

NETFLIX DATA ANALYSIS

QUESTION SOLVED.



Any suggestions are welcome.

**PROJECT BY:
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Netflix data analysis

Importing needed library

```
[98]: #importing library
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import warnings
warnings.filterwarnings('ignore')
```

2 Reading data set

```
[2]: df=pd.read_csv(r"D:\#python dataset\netflix_titles.csv")
df
```

```
[2]:
```

	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	Mozes 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	NaN
4	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India
...
8802	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States

8803		NaN	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]

```
[3]: df.head(2)
```

```
[3]: show_id      type      title      director \
0      s1      Movie  Dick Johnson Is Dead  Kirsten Johnson
1      s2  TV Show      Blood & Water      NaN

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

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

      listed_in \
0      Documentaries
1  International TV Shows, TV Dramas, TV Mysteries

      description
0  As her father nears the end of his life, filmm...
1  After crossing paths at a party, a Cape Town t...
```

```
[4]: df.tail(2)
```

```
[4]: show_id      type      title      director \
8805      s8806  Movie      Zoom  Peter Hewitt
8806      s8807  Movie  Zubaan  Mozez Singh

      cast      country \
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 \
8805  January 11, 2020      2006      PG      88 min
8806      March 2, 2019      2015  TV-14  111 min

      listed_in \
8805      Children & Family Movies, Comedies
8806  Dramas, International Movies, Music & Musicals

      description
8805  Dragged from civilian life, a former superhero...
8806  A scrappy but poor boy worms his way into a ty...
```

3 Q.1] Is there any Duplicate Record in this dataset ? If yes, then remove the duplicate records.

```
[5]: #8807 rows 12 cols  
df.shape
```

```
[5]: (8807, 12)
```

```
[6]: #no duplicate  
df[df.duplicated()]
```

```
[6]: Empty DataFrame  
Columns: [show_id, type, title, director, cast, country, date_added,  
release_year, rating, duration, listed_in, description]  
Index: []
```

```
[79]: # all unique values  
df["title"].nunique()
```

```
[79]: 8807
```

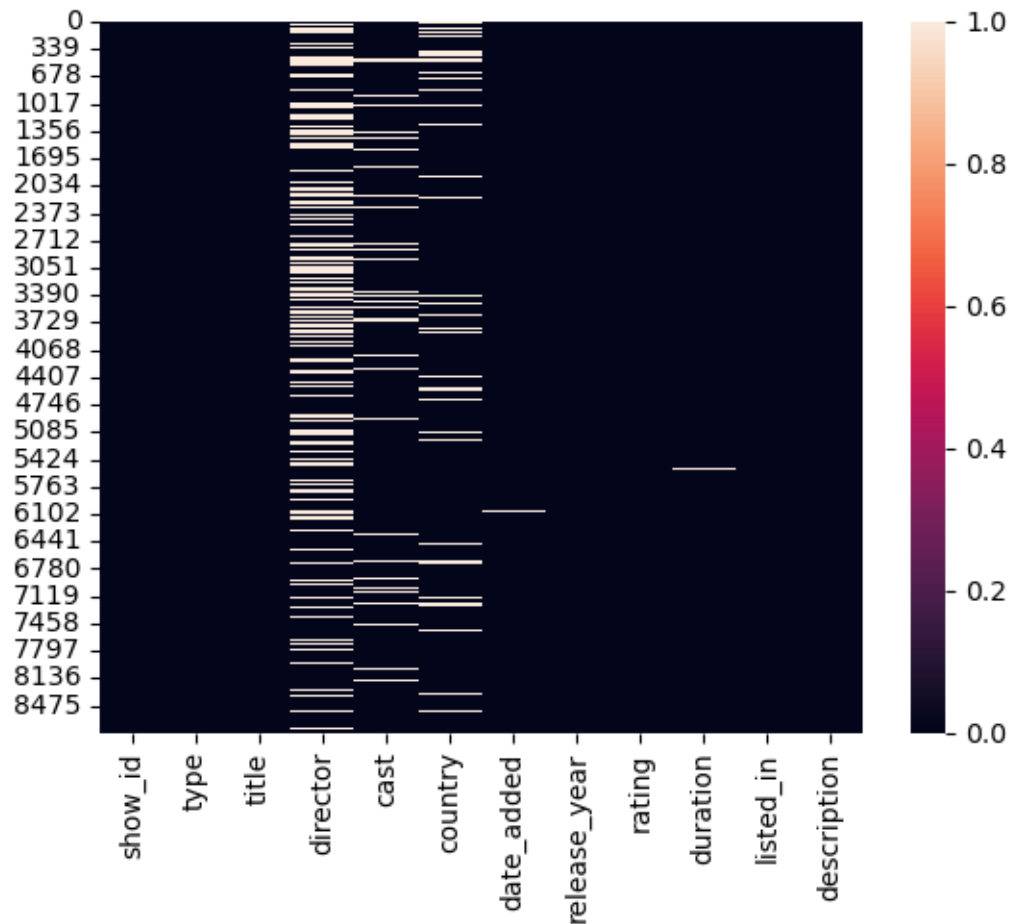
4 Q.2] Is there any Null Value present in any column ? Show with Heat-map.

```
[7]: df.isnull().sum()
```

```
[7]: 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
```

```
[8]: sns.heatmap(df.isnull())
```

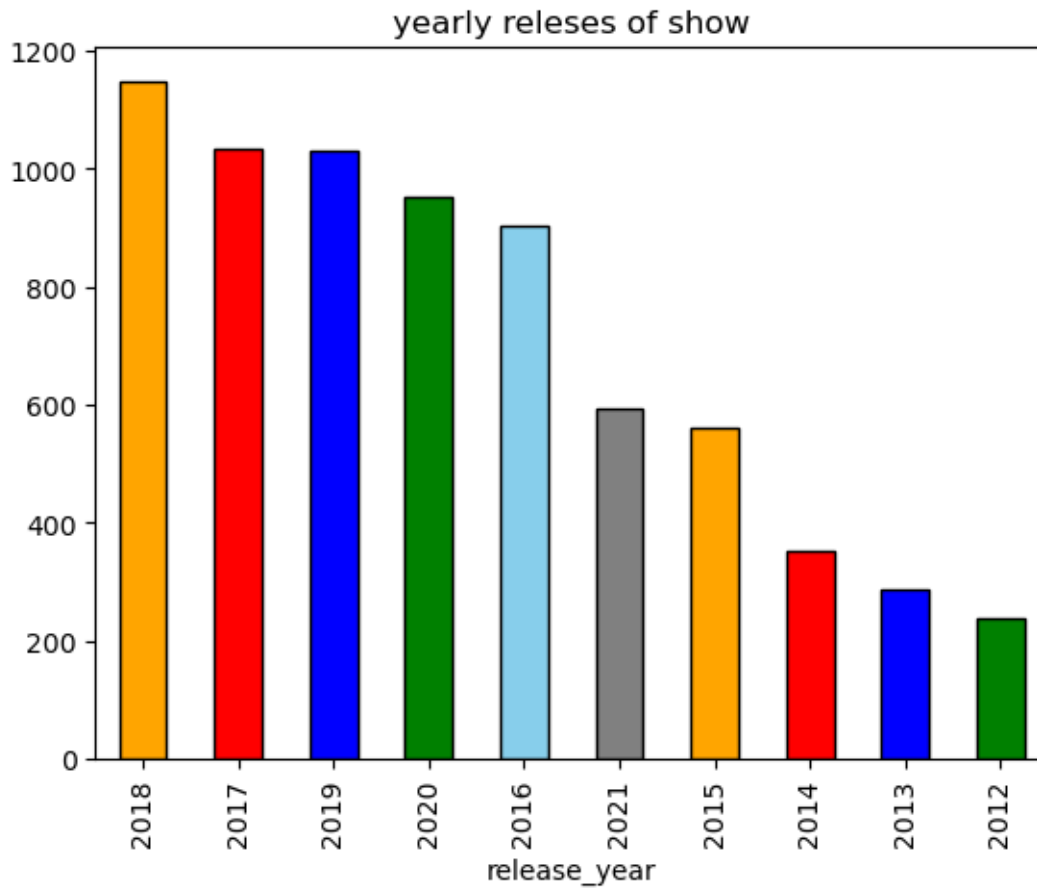
```
[8]: <Axes: >
```



5 Q.3] In which year the highest number of the TV Shows & Movies were released ? Show with Bar Graph.

```
[105]: Release_year=df["release_year"].value_counts().head(10).
        plot(kind='bar',color=["orange","red",'blue','green','skyblue',"grey"]
              ,edgecolor='black',title="yearly releases_
        of show")
        Release_year
```

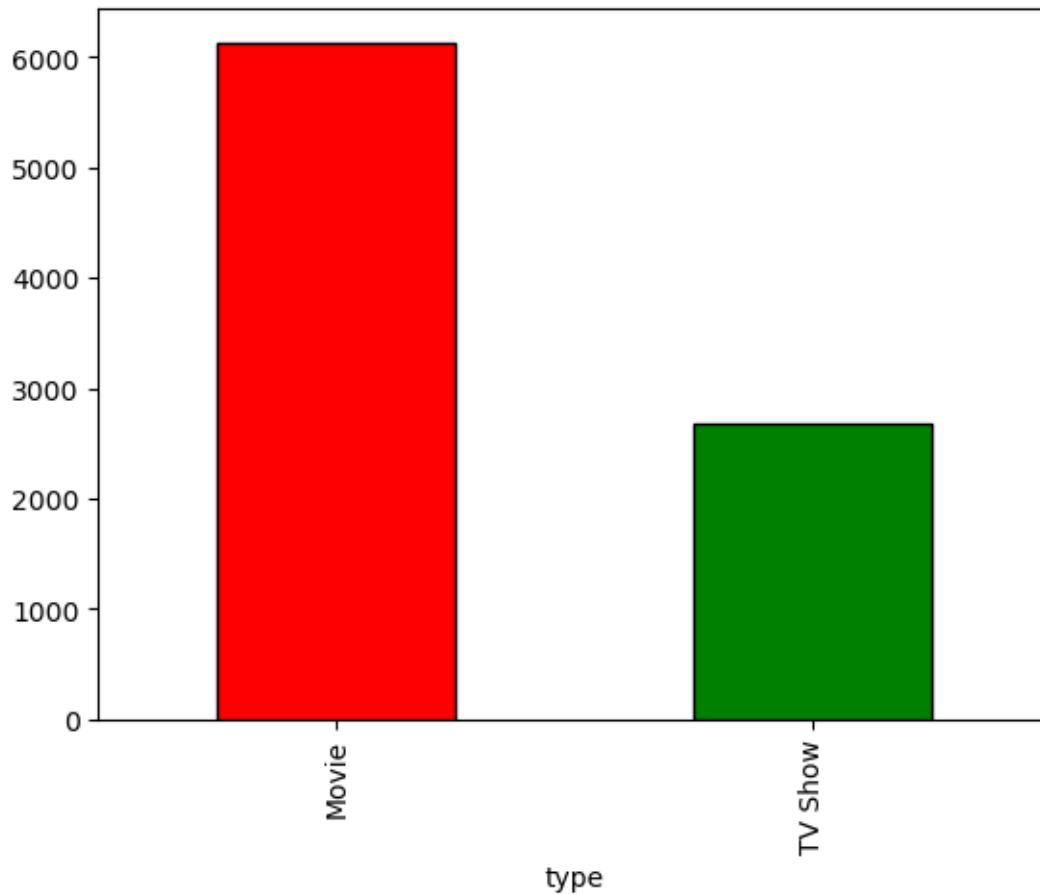
```
[105]: <Axes: title={'center': 'yearly releases of show'}, xlabel='release_year'>
```



6 Q.4] How many Movies & TV Shows are in the dataset ? Show with Bar Graph.

```
[19]: df["type"].value_counts().
      ↪ plot(kind='bar',color=["red",'green'],edgecolor='black')
```

```
[19]: <Axes: xlabel='type'>
```



Q.5] Show all the Movies that were released in year 2000.

```
[12]: df[df["release_year"]==2000].shape
      ↪ #37 movies were realsed in 2000
```

[12]: (37, 12)

```
[13]: df[df["release_year"]==2000].head(5)
```

```
[13]:
```

	show_id	type	title	director	\
180	s181	Movie	The Nutty Professor II: The Klumps	Peter Segal	
350	s351	Movie	Space Cowboys	Clint Eastwood	
359	s360	Movie	The Original Kings of Comedy	Spike Lee	
566	s567	Movie	Charlie's Angels	McG	
593	s594	Movie	Snow Day	Chris Koch	

	cast	\
180	Eddie Murphy, Janet Jackson, Larry Miller, Joh...	
350	Clint Eastwood, Tommy Lee Jones, Donald Suther...	


```

359 Steve Harvey, D.L. Hughley, Cedric the Enterta...
566 Cameron Diaz, Drew Barrymore, Lucy Liu, Bill M...
593 Chris Elliott, Mark Webber, Jean Smart, Schuyl...

```

```

country      date_added  release_year  rating  duration \
180      NaN  September 1, 2021      2000  PG-13  107 min
350    United States    August 1, 2021      2000  PG-13  130 min
359    United States    August 1, 2021      2000      R  111 min
566  United States, Germany    July 1, 2021      2000  PG-13   98 min
593    United States    July 1, 2021      2000      PG   89 min

```

```

listed_in \
180      Comedies, Romantic Movies
350  Action & Adventure, Dramas, Sci-Fi & Fantasy
359      Stand-Up Comedy
566      Action & Adventure, Comedies
593  Children & Family Movies, Comedies

```

```

description
180  After getting engaged, Sherman Klump prepares ...
350  A retired engineer agrees to help NASA prevent...
359  Comedians Steve Harvey, Cedric the Entertainer...
566  A tight-knit trio of specially trained agents ...
593  When a snow day shuts down the whole town, the...

```

Q.6]Show only the Titles of all TV Shows that were released in India only.

```
[99]: df[(df["type"]=="TV Show") &(df["country"]=="India")].head(2)
```

```
[99]:  show_id    type      title director \
4      s5  TV Show  Kota Factory      NaN
39     s40  TV Show  Chhota Bheem      NaN

```

```

cast country \
4  Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...  India
39 Vatsal Dubey, Julie Tejjwani, Rupa Bhimani, Jig...  India

```

```

date_added  release_year  rating  duration \
4  September 24, 2021      2021  TV-MA  2 Seasons
39 September 16, 2021      2021  TV-Y7  3 Seasons

```

```

listed_in \
4  International TV Shows, Romantic TV Shows, TV ...
39      Kids' TV

```

```

description
4  In a city of coaching centers known to train I...
39 A brave, energetic little boy with superhuman ...

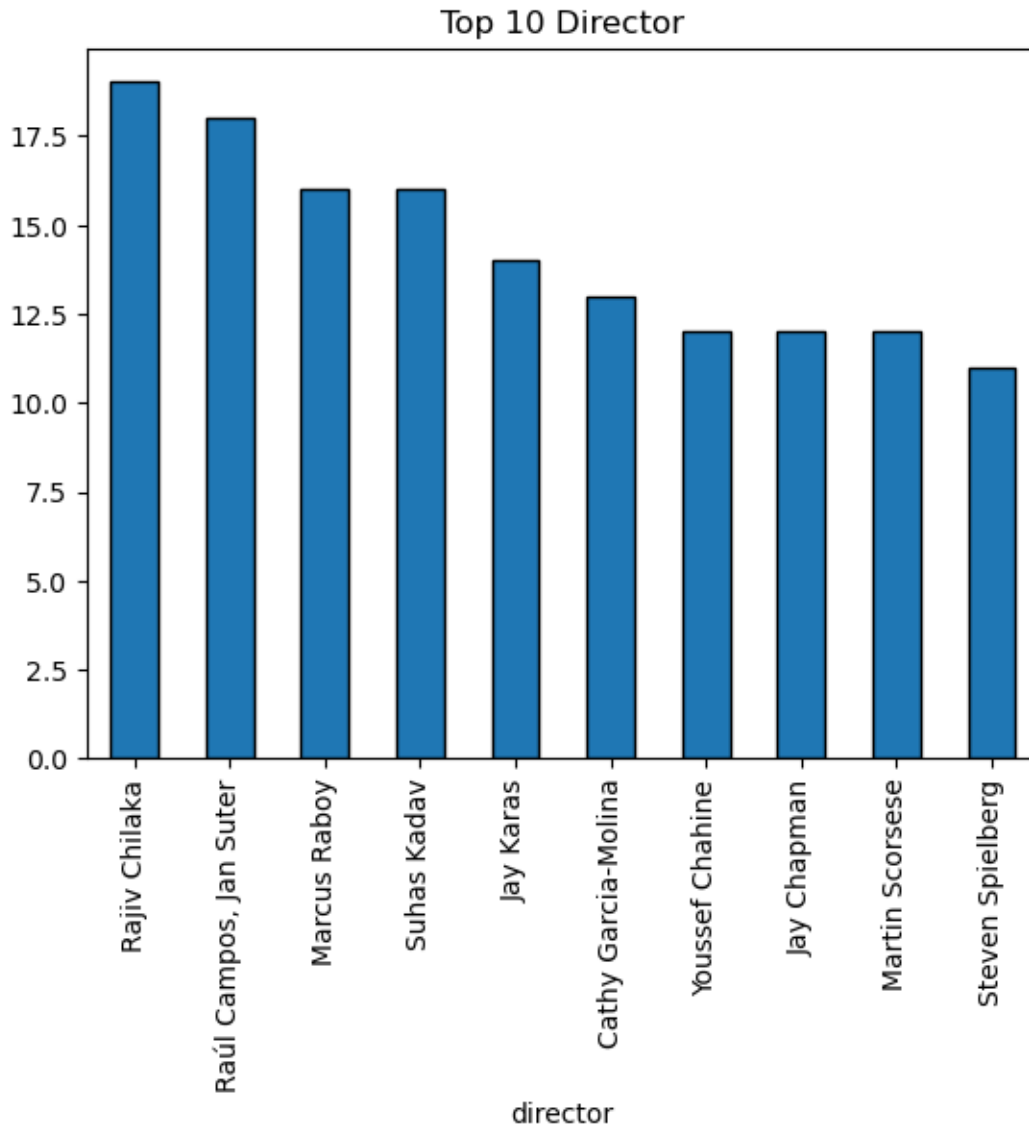
```

Q.7] Show Top 10 Directors, who gave the highest number of TV Shows & Movies to Netflix ?

```
[28]: df["director"].value_counts().sort_values(ascending=False).head(10)      #top 10 director
```

```
[28]: director
      Rajiv Chilaka      19
      Raúl Campos, Jan Suter  18
      Marcus Raboy      16
      Suhas Kadav      16
      Jay Karas      14
      Cathy Garcia-Molina  13
      Youssef Chahine      12
      Jay Chapman      12
      Martin Scorsese      12
      Steven Spielberg      11
      Name: count, dtype: int64
```

```
[63]: df["director"].value_counts().sort_values(ascending=False).head(10).
      plot(kind="bar",
            title="Top 10 Director",edgecolor="black")
      plt.show()
```



Q.8]Show all the Records, where “Category is Movie and Type is Documentry” or “Country is United Kingdom”.

```
[53]: filterd_data =df[(df["type"]=="Movie") & (df["listed_in"]=="Documentaries") |
    ↪(df["country"]=="United Kingdom")]
filterd_data
```

```
[53]:
```

	show_id	type	title	director
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson
8	s9	TV Show	The Great British Baking Show	Andy Devonshire
32	s33	TV Show	Sex Education	NaN
45	s46	Movie	My Heroes Were Cowboys	Tyler Greco

65	s66	TV Show	Numberblocks	NaN
...
8741	s8742	TV Show	Wild Arabia	NaN
8744	s8745	Movie	Williams Morgan Matthews	
8758	s8759	TV Show	World's Busiest Cities	NaN
8763	s8764	Movie	WWII: Report from the Aleutians	John Huston
8786	s8787	Movie	You Can Tutu	James Brown

	cast	country \
0	NaN	United States
8	Mel Giedroyc, Sue Perkins, Mary Berry, Paul Ho...	United Kingdom
32	Asa Butterfield, Gillian Anderson, Ncuti Gatwa...	United Kingdom
45	NaN	NaN
65	Beth Chalmers, David Holt, Marcel McCalla, Ter...	United Kingdom
...
8741	Alexander Siddig	United Kingdom
8744	NaN	United Kingdom
8758	Anita Rani, Ade Adepitan, Dan Snow	United Kingdom
8763	NaN	United States
8786	Lily O'Regan, Jeannettsy Enriquez Borges, Joel...	United Kingdom

	date_added	release_year	rating	duration \
0	September 25, 2021	2020	PG-13	90 min
8	September 24, 2021	2021	TV-14	9 Seasons
32	September 17, 2021	2020	TV-MA	3 Seasons
45	September 16, 2021	2021	PG	23 min
65	September 15, 2021	2021	TV-Y	6 Seasons
...
8741	March 31, 2017	2013	TV-PG	1 Season
8744	November 4, 2017	2017	TV-MA	105 min
8758	February 1, 2019	2017	TV-PG	1 Season
8763	March 31, 2017	1943	TV-PG	45 min
8786	December 31, 2017	2017	TV-G	87 min

	listed_in \
0	Documentaries
8	British TV Shows, Reality TV
32	British TV Shows, International TV Shows, TV C...
45	Documentaries
65	Kids' TV
...	...
8741	British TV Shows, Docuseries, Science & Nature TV
8744	Documentaries, International Movies, Sports Mo...
8758	British TV Shows, Docuseries
8763	Documentaries
8786	Children & Family Movies

```

description
0    As her father nears the end of his life, filmm...
8    A talented batch of amateur bakers face off in...
32   Insecure Otis has all the answers when it come...
45   Robin Wiltshire's painful childhood was rescue...
65   In a place called Numberland, math adds up to ...
...
8741 The widely varied geology and dramatic landsca...
8744 This inspiring documentary charts the birth of...
8758 From Moscow to Mexico City, three BBC journali...
8763 Filmmaker John Huston narrates this Oscar-nomi...
8786 A gifted young ballet dancer struggles to find...

```

[738 rows x 12 columns]

Q.9] For 'The original Kings of comedy', what is the Show Id and Who is the Director of this show ?

```

[82]: # two method o find in columns
      #isin() method first
      df[df["title"].isin(["The Original Kings of Comedy"])]

```

```

[82]:   show_id  type                title  director \
359    s360  Movie  The Original Kings of Comedy  Spike Lee

                                             cast      country \
359  Steve Harvey, D.L. Hughley, Cedric the Enterta...  United States

      date_added  release_year  rating  duration  listed_in \
359  August 1, 2021          2000      R    111 min  Stand-Up Comedy

                                             description
359  Comedians Steve Harvey, Cedric the Entertainer...

```

```

[84]: #second is str.contains()
      df[df["title"].str.contains("The Original Kings of Comedy")]

```

```

[84]:   show_id  type                title  director \
359    s360  Movie  The Original Kings of Comedy  Spike Lee

                                             cast      country \
359  Steve Harvey, D.L. Hughley, Cedric the Enterta...  United States

      date_added  release_year  rating  duration  listed_in \
359  August 1, 2021          2000      R    111 min  Stand-Up Comedy

                                             description
359  Comedians Steve Harvey, Cedric the Entertainer...

```

Q.10] How many Movies got the 'TV-14' rating, in Canada ?

```
[93]: #unique() rating values
df["rating"].unique()
```

```
[93]: array(['PG-13', 'TV-MA', 'PG', 'TV-14', 'TV-PG', 'TV-Y', 'TV-Y7', 'R',
        'TV-G', 'G', 'NC-17', '74 min', '84 min', '66 min', 'NR', nan,
        'TV-Y7-FV', 'UR'], dtype=object)
```

```
[97]: listed_in_canda=df[(df["type"]=="Movie") & (df["rating"]=="TV-14") &
        ↪&(df["country"]=="Canada")]
listed_in_canda.head(2)
```

```
[97]:      show_id  type                                     title \
157      s158  Movie                                     Level 16
1279    s1280  Movie  Made You Look: A True Story About Fake Art

      director                                             cast \
157  Danishka Esterhazy  Katie Douglas, Celina Martin, Peter Outerbridg...
1279      Barry Avrich                                           NaN

      country      date_added  release_year  rating  duration \
157   Canada  September 1, 2021          2018  TV-14   102 min
1279   Canada  February 23, 2021          2020  TV-14    90 min

      listed_in \
157          Sci-Fi & Fantasy, Thrillers
1279  Documentaries, International Movies

      description
157  In a bleak academy that teaches girls the virt...
1279  A woman walks into a New York gallery with a c...
```

7 Q.11] What is the maximum duration of a Movie/Show on Netflix ?

```
[142]: df["duration"].sort_values(ascending=False).head(5)
```

```
[142]: 1329    99 min
6278    99 min
952     99 min
6141    99 min
929     99 min
Name: duration, dtype: object
```

8 Q.12] Which individual country has the Highest No. of TV Shows ?

```
[130]: country=df[df["type"]=="TV Show"]
```

```
[132]: country.country.value_counts().head(5)
```

```
[132]: country
United States      760
United Kingdom    213
Japan              169
South Korea        158
India              79
Name: count, dtype: int64
```

9 Q.13]How can we sort the dataset by Year

```
[147]: df["release_year"].sort_values(ascending=False)
```

```
[147]: 693      2021
781      2021
762      2021
763      2021
764      2021
...
8660     1943
8763     1943
8205     1942
7790     1942
4250     1925
Name: release_year, Length: 8807, dtype: int64
```

Q.14] Find all the instances where: Category is 'Movie' and Type is 'Dramas' or Category is 'TV Show' & Type is 'Kids' TV.

```
[158]: df["listed_in"].nunique()
```

```
[158]: 514
```

```
[155]: df[(df["type"]=="Movie")&(df["listed_in"]=="Dramas")|(df["type"]=="TV SHOW") &_
↪(df["listed_in"]=="Kids")]
```

```
[155]:   show_id  type      title  director \
112   s113  Movie      Worth   Sara Colangelo
129   s130  Movie  An Unfinished Life  Lasse Hallström
142   s143  Movie  Freedom Writers  Richard LaGravenese
162   s163  Movie      Marshall   Reginald Hudlin
```

329	s330	Movie	Catch Me If You Can	Steven Spielberg
...
8674	s8675	Movie	Viceroy's House	Gurinder Chadha
8675	s8676	Movie	Victor	Brandon Dickerson
8685	s8686	Movie	VS.	Ed Lilly
8691	s8692	Movie	Wakefield	Robin Swicord
8696	s8697	Movie	War Horse	Steven Spielberg

cast \

112	Michael Keaton, Stanley Tucci, Amy Ryan, Shuno...
129	Robert Redford, Jennifer Lopez, Morgan Freeman...
142	Hilary Swank, Patrick Dempsey, Scott Glenn, Im...
162	Chadwick Boseman, Josh Gad, Kate Hudson, Sterl...
329	Leonardo DiCaprio, Tom Hanks, Christopher Walk...
...	...
8674	Hugh Bonneville, Gillian Anderson, Manish Daya...
8675	Patrick Davis, Lisa Vidal, Josh Pence, José Zú...
8685	Connor Swindells, Fola Evans-Akingbola, Nichol...
8691	Bryan Cranston, Jennifer Garner, Jason O'Mara,...
8696	Emily Watson, David Thewlis, Peter Mullan, Nie...

	country	date_added	release_year	rating	\
112	NaN	September 3, 2021	2021	PG-13	
129	Germany, United States	September 1, 2021	2005	PG-13	
142	Germany, United States	September 1, 2021	2007	PG-13	
162	United States, China, Hong Kong	September 1, 2021	2017	PG-13	
329	United States, Canada	August 1, 2021	2002	PG-13	
...	
8674	United Kingdom, India, Sweden	December 12, 2017	2017	NR	
8675	United States	July 24, 2017	2015	PG-13	
8685	United Kingdom	June 19, 2019	2018	TV-MA	
8691	United States	March 2, 2019	2016	R	
8696	United States, India	May 6, 2019	2011	PG-13	

	duration	listed_in		description
112	119 min	Dramas	In the wake of the Sept. 11 attacks, a lawyer ...	
129	108 min	Dramas	A grieving widow and her daughter move in with...	
142	124 min	Dramas	While her at-risk students are reading classic...	
162	118 min	Dramas	This biopic of Thurgood Marshall, the first Bl...	
329	142 min	Dramas	An FBI agent makes it his mission to put cunni...	
...	
8674	106 min	Dramas	As viceroy Lord Mountbatten arrives in Delhi t...	
8675	110 min	Dramas	In 1962 Brooklyn, a Puerto Rican teen who join...	
8685	99 min	Dramas	A young man in foster care finds his voice in ...	
8691	109 min	Dramas	An unhappy father and lawyer quits his suburba...	
8696	147 min	Dramas	During World War I, the bond between a young E...	

[138 rows x 12 columns]

10 _____THANKYOU FOR WATCH-
ING_____

[]: