

# 2024 07 15 Netflix Dataset Analysis

October 11, 2024

## 1 Netflix Dataset Analysis

- Data will be analyzed using pandas, seaborn and matplotlib.pyplot
- Dataset is available as csv file
- Dataset consists of movies and TV shows from the year 2021 on the Netflix platform, and is originally from the Flixable third party Netflix search engine (available on Kaggle)

```
[3]: #Import statements + preparation of dataframe set + first look
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

```
[4]: data = pd.read_csv(r'..\file.csv')
data.head(5)
```

```
[4]: Show_Id Category Title Director \
0 s1 TV Show 3% NaN
1 s2 Movie 07:19 Jorge Michel Grau
2 s3 Movie 23:59 Gilbert Chan
3 s4 Movie 9 Shane Acker
4 s5 Movie 21 Robert Luketic

Cast Country \
0 João Miguel, Bianca Comparato, Michel Gomes, R... Brazil
1 Demián Bichir, Héctor Bonilla, Oscar Serrano, ... Mexico
2 Tedd Chan, Stella Chung, Henley Hii, Lawrence ... Singapore
3 Elijah Wood, John C. Reilly, Jennifer Connelly... United States
4 Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar... United States

Release_Date Rating Duration \
0 August 14, 2020 TV-MA 4 Seasons
1 December 23, 2016 TV-MA 93 min
2 December 20, 2018 R 78 min
3 November 16, 2017 PG-13 80 min
4 January 1, 2020 PG-13 123 min

Type \
0 International TV Shows, TV Dramas, TV Sci-Fi &...
```

```

1          Dramas, International Movies
2          Horror Movies, International Movies
3  Action & Adventure, Independent Movies, Sci-Fi...
4          Dramas

```

```

                                Description
0  In a future where the elite inhabit an island ...
1  After a devastating earthquake hits Mexico Cit...
2  When an army recruit is found dead, his fellow...
3  In a postapocalyptic world, rag-doll robots hi...
4  A brilliant group of students become card-coun...

```

```
[5]: data.dtypes
```

```

[5]: Show_Id      object
     Category      object
     Title         object
     Director      object
     Cast          object
     Country       object
     Release_Date  object
     Rating        object
     Duration      object
     Type          object
     Description   object
     dtype: object

```

```
[6]: data.tail(5)
```

```

[6]:      Show_Id Category      Title      Director \
7784   s7783   Movie      Zozo   Josef Fares
7785   s7784   Movie      Zubaan  Mozez Singh
7786   s7785   Movie      Zulu Man in Japan      NaN
7787   s7786  TV Show      Zumbo's Just Desserts      NaN
7788   s7787   Movie  ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS      Sam Dunn

```

```

                                Cast \
7784  Imad Creidi, Antoinette Turk, Elias Gergi, Car...
7785  Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...
7786                                     Nasty C
7787      Adriano Zumbo, Rachel Khoo
7788                                     NaN

```

```

                                Country      Release_Date \
7784  Sweden, Czech Republic, United Kingdom, Denmar...  October 19, 2020
7785                                     India      March 2, 2019
7786                                     NaN  September 25, 2020

```

7787	Australia	October 31, 2020
7788	United Kingdom, Canada, United States	March 1, 2020

	Rating	Duration	Type \
7784	TV-MA	99 min	Dramas, International Movies
7785	TV-14	111 min	Dramas, International Movies, Music & Musicals
7786	TV-MA	44 min	Documentaries, International Movies, Music & M...
7787	TV-PG	1 Season	International TV Shows, Reality TV
7788	TV-MA	90 min	Documentaries, Music & Musicals

	Description
7784	When Lebanon's Civil War deprives Zozo of his ...
7785	A scrappy but poor boy worms his way into a ty...
7786	In this documentary, South African rapper Nast...
7787	Dessert wizard Adriano Zumbo looks for the nex...
7788	This documentary delves into the mystique behi...

```
[7]: #data.shape --> (7789, 11)
#data.size --> 85679#
#data.columns Index(['Show_Id', 'Category', 'Title', 'Director', 'Cast', 'Country',
→ 'Release_Date', 'Rating', 'Duration', 'Type', 'Description'],
# dtype='object')
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 7789 entries, 0 to 7788
Data columns (total 11 columns):
#   Column          Non-Null Count  Dtype
---  -
0   Show_Id         7789 non-null   object
1   Category        7789 non-null   object
2   Title           7789 non-null   object
3   Director        5401 non-null   object
4   Cast            7071 non-null   object
5   Country         7282 non-null   object
6   Release_Date    7779 non-null   object
7   Rating          7782 non-null   object
8   Duration        7789 non-null   object
9   Type            7789 non-null   object
10  Description      7789 non-null   object
dtypes: object(11)
memory usage: 669.5+ KB
```

```
[8]: data.isnull().sum() #good number of null values to keep an eye out for
```

```
[8]: Show_Id      0
      Category    0
      Title       0
      Director    2388
      Cast        718
      Country     507
      Release_Date 10
      Rating       7
      Duration     0
      Type         0
      Description  0
      dtype: int64
```

### 1.0.1 1. Check for duplicate records in the dataset

```
[10]: data.head(1)
```

```
[10]: Show_Id Category Title Director \
0      s1  TV Show      3%      NaN

                                           Cast Country      Release_Date \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil  August 14, 2020

      Rating  Duration                                           Type \
0  TV-MA  4 Seasons  International TV Shows, TV Dramas, TV Sci-Fi &...

                                           Description
0  In a future where the elite inhabit an island ...
```

```
[11]: data[data.duplicated()]
```

```
[11]: Show_Id Category      Title      Director \
6300    s684    Movie      Backfire    Dave Patten
6622    s6621    Movie  The Lost Okoroshi  Abba T. Makama

                                           Cast      Country \
6300  Black Deniro, Byron "Squally" Vinson, Dominic ...  United States
6622  Seun Ajayi, Judith Audu, Tope Tedela, Ifu Enna...  Nigeria

      Release_Date Rating Duration \
6300    April 5, 2019  TV-MA    97 min
6622  September 4, 2020  TV-MA    94 min

                                           Type \
6300  Dramas, Independent Movies, Thrillers
6622  Comedies, Dramas, Independent Movies
```

	Description
6300	When two would-be robbers accidentally kill a ...
6622	A disillusioned security guard transforms into...

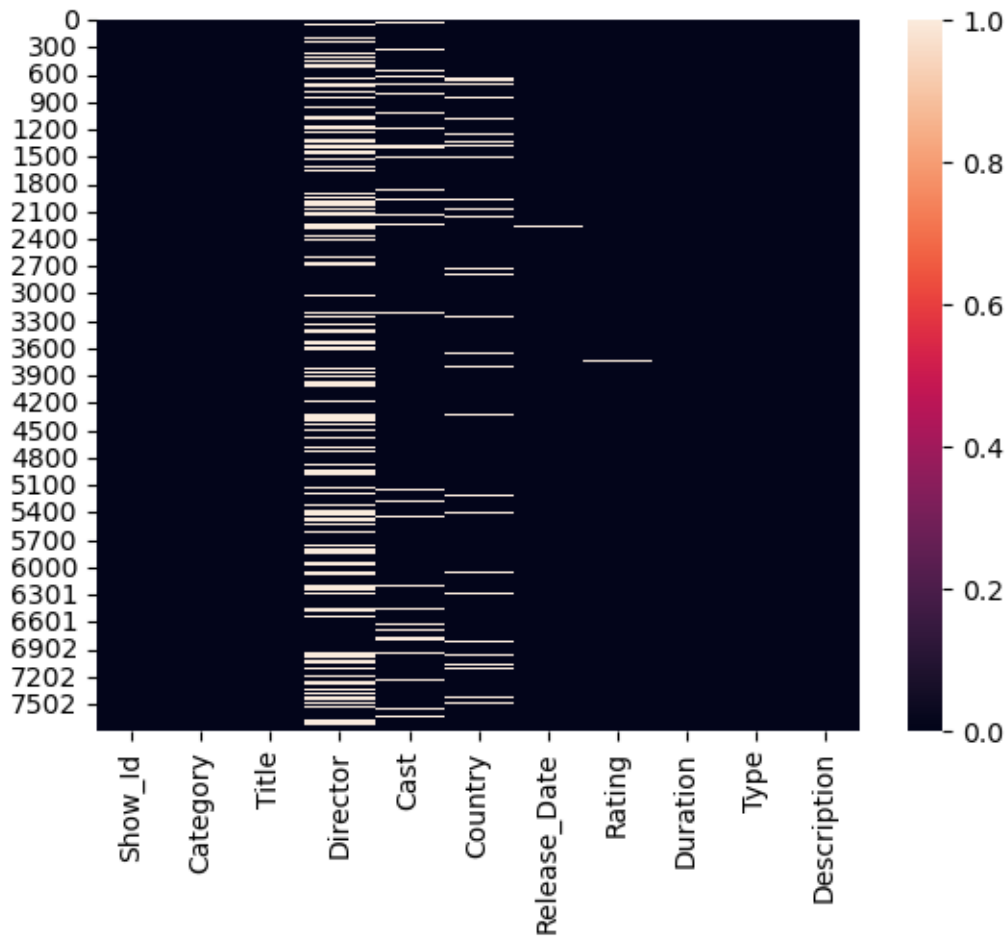
```
[12]: data.drop_duplicates(inplace = True)
```

**1.0.2 2. Are there any Null Values present in any column that need to be handled?  
Show with Heat Map as well.**

```
[14]: data.isnull().sum()
```

```
[14]: Show_Id          0
      Category         0
      Title           0
      Director       2388
      Cast           718
      Country        507
      Release_Date    10
      Rating          7
      Duration        0
      Type            0
      Description     0
      dtype: int64
```

```
[15]: sns.heatmap(data.isnull())
      plt.show()
```



1.0.3 3. For 'House of Cards', what is the Show ID and Who is the director of the show?

Showing 3 methods to find this results

```
[18]: #Precision, assuming exact title
data[data['Title'] == 'House of Cards']
```

```
[18]:      Show_Id Category      Title \
2832    s2833   TV Show House of Cards

                                     Director \
2832 Robin Wright, David Fincher, Gerald McRaney, J...

                                     Cast      Country \
2832 Kevin Spacey, Robin Wright, Kate Mara, Corey S... United States

      Release_Date Rating  Duration      Type \
```

2832 November 2, 2018 TV-MA 6 Seasons TV Dramas, TV Thrillers

Description

2832 A ruthless politician will stop at nothing to ...

```
[19]: #Method 1 looking for string within title values
data[data['Title'].isin(['House of Cards'])]
```

```
[19]: Show_Id Category Title \
2832 s2833 TV Show House of Cards
```

Director \

2832 Robin Wright, David Fincher, Gerald McRaney, J...

Cast Country \

2832 Kevin Spacey, Robin Wright, Kate Mara, Corey S... United States

Release\_Date Rating Duration Type \

2832 November 2, 2018 TV-MA 6 Seasons TV Dramas, TV Thrillers

Description

2832 A ruthless politician will stop at nothing to ...

```
[20]: #Method 2 looking for string within title values
data[data['Title'].str.contains('House of Cards')]
```

```
[20]: Show_Id Category Title \
2832 s2833 TV Show House of Cards
```

Director \

2832 Robin Wright, David Fincher, Gerald McRaney, J...

Cast Country \

2832 Kevin Spacey, Robin Wright, Kate Mara, Corey S... United States

Release\_Date Rating Duration Type \

2832 November 2, 2018 TV-MA 6 Seasons TV Dramas, TV Thrillers

Description

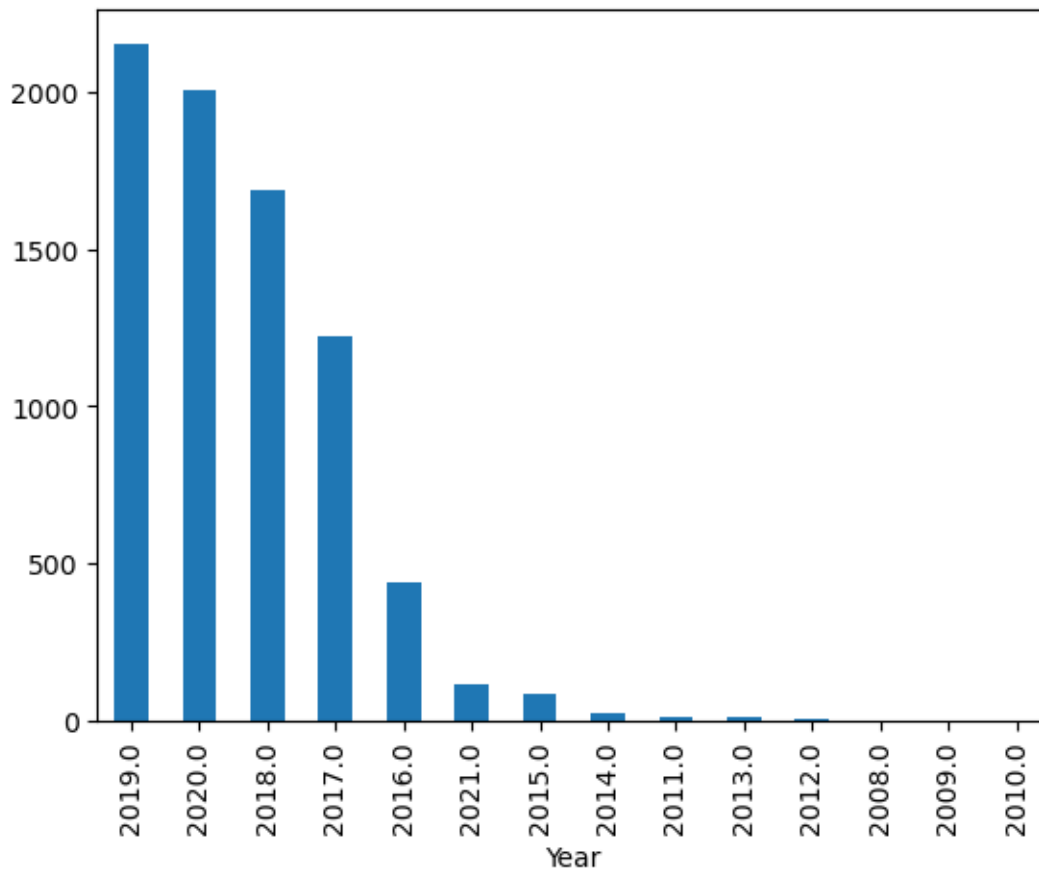
2832 A ruthless politician will stop at nothing to ...

#### 1.0.4 4. In which year were the highest number of TV Shows and Movies releases. Show with a Bar Graph

```
[22]: #data.dtypes
data['New_Date'] = pd.to_datetime(data['Release_Date'], format='mixed')
```

```
[23]: data['Year'] = data['New_Date'].dt.year
```

```
[24]: #data['Year'].value_counts()  
data['Year'].value_counts().plot(kind='bar')  
plt.show()
```



1.0.5 5. How many Movies and TV Shows are in the dataset? Show with a bar graph.

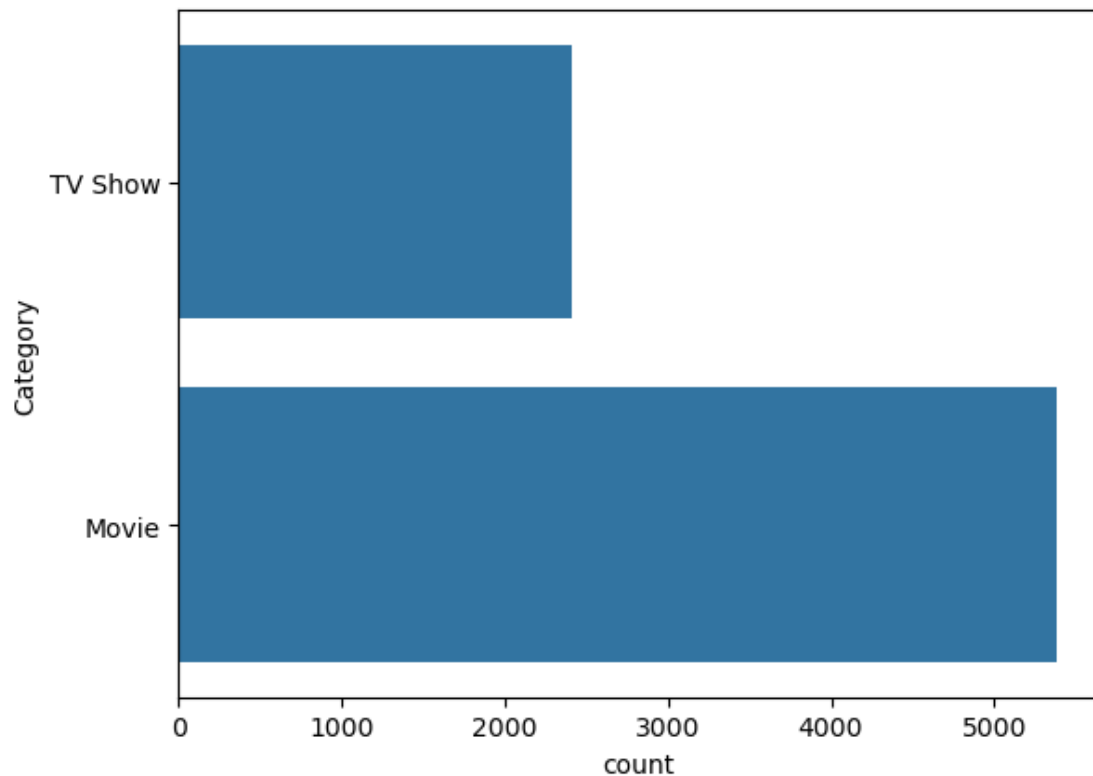
```
[26]: data['Category'].value_counts()  
data.groupby('Category').Category.count()
```

```
[26]: Category  
Movie      5377  
TV Show    2410  
Name: Category, dtype: int64
```

```
[27]: #data['Category'].value_counts().plot(kind='bar')  
sns.countplot(data['Category'])
```



```
[27]: <Axes: xlabel='count', ylabel='Category'>
```



#### 1.0.6 6. Show all the Movies that were released in the year 2020

```
[29]: data[(data['Year'] == 2020) & (data['Category'] == 'Movie')] #1312 in total
```

```
[29]:
```

	Show_Id	Category	Title \
4	s5	Movie	21
6	s7	Movie	122
14	s15	Movie	3022
27	s28	Movie	#Alive
28	s29	Movie	#AnneFrank - Parallel Stories
...	...	...	...
7762	s7761	Movie	Zaki Chan
7783	s7782	Movie	Zoom
7784	s7783	Movie	Zozo
7786	s7785	Movie	Zulu Man in Japan
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS

	Director \
4	Robert Luketic
6	Yasir Al Yasiri

14	John Suits
27	Cho Il
28	Sabina Fedeli, Anna Migotto
...	...
7762	Wael Ihsan
7783	Peter Hewitt
7784	Josef Fares
7786	NaN
7788	Sam Dunn

	Cast \
4	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...
6	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...
14	Omar Epps, Kate Walsh, Miranda Cosgrove, Angus...
27	Yoo Ah-in, Park Shin-hye
28	Helen Mirren, Gengher Gatti
...	...
7762	Ahmed Helmy, Yasmin Abdulaziz, Hassan Hosny, H...
7783	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...
7784	Imad Creidi, Antoinette Turk, Elias Gergi, Car...
7786	Nasty C
7788	NaN

	Country	Release_Date \
4	United States	January 1, 2020
6	Egypt	June 1, 2020
14	United States	March 19, 2020
27	South Korea	September 8, 2020
28	Italy	July 1, 2020
...	...	...
7762	Egypt	May 19, 2020
7783	United States	January 11, 2020
7784	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020
7786	NaN	September 25, 2020
7788	United Kingdom, Canada, United States	March 1, 2020

	Rating	Duration	Type \
4	PG-13	123 min	Dramas
6	TV-MA	95 min	Horror Movies, International Movies
14	R	91 min	Independent Movies, Sci-Fi & Fantasy, Thrillers
27	TV-MA	99 min	Horror Movies, International Movies, Thrillers
28	TV-14	95 min	Documentaries, International Movies
...	...	...	...
7762	TV-PG	109 min	Comedies, International Movies, Romantic Movies
7783	PG	88 min	Children & Family Movies, Comedies
7784	TV-MA	99 min	Dramas, International Movies
7786	TV-MA	44 min	Documentaries, International Movies, Music & M...

7788 TV-MA 90 min

Documentaries, Music & Musicals

	Description	New_Date	Year
4	A brilliant group of students become card-coun...	2020-01-01	2020.0
6	After an awful accident, a couple admitted to ...	2020-06-01	2020.0
14	Stranded when the Earth is suddenly destroyed ...	2020-03-19	2020.0
27	As a grisly virus rampages a city, a lone man ...	2020-09-08	2020.0
28	Through her diary, Anne Frank's story is retol...	2020-07-01	2020.0
...	...	...	...
7762	An unqualified young man has his work cut out ...	2020-05-19	2020.0
7783	Dragged from civilian life, a former superhero...	2020-01-11	2020.0
7784	When Lebanon's Civil War deprives Zozo of his ...	2020-10-19	2020.0
7786	In this documentary, South African rapper Nast...	2020-09-25	2020.0
7788	This documentary delves into the mystique behi...	2020-03-01	2020.0

[1312 rows x 13 columns]

### 1.0.7 7. Show the Titles of all the TV Shows that were released in India Only

```
[31]: #data.head(1)
data[(data['Country'] == 'India') & (data['Category'] == 'TV Show']]['Title']_
↳#71 entries in total
```

```
[31]: 86          21 Sarfarosh: Saragarhi 1897
      132          7 (Seven)
      340          Agent Raghav
      364          Akbar Birbal
      533          Anjaan: Rural Myths
      ...
      6249          The Creative Indians
      6400          The Golden Years with Javed Akhtar
      6469          The House That Made Me
      7294          Typewriter
      7705          Yeh Meri Family
      Name: Title, Length: 71, dtype: object
```

### 1.0.8 8. Show the Top 10 Directors for both TV Shows or Movies

```
[33]: data.head(1)
data[data['Category'] == 'TV Show']['Director'].value_counts().head(10)
```

```
[33]: Director
      Alastair Fothergill      3
      Shin Won-ho             2
      Iginio Straffi           2
      Rob Seidenglanz          2
      Stan Lathan              2
```

```

Ken Burns                2
Serdar Akar              1
Cosima Spender           1
Jani Lachauer, Jakob Schuh 1
Jalil Lespert            1
Name: count, dtype: int64

```

```
[34]: data[data['Category'] == 'Movie']['Director'].value_counts().head(10)
```

```

[34]: Director
Raúl Campos, Jan Suter    18
Marcus Raboy             15
Jay Karas                14
Cathy Garcia-Molina      13
Youssef Chahine          12
Jay Chapman              12
Martin Scorsese           12
Steven Spielberg         10
David Dhawan              9
Johnnie To                8
Name: count, dtype: int64

```

### 1.0.9 9. Show all the records where Category = 'Movie' & Type = 'Comedies' or Country = 'United Kingdom'

```
[36]: data[(data['Category'] == 'Movie') & (data['Type'] == 'Comedies') |
      ↪(data['Country'] == 'United Kingdom')] #485 entries found
```

```

[36]:   Show_Id Category      Title      Director \
19      s20   Movie          '89           NaN
33      s34   Movie  #realityhigh  Fernando Lebrija
58      s59 TV Show    100% Hotter           NaN
72      s73   Movie    17 Again    Burr Steers
82      s83   Movie  2036 Origin Unknown  Hasraf Dulull
...      ...      ...      ...      ...
7670   s7669 TV Show  World War II in Colour      NaN
7671   s7670 TV Show  World's Busiest Cities      NaN
7688   s7687   Movie  XV: Beyond the Tryline  Pierre Deschamps
7725   s7724   Movie      You Can Tutu      James Brown
7740   s7739 TV Show    Young Wallander           NaN

                                     Cast      Country \
19                        Lee Dixon, Ian Wright, Paul Merson  United Kingdom
33  Nesta Cooper, Kate Walsh, John Michael Higgins...  United States
58  Daniel Palmer, Melissa Sophia, Karen Williams,...  United Kingdom
72  Zac Efron, Leslie Mann, Matthew Perry, Thomas ...  United States
82  Katee Sackhoff, Ray Fearon, Julie Cox, Steven ...  United Kingdom

```

...	...	...
7670	Robert Powell	United Kingdom
7671	Anita Rani, Ade Adepitan, Dan Snow	United Kingdom
7688	NaN	United Kingdom
7725	Lily O'Regan, Jeannettsy Enriquez Borges, Joel...	United Kingdom
7740	Adam Pålsson, Richard Dillane, Leanne Best, El...	United Kingdom

	Release_Date	Rating	Duration \
19	May 16, 2018	TV-PG	87 min
33	September 8, 2017	TV-14	99 min
58	November 1, 2019	TV-14	1 Season
72	January 1, 2021	PG-13	102 min
82	December 20, 2018	TV-14	95 min

...	...	...	...
7670	August 1, 2017	TV-MA	1 Season
7671	February 1, 2019	TV-PG	1 Season
7688	March 18, 2020	TV-14	91 min
7725	December 31, 2017	TV-G	87 min
7740	September 3, 2020	TV-MA	1 Season

	Type \
19	Sports Movies
33	Comedies
58	British TV Shows, International TV Shows, Real...
72	Comedies
82	Sci-Fi & Fantasy
...	...
7670	British TV Shows, Docuseries, International TV...
7671	British TV Shows, Docuseries
7688	Documentaries, Sports Movies
7725	Children & Family Movies
7740	Crime TV Shows, International TV Shows, TV Dramas

	Description	New_Date	Year
19	Mixing old footage with interviews, this is th...	2018-05-16	2018.0
33	When nerdy high schooler Dani finally attracts...	2017-09-08	2017.0
58	A stylist, a hair designer and a makeup artist...	2019-11-01	2019.0
72	Nearing a midlife crisis, thirty-something Mik...	2021-01-01	2021.0
82	Working with an artificial intelligence to inv...	2018-12-20	2018.0
...	...	...	...
7670	Footage of the most dramatic moments from Worl...	2017-08-01	2017.0
7671	From Moscow to Mexico City, three BBC journali...	2019-02-01	2019.0
7688	Set against the 2015 Rugby World Cup, this doc...	2020-03-18	2020.0
7725	A gifted young ballet dancer struggles to find...	2017-12-31	2017.0
7740	An incendiary hate crime stirs civil unrest, f...	2020-09-03	2020.0

[485 rows x 13 columns]

### 1.0.10 10. In how many movies / shows has Tom Cruise been cast?

```
[38]: #data.head(1)
data[data['Cast'] == 'Tom Cruise'] #Nothing in the df for only Tom Cruise
```

```
[38]: Empty DataFrame
Columns: [Show_Id, Category, Title, Director, Cast, Country, Release_Date,
Rating, Duration, Type, Description, New_Date, Year]
Index: []
```

```
[39]: #Have to remove the NULL values first to be able to use the next bit of code
data_new = data.dropna()
```

```
[40]: data_new[data_new['Cast'].str.contains('Tom Cruise')] #found 2 movies
```

```
[40]:      Show_Id  Category      Title      Director \
3860    s3861      Movie  Magnolia  Paul Thomas Anderson
5071    s5071      Movie  Rain Man      Barry Levinson

                                     Cast      Country \
3860  Jeremy Blackman, Tom Cruise, Melinda Dillon, A...  United States
5071  Dustin Hoffman, Tom Cruise, Valeria Golino, Ge...  United States

      Release_Date  Rating  Duration      Type \
3860  January 1, 2020      R   189 min  Dramas, Independent Movies
5071    July 1, 2019      R   134 min    Classic Movies, Dramas

                                     Description  New_Date  Year
3860  Through chance, human action, past history and... 2020-01-01 2020.0
5071  A fast-talking yuppie is forced to slow down w... 2019-07-01 2019.0
```

### 1.0.11 11. What are the different Ratings defined by Netflix

```
[42]: data['Rating'].value_counts()
```

```
[42]: Rating
TV-MA      2863
TV-14      1931
TV-PG       806
R           665
PG-13       386
TV-Y        280
TV-Y7       271
PG          247
TV-G        194
NR           84
G           39
TV-Y7-FV     6
```

```

UR          5
NC-17       3
Name: count, dtype: int64

```

```
[43]: data['Rating'].unique()
```

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

```
[44]: data['Rating'].nunique()
```

```
[44]: 14
```

### 1.0.12 11.1 How many Movies received a TV-14 rating in Canada

```
[46]: data[(data['Rating'] == 'TV-14') & (data['Country'] == 'Canada') &
        ↳(data['Category'] == 'Movie')] #11 Movies if you use the len function
```

```
[46]:
```

	Show_Id	Category	Title \
30	s31	Movie	#cats_the_mewvie
34	s35	Movie	#Roxy
608	s609	Movie	At First Light
1506	s1507	Movie	Counterfeiting in Suburbia
3713	s3714	Movie	Long Time Running
3956	s3957	Movie	Martin Matte: La vie, la mort...eh la la..!
5336	s5336	Movie	Sadie's Last Days on Earth
5393	s5393	Movie	Sardaar ji
6062	s6062	Movie	The Accountant of Auschwitz
7025	s7024	Movie	The Wrong Babysitter
7041	s7040	Movie	There's Something in the Water

	Director \
30	Michael Margolis
34	Michael Kennedy
608	Jason Stone
1506	Jason Bourque
3713	Jennifer Baichwal, Nicholas de Pencier
3956	Jean-François Blais
5336	Michael Seater
5393	Rohit Jugraj
6062	Matthew Shoychet
7025	George Mendeluk
7041	Ellen Page, Ian Daniel

	Cast Country \
30	NaN Canada
34	Jake Short, Sarah Fisher, Booboo Stewart, Dann... Canada

608	Stefanie Scott, Theodore Pellerin, Percy Hynes...	Canada
1506	Sarah Butler, Larissa Albuquerque, Kayla Walla...	Canada
3713	Gord Downie, Paul Langlois, Gord Sinclair, Rob...	Canada
3956	Martin Matte	Canada
5336	Morgan Taylor Campbell, Clark Backo, Ricardo H...	Canada
5393	Diljit Dosanjh, Neeru Bajwa, Mandy Takhar, Jas...	Canada
6062	NaN	Canada
7025	Daphne Zuniga, Seann Gallagher, Lisa Marie Car...	Canada
7041	Ellen Page	Canada

	Release_Date	Rating	Duration	\
30	February 5, 2020	TV-14	90 min	
34	April 10, 2019	TV-14	105 min	
608	December 27, 2018	TV-14	91 min	
1506	July 1, 2018	TV-14	88 min	
3713	November 12, 2017	TV-14	96 min	
3956	October 14, 2019	TV-14	62 min	
5336	August 22, 2017	TV-14	94 min	
5393	December 1, 2017	TV-14	140 min	
6062	July 1, 2019	TV-14	78 min	
7025	June 18, 2019	TV-14	89 min	
7041	March 27, 2020	TV-14	72 min	

	Type	\
30	Documentaries, International Movies	
34	Comedies, Romantic Movies	
608	Dramas, Sci-Fi & Fantasy	
1506	Dramas, Thrillers	
3713	Documentaries, International Movies, Music & M...	
3956	Stand-Up Comedy	
5336	Comedies, Sci-Fi & Fantasy	
5393	Comedies, International Movies, Music & Musicals	
6062	Documentaries, International Movies	
7025	Thrillers	
7041	Documentaries, International Movies	

	Description	New_Date	Year
30	This pawesome documentary explores how our fel...	2020-02-05	2020.0
34	A teenage hacker with a huge nose helps a cool...	2019-04-10	2019.0
608	After mysterious lights imbue her with extraor...	2018-12-27	2018.0
1506	Two teenagers print counterfeit money in their...	2018-07-01	2018.0
3713	This documentary follows the 2016 tour of belo...	2017-11-12	2017.0
3956	Quebecois comedy star Martin Matte serves up e...	2019-10-14	2019.0
5336	High schooler Sadie Mitchell believes the worl...	2017-08-22	2017.0
5393	When a palatial wedding venue turns out to be ...	2017-12-01	2017.0
6062	Decades after WWII, a former SS officer stands...	2019-07-01	2019.0
7025	A widow searches for her missing teenage daugh...	2019-06-18	2019.0



7041 This documentary spotlights the struggle of mi... 2020-03-27 2020.0

### 1.0.13 11.2 How many TV Shows received an R rating after the year 2018

```
[48]: data[(data['Rating'] == 'R') & (data['Year'] > 2018) & (data['Category'] == 'TV_
↳Show')] #1 result
```

```
[48]:      Show_Id Category      Title      Director \
6437    s6436  TV Show  The Hateful Eight: Extended Version  Quentin Tarantino
```

```
      Cast Country \
6437  Samuel L. Jackson, Kurt Russell, Jennifer Jaso...    NaN
```

```
      Release_Date Rating  Duration      Type \
6437  April 25, 2019      R    1 Season  TV Shows
```

```
      Description  New_Date  Year
6437  Trapped at a stagecoach stop as a storm rages ... 2019-04-25 2019.0
```

### 1.0.14 12. What is the maximum duration of a Movie / Show on Netflix

```
[50]: #data.groupby('Category').Duration
#data.Duration.unique()
#data.Duration.dtypes
data[['Minutes', 'Unit']] = data['Duration'].str.split(' ', expand=True)
```

```
[51]: data.head(2)
```

```
[51]:      Show_Id Category  Title      Director \
0         s1  TV Show    3%              NaN
1         s2   Movie  07:19  Jorge Michel Grau
```

```
      Cast Country \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico
```

```
      Release_Date Rating  Duration \
0    August 14, 2020  TV-MA    4 Seasons
1  December 23, 2016  TV-MA      93 min
```

```
      Type \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1              Dramas, International Movies
```

```
      Description  New_Date  Year \
0  In a future where the elite inhabit an island ... 2020-08-14 2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23 2016.0
```

	Minutes	Unit
0	4	Seasons
1	93	min

```
[52]: #data.Minutes.max() --> 99 minutes
data['Minutes'] = data['Minutes'].astype(str).astype(int) #--> had to confirm
↳ since max was not working correctly due to object datatype
data[data['Minutes'] >= 300] #Black Mirror: Bandersnatch at 312 minutes
```

```
[52]: Show_Id Category Title Director \
957 s958 Movie Black Mirror: Bandersnatch NaN

Cast Country \
957 Fionn Whitehead, Will Poulter, Craig Parkinson... United States

Release_Date Rating Duration \
957 December 28, 2018 TV-MA 312 min

Type \
957 Dramas, International Movies, Sci-Fi & Fantasy

Description New_Date Year \
957 In 1984, a young programmer begins to question... 2018-12-28 2018.0

Minutes Unit
957 312 min
```

### 1.0.15 13. Which country has the Highest No of TV Shows

```
[54]: #data[data['Category'] == 'TV Show'].groupby('Country')['Country'].count().
↳ sort_values(ascending = False) #Shows US with 705
data[data['Category'] == 'TV Show'].Country.value_counts().sort_values(ascending_
↳ = False) #Different method, also 705
```

```
[54]: Country
United States 705
United Kingdom 204
Japan 157
South Korea 147
India 71
...
India, Germany, France 1
United Kingdom, Singapore 1
Australia, New Zealand 1
Croatia 1
United States, France, South Korea, Indonesia 1
```

Name: count, Length: 183, dtype: int64

#### 1.0.16 14. How can we sort the dataset by Year?

```
[56]: #data.head(1)
data.sort_values(by='Year', ascending= False).head(5)
```

```
[56]:
```

	Show_Id	Category	Title	Director	\
5564	s5564	Movie	Sherlock Holmes	Guy Ritchie	
5919	s5919	Movie	Surf's Up	Ash Brannon, Chris Buck	
980	s981	TV Show	Bling Empire	NaN	
5955	s5955	Movie	Taare Zameen Par	Aamir Khan	
366	s367	Movie	Al acecho	Francisco D'Eufemia	

	Cast	\
5564	Robert Downey Jr., Jude Law, Rachel McAdams, M...	
5919	Shia LaBeouf, Jeff Bridges, Zooey Deschanel, J...	
980	NaN	
5955	Aamir Khan, Darsheel Safary, Tanay Chheda, Tis...	
366	Rodrigo de la Serna, Belen Blanco, Walter Jako...	

	Country	Release_Date	\
5564	United States, Germany, United Kingdom, Australia	January 1, 2021	
5919	United States	January 1, 2021	
980	NaN	January 15, 2021	
5955	India	January 10, 2021	
366	NaN	January 12, 2021	

	Rating	Duration	Type	\
5564	PG-13	128 min	Action & Adventure, Comedies	
5919	PG	86 min	Children & Family Movies, Comedies, Sports Movies	
980	TV-MA	1 Season	Reality TV	
5955	PG	162 min	Dramas, International Movies	
366	TV-MA	81 min	International Movies, Thrillers	

	Description	New_Date	Year	\
5564	The game is afoot for an eccentric detective w...	2021-01-01	2021.0	
5919	This Oscar-nominated animated comedy goes behi...	2021-01-01	2021.0	
980	Follow LA's wildly wealthy Asian and Asian Ame...	2021-01-15	2021.0	
5955	When daydreamer Ishaan is sent to boarding sch...	2021-01-10	2021.0	
366	Looking for a fresh start, a park ranger gets ...	2021-01-12	2021.0	

	Minutes	Unit
5564	128	min
5919	86	min
980	1	Season
5955	162	min

366            81        min

1.0.17 15. Find all the instances where:

Category is 'Movie' and Type is 'Dramas'

OR

Category is 'TV Show' and Type is 'Kids TV'

```
[58]: #data.Type.value_counts
data[(data['Category'] == 'Movie') & (data['Type'] == 'Dramas')].head(2)
```

```
[58]: Show_Id Category Title      Director \
4      s5      Movie      21  Robert Luketic
7      s8      Movie     187  Kevin Reynolds

                                     Cast      Country \
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...  United States
7  Samuel L. Jackson, John Heard, Kelly Rowan, Cl...  United States

      Release_Date Rating Duration      Type \
4  January 1, 2020  PG-13   123 min  Dramas
7  November 1, 2019      R   119 min  Dramas

                                     Description  New_Date      Year \
4  A brilliant group of students become card-coun... 2020-01-01  2020.0
7  After one of his high school students attacks ... 2019-11-01  2019.0

      Minutes Unit
4         123  min
7         119  min
```

```
[59]: data[(data['Category'] == 'TV Show') & (data['Type'] == "Kids' TV")].head(2)
```

```
[59]: Show_Id Category      Title      Director \
111    s112  TV Show      44 Cats          NaN
276    s277  TV Show  Abby Hatcher  Kyran Kelly

                                     Cast      Country \
111  Sarah Natochenny, Suzy Myers, Simona Berman, E...  Italy
276  Macy Drouin, Wyatt White, Paul Sun-Hyung Lee, ...  United States, Canada

      Release_Date Rating  Duration      Type \
111  October 1, 2020  TV-Y7   2 Seasons  Kids' TV
276    July 1, 2020   TV-Y    1 Season  Kids' TV

                                     Description  New_Date      Year \
```

```

111 Paw-esome tales abound when singing furry frie... 2020-10-01 2020.0
276 A big-hearted girl helps her Fuzzly friends wh... 2020-07-01 2020.0

```

```

      Minutes      Unit
111         2  Seasons
276         1   Season

```

```
[60]: data[((data['Category'] == 'Movie') & (data['Type'] == '
      ↳ 'Dramas')) | ((data['Category'] == 'TV Show') & (data['Type'] == "Kids' TV"))]
```

```
[60]:      Show_Id Category      Title      Director \
4         s5      Movie          21 Robert Luketic
7         s8      Movie         187 Kevin Reynolds
111      s112  TV Show          44 Cats          NaN
170      s171      Movie      A Family Man Mark Williams
232      s233      Movie  A Stoning in Fulham County Larry Elikann
...      ...      ...      ...      ...
7668    s7667  TV Show      World of Winx Iginio Straffi
7717    s7716  TV Show          Yoko          NaN
7719    s7718  TV Show          YOM          NaN
7758    s7757  TV Show          Z4          NaN
7761    s7760  TV Show      Zak Storm          NaN

```

```

                                          Cast \
4      Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...
7      Samuel L. Jackson, John Heard, Kelly Rowan, Cl...
111     Sarah Natochenny, Suzy Myers, Simona Berman, E...
170     Gerard Butler, Gretchen Mol, Alison Brie, Will...
232     Ken Olin, Jill Eikenberry, Maureen Mueller, Gr...
...      ...
7668    Haven Paschall, Alysha Deslorieux, Jessica Paq...
7717    Eileen Stevens, Alyson Leigh Rosenfeld, Sarah ...
7719    Sairaj, Devyani Dagaonkar, Ketan Singh, Mayur ...
7758    Apollo Costa, Gabriel Santana, Matheus Lustosa...
7761    Michael Johnston, Jessica Gee-George, Christin...

```

```

                                          Country      Release_Date \
4      United States      January 1, 2020
7      United States      November 1, 2019
111     Italy      October 1, 2020
170     Canada, United States      December 15, 2019
232     United States      October 1, 2011
...      ...
7668     Italy, United States      June 16, 2017
7717     NaN      June 23, 2018
7719     NaN      June 7, 2018
7758     Brazil      February 22, 2019

```

7761 United States, France, South Korea, Indonesia September 13, 2018

	Rating	Duration	Type \
4	PG-13	123 min	Dramas
7	R	119 min	Dramas
111	TV-Y7	2 Seasons	Kids' TV
170	R	110 min	Dramas
232	TV-14	95 min	Dramas
...	...	...	...
7668	TV-Y7	2 Seasons	Kids' TV
7717	TV-Y	1 Season	Kids' TV
7719	TV-Y7	1 Season	Kids' TV
7758	TV-PG	2 Seasons	Kids' TV
7761	TV-Y7	3 Seasons	Kids' TV

	Description	New_Date	Year \
4	A brilliant group of students become card-coun...	2020-01-01	2020.0
7	After one of his high school students attacks ...	2019-11-01	2019.0
111	Paw-esome tales abound when singing furry frie...	2020-10-01	2020.0
170	A ruthless corporate headhunter battles his ri...	2019-12-15	2019.0
232	After reckless teens kill an Amish child, a pr...	2011-10-01	2011.0
...	...	...	...
7668	The reality show "WOW!" engages the Winx in th...	2017-06-16	2017.0
7717	Friends Mai, Oto and Vik's games at the park b...	2018-06-23	2018.0
7719	With the mind of a human being, and the body o...	2018-06-07	2018.0
7758	Fading music biz veteran Zé realizes he has ju...	2019-02-22	2019.0
7761	Teen surfer Zak Storm is mysteriously transpor...	2018-09-13	2018.0

	Minutes	Unit
4	123	min
7	119	min
111	2	Seasons
170	110	min
232	95	min
...	...	...
7668	2	Seasons
7717	1	Season
7719	1	Season
7758	2	Seasons
7761	3	Seasons

[322 rows x 15 columns]