



```
In [2]: # Importing the dataset  
  
import pandas as pd  
  
data = pd.read_csv(r"C:\Users\bikas\Downloads\python\ProjectNetflix\NetflixDataset.csv")
```

In [3]: data

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	As her father nears the end of his life, filmm...
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	After crossing paths at a party, a Cape Town t...
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...	To protect his family from a powerful drug lor...
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down amo...
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 ...	In a city of coaching centers known to train I...
...	...	...	...	...	...	...	...	...	...	...	...	...
8802	s8803	Movie	Zodiac	David Fincher	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States	November 20, 2019	2007	R	158 min	Cult Movies, Dramas, Thrillers	A political cartoonist, a crime reporter and a...

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
8803	s8804	TV Show	Zombie Dumb	NaN	NaN	NaN	July 1, 2019	2018	TV-Y7	2 Seasons	Kids' TV, Korean TV Shows, TV Comedies	While living alone in a spooky town, a young g...
8804	s8805	Movie	Zombieland	Ruben Fleischer	Jesse Eisenberg, Woody Harrelson, Emma Stone, ...	United States	November 1, 2019	2009	R	88 min	Comedies, Horror Movies	Looking to survive in a world taken over by zo...
8805	s8806	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020	2006	PG	88 min	Children & Family Movies, Comedies	Dragged from civilian life, a former superhero...
8806	s8807	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanani...	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals	A scrappy but poor boy worms his way into a ty...

8807 rows × 12 columns

### Getting some basic information about the dataset:

1.head():

In [4]: `data.head()` # To show top 5 records of the dataset

Out[4]:

	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	As her father nears the end of his life, filmmaker...
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	After crossing paths at a party, a Cape Town t...
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...	To protect his family from a powerful drug lord...
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down amo...
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 ...	In a city of coaching centers known to train I...

2.tail():

In [5]: `data.tail()` # To show bottom 5 records of the dataset

		show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
8802	s8803	Movie	Zodiac	David Fincher	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States	November 20, 2019	2007	R	158 min	Cult Movies, Dramas, Thrillers	A political cartoonist, a crime reporter and a...	
8803	s8804	TV Show	Zombie Dumb	NaN	NaN	NaN	July 1, 2019	2018	TV-Y7	2 Seasons	Kids' TV, Korean TV Shows, TV Comedies	While living alone in a spooky town, a young g...	
8804	s8805	Movie	Zombieland	Ruben Fleischer	Jesse Eisenberg, Woody Harrelson, Emma Stone, ...	United States	November 1, 2019	2009	R	88 min	Comedies, Horror Movies	Looking to survive in a world taken over by zo...	
8805	s8806	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020	2006	PG	88 min	Children & Family Movies, Comedies	Dragged from civilian life, a former superhero...	
8806	s8807	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals	A scrappy but poor boy worms his way into a ty...	

3.shape:

In [6]: `data.shape` # To show the no of rows and columns

Out[6]: (8807, 12)

**4.size:**

```
In [7]: data.size          # To show no. of total values(elements) in the dataset
```

```
Out[7]: 105684
```

**5.columns:**

```
In [8]: data.columns      # To show each column
```

```
Out[8]: Index(['show_id', 'type', 'title', 'director', 'cast', 'country', 'date_added',
   'release_year', 'rating', 'duration', 'listed_in', 'description'],
   dtype='object')
```

**6.dtypes:**

```
In [9]: data.dtypes        # To show the data-type of each column
```

```
Out[9]: show_id          object
type              object
title             object
director         object
cast              object
country           object
date_added       object
release_year     int64
rating            object
duration          object
listed_in         object
description       object
dtype: object
```

**7.info():**

In [10]: `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
```

**Task 1:** Is there any duplicate records in this dataset? If yes, then remove the duplicate records.

`duplicate()`

In [11]: `data[data.duplicated()]` *# To check row wise and detect the duplicate rows*

Out[11]: `show_id type title director cast country date_added release_year rating duration listed_in description`

**Task 2:** Is there any null values present in any columns? Show with heat-map

`isnull()`

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

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

In [13]: `data_is_null = data.isnull()` # To show where null value is present

In [14]: `data_is_null.sum()`

Out[14]:

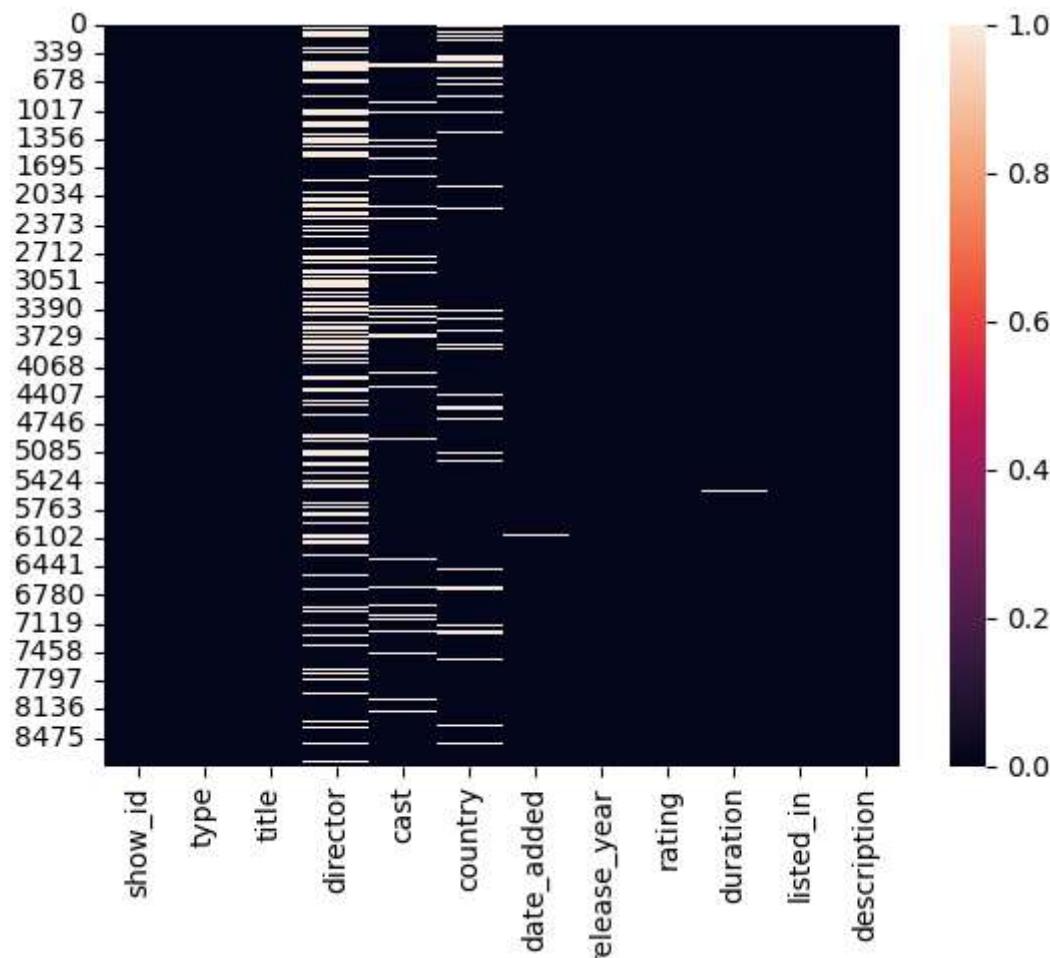
show_id	0
type	0
title	0
director	2634
cast	825
country	831
date_added	10
release_year	0
rating	4
duration	3
listed_in	0
description	0
dtype: int64	

### seaborn library(heat-map)

In [17]: `import seaborn as sns` # To import seaborn library

```
In [16]: sns.heatmap(data_is_null) # Using heat_map to show null values count
```

Out[16]: <Axes: >



**Q1. For "Ganglands", what is the Show ID and who is the Director of this show?**

```
In [47]: data.head(2)
```

In [18]: `data[data['title'].isin(['Ganglands'])]` # To show all records of a particular item

Out[18]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
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...	To protect his family from a powerful drug lord...

In [19]: `data[data['title'].isin(['Ganglands'])][['show_id','title','director']]` #To show records of a particular item

Out[19]:

	show_id	title	director
2	s3	Ganglands	Julien Leclercq

In [20]: `data[data['title'].str.contains('Ganglands')]` # To show all records of a particular string

Out[20]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
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...	To protect his family from a powerful drug lord...

**Q2. In which year the highest number of the TV Shows & Movies were released ? Show with Bar Graph.**

### dtypes

In [37]: `data.dtypes`

### to\_datetime

```
In [6]: data['Date_New'] = pd.to_datetime(data['date_added'])
```

```
In [21]: data.head(1)
```

Out[21]:

	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	As her father nears the end of his life, filmm...

```
In [22]: Highest_count_of_both = data['release_year'].value_counts().head(10)
Highest_count_of_both
```

Out[22]:

2018	1147
2017	1032
2019	1030
2020	953
2016	902
2021	592
2015	560
2014	352
2013	288
2012	237

Name: release\_year, dtype: int64

```
In [25]: movie_count = data[data['type'] == 'Movie']['release_year'].value_counts().head(1)
movie_count
```

Out[25]:

2017	767
------	-----

Name: release\_year, dtype: int64

```
In [26]: tvshow_count = data[data['type'] == 'TV Show']['release_year'].value_counts().head(1)
tvshow_count
```

Out[26]:

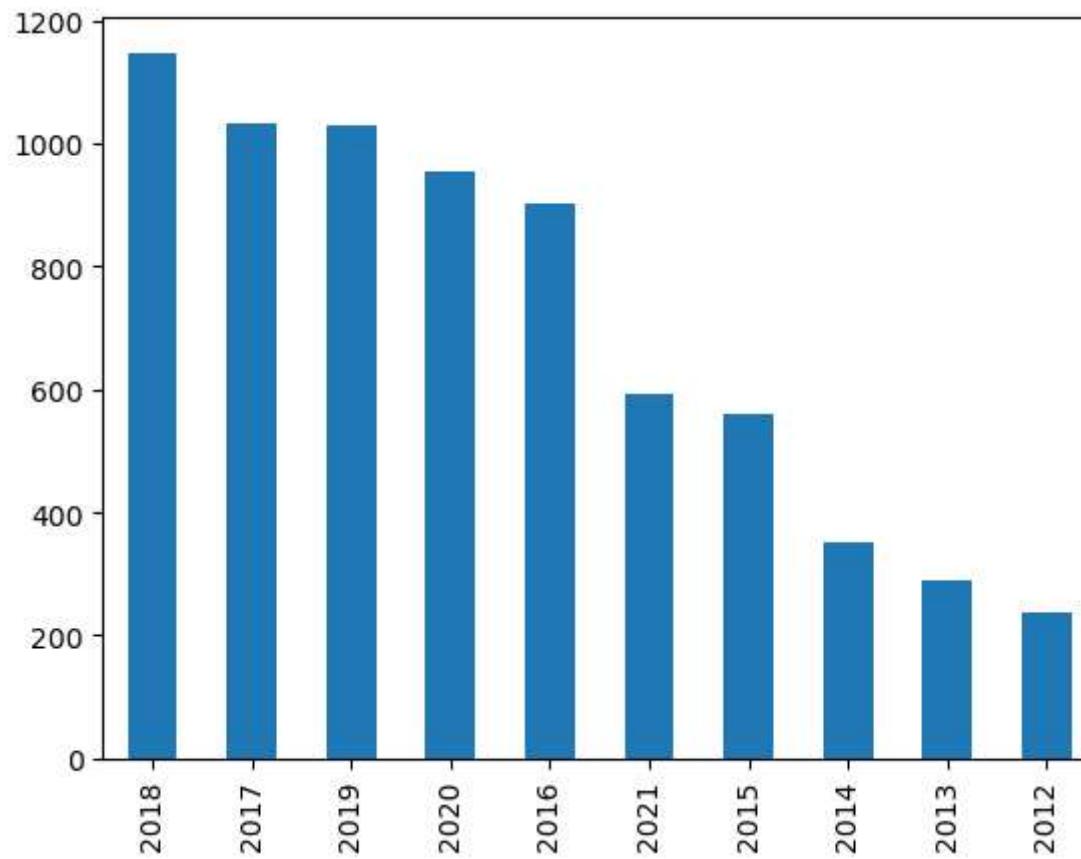
2020	436
------	-----

Name: release\_year, dtype: int64

## Bar Graph

```
In [27]: Highest_count_of_both.plot(kind='bar')
```

```
Out[27]: <Axes: >
```



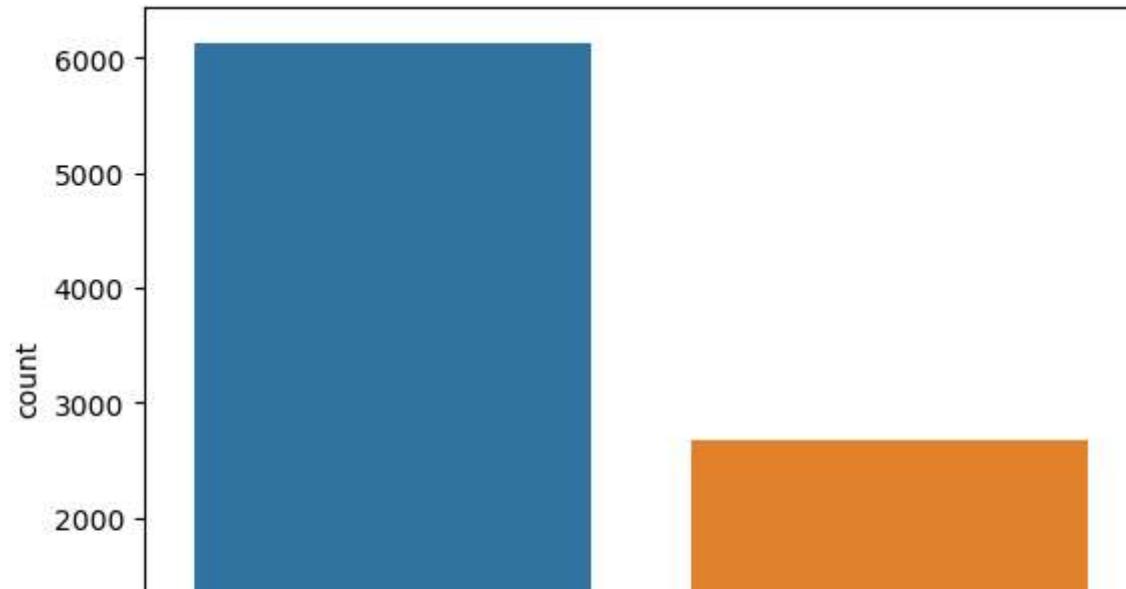
### Q3. How many Movies and TV Shows are in the dataset? Show with Bar Graph

```
In [53]: data['type'].value_counts()
```

```
Out[53]: Movie      6131  
TV Show    2676  
Name: type, dtype: int64
```

In [28]: `sns.countplot(data=data, x='type')`

Out[28]: <Axes: xlabel='type', ylabel='count'>



#### Q4. Show all the Movies that were release in the year 2000?

In [91]: `data.head(2)`

	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	As her father nears the end of his life, filmmaker...
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	After crossing paths at a party, a Cape Town t...

```
In [30]: movies_2000= data[(data['type'] == 'Movie') & (data['release_year'] == 2000)]
movies_2000
```

Out[30]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	de
180	s181	Movie	The Nutty Professor II: The Klumps	Peter Segal	Eddie Murphy, Janet Jackson, Larry Miller, John Goodman...	NaN	September 1, 2021	2000	PG-13	107 min	Comedies, Romantic Movies	Af
350	s351	Movie	Space Cowboys	Clint Eastwood	Clint Eastwood, Tommy Lee Jones, Donald Sutherland, Robert Duvall...	United States	August 1, 2021	2000	PG-13	130 min	Action & Adventure, Dramas, Sci-Fi & Fantasy	p
359	s360	Movie	The Original Kings of Comedy	Spike Lee	Steve Harvey, D.L. Hughley, Cedric the Entertainer...	United States	August 1, 2021	2000	R	111 min	Stand-Up Comedy	C Steve En

### Q5. Show only the Titles of all TV Shows that were released in India only

```
In [100]: data.head(2)
```

Out[100]:

	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	As her father nears the end of his life, filmmaker... Kirsten Johnson
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thabani...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t... Ama Qamata, Khosi Ngema, Gail Mabalane, Thabani...

```
In [31]: tvshow_india= data[(data['type']=='TV Show') & (data['country']=='India')]['title']

tvshow_india
```

```
Out[31]: 4           Kota Factory
39          Chhota Bheem
50        Dharmakshetra
66    Raja Rasoi Aur Anya Kahaniyan
69  Stories by Rabindranath Tagore
...
8173          Thackeray
8235      The Calling
8321  The Golden Years with Javed Akhtar
8349      The House That Made Me
8775        Yeh Meri Family
Name: title, Length: 79, dtype: object
```

## Q6. Show Top ten directors, who gave the highest number of TV shows and Movies to Netflix?

```
In [107]: data.head(2)
```

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

```
In [32]: top_ten_directors= data['director'].value_counts().head(10)

top_ten_directors
```

```
Out[32]: Rajiv Chilaka          19
Raúl Campos, Jan Suter        18
Marcus Raboy                  16
Suhas Kadav                   16
Jay Karas                      14
Cathy Garcia-Molina           13
Martin Scorsese                12
Youssef Chahine                 12
Jay Chapman                     12
Steven Spielberg                11
Name: director, dtype: int64
```

**Q7. Show all the records, where type is Movie and listed\_in is Comedies or the country is United kingdom**

```
In [33]: data[(data['type']=='Movie') & ((data['listed_in']=='Comedies') | (data['country']=='United Kingdom'))]
```

Out[33]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	descri
27	s28	Movie	Grown Ups	Dennis Dugan	Adam Sandler, Kevin James, Chris Rock, David S...	United States	September 20, 2021	2010	PG-13	103 min	Comedies	Mourning loss of beloved j
152	s153	Movie	Janoskians: Untold and Untrue	Brett Weiner	Jai Brooks, Luke Brooks, James Yammouni, Daniel...	United States	September 1, 2021	2016	TV-MA	88 min	Comedies	Fol... story of Aust brothe
182	s183	Movie	Welcome Home Roscoe Jenkins	Malcolm D. Lee	Martin Lawrence, James Earl Jones, Joy Bryant,...	United States	September 1, 2021	2008	PG-13	114 min	Comedies	R.J. trav Georgia f parents' 50
233	s234	Movie	Count Me In	Mark Lo	NaN	United Kingdom	August 24, 2021	2021	TV-MA	82 min	Documentaries, Music & Musicals	docume... features of r
292	s293	Movie	Quartet	Dustin Hoffman	Maggie Smith, Tom Courtenay, Billy Connolly, P...	United Kingdom	August 8, 2021	2012	PG-13	98 min	Comedies, Dramas, Independent Movies	To save retire home, fo
...	...	...	...	...	...	...	...	...	...	...	...	...
8732	s8733	Movie	White Chamber	Paul Raschid	Shauna MacDonald, Oded Fehr, Amrita Acharia, S...	United Kingdom	August 1, 2019	2018	TV-MA	89 min	Sci-Fi & Fantasy, Thrillers	When : war rav the l scienti
8733	s8734	Movie	White Island	Benjamin Turner	Lyndon Ogbourne, Billy Zane, Billy Boyd, Joel ...	United Kingdom	September 25, 2017	2016	TV-MA	91 min	Comedies, Independent Movies, Thrillers	Return Ibiza several walk

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
8737	s8738	Movie	Why Are We Getting So Fat?	Milla Harrison-Hansley, Alicky Sussman	Giles Yeo	United Kingdom	February 1, 2019	2016	TV-14	50 min	Documentaries	A Cambodian documentary about misconceptions
8744	s8745	Movie	Williams	Morgan Matthews	NaN	United Kingdom	November 4, 2017	2017	TV-MA	105 min	Documentaries, International Movies, Sports Mo...	This insightful documentary charts the
8786	s8787	Movie	You Can Tutu	James Brown	Lily O'Regan, Jeannettsy Enriquez Borges, Joel...	United Kingdom	December 31, 2017	2017	TV-G	87 min	Children & Family Movies	A gifted young ballerina's struggle

308 rows × 12 columns

**Q8. In how many movies Tom Cruise was cast?**In [122]: `data.head(2)`

	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	As her father nears the end of his life, filmmaker...
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	After crossing paths at a party, a Cape Town t...

In [131]: `#data[data['cast'].str.contains('Tom Cruise')]` # these function doesn't work in NaN

## Create new data frame

```
In [35]: data_new = data.dropna() # Created a new DataFrame and drop the NaN and then perform some operations
```

```
In [36]: data_new.head(1)
```

Out[36]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
7	s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmi Ogunlana, Alexandra D...	United States, Ghana, Burkina Faso, United Kin...	September 24, 2021	1993	TV-MA	125 min	Dramas, Independent Movies, International Movies	On a photo shoot in Ghana, an American model s...

```
In [37]: data_new[data_new['cast'].str.contains('Tom Cruise')]
```

Out[37]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
341	s342	Movie	Magnolia	Paul Thomas Anderson	John C. Reilly, Philip Baker Hall, Tom Cruise,...	United States	August 1, 2021	1999	R	189 min	Dramas, Independent Movies	Through chance, history and divine intervention...
1254	s1255	Movie	Rain Man	Barry Levinson	Dustin Hoffman, Tom Cruise, Valeria Golino, Ge...	United States	March 1, 2021	1988	R	134 min	Classic Movies, Dramas	Motivated by money, a selfish workaholic seeki...

### Q9.1 What are the different Ratings defined by Netflix?

```
In [20]: data_new['rating'].nunique()
```

Out[20]: 14

```
In [19]: data_new['rating'].unique()
```

```
Out[19]: array(['TV-MA', 'TV-14', 'PG-13', 'PG', 'R', 'TV-PG', 'G', 'TV-Y7',
   'TV-G', 'TV-Y', 'NC-17', 'NR', 'TV-Y7-FV', 'UR'], dtype=object)
```

### Q9.2 How many movies got TV-14 rating in Canada?

```
In [23]: data_new.head(2)
```

		show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
7	s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D...	United States, Ghana, Burkina Faso, United Kin...	September 24, 2021	1993	TV-MA	125 min	Dramas, Independent Movies, International Movies	On a photo shoot in Ghana, an American model s...	
8	s9	TV Show	The Great British Baking Show	Andy Devonshire	Mel Giedroyc, Sue Perkins, Mary Berry, Paul Ho...	United Kingdom	September 24, 2021	2021	TV-14	9 Seasons	British TV Shows, Reality TV	A talented batch of amateur bakers face off in...	

```
In [38]: data[(data['type']=='Movie') & (data['rating']=='TV-14') & (data['country']=='Canada')].shape
```

```
Out[38]: (13, 12)
```

### Q9.3 How many TV Shows got R rating before year 2020?

```
In [45]: data[(data['type']=='TV Show') & (data['rating']=='R') & (data['release_year'] < 2020)]
```

Out[45]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
3893	s3894	TV Show	The Hateful Eight: Extended Version	Quentin Tarantino	Samuel L. Jackson, Kurt Russell, Jennifer Jason... Aksel Hennie, Tuva Novotny, Anders Danielsen L...	Nan	April 25, 2019	2015	R	1 Season	TV Shows	Trapped at a stagecoach stop as a storm rages ...
7593	s7594	TV Show	Nobel	Nan	Aksel Hennie, Tuva Novotny, Anders Danielsen L...	Norway	December 10, 2016	2016	R	1 Season	International TV Shows, TV Dramas, TV Thrillers	A series of incidents in Afghanistan set compl...

#### Q10. What is the maximum duration of a Movie on Netflix

```
In [6]: #data.duration.unique()
```

```
In [3]: data[['Minutes', 'Unit']] = data['duration'].str.split(' ', expand=True)
```

In [22]: data.head(1)

Out[22]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	Minutes	Unit
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	Nan	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...	90	min

```
In [32]: data['Minutes']
```

```
Out[32]: 0      90
1       2
2       1
3       1
4       2
...
8802    158
8803    2
8804    88
8805    88
8806   111
Name: Minutes, Length: 8807, dtype: object
```

```
In [69]: data['Minutes'] = pd.to_numeric(data['Minutes'])
```

```
In [70]: data['Minutes'].max()
```

```
Out[70]: 312.0
```

```
In [96]: data[(data['Minutes'] == data['Minutes'].max())]
```

```
Out[96]:
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
4253	s4254	Movie	Black Mirror: Bandersnatch	NaN	Fionn Whitehead, Will Poulter, Craig Parkinson...	United States	December 28, 2018	2018	TV-MA	312 min	Dramas, International Movies, Sci-Fi & Fantasy	In 1984, a young programmer begins to question...



**Q11. Which individual country has the highest number of TV Shows ?**

```
In [99]: data.head(1)
```

```
Out[99]:
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	Minutes	Ui
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, film...	90.0	n



```
In [100]: data_tvshow = data[data['type']=='TV Show']
```

```
In [105]: data_tvshow['country'].value_counts().head(1)
```

```
Out[105]: United States    760  
Name: country, dtype: int64
```

## Q12 Sort the data by Year

In [137]: `data.head(10)`

Out[137]:

	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	As her father nears the end of his life, filmmaker...
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	After crossing paths at a party, a Cape Town t...
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...	To protect his family from a powerful drug lord...
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down amo...
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 ...	In a city of coaching centers known to train I...
5	s6	TV Show	Midnight Mass	Mike Flanagan	Kate Siegel, Zach Gilford, Hamish Linklater, H...	NaN	September 24, 2021	2021	TV-MA	1 Season	TV Dramas, TV Horror, TV Mysteries	The arrival of a charismatic young priest brin...
6	s7	Movie	My Little Pony: A New Generation	Robert Cullen, José Luis Ucha	Vanessa Hudgens, Kimiko Glenn, James Marsden, ...	NaN	September 24, 2021	2021	PG	91 min	Children & Family Movies	Equestria's divided. But a bright-eyed hero be...

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
7	s8	Movie	Sankofa	Haile Gerima Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D...	United States, Ghana, Burkina Faso, United Kin...	September 24, 2021	1993	TV-MA	125 min	Dramas, Independent Movies, International Movies	On a photo shoot in Ghana, an American model s...
8	s9	TV Show	The Great British Baking Show	Andy Devonshire Mel Giedroyc, Sue Perkins, Mary Berry, Paul Ho...	United Kingdom	September 24, 2021	2021	TV-14	9 Seasons	British TV Shows, Reality TV	A talented batch of amateur bakers face off in...
9	s10	Movie	The Starling	Theodore Melfi Melissa McCarthy, Chris O'Dowd, Kevin Kline, T...	United States	September 24, 2021	2021	PG-13	104 min	Comedies, Dramas	A woman adjusting to life after a loss contend...

```
In [ ]: pd.to_datetime(data['date_added'])
```

```
In [125]: data_year = data
```

```
In [128]: data_year.head(1)
```

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	As her father nears the end of his life, filmm...

```
In [132]: data_year['format_date']= pd.to_datetime(data_year['date_added']).dt.strftime('%Y-%m-%d')
```

In [136]: `data_year.sort_values(by= 'release_year').head()`

Out[136]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	fc
4250	s4251	TV Show	Pioneers: First Women Filmmakers*	NaN	NaN	NaN	December 30, 2018	1925	TV-14	1 Season	TV Shows	This collection restores films from women who ...	...
7790	s7791	Movie	Prelude to War	Frank Capra	NaN	United States	March 31, 2017	1942	TV-14	52 min	Classic Movies, Documentaries	Frank Capra's documentary chronicles the rise ...	...
8205	s8206	Movie	The Battle of Midway	John Ford	Henry Fonda, Jane Darwell	United States	March 31, 2017	1942	TV-14	18 min	Classic Movies, Documentaries	Director John Ford captures combat footage of ...	...
8660	s8661	Movie	Undercover: How to Operate Behind Enemy Lines	John Ford	NaN	United States	March 31, 2017	1943	TV-PG	61 min	Classic Movies, Documentaries	This World War II-era training film dramatizes...	...
8739	s8740	Movie	Why We Fight: The Battle of Russia	Frank Capra, Anatole Litvak	NaN	United States	March 31, 2017	1943	TV-PG	82 min	Documentaries	This installment of Frank Capra's acclaimed do...	...

Q13 Find all the instances where type is Movie and listed\_in Dramas

In [139]: `data.head(1)`

Out[139]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	format_date
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...	2021-09-25

```
In [151]: #data[(data['Listed_in'].str.contains('Dramas')) & (data['type']=='Movie')]  
data[(data['listed_in'].str.contains('Dramas')) & (data['type']=='Movie')]
```

Out[151]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
7	s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D...	United States, Ghana, Burkina Faso, United Kin...	September 24, 2021	1993	TV-MA	125 min	Dramas, Independent Movies, International Movies	On a photo shoot in Ghana, an American model s..
9	s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy, Chris O'Dowd, Kevin Kline, T...	United States	September 24, 2021	2021	PG-13	104 min	Comedies, Dramas	A woman adjusting to life after a loss contend..
12	s13	Movie	Je Suis Karl	Christian Schwochow	Luna Wedler, Jannis Niewöhner, Milan Peschel, ...	Germany, Czech Republic	September 23, 2021	2021	TV-MA	127 min	Dramas, International Movies	After most of her family is murdered in a terr..
30	s31	Movie	Ankaahi Kahaniya	Ashwiny Iyer Tiwari, Abhishek Chaubey, Saket C...	Abhishek Banerjee, Rinku Rajguru, Delzad Hiwal...	NaN	September 17, 2021	2021	TV-14	111 min	Dramas, Independent Movies, International Movies	As big city life buzzes around them, lonely so..
35	s36	Movie	The Father Who Moves Mountains	Daniel Sandu	Adrian Titieni, Elena Purea, Judith State, Val...	NaN	September 17, 2021	2021	TV-MA	110 min	Dramas, International Movies, Thrillers	When his son goes missing during a snowy hike ..
...	...	...	...	...	...	...	...	...	...	...	...	...
8798	s8799	Movie	Zed Plus	Chandra Prakash Dwivedi	Adil Hussain, Mona Singh, K.K. Raina, Sanjay M...	India	December 31, 2019	2014	TV-MA	131 min	Comedies, Dramas, International Movies	A philandering small-town mechanic's political..
8799	s8800	Movie	Zenda	Avadhoot Gupte	Santosh Juvekar, Siddharth Chandekar, Sachit P...	India	February 15, 2018	2009	TV-14	120 min	Dramas, International Movies	A change in the leadership of a political part..

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	descriptior
8801	s8802	Movie	Zinzana	Majid Al Ansari	Ali Suliman, Saleh Bakri, Yasa, Ali Al-Jabri, ...	United Arab Emirates, Jordan	March 9, 2016	2015	TV-MA	96 min	Dramas, International Movies, Thrillers	Recovering alcoholic Talal wakes up inside a... .
8802	s8803	Movie	Zodiac	David Fincher	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States	November 20, 2019	2007	R	158 min	Cult Movies, Dramas, Thrillers	A political cartoonist, a crime reporter and a...
8806	s8807	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanani...	India	March 2, 2019	2015	TV-14	111 min	Dramas, International Movies, Music & Musicals	A scrappy but poor boy worms his way into a ty..

2427 rows × 13 columns

In [ ]: