

In [ ]:

```
# Netflix Shows Data Analysis(Project)
```

In [1]:

```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
```

In [2]:

```
data=pd.read_csv(r"C:\Users\User\Downloads\netflix_titles.csv")
data
```

Out[2]:

	show_id	type	title	director	cast	country	date_added	release_year	rating
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-N
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-N
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connely...	United States	November 16, 2017	2009	P
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	P
...	...	...	...	...	...	...	...	...	...
7782	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	2005	TV-N
7783	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	2015	TV-
7784	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	2019	TV-N
7785	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	2019	TV-P

	show_id	type	title	director	cast	country	date_added	release_year	ratir
7786	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	2019	T M

7787 rows × 12 columns

In [ ]:

# To show first 5 rows?

In [3]:

data.head()

Out[3]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Se
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	{
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	R	{
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connnelly...	United States	November 16, 2017	2009	PG-13	{
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	PG-13	12

In [ ]:

# To show bottom-5 records?

In [4]:

data.tail()

Out[4]:

	show_id	type	title	director	cast	country	date_added	release_year	rating
7782	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	2005	TV-MA
7783	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chan...	India	March 2, 2019	2015	TV-14
7784	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	2019	TV-MA
7785	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	2019	TV-PG
7786	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	2019	TV-MA

In [ ]:

# To show no. of rows &amp; columns

In [5]:

data.shape

Out[5]:

(7787, 12)

In [ ]:

# To show no. of total values/elements?

In [6]:

```
data.size
```

Out[6]:

```
93444
```

In [ ]:

```
# To show each column Name.
```

In [7]:

```
data.columns
```

Out[7]:

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

In [ ]:

```
# To show Data type of each column.
```

In [8]:

```
data.dtypes
```

Out[8]:

```
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
```

In [ ]:

```
# To show indexes, columns, data-types of each columns, memory at once.
```

In [9]:

```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 7787 entries, 0 to 7786
Data columns (total 12 columns):
 #   Column      Non-Null Count  Dtype  
--- 
 0   show_id     7787 non-null   object  
 1   type        7787 non-null   object  
 2   title       7787 non-null   object  
 3   director    5398 non-null   object  
 4   cast         7069 non-null   object  
 5   country     7280 non-null   object  
 6   date_added  7777 non-null   object  
 7   release_year 7787 non-null   int64  
 8   rating      7780 non-null   object  
 9   duration    7787 non-null   object  
 10  listed_in   7787 non-null   object  
 11  description 7787 non-null   object  
dtypes: int64(1), object(11)
memory usage: 730.2+ KB
```

In [ ]:

```
# To show where Null value is present.
```

In [18]:

data.head()

Out[18]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Se
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	{
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	R	{
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connely...	United States	November 16, 2017	2009	PG-13	{
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	PG-13	12



In [19]:

```
data.isnull()
```

Out[19]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	False	False	False	True	False	False	False	False	False	Fals
1	False	False	False	False	False	False	False	False	False	Fals
2	False	False	False	False	False	False	False	False	False	Fals
3	False	False	False	False	False	False	False	False	False	Fals
4	False	False	False	False	False	False	False	False	False	Fals
...	...	...	...	...	...	...	...	...	...	...
7782	False	False	False	False	False	False	False	False	False	Fals
7783	False	False	False	False	False	False	False	False	False	Fals
7784	False	False	False	True	False	True	False	False	False	Fals
7785	False	False	False	True	False	False	False	False	False	Fals
7786	False	False	False	False	True	False	False	False	False	Fals

7787 rows × 12 columns

In [ ]:

```
# To show the count of Null values in each column.
```

In [24]:

```
data.isnull().sum()
```

Out[24]:

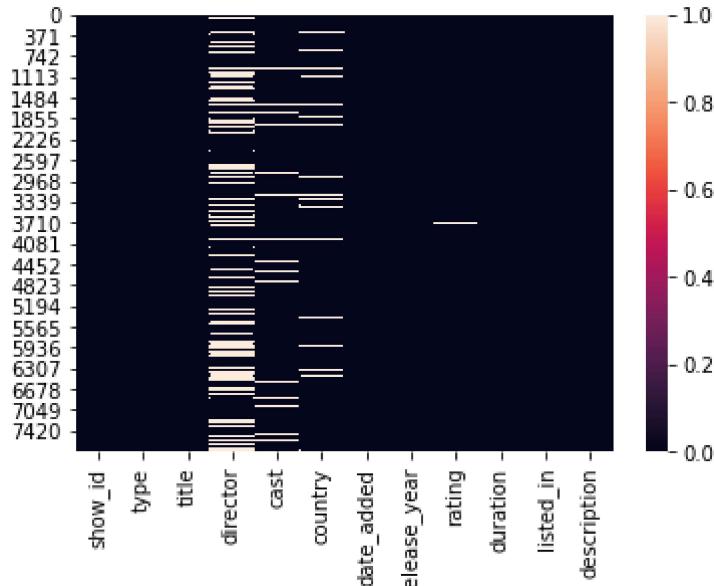
show_id	0
type	0
title	0
director	2389
cast	718
country	507
date_added	10
release_year	0
rating	7
duration	0
listed_in	0
description	0
dtype: int64	

In [ ]:

```
# Using heat-map to show null values count.
```

In [26]:

```
sns.heatmap(data.isnull())
plt.show()
```



In [ ]:

```
# In which year highest no. of the TV show & Movies were released(date_added)? show with ba
```

In [31]:

```
data.dtypes
```

Out[31]:

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

In [40]:

```
data['Date_N']=pd.to_datetime(data['date_added'])
```

In [41]:

data.head()

Out[41]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Se
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	{
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	R	{
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connely...	United States	November 16, 2017	2009	PG-13	{
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	PG-13	12



In [42]:

```
data.dtypes
```

Out[42]:

```
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
Date_N          datetime64[ns]
dtype: object
```

In [43]:

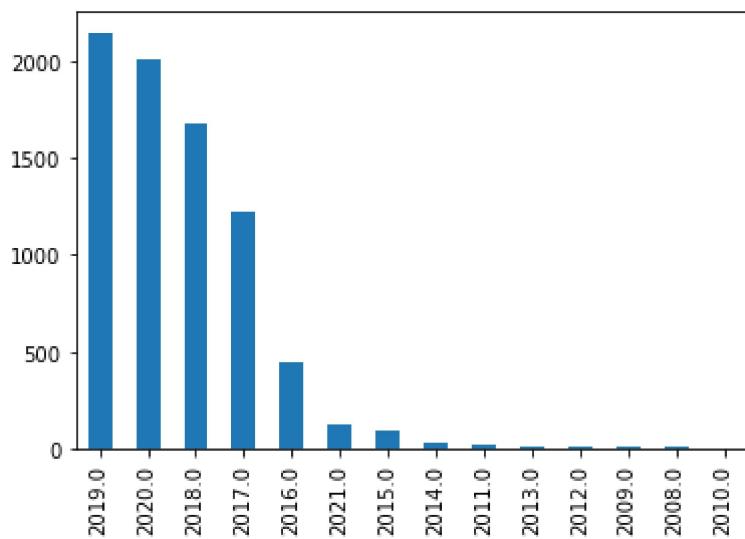
```
data['Date_N'].dt.year.value_counts()
```

Out[43]:

```
2019.0    2153
2020.0    2009
2018.0    1685
2017.0    1225
2016.0     443
2021.0     117
2015.0      88
2014.0      25
2011.0      13
2013.0      11
2012.0       3
2009.0       2
2008.0       2
2010.0       1
Name: Date_N, dtype: int64
```

In [45]:

```
data['Date_N'].dt.year.value_counts().plot(kind='bar')
plt.show()
```



In [ ]:

```
# How many Movies & TV shows are in the dataset? show with a bar graph.
```

In [47]:

```
data.head(2)
```

Out[47]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 r

In [48]:

```
data['type'].value_counts()
```

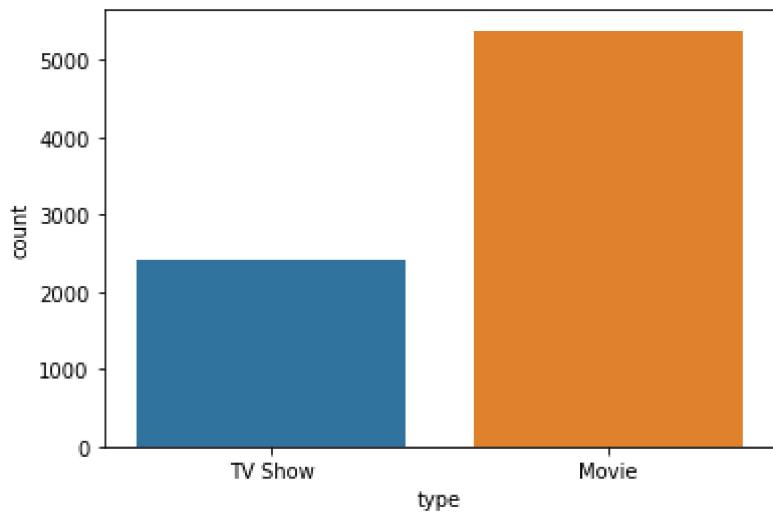
Out[48]:

Movie	5377
TV Show	2410
Name: type, dtype:	int64

In [50]:

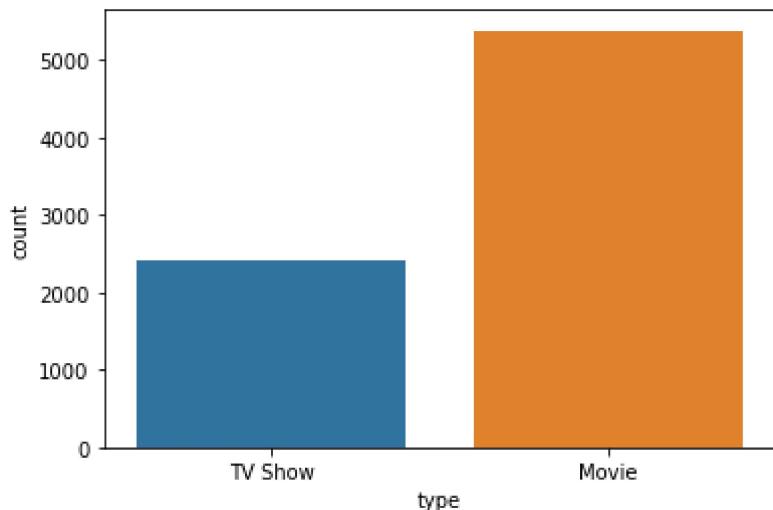
```
sns.countplot(data[ 'type' ])
plt.show()
```

C:\Users\User\anaconda3\lib\site-packages\seaborn\\_decorators.py:36: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.  
warnings.warn(



In [51]:

```
sns.countplot(x='type',data=data)
plt.show()
```



In [ ]:

```
# Show all the Movies that were released in year 2000/2020.
```

In [56]:

```
data.head()
```

Out[56]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Se
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	{
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	R	{
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connely...	United States	November 16, 2017	2009	PG-13	{
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	PG-13	12

In [59]:

```
data['Year']=data['Date_N'].dt.year
```

In [60]:

data.head(2)

Out[60]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min

In [ ]:

# Filtering as per the condition.

In [61]:

data[(data['type']=='Movie')&amp;(data['Year']==2000)]

Out[61]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listened_to
1	Movie	25 Hours	John Moore	John Moore, Michael Moore, Jennifer Abbott, ...	United States	January 1, 2001	2001	PG-13	100 min	True

In [62]:

```
data[(data['type']=='Movie')&(data['Year']==2020)]
```

Out[62]:

	show_id	type	title	director	cast	country	date_added	release_year	rating
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	I
6	s7	Movie	122	Yasir Al Yasiri	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...	Egypt	June 1, 2020	2019	
14	s15	Movie	3022	John Suits	Omar Epps, Kate Walsh, Miranda Cosgrove, Angus...	United States	March 19, 2020	2019	
27	s28	Movie	#Alive	Cho Il	Yoo Ah-in, Park Shin-hye	South Korea	September 8, 2020	2020	
28	s29	Movie	#AnneFrank - Parallel Stories	Sabina Fedeli, Anna Migotto	Helen Mirren, Gengher Gatti	Italy	July 1, 2020	2019	TV
...	...	...	...	...	...	...	...	...	...
7760	s7761	Movie	Zaki Chan	Wael Ihsan	Ahmed Helmy, Yasmin Abdulaziz, Hassan Hosny, H...	Egypt	May 19, 2020	2005	
7781	s7782	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020	2006	
7782	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmark...	October 19, 2020	2005	

show_id	type	title	director	cast	country	date_added	release_year	rating
7784	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	2019
7786	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	2019

1312 rows × 14 columns

◀	▶
---	---

In [ ]:

```
# Show only the titles of all TV shows that were released in India only.
```

In [63]:

```
data.head(2)
```

Out[63]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA 93 min

◀	▶
---	---

In [65]:

```
data[(data['type']=='TV Show')&(data['country']=='India')]['title']
```

Out[65]:

```
86          21 Sarfarosh: Saragarhi 1897
132                  7 (Seven)
340          Agent Raghav
364          Akbar Birbal
533          Anjaan: Rural Myths
...
6248          The Creative Indians
6398  The Golden Years with Javed Akhtar
6467          The House That Made Me
7292          Typewriter
7703          Yeh Meri Family
Name: title, Length: 71, dtype: object
```

In [66]:

```
data['title'][(data['type']=='TV Show')&(data['country']=='India')]
```

Out[66]:

```
86          21 Sarfarosh: Saragarhi 1897
132                  7 (Seven)
340          Agent Raghav
364          Akbar Birbal
533          Anjaan: Rural Myths
...
6248          The Creative Indians
6398  The Golden Years with Javed Akhtar
6467          The House That Made Me
7292          Typewriter
7703          Yeh Meri Family
Name: title, Length: 71, dtype: object
```

In [ ]:

```
# Show the top 10 directors, who gave the highest no. of TV Shows & Movies to Netflix?
```

In [67]:

data.head(2)

Out[67]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 r

In [68]:

data['director'].value\_counts()

Out[68]:

Raúl Campos, Jan Suter	18
Marcus Raboy	16
Jay Karas	14
Cathy Garcia-Molina	13
Jay Chapman	12
..	
Max Amini	1
Brett Donowho	1
Francis Whately	1
Howard Zieff	1
Ivona Juka	1

Name: director, Length: 4049, dtype: int64

In [69]:

```
data['director'].value_counts().head(10)
```

Out[69]:

Raúl Campos, Jan Suter	18
Marcus Raboy	16
Jay Karas	14
Cathy Garcia-Molina	13
Jay Chapman	12
Martin Scorsese	12
Youssef Chahine	12
Steven Spielberg	10
David Dhawan	9
Shannon Hartman	8
Name: director, dtype: int64	

In [ ]:

```
# Show all the records, where 'type' is 'Movie' and 'listed_in' is 'Comedies' or 'country'
```

In [70]:

```
data[(data['type']=='Movie')&(data['listed_in']=='Comedies')|(data['country']=='United King
```

Out[70]:

	show_id	type	title	director	cast	country	date_added	release_year
19	s20	Movie	'89	NaN	Lee Dixon, Ian Wright, Paul Merson	United Kingdom	May 16, 2018	2018
33	s34	Movie	#realityhigh	Fernando Lebrija	Nesta Cooper, Kate Walsh, John Michael Higgins...	United States	September 8, 2017	2017
58	s59	TV Show	100% Hotter	NaN	Daniel Palmer, Melissa Sophia, Karen Williams,...	United Kingdom	November 1, 2019	2019
72	s73	Movie	17 Again	Burr Steers	Zac Efron, Leslie Mann, Matthew Perry, Thomas ...	United States	January 1, 2021	2009
82	s83	Movie	2036 Origin Unknown	Hasraf Dulull	Katee Sackhoff, Ray Fearon, Julie Cox, Steven ...	United Kingdom	December 20, 2018	2018
...	...	...	...	...	...	...	...	...
7668	s7669	TV Show	World War II in Colour	NaN	Robert Powell	United Kingdom	August 1, 2017	2009
7669	s7670	TV Show	World's Busiest Cities	NaN	Anita Rani, Ade Adepitan, Dan Snow	United Kingdom	February 1, 2019	2019
7686	s7687	Movie	XV: Beyond the Tryline	Pierre Deschamps	NaN	United Kingdom	March 18, 2020	2019
7723	s7724	Movie	You Can Tutu	James Brown	Lily O'Regan, Jeannettsy Enriquez Borges, Joel...	United Kingdom	December 31, 2017	2017

show_id	type	title	director	cast	country	date_added	release_year
7738	s7739	TV Show	Young Wallander	NaN	Adam Pålsson, Richard Dillane, Leanne Best, El...	United Kingdom	September 3, 2020

485 rows × 14 columns

In [ ]:

# In how many movies/shows, Tom Cruise was cast?

In [71]:

data.head(2)

Out[71]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA 93 min

In [74]:

data[data['cast']=='Tom Cruise']

Out[74]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listened_to
1000	Movie	Top Gun: Maverick	Joseph Kosinski	Tom Cruise, Anthony Edwards, Jennifer Connelly, E...	United States	May 27, 2022	2022	PG-13	165 min	True

In [75]:

data\_new=data.dropna()

In [76]:

```
data_new.head(2)
```

Out[76]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	dura
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	R	78

In [77]:

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

Out[77]:

	show_id	type	title	director	cast	country	date_added	release_year	rating
3860	s3861	Movie	Magnolia	Paul Thomas Anderson	Jeremy Blackman, Tom Cruise, Melinda Dillon, A...	United States	January 1, 2020	1999	F
5070	s5071	Movie	Rain Man	Barry Levinson	Dustin Hoffman, Tom Cruise, Valeria Golino, Ge...	United States	July 1, 2019	1988	F

In [79]:

```
data_new[data_new['cast']=='Tom Cruise']
```

Out[79]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listened

In [ ]:

```
# What are the different ratings defined by Netflix?
```

In [80]:

```
data.head(2)
```

Out[80]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 m

In [81]:

```
data['rating'].nunique()
```

Out[81]:

14

In [82]:

```
data['rating'].unique()
```

Out[82]:

```
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)
```

In [ ]:

```
# How many Movies got 'TV-14' rating in Canada?
```

In [83]:

data.head(2)

Out[83]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min

In [84]:

```
data[(data['type']=='Movie')&(data['rating']=='TV-14')&(data['country']=='Canada')]
```

Out[84]:

	show_id	type	title	director	cast	country	date_added	release_
30	s31	Movie	#cats_the_mewvie	Michael Margolis	Nan	Canada	February 5, 2020	
34	s35	Movie	#Roxy	Michael Kennedy	Jake Short, Sarah Fisher, Booboo Stewart, Dann...	Canada	April 10, 2019	
608	s609	Movie	At First Light	Jason Stone	Stefanie Scott, Theodore Pellerin, Percy Hynes...	Canada	December 27, 2018	
1506	s1507	Movie	Counterfeiting in Suburbia	Jason Bourque	Sarah Butler, Larissa Albuquerque, Kayla Walla...	Canada	July 1, 2018	
3713	s3714	Movie	Long Time Running	Jennifer Baichwal, Nicholas de Pencier	Gord Downie, Paul Langlois, Gord Sinclair, Rob...	Canada	November 12, 2017	
3956	s3957	Movie	Martin Matte: La vie, la mort...eh la la..!	Jean-François Blais	Martin Matte	Canada	October 14, 2019	
5335	s5336	Movie	Sadie's Last Days on Earth	Michael Seater	Morgan Taylor Campbell, Clark Backo, Ricardo H...	Canada	August 22, 2017	
5392	s5393	Movie	Sardaar ji	Rohit Jugraj	Diljit Dosanjh, Neeru Bajwa, Mandy Takhar, Jas...	Canada	December 1, 2017	
6061	s6062	Movie	The Accountant of Auschwitz	Matthew Shoychet	Nan	Canada	July 1, 2019	
7023	s7024	Movie	The Wrong Babysitter	George Mendeluk	Daphne Zuniga, Seann Gallagher, Lisa Marie Car...	Canada	June 18, 2019	

show_id	type	title	director	cast	country	date_added	release_year
7039	s7040	Movie	There's Something in the Water	Ellen Page, Ian Daniel	Ellen Page	Canada	March 27, 2020

In [89]:

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

Out[89]:

(11, 14)

In [ ]:

```
# How many TV Shows got the 'R' rating, after year 2018?
```

In [90]:

```
data.head(2)
```

Out[90]:

show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA 93 min

In [91]:

```
data[(data['type']=='TV Show')&(data['rating']=='R')&(data['Year']>2018)]
```

Out[91]:

	show_id	type	title	director	cast	country	date_added	release_year	rating
6435	s6436	TV Show	The Hateful Eight: Extended Version	Quentin Tarantino	Samuel L. Jackson, Kurt Russell, Jennifer Jason... Jason...	NaN	April 25, 2019	2015	R

In [ ]:

```
# What is the maximum duration of a movie/show on netflix?
```

In [92]:

```
data.head(2)
```

Out[92]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R... Ricardo, ...	Brazil	August 14, 2020	2020	TV-MA	Season 1
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ... Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min

In [93]:

```
data['duration'].unique()
```

Out[93]:

```
array(['4 Seasons', '93 min', '78 min', '80 min', '123 min', '1 Season',
       '95 min', '119 min', '118 min', '143 min', '103 min', '89 min',
       '91 min', '149 min', '144 min', '124 min', '87 min', '110 min',
       '128 min', '117 min', '100 min', '2 Seasons', '84 min', '99 min',
       '90 min', '102 min', '104 min', '105 min', '56 min', '125 min',
       '81 min', '97 min', '106 min', '107 min', '109 min', '44 min',
       '75 min', '101 min', '3 Seasons', '37 min', '113 min', '114 min',
       '130 min', '94 min', '140 min', '135 min', '82 min', '70 min',
       '121 min', '92 min', '164 min', '53 min', '83 min', '116 min',
       '86 min', '120 min', '96 min', '126 min', '129 min', '77 min',
       '137 min', '148 min', '28 min', '122 min', '176 min', '85 min',
       '22 min', '68 min', '111 min', '29 min', '142 min', '168 min',
       '21 min', '59 min', '20 min', '98 min', '108 min', '76 min',
       '26 min', '156 min', '30 min', '57 min', '150 min', '133 min',
       '115 min', '154 min', '127 min', '146 min', '136 min', '88 min',
       '131 min', '24 min', '112 min', '74 min', '63 min', '38 min',
       '25 min', '174 min', '60 min', '153 min', '158 min', '151 min',
       '162 min', '54 min', '51 min', '69 min', '64 min', '147 min',
       '42 min', '79 min', '5 Seasons', '40 min', '45 min', '172 min',
       '10 min', '163 min', '9 Seasons', '55 min', '72 min', '61 min',
       '71 min', '160 min', '171 min', '48 min', '139 min', '157 min',
       '15 min', '65 min', '134 min', '161 min', '62 min', '8 Seasons',
       '186 min', '49 min', '73 min', '58 min', '165 min', '166 min',
       '138 min', '159 min', '141 min', '132 min', '52 min', '67 min',
       '34 min', '66 min', '312 min', '180 min', '47 min', '6 Seasons',
       '155 min', '14 min', '177 min', '11 min', '9 min', '46 min',
       '145 min', '11 Seasons', '7 Seasons', '13 Seasons', '8 min',
       '12 min', '12 Seasons', '10 Seasons', '43 min', '50 min', '23 min',
       '185 min', '200 min', '169 min', '27 min', '170 min', '196 min',
       '33 min', '181 min', '204 min', '32 min', '35 min', '167 min',
       '16 Seasons', '179 min', '193 min', '13 min', '214 min', '17 min',
       '173 min', '192 min', '209 min', '187 min', '41 min', '182 min',
       '224 min', '233 min', '189 min', '152 min', '19 min', '15 Seasons',
       '208 min', '237 min', '31 min', '178 min', '230 min', '194 min',
       '228 min', '195 min', '3 min', '16 min', '5 min', '18 min',
       '205 min', '190 min', '36 min', '201 min', '253 min', '203 min',
       '191 min'], dtype=object)
```

In [94]:

```
data.duration.dtypes
```

Out[94]:

```
dtype('O')
```

In [97]:

```
data[['minutes','unit']] = data['duration'].str.split(' ', expand=True)
```

In [98]:

data.head(2)

Out[98]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Seasons
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min

In [99]:

data.minutes.max()

Out[99]:

'99'

In [ ]:

# Which individual country has the highest no .of TV Shows?

In [100]:

data.head(2)

Out[100]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Seasons
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min

In [103]:

```
data[data['type']=='TV Show']
```

Out[103]:

	show_id	type	title	director	cast	country	date_added	release_year	r
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	T
5	s6	TV Show	46	Serdar Akar	Erdal Beşikçioğlu, Yasemin Allen, Melis Birkan...	Turkey	July 1, 2017	2016	T
11	s12	TV Show	1983	NaN	Robert Więckiewicz, Maciej Musiał, Michałina O...	Poland, United States	November 30, 2018	2018	T
12	s13	TV Show	1994	Diego Enrique Osorno	NaN	Mexico	May 17, 2019	2019	T
16	s17	TV Show	Feb-09	NaN	Shahd El Yaseen, Shaila Sabt, Hala, Hanadi Al...	NaN	March 20, 2019	2018	T
...	...	...	...	...	...	...	...	...	...
7767	s7768	TV Show	Zindagi Gulzar Hai	NaN	Sanam Saeed, Fawad Khan, Ayesha Omer, Mehreen ...	Pakistan	December 15, 2016	2012	T
7775	s7776	TV Show	Zoids Wild	NaN	Kensho Ono, Takahiro Sakurai, Mikako Komatsu, ...	Japan	August 14, 2020	2018	T
7777	s7778	TV Show	Zombie Dumb	NaN	NaN	NaN	July 1, 2019	2018	T
7779	s7780	TV Show	Zona Rosa	NaN	Manu NNa, Ana Julia Yeyé, Ray Contreras, Pablo...	Mexico	November 26, 2019	2019	T

show_id	type	title	director	cast	country	date_added	release_year	r
7785	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	2019

2410 rows × 16 columns

In [104]:

```
data[data['type']=='TV Show']['country'].value_counts()
```

Out[104]:

United States	705
United Kingdom	204
Japan	157
South Korea	147
India	71
...	
United Kingdom, Germany, United States, France	1
United States, New Zealand, Japan	1
United States, Brazil, South Korea, Mexico, Japan, Germany	1
Taiwan, China	1
United States, Sweden	1

Name: country, Length: 183, dtype: int64

In [105]:

```
data[data['type']=='TV Show'].country.value_counts()
```

Out[105]:

United States	705
United Kingdom	204
Japan	157
South Korea	147
India	71
...	
United Kingdom, Germany, United States, France	1
United States, New Zealand, Japan	1
United States, Brazil, South Korea, Mexico, Japan, Germany	1
Taiwan, China	1
United States, Sweden	1

Name: country, Length: 183, dtype: int64

In [106]:

```
data[data['type']=='TV Show']['country'].value_counts().head(1)
```

Out[106]:

United States	705
---------------	-----

Name: country, dtype: int64

In [ ]:

```
# How can we sort the dataset by year?
```

In [107]:

```
data.head(2)
```

Out[107]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	Season
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min

In [109]:

```
data.sort_values(by='Year', ascending=False)
```

Out[109]:

	show_id	type	title	director	cast	country	date_added	release_year
7351	s7352	Movie	Unknown	Jaume Collet-Serra	Liam Neeson, Diane Kruger, January Jones, Aida... ...	United Kingdom, Germany, France, United States	January 1, 2021	2011
2013	s2014	Movie	Enter the Dragon	Robert Clouse	Bruce Lee, John Saxon, Jim Kelly, Ahna Capri, ... ...	Hong Kong, United States	January 1, 2021	1973
2349	s2350	Movie	Gangaajal	Prakash Jha	Ajay Devgn, Gracy Singh, Mohan Agashe, Mohan J... ...	India	January 8, 2021	2003
1194	s1195	Movie	Can't Hardly Wait	Harry Elfant, Deborah Kaplan	Jennifer Love Hewitt, Ethan Embry, Charlie ... ...	United States	January 1, 2021	1998
1497	s1498	Movie	Cool Hand Luke	Stuart Rosenberg	Paul Newman, George Kennedy, J.D. Cannon, Lou ... ...	United States	January 1, 2021	1967
...	...	...	...	...	...	...	...	...
3374	s3375	TV Show	Kikoriki	NaN	Igor Dmitriev ...	NaN	NaN	2010
3492	s3493	TV Show	La Familia P. Luche	NaN	Eugenio Derbez, Consuelo Duval, Luis Manuel Áv... ...	United States	NaN	2012
3946	s3947	TV Show	Maron	NaN	Marc Maron, Judd Hirsch, Josh Brener, Nora Zeh... ...	United States	NaN	2016

	show_id	type	title	director	cast	country	date_added	release_year
5137	s5138	TV Show	Red vs. Blue	NaN	Burnie Burns, Jason Saldaña, Gustavo Sorola, G...	United States	NaN	2015
6065	s6066	TV Show	The Adventures of Figaro Pho	NaN	Luke Jurevicius, Craig Behenna, Charlotte Ham...	Australia	NaN	2015

7787 rows × 16 columns

In [ ]:

```
# type is 'Movie' and Listed_in is 'Dramas' or type is 'TV Show' and Listed_in is 'Kids' TV'
```

In [116]:

```
data[(data['type']=='Movie')&(data['listed_in']=='Dramas')|(data['type']=='TV Show')&(data[
```

Out[116]:

		show_id	type	title	director	cast	country	date_added	release_year	rating
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	P	
7	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	1997		
111	s112	TV Show	44 Cats	NaN	Sarah Natochenny, Suzy Myers, Simona Berman, E...	Italy	October 1, 2020	2018	TV-	
170	s171	Movie	A Family Man	Mark Williams	Gerard Butler, Gretchen Mol, Alison Brie, Will...	Canada, United States	December 15, 2019	2016		
232	s233	Movie	A Stoning in Fulham County	Larry Elkann	Ken Olin, Jill Eikenberry, Maureen Mueller, Gr...	United States	October 1, 2011	1988	TV-	
...	...	...	...	...	...	...	...	...	...	
7666	s7667	TV Show	World of Winx	Iginio Straffi	Haven Paschall, Alysha Deslorieux, Jessica Paq...	Italy, United States	June 16, 2017	2017	TV-	
7715	s7716	TV Show	Yoko	NaN	Eileen Stevens, Alyson Leigh Rosenfeld, Sarah ...	NaN	June 23, 2018	2016	TV-	
7717	s7718	TV Show	YOM	NaN	Sairaj, Devyani Dagaonkar, Ketan Singh, Mayur ...	NaN	June 7, 2018	2016	TV-	
7756	s7757	TV Show	Z4	NaN	Apollo Costa, Gabriel Santana, Matheus Lustosa...	Brazil	February 22, 2019	2018	TF	

	show_id	type	title	director	cast	country	date_added	release_year	rating
7759	s7760	TV Show	Zak Storm	NaN	Michael Johnston, Jessica Gee-George, Christin...	United States, France, South Korea, Indonesia	September 13, 2018	2016	TV-14

322 rows × 16 columns



In [ ]: