

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

```
In [2]: df = pd.read_csv("netflixdataset.csv")  
df
```

Out[2]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	D
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	S
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	
...
7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	TV-MA	
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	TV-14	
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	TV-PG	
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	TV-MA	

7789 rows × 11 columns

```
In [3]: df.head(5)
```

Out[3]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 mir
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 mir
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 mir
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 mir

In [4]: `df.tail(5)`

Out[4]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Dur
7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	TV-MA	9
7785	s7784	Movie	Zubaan	Mozes Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	TV-14	11
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	4
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	TV-PG	Se
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	TV-MA	9



In [5]: `df.shape`

Out[5]: (7789, 11)

In [6]: `df.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
```

```
In [7]: df.size
```

```
Out[7]: 85679
```

```
In [8]: df.columns
```

```
Out[8]: Index(['Show_Id', 'Category', 'Title', 'Director', 'Cast', 'Country',  
              'Release_Date', 'Rating', 'Duration', 'Type', 'Description'],  
              dtype='object')
```

```
In [9]: df.dtypes
```

```
Out[9]: 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
```

```
In [ ]:
```

TASK 1 IS THERER ANY DUPLICATE RECORD IN THIS DATRASET? IF YES , THEN REMOVE THE DUPLICATES RECORDS

In [10]: `df.head()`

Out[10]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 mir
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 mir
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 mir
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 mir

In [11]: `df.shape`

Out[11]: (7789, 11)

```
In [12]: df[df.duplicated()]
```

Out[12]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Durat
6300	s684	Movie	Backfire	Dave Patten	Black Deniro, Byron "Squally" Vinson, Dominic ...	United States	April 5, 2019	TV-MA	97 m
6622	s6621	Movie	The Lost Okoroshi	Abba T. Makama	Seun Ajayi, Judith Audu, Tope Tedela, Ifu Enna...	Nigeria	September 4, 2020	TV-MA	94 m


```
In [13]: df.drop_duplicates(inplace = True)
df
```

Out[13]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	D
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	S
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	
...
7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	TV-MA	
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	TV-14	
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	TV-PG	
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	TV-MA	

7787 rows × 11 columns

In [14]: df[df.duplicated()]

Out[14]:

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	I

now there is no duplicate values in dataset

In []:

TASK 2 .CHECK IS THERE ANY NULL VALUES PRRSENT IN ANY COLUMN ?SHOW WITH HEAT MAP

In [15]: df.head()

Out[15]:

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 min
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min

In [16]:

df.isnull()

Out[16]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type
0	False	False	False	True	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False
...
7784	False	False	False	False	False	False	False	False	False	False
7785	False	False	False	False	False	False	False	False	False	False
7786	False	False	False	True	False	True	False	False	False	False
7787	False	False	False	True	False	False	False	False	False	False
7788	False	False	False	False	True	False	False	False	False	False

7787 rows × 11 columns



In [17]:

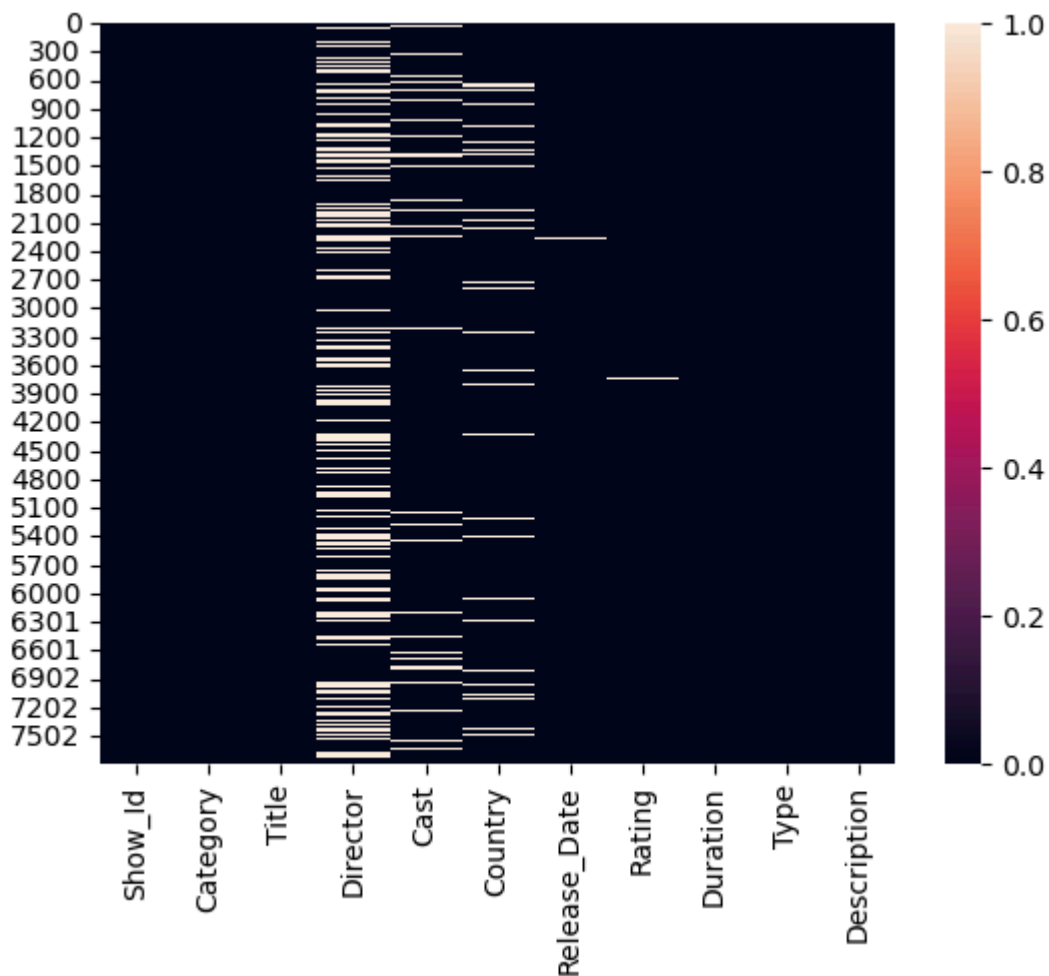
df.isnull().sum()

Out[17]:

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

```
In [18]: sns.heatmap(df.isnull())
```

```
Out[18]: <Axes: >
```



now some queastion ans answers to analyze the data

```
In [ ]:
```

Q1 . For 'House of Cards', what is the Show Id and Who is the Director of this show ?

In [19]: `df.head()`

Out[19]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 mir
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 mir
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 mir
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 mir

In [20]: `df[df["Title"].isin(["House of Cards"])]`

Out[20]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
2832	s2833	TV Show	House of Cards	Robin Wright, David Fincher, Gerald McRaney, J...	Kevin Spacey, Robin Wright, Kate Mara, Corey S...	United States	November 2, 2018	TV-MA	Season

Show_Id = s2833

director =Robin Wright, David Fincher, Gerald McRaney, J..

In []:

Q. 2) In which year the highest number of the TV Shows & Movies were released ? Show with Bar Graph

In [21]: df.dtypes

```
Out[21]: 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
```

In [22]: df['date_n'] = pd.to_datetime(df['Release_Date'])
df.head(3)

```
Out[22]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 mir
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 mir

In [23]: df.dtypes

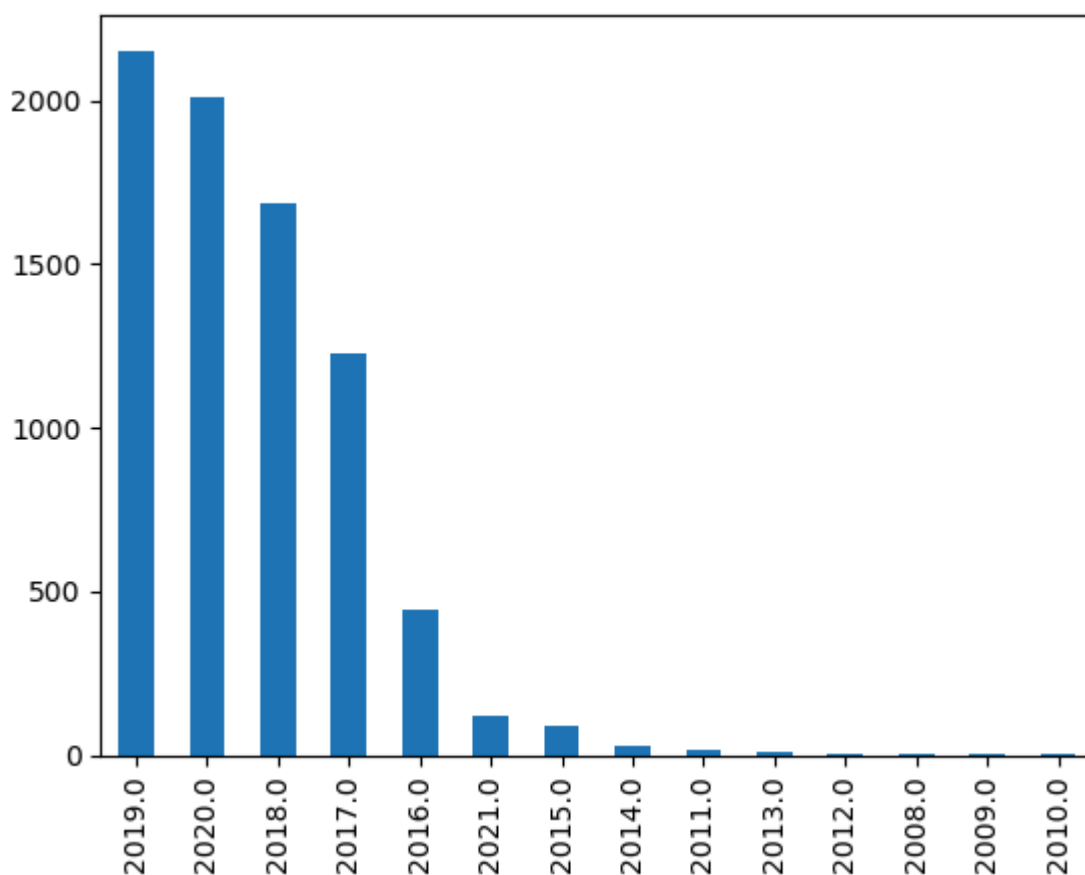
```
Out[23]: Show_Id      object
Category    object
Title       object
Director    object
Cast        object
Country     object
Release_Date object
Rating      object
Duration    object
Type        object
Description  object
date_n      datetime64[ns]
dtype: object
```

```
In [24]: df['date_n'].dt.year.value_counts()
```

```
Out[24]: 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
          2008.0       2
          2009.0       2
          2010.0       1
          Name: date_n, dtype: int64
```

```
In [25]: df['date_n'].dt.year.value_counts().plot(kind='bar')
```

```
Out[25]: <Axes: >
```



```
In [ ]:
```

Q. 3) How many Movies & TV Shows are in the dataset ? Show with Bar Graph.


```
In [26]: df.head(2)
```

```
Out[26]:
```

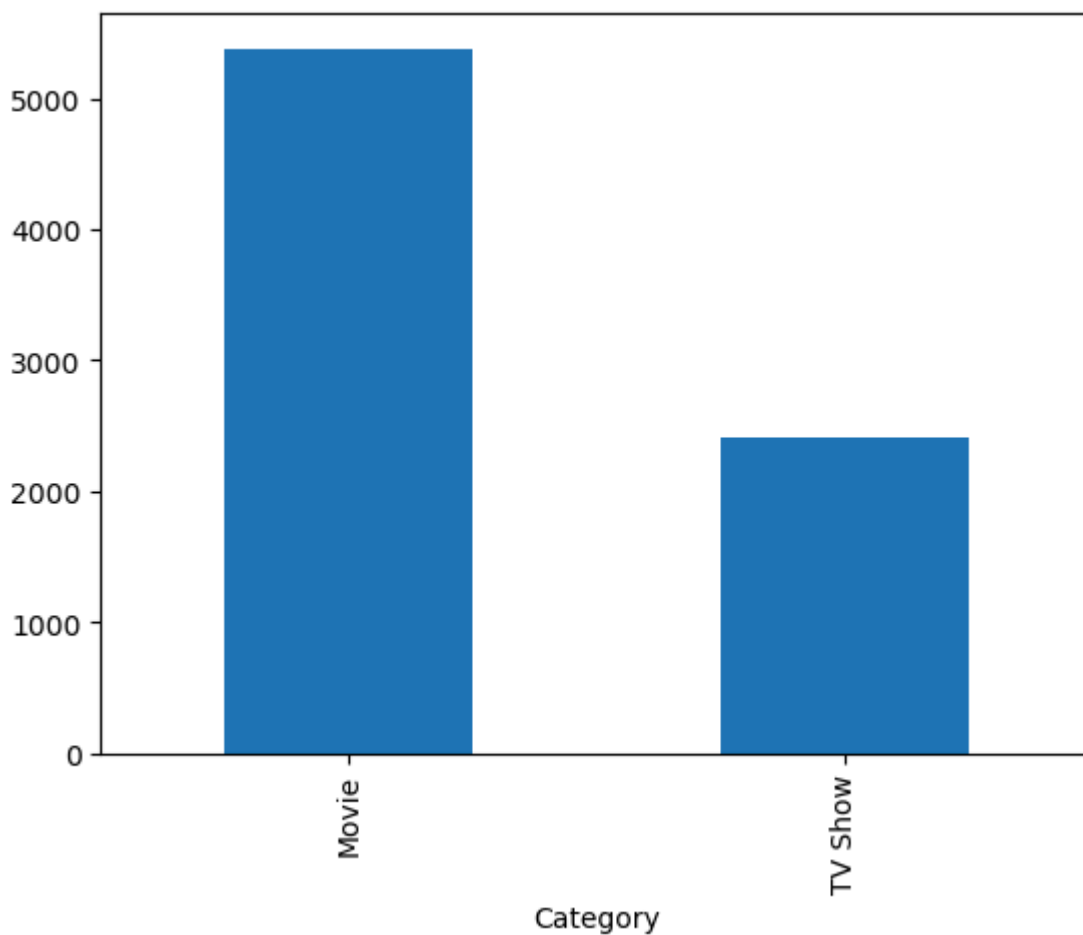
	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min

```
In [27]: df.groupby('Category').Category.count()
```

```
Out[27]: Category
Movie      5377
TV Show    2410
Name: Category, dtype: int64
```

```
In [28]: df.groupby('Category').Category.count().plot(kind = 'bar')
```

```
Out[28]: <Axes: xlabel='Category'>
```



In []:

Q. 4) Show all the Movies that were released in year 2000.

In [29]: df.head(2)

Out[29]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min

In [30]: df['year'] = df['date_n'].dt.year

In [31]: df.head(2)

Out[31]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min

In [32]: df [(df['Category'] == 'Movie') & (df['year'] == 2000)]

Out[32]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type
--	---------	----------	-------	----------	------	---------	--------------	--------	----------	------

so there is no movies that realese in year 2000

In []:

Q. 5) Show only the Titles of all TV Shows that were released in India only.

In [33]: df.head(2)

Out[33]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min

In [34]: df [(df['Category'] == 'TV Show') & (df['Country'] == 'India')] ['Title']

Out[34]:

```

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

```

In []:

Q. 6) Show Top 10 Directors, who gave the highest number of TV Shows & Movies to Netflix

In [35]: df.head(2)

Out[35]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min

```
In [36]: df['Director'].value_counts().head(10)
```

```
Out[36]: Raúl Campos, Jan Suter      18
Marcus Raboy                        16
Jay Karas                           14
Cathy Garcia-Molina                 13
Jay Chapman                         12
Youssef Chahine                     12
Martin Scorsese                     12
Steven Spielberg                    10
David Dhawan                         9
Hakan Algül                         8
Name: Director, dtype: int64
```

```
In [ ]:
```

Q. 7) Show all the Records, where "Category is Movie and Type is Comedies" or "Country is United Kingdom"

```
In [37]: df.head(2)
```

```
Out[37]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min

```
In [38]: df[(df['Category'] == 'Movie') & (df['Type'] == 'Comedies') | (df['Country']
```

Out[38]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating
19	s20	Movie	'89	NaN	Lee Dixon, Ian Wright, Paul Merson	United Kingdom	May 16, 2018	TV-PG
33	s34	Movie	#realityhigh	Fernando Lebrija	Nesta Cooper, Kate Walsh, John Michael Higgins...	United States	September 8, 2017	TV-14
58	s59	TV Show	100% Hotter	NaN	Daniel Palmer, Melissa Sophia, Karen Williams,...	United Kingdom	November 1, 2019	TV-14
72	s73	Movie	17 Again	Burr Steers	Zac Efron, Leslie Mann, Matthew Perry, Thomas ...	United States	January 1, 2021	PG-13
82	s83	Movie	2036 Origin Unknown	Hasraf Dulull	Katee Sackhoff, Ray Fearon, Julie Cox, Steven ...	United Kingdom	December 20, 2018	TV-14
...
7670	s7669	TV Show	World War II in Colour	NaN	Robert Powell	United Kingdom	August 1, 2017	TV-MA
7671	s7670	TV Show	World's Busiest Cities	NaN	Anita Rani, Ade Adepitan, Dan Snow	United Kingdom	February 1, 2019	TV-PG
7688	s7687	Movie	XV: Beyond the Tryline	Pierre Deschamps	NaN	United Kingdom	March 18, 2020	TV-14
7725	s7724	Movie	You Can Tutu	James Brown	Lily O'Regan, Jeannettsy Enriquez Borges, Joel...	United Kingdom	December 31, 2017	TV-G
7740	s7739	TV Show	Young Wallander	NaN	Adam Pålsson, Richard Dillane, Leanne Best, El...	United Kingdom	September 3, 2020	TV-MA

485 rows × 13 columns



In []:

Q. 8) In how many movies/shows, Tom Cruise was cast ?

```
In [39]: df.head(10)
```


Out[39]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	Season
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 mi
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 mi
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 mi
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 mi
5	s6	TV Show	46	Serdar Akar	Erdal Beşikçioğlu, Yasemin Allen, Melis Birkan...	Turkey	July 1, 2017	TV-MA	Seaso
6	s7	Movie	122	Yasir Al Yasiri	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...	Egypt	June 1, 2020	TV-MA	95 mi
7	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	R	119 mi
8	s9	Movie	706	Shravan Kumar	Divya Dutta, Atul Kulkarni, Mohan Agashe, Anup...	India	April 1, 2019	TV-14	118 mi
9	s10	Movie	1920	Vikram Bhatt	Rajneesh Duggal, Adah Sharma, Indraneil Sengup...	India	December 15, 2017	TV-MA	143 mi



```
In [40]: df[ (df['Category'] == ('Movie', 'TV Show')) & (df['Cast'] == 'Tom_Cruise')]
```

```
Out[40]:
```

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type
[Empty DataFrame]									

there is 0 movies where tom cruise casted

```
In [ ]:
```

Q. 9) What are the different Ratings defined by Netflix ?

```
In [41]: df.head(3)
```

```
Out[41]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min

```
In [42]: df['Rating'].nunique()
```

```
Out[42]: 14
```

```
In [43]: df['Rating'].unique()
```

```
Out[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)
```

Q 9.1) How many Movies got the 'TV-14' rating, in Canada ?

```
In [44]: df [(df['Rating'] == 'TV-14' ) & (df["Country"] == 'Canada') & (df['Categor
```

Out[44]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date
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
5336	s5336	Movie	Sadie's Last Days on Earth	Michael Seater	Morgan Taylor Campbell, Clark Backo, Ricardo H...	Canada	August 22, 2017
5393	s5393	Movie	Sardaar ji	Rohit Jugraj	Diljit Dosanjh, Neeru Bajwa, Mandy Takhar, Jas...	Canada	December 1, 2017
6062	s6062	Movie	The Accountant of Auschwitz	Matthew Shoychet	NaN	Canada	July 1, 2019
7025	s7024	Movie	The Wrong Babysitter	George Mendeluk	Daphne Zuniga, Seann Gallagher, Lisa Marie Car...	Canada	June 18, 2019
7041	s7040	Movie	There's Something in the Water	Ellen Page, Ian Daniel	Ellen Page	Canada	March 27, 2020

Q. 9.2) How many TV Shows got the 'R' rating, after year 2018 ?

In [47]: `df [(df['Category'] == 'TV Show') & (df['Rating'] == 'R') & (df['year'] >`

Out[47]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
6437	s6436	TV Show	The Hateful Eight: Extended Version	Quentin Tarantino	Samuel L. Jackson, Kurt Russell, Jennifer Jaso...	NaN	April 25, 2019	R	See

In []:

Q. 10) What is the maximum duration of a Movie/Show on Netflix ?

In [48]: `df.head(3)`

Out[48]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min

```
In [49]: df.Duration.unique()
```

```
Out[49]: 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 [54]: df[['minute', 'unit']] = df['Duration'].str.split(' ', expand = True)
df.head(2)
```

```
Out[54]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min

```
In [57]: # for max duration  
df['minute'].max()
```

Out[57]: '99'

```
In [ ]: # for minimum duration
```

```
In [58]: df['minute'].min()
```

Out[58]: '1'

```
In [ ]:
```