-PG	1 Season	International TV Show, 1 Comedy
8798	s8799	Movie	Zed Plus	Chandra Prakash Dwivedi	[Adil Hussain, Mona Singh, K.K. Raina, Sanjay ...]	India	December 31, 2019	2014	TV-MA	131 min	Comedy, Drama, International Movie
8799	s8800	Movie	Zenda	Avadhoot Gupte	[Santosh Juvekar, Siddharth Chandekar, Sachit ...]	India	February 15, 2018	2009	TV-14	120 min	Drama, International Movie
8806	s8807	Movie	Zubaan	Mozez Singh	[Vicky Kaushal, Sarah-Jane Dias, Raaghav Chana...]	India	March 2, 2019	2015	TV-14	111 min	Drama, International Movie, Music, Musical

972 rows × 12 columns

```
In [57]: 1 india_data = data[data['country'] == 'India']
```

```
In [58]: 1 releases_per_year = india_data.groupby('release_year').size()
2
```

```
In [59]: 1 average_releases_per_year = releases_per_year.mean()
2
```

```
In [60]: 1 print(average_releases_per_year)
```

17.672727272727272

List all movies that are documentaries

```
In [61]: 1 data.head(2)
```

Out[61]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	Nan	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	Nan	[Ama Qamata, Khosi Ngema, Gail Mabalane, Thaba...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat Cap

◀ ▶

```
In [62]: 1 doc_movie=data[data['listed_in']=="Documentaries"]
```

```
In [63]: 1 all_doc_movie=doc_movie['title']
```

```
In [64]: 1 print(all_doc_movie)
```

```
0 Dick Johnson Is Dead
45 My Heroes Were Cowboys
117 Final Account
221 Bob Ross: Happy Accidents, Betrayal & Greed
304 Lady Boss: The Jackie Collins Story
...
8723 What Makes a Psychopath?
8737 Why Are We Getting So Fat?
8738 Why Knot
8739 Why We Fight: The Battle of Russia
8763 WWII: Report from the Aleutians
Name: title, Length: 359, dtype: object
```

```
In [ ]:
```

Find all content without a director

In [65]: 1 data.head(2)

Out[65]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	NaN	[Ama Qamata, Khosi Ngema, Gail Mabalane, Thaba...	South Africa	September 24, 2021	2021	TV-MA	Seasons 2	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cape

In [66]: 1 data['director']

Out[66]:

0	Kirsten Johnson
1	NaN
2	Julien Leclercq
3	NaN
4	NaN
...	
8802	David Fincher
8803	NaN
8804	Ruben Fleischer
8805	Peter Hewitt
8806	Mozez Singh

Name: director, Length: 8807, dtype: object

In [67]: 1 no_director_data = data[pd.isna(data['director'])]

2

```
In [68]: 1 print(no_director_data)
```

```

show_id      type          title   director \
1           s2  TV Show     Blood & Water      NaN
3           s4  TV Show     Jailbirds New Orleans      NaN
4           s5  TV Show     Kota Factory      NaN
10          s11 TV Show Vendetta: Truth, Lies and The Mafia      NaN
14          s15 TV Show Crime Stories: India Detectives      NaN
...
8795         s8796 TV Show     Yu-Gi-Oh! Arc-V      NaN
8796         s8797 TV Show     Yunus Emre      NaN
8797         s8798 TV Show     Zak Storm      NaN
8800         s8801 TV Show     Zindagi Gulzar Hai      NaN
8803         s8804 TV Show     Zombie Dumb      NaN

cast \
1 [Ama Qamata, Khosi Ngema, Gail Mabalane, Thaba...      ...
3                                         NaN
4 [Mayur More, Jitendra Kumar, Ranjan Raj, Alam ...      ...
10                                         NaN
14                                         NaN
...
8795 [Mike Liscio, Emily Bauer, Billy Bob Thompson,...      ...
8796 [Gökhan Atalay, Payidar Tüfekçioğlu, Baran Akb...      ...
8797 [Michael Johnston, Jessica Gee-George, Christi...      ...
8800 [Sanam Saeed, Fawad Khan, Ayesha Omer, Mehreen...      ...
8803                                         NaN

country      date_added \
1           South Africa September 24, 2021
3                                         NaN September 24, 2021
4                                         India September 24, 2021
10                                         NaN September 24, 2021
14                                         NaN September 22, 2021
...
8795             Japan, Canada      May 1, 2018
8796             Turkey      January 17, 2017
8797 United States, France, South Korea, Indonesia September 13, 2018
8800             Pakistan December 15, 2016
8803                                         NaN July 1, 2019

release_year rating duration \
1           2021   TV-MA  2 Seasons
3           2021   TV-MA  1 Season
4           2021   TV-MA  2 Seasons
10          2021   TV-MA  1 Season
14          2021   TV-MA  1 Season
...
8795          2015   TV-Y7  2 Seasons
8796          2016   TV-PG  2 Seasons
8797          2016   TV-Y7  3 Seasons
8800          2012   TV-PG  1 Season
8803          2018   TV-Y7  2 Seasons

listed_in \
1 International TV Shows, TV Dramas, TV Mysteries
3                                         Docuseries, Reality TV
4 International TV Shows, Romantic TV Shows, TV ...
10 Crime TV Shows, Docuseries, International TV S...
14 British TV Shows, Crime TV Shows, Docuseries
...
8795                                         ...
8796                                         ...
8797                                         ...
8800 International TV Shows, Romantic TV Shows, TV ...
8803 Kids' TV, Korean TV Shows, TV Comedies

description
1 After crossing paths at a party, a Cape Town t...
3 Feuds, flirtations and toilet talk go down amo...

```

```

4     In a city of coaching centers known to train I...
10    Sicily boasts a bold "Anti-Mafia" coalition. B...
14    Cameras following Bengaluru police on the job ...
...
8795   Now that he's discovered the Pendulum Summonin...
8796   During the Mongol invasions, Yunus Emre leaves...
8797   Teen surfer Zak Storm is mysteriously transpor...
8800   Strong-willed, middle-class Kashaf and carefre...
8803   While living alone in a spooky town, a young g...

```

[2634 rows x 12 columns]

Find how many movies actor 'Salman Khan' appeared in last 10 years!

In [69]: 1 data.head(2)

Out[69]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	desci
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	Nan	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	father the f
1	s2	TV Show	Blood & Water	Nan	[Ama Qamata, Khosi Ngema, Gail Mabalane, Thaba...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	cr pat f Cape

In [70]: 1 data['director'].value_counts()

Out[70]: director

Rajiv Chilaka	19
Raúl Campos, Jan Suter	18
Marcus Raboy	16
Suhas Kadav	16
Jay Karas	14
	..
Raymie Muzquiz, Stu Livingston	1
Joe Menendez	1
Eric Bross	1
Will Eisenberg	1
Mozez Singh	1

Name: count, Length: 4528, dtype: int64

In [71]: 1 data[data['director']=="Salman Khan"].value_counts()

Out[71]: Series([], Name: count, dtype: int64)

In [72]: 1 data[data['director']=="Salman Khan"]

Out[72]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
---------	------	-------	----------	------	---------	------------	--------------	--------	----------	-----------	-------------

```
In [73]: 1 from datetime import datetime  
2 current_year = datetime.now().year  
3
```

```
In [74]: 1 cutoff_year = current_year - 10  
2
```

```
In [75]: 1 salman_data = data[data['director'] == 'Salman Khan']  
2
```

```
In [76]: 1 recent_salman_data = salman_data[salman_data['release_year'] >= cutoff_year]  
2
```

```
In [77]: 1 num_movies = recent_salman_data['title'].nunique()  
2
```

```
In [78]: 1 print(num_movies)
```

0

Completed By:

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```
In [ ]: 1
```