

```
In [6]: # Importing The Dataset
# importing pandas Library
import pandas as pd
Data = pd.read_csv("C:\\Users\\user\\Desktop\\Pandas\\4.Case study and projects\\Project-1\\5.Netflix Data Analysis.csv")
print(Data)
```

	Show_Id	Category	Title \
0	s1	TV Show	3%
1	s2	Movie	7:19
2	s3	Movie	23:59
3	s4	Movie	9
4	s5	Movie	21
...	...	...	...
7784	s7783	Movie	Zozo
7785	s7784	Movie	Zubaan
7786	s7785	Movie	Zulu Man in Japan
7787	s7786	TV Show	Zumbo's Just Desserts
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS

	Director	Cast \
0	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...
1	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...
2	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...
3	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...
4	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...
...	...	...
7784	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...
7785	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...
7786	NaN	Nasty C
7787	NaN	Adriano Zumbo, Rachel Khoo
7788	Sam Dunn	NaN

	Country	Release_Date	Rating \
0	Brazil	14-Aug-20	TV-MA
1	Mexico	23-Dec-16	TV-MA
2	Singapore	20-Dec-18	R
3	United States	16-Nov-17	PG-13
4	United States	1-Jan-20	PG-13
...	...	...	...
7784	Sweden, Czech Republic, United Kingdom, Denmar...	19-Oct-20	TV-MA
7785	India	2-Mar-19	TV-14
7786	NaN	25-Sep-20	TV-MA
7787	Australia	31-Oct-20	TV-PG
7788	United Kingdom, Canada, United States	1-Mar-20	TV-MA

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

```

1      93 min      Dramas, International Movies
2      78 min      Horror Movies, International Movies
3      80 min      Action & Adventure, Independent Movies, Sci-Fi...
4     123 min      Dramas
...
7784    99 min      Dramas, International Movies
7785   111 min      Dramas, International Movies, Music & Musicals
7786    44 min      Documentaries, International Movies, Music & M...
7787    1 Season    International TV Shows, Reality TV
7788    90 min      Documentaries, Music & Musicals

```

```

                                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...
...
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...

```

```
[7789 rows x 11 columns]
```

## Getting Some Basic Information about The Dataset

### 1. head

```
In [7]: # To show Top 5 Records of The Dataset
Data.head()
```

```
Out[7]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	20-Dec-18	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...

3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	16-Nov-17	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	1-Jan-20	PG-13	123 min	Dramas	A brilliant group of students become card-coun...

## 2. Tail

In [9]: 

```
# To show Bottom 5 Records of The Dataset
Data.tail()
```

Out[9]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description
7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	19-Oct-20	TV-MA	99 min	Dramas, International Movies	When Lebanon's Civil War deprives Zozo of his ...
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	2-Mar-19	TV-14	111 min	Dramas, International Movies, Music & Musicals	A scrappy but poor boy worms his way into a ty...
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	25-Sep-20	TV-MA	44 min	Documentaries, International Movies, Music & M...	In this documentary, South African rapper Nast...
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	31-Oct-20	TV-PG	1 Season	International TV Shows, Reality TV	Dessert wizard Adriano Zumbo looks for the nex...
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	1-Mar-20	TV-MA	90 min	Documentaries, Music & Musicals	This documentary delves into the mystique behi...

## 3. Shape

In [11]: 

```
# To show the Number of rows and columns
Data.shape
```

Out[11]: (7789, 11)

## 4.Size

```
In [12]: # To show No.of Total Valuee(Elements) In The Dataset  
Data.size
```

```
Out[12]: 85679
```

## 5.Columns

```
In [13]: # To show each Column Name  
Data.columns
```

```
Out[13]: Index(['Show_Id', 'Category', 'Title', 'Director', 'Cast', 'Country',  
              'Release_Date', 'Rating', 'Duration', 'Type', 'Description'],  
              dtype='object')
```

## 6.dtypes

```
In [14]: # To Show The Data Type of each column  
Data.dtypes
```

```
Out[14]: 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
```

## 7.info()

```
In [15]: # To Show Indexes, Columns, Data-Types of Each Column  
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

```

## Task-1 Is There any Duplicate Record in this Dataset.

If Yes, Then Remove duplicate Records

### Duplicate()

In [16]: Data.head()

Out[16]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	20-Dec-18	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer	United States	16-Nov-17	PG-13	80 min	Action & Adventure, Independent Movies,	In a postapocalyptic world, rag-doll robots hi...

Connelly...										Sci-Fi...		
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	1-Jan-20	PG-13	123 min	Dramas	A brilliant group of students become card-coun...	

```
In [17]: # To Check Row wise and Detect The Duplicate Values
Data[Data.duplicated()]
```

Out[17]:

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	
6300	s684	Movie	Backfire	Dave Patten	Black Deniro, Byron "Squally" Vinson, Dominic ...	United States	5-Apr-19	TV-MA	97 min	Dramas, Independent Movies, Thrillers	When two would-be robbers accidentally kill a ...
6622	s6621	Movie	The Lost Okoroshi	Abba T. Makama	Seun Ajayi, Judith Audu, Tope Tedela, Ifu Enna...	Nigeria	4-Sep-20	TV-MA	94 min	Comedies, Dramas, Independent Movies	A disillusioned security guard transforms into...

```
In [20]: # To Remove The Duplicate Values Permanently
Data.drop_duplicates(inplace=True)
```

```
In [21]: Data[Data.duplicated()]
```

```
Out[21]:
```

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

```
In [22]: Data.shape
```

```
Out[22]: (7787, 11)
```

## Task-2. Is There Any Null Value Present in Any Column?

Show With Heat-Map.

isnull()

```
In [24]: Data.head()
```

```
Out[24]:
```

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

0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	20-Dec-18	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	16-Nov-17	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	1-Jan-20	PG-13	123 min	Dramas	A brilliant group of students become card-coun...

In [26]:

```
# To Show Where Null Value Is Present
Data.isnull()
```

Out[26]:

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

7787 rows × 11 columns

In [27]:

```
# To show The Count of Null Values in Each Column
Data.isnull().sum()
```

Out[27]:

```
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
```

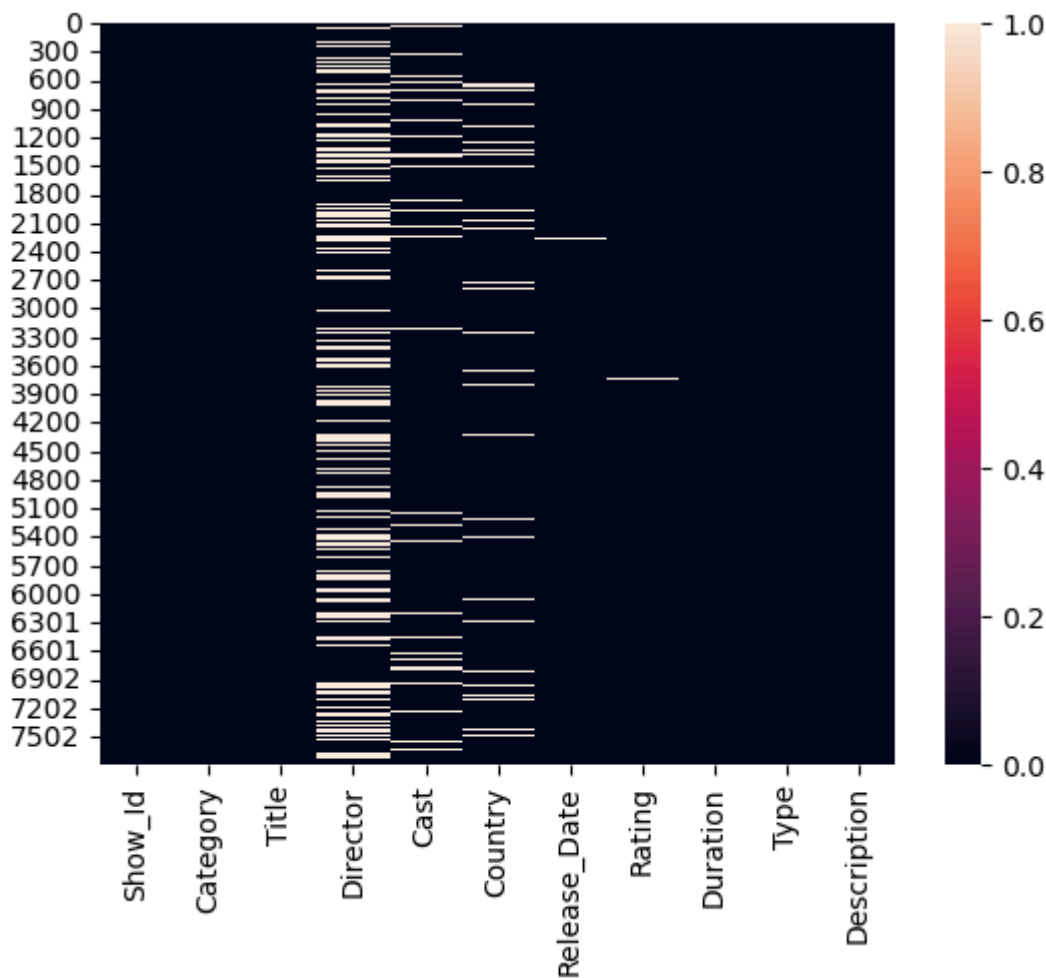
## Seaborn Liabrary(Heat-map)

```
In [54]: # Import Seaborn Liabrary
import seaborn as sns
import matplotlib.pyplot as plt
```

```
In [29]: # Using Heat-map to Show null value count
sns.heatmap(Data.isnull())
```

```
Out[29]: <Axes: >
```





Q.1. For 'House of Cards',What is the Show id  
and who is the Director of this show?

```
In [30]: Data.head()
```

```
Out[30]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...

1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	20-Dec-18	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	16-Nov-17	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	1-Jan-20	PG-13	123 min	Dramas	A brilliant group of students become card-coun...

isin()

```
In [33]: # To Show all records of a Particular Item in any column
Data[Data["Title"].isin(['House of Cards'])]
```

```
Out[33]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description
2832	s2833	TV Show	House of Cards	Robin Wright, David Fincher, Gerald McRaney, J...	Kevin Spacey, Robin Wright, Kate Mara, Corey S...	United States	2-Nov-18	TV-MA	6 Seasons	TV Dramas, TV Thrillers	A ruthless politician will stop at nothing to ...

str.contains

```
In [34]: # To Show all records of a Particular string in any column
Data[Data["Title"].str.contains('House of Cards')]
```

```
Out[34]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description
2832	s2833	TV Show	House of Cards	Robin Wright, David Fincher, Gerald McRaney, J...	Kevin Spacey, Robin Wright, Kate Mara, Corey S...	United States	2-Nov-18	TV-MA	6 Seasons	TV Dramas, TV Thrillers	A ruthless politician will stop at nothing to ...

Q.2. In which year highest number of the TV Shows &

# Movies were released? show with bar Graph

## dtypes

```
In [35]: Data.dtypes

Out[35]: 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
```

## to\_datetime

```
In [41]: Data['Date_N'] = pd.to_datetime(Data['Release_Date'])
```

```
In [39]: Data.head()
```

Out[39]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	20-Dec-18	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...	2018-12-20
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	16-Nov-17	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...	2017-11-16
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate	United States	1-Jan-20	PG-13	123 min	Dramas	A brilliant group of students become card-	2020-01-01

## dt.year.value\_counts()

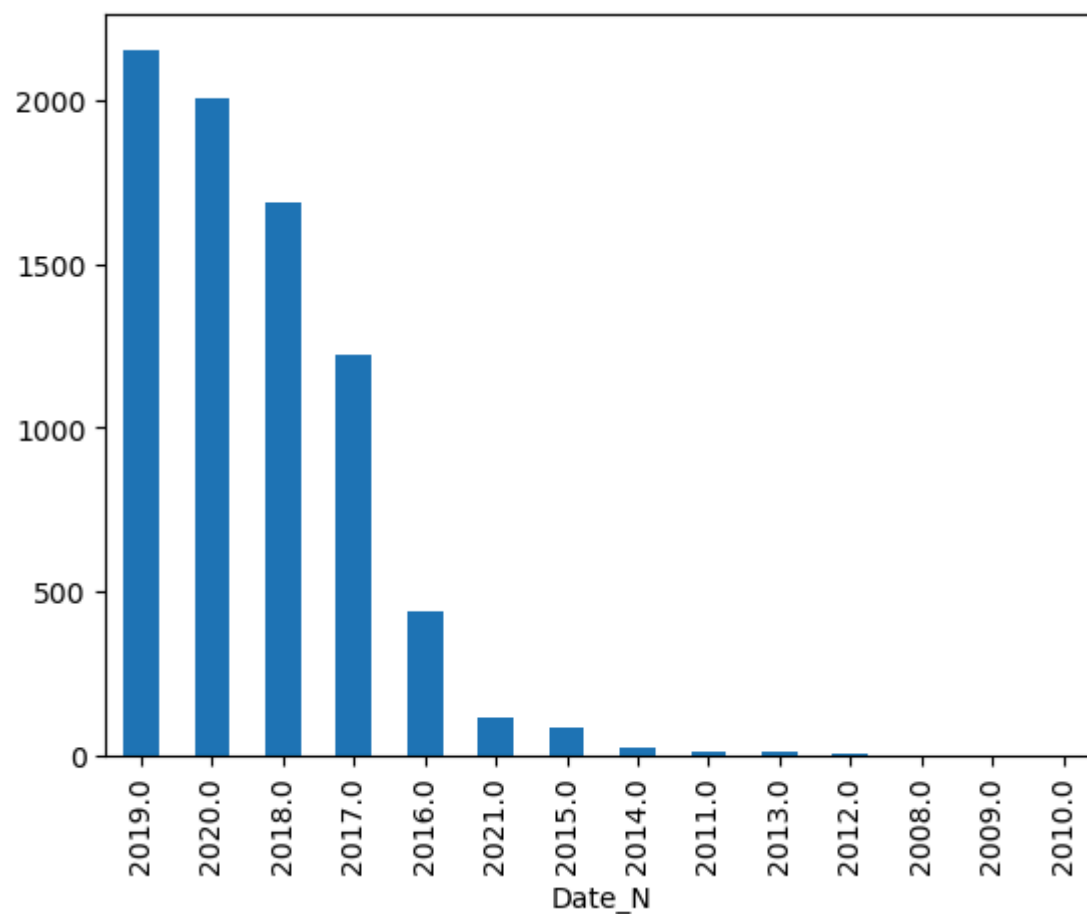
```
In [42]: # It counts The Occurrence Of all Individual Years in Date Column  
Data['Date_N'].dt.year.value_counts()
```

```
Out[42]: Date_N  
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: count, dtype: int64
```

## Bar Graph

```
In [43]: Data['Date_N'].dt.year.value_counts().plot(kind='bar')
```

```
Out[43]: <Axes: xlabel='Date_N'>
```



### Q.3. How many Movies & Tv shows are in the Dataset?

In [45]: `Data.head(2)`

Out[45]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23

```
In [49]: # To group all unique items of a column and show their count
Data.groupby('Category').Category.count()

Out[49]:
Category
Movie      5377
TV Show    2410
Name: Category, dtype: int64
```

## Q.4. Show all the Movies That were released in year 2020.

```
In [59]: Data.head(2)
```

Out[59]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23

```
In [61]: # To Create new year column ; It will Consider only Year
Data['Year']=Data['Date_N'].dt.year
```

```
In [63]: Data.head(2)
```

Out[63]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14	2020.0
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23	2016.0

## Filtering

```
In [64]: Data[ (Data['Category'] == 'Movie') & (Data["Year"]==2020) ]
```

Out[64]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
----------	---------	----------	-------	----------	------	---------	--------------	--------	----------	------	-------------	--------	------

4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aaron Eckhart	United States	1-Jan-20	PG-13	123 min	Dramas	A brilliant group of students become card-counting geniuses	2020-01-01	2020.0
6	s7	Movie	122	Yasir Al Yasiri	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed El Emam	Egypt	1-Jun-20	TV-MA	95 min	Horror Movies, International Movies	After an awful accident, a couple admitted to ...	2020-06-01	2020.0
14	s15	Movie	3022	John Suits	Omar Epps, Kate Walsh, Miranda Cosgrove, Angus T. Jones	United States	19-Mar-20	R	91 min	Independent Movies, Sci-Fi & Fantasy, Thrillers	Stranded when the Earth is suddenly destroyed ...	2020-03-19	2020.0
27	s28	Movie	#Alive	Cho Il	Yoo Ah-in, Park Shin-hye	South Korea	8-Sep-20	TV-MA	99 min	Horror Movies, International Movies, Thrillers	As a grisly virus rampages a city, a lone man ...	2020-09-08	2020.0
28	s29	Movie	#AnneFrank - Parallel Stories	Sabina Fedeli, Anna Migotto	Helen Mirren, Gengher Gatti	Italy	1-Jul-20	TV-14	95 min	Documentaries, International Movies	Through her diary, Anne Frank's story is retold...	2020-07-01	2020.0
...	...	...	...	...	...	...	...	...	...	...	...	...	...
7762	s7761	Movie	Zaki Chan	Wael Ihsan	Ahmed Helmy, Yasmin Abdulaziz, Hassan Hosny, Hossam El Sherpieny	Egypt	19-May-20	TV-PG	109 min	Comedies, International Movies, Romantic Movies	An unqualified young man has his work cut out ...	2020-05-19	2020.0
7783	s7782	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Winslet	United States	11-Jan-20	PG	88 min	Children & Family Movies, Comedies	Dragged from civilian life, a former superhero ...	2020-01-11	2020.0
7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Carole Bouquet	Sweden, Czech Republic, United Kingdom, Denmark	19-Oct-20	TV-MA	99 min	Dramas, International Movies	When Lebanon's Civil War deprives Zozo of his ...	2020-10-19	2020.0
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	25-Sep-20	TV-MA	44 min	Documentaries, International Movies, Music & Musicals	In this documentary, South African rapper Nasty C ...	2020-09-25	2020.0

7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	1-Mar-20	TV-MA	90 min	Documentaries, Music & Musicals	This documentary delves into the mystique behi...	2020- 03-01	2020.0
------	-------	-------	---	-------------	-----	---	----------	-------	--------	------------------------------------	---	----------------	--------

1312 rows × 13 columns

## Q.5. show only the Titles of all TV Shows That were released in india only

In [66]: `Data.head(2)`

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14	2020.0
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23	2016.0

In [68]: `Data[ (Data['Category']=='TV Show') & (Data['Country']=='India')] ["Title"]`

Out[68]:

```

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

```

## Q.6. Show Top 10 Directors, who gave highest number of TV show and movies to Netflix



## value\_counts()

```
In [69]: Data.head(2)
```

Out[69]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14	2020.0
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23	2016.0

```
In [70]: Data['Director'].value_counts().head(10)
```

```
Out[70]: Director
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: count, dtype: int64
```

Q.7. show all records,where "Category is movies

and type is comedies" or "country is united kingdom."

```
In [71]: Data.head(2)
```

Out[71]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14	2020.0

1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23	2016.0
---	----	-------	------	-------------------	---	--------	-----------	-------	--------	------------------------------	---	------------	--------

In [73]: Data[(Data['Category']=="Movie") & (Data["Type"]=="Comedies") | (Data["Country"]=="United Kingdom")]

Out[73]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	
	19	s20	Movie	'89	NaN	Lee Dixon, Ian Wright, Paul Merson	United Kingdom	16-May-18	TV-PG	87 min	Sports Movies	Mixing old footage with interviews, this is th...	2018-05-16	2018.0
	33	s34	Movie	#realityhigh	Fernando Lebrija	Nesta Cooper, Kate Walsh, John Michael Higgins...	United States	8-Sep-17	TV-14	99 min	Comedies	When nerdy high schooler Dani finally attracts...	2017-09-08	2017.0
	58	s59	TV Show	100% Hotter	NaN	Daniel Palmer, Melissa Sophia, Karen Williams,...	United Kingdom	1-Nov-19	TV-14	1 Season	British TV Shows, International TV Shows, Real...	A stylist, a hair designer and a makeup artist...	2019-11-01	2019.0
	72	s73	Movie	17 Again	Burr Steers	Zac Efron, Leslie Mann, Matthew Perry, Thomas ...	United States	1-Jan-21	PG-13	102 min	Comedies	Nearing a midlife crisis, thirty-something Mik...	2021-01-01	2021.0
	82	s83	Movie	2036 Origin Unknown	Hasraf Dulull	Katee Sackhoff, Ray Fearon, Julie Cox, Steven ...	United Kingdom	20-Dec-18	TV-14	95 min	Sci-Fi & Fantasy	Working with an artificial intelligence to inv...	2018-12-20	2018.0
	...	...	...	...	...	...	...	...	...	...	...	...	...	
	7670	s7669	TV Show	World War II in Colour	NaN	Robert Powell	United Kingdom	1-Aug-17	TV-MA	1 Season	British TV Shows, Docuseries, International TV...	Footage of the most dramatic moments from Worl...	2017-08-01	2017.0
	7671	s7670	TV Show	World's Busiest Cities	NaN	Anita Rani, Ade Adepitan, Dan Snow	United Kingdom	1-Feb-19	TV-PG	1 Season	British TV Shows, Docuseries	From Moscow to Mexico City, three BBC journali...	2019-02-01	2019.0
	7688	s7687	Movie	XV: Beyond the Tryline	Pierre Deschamps	NaN	United Kingdom	18-Mar-20	TV-14	91 min	Documentaries, Sports Movies	Set against the 2015 Rugby World Cup, this doc...	2020-03-18	2020.0

7725	s7724	Movie	You Can Tutu	James Brown	Lily O'Regan, Jeannettsy Enriquez Borges, Joel...	United Kingdom	31-Dec-17	TV-G	87 min	Children & Family Movies	A gifted young ballet dancer struggles to find...	2017-12-31	2017.0
7740	s7739	TV Show	Young Wallander	NaN	Adam Pålsson, Richard Dillane, Leanne Best, El...	United Kingdom	3-Sep-20	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Dramas	An incendiary hate crime stirs civil unrest, f...	2020-09-03	2020.0

485 rows × 13 columns

## Q.8. What is the maximum duration of a movie/show on Netflix?

```
In [74]: Data.Duration.unique()
```

```
Out[74]: 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 [75]: Data.Duration.dtypes
```

```
Out[75]: dtype('O')
```

## str.split()

```
In [77]: Data[['Minutes', 'Unit']] = Data['Duration'].str.split(' ', expand = True)
```

```
In [78]: Data.head()
```

Out[78]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Minutes	Unit
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14	2020.0	4	Seasons
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23	2016.0	93	min
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	20-Dec-18	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...	2018-12-20	2018.0	78	min
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	16-Nov-17	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...	2017-11-16	2017.0	80	min

4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	1-Jan-20	PG-13	123 min	Dramas	A brilliant group of students become card-coun...	2020-01-01	2020.0	123	min
---	----	-------	----	----------------	---	---------------	----------	-------	---------	--------	---	------------	--------	-----	-----

```
In [79]: Data["Minutes"].max()
```

```
Out[79]: '99'
```

```
In [80]: Data["Minutes"].min()
```

```
Out[80]: '1'
```

```
In [81]: Data["Minutes"].mean()
```

```
Out[81]: inf
```

```
In [82]: Data.dtypes
```

```
Out[82]: 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]
Year              float64
Minutes           object
Unit              object
dtype: object
```

## Q.9. Which individual country has the Highest No.of TV Shows?

```
In [84]: Data_tvshow = Data[Data['Category'] == 'TV Show']
```

```
In [85]: Data_tvshow.head(2)
```

Out[85]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Minutes	Unit
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...	2020-08-14	2020.0	4	Seasons
5	s6	TV Show	46	Serdar Akar	Erdal Beşikçioğlu, Yasemin Allen, Melis Birkan...	Turkey	1-Jul-17	TV-MA	1 Season	International TV Shows, TV Dramas, TV Mysteries	A genetics professor experiments with a treatm...	2017-07-01	2017.0	1	Season

```
In [86]: Data_tvshow.Country.value_counts()
```

Out[86]:

Country	
United States	705
United Kingdom	204
Japan	157
South Korea	147
India	71
...	
Canada, United States, United Kingdom, France, Luxembourg	1
United States, Italy	1
Chile, Italy	1
Canada, United Kingdom	1
United States, France, South Korea, Indonesia	1
Name: count, Length: 183, dtype: int64	

```
In [87]: Data_tvshow.Country.value_counts().head(1)
```

Out[87]:

Country	
United States	705
Name: count, dtype: int64	

# Q.10. How Can we sort the Dataset by Year?

```
In [88]: Data.head(2)
```

Out[88]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Minutes	Unit
0	s1	TV Show	3%	NaN	João Miguel, Bianca	Brazil	14-Aug-20	TV-MA	4 Seasons	International TV Shows, TV	In a future where the	2020-08-14	2020.0	4	Seasons

					Comparato, Michel Gomes, R...						Dramas, TV Sci-Fi &...	elite inhabit an island ...				
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	23-Dec-16	TV-MA	93 min		Dramas, International Movies	After a devastating earthquake hits Mexico Cit...	2016-12-23	2016.0	93	min

In [89]:

Data.sort\_values(by = 'Year')

Out[89]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Minutes	U	
	7115	s7114	Movie	To and From New York	Sorin Dan Mihalcescu	Barbara King, Shaana Diya, John Krisiukenas, Y...	United States	1-Jan-08	TV-MA	81 min	Dramas, Independent Movies, Thrillers	While covering a story in New York City, a Sea...	2008-01-01	2008.0	81	
	1765	s1766	TV Show	Dinner for Five	NaN	NaN	United States	4-Feb-08	TV-MA	1 Season	Stand-Up Comedy & Talk Shows	In each episode, four celebrities join host Jo...	2008-02-04	2008.0	1	Sea
	3248	s3249	Movie	Just Another Love Story	Ole Bornedal	Anders W. Berthelsen, Rebecka Hemse, Nikolaj L...	Denmark	5-May-09	TV-MA	104 min	Dramas, International Movies	When he causes a car accident that leaves a yo...	2009-05-05	2009.0	104	
	5766	s5766	Movie	Splatter	Joe Dante	Corey Feldman, Tony Todd, Tara Leigh, Erin Way...	United States	18-Nov-09	TV-MA	29 min	Horror Movies	After committing suicide, a washed-up rocker r...	2009-11-18	2009.0	29	
	3840	s3841	Movie	Mad Ron's Prevues from Hell	Jim Monaco	Nick Pawlow, Jordu Schell, Jay Kushwara, Micha...	United States	1-Nov-10	NR	84 min	Cult Movies, Horror Movies	This collection cherry-picks trailers, forgott...	2010-11-01	2010.0	84	
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	3374	s3375	TV Show	Kikoriki	NaN	Igor Dmitriev	NaN	NaN	TV-Y	2 Seasons	Kids' TV	A wacky rabbit and his gang of animal pals hav...	NaT	NaN	2	Seas

3492	s3493	TV Show	La Familia P. Luche	NaN	Eugenio Derbez, Consuelo Duval, Luis Manuel Áv...	United States	NaN	TV-14	3 Seasons	International TV Shows, Spanish-Language TV Sh...	This irreverent sitcom features Ludovico, Feder...	NaT	NaN	3	Seaso
3946	s3947	TV Show	Maron	NaN	Marc Maron, Judd Hirsch, Josh Brener, Nora Zeh...	United States	NaN	TV-MA	4 Seasons	TV Comedies	Marc Maron stars as Marc Maron, who interviews...	NaT	NaN	4	Seaso
5138	s5138	TV Show	Red vs. Blue	NaN	Burnie Burns, Jason Saldaña, Gustavo Sorola, G...	United States	NaN	NR	13 Seasons	TV Action & Adventure, TV Comedies, TV Sci-Fi ...	This parody of first-person shooter games, mil...	NaT	NaN	13	Seaso
6066	s6066	TV Show	The Adventures of Figaro Pho	NaN	Luke Jurevicius, Craig Behenna, Charlotte Haml...	Australia	NaN	TV-Y7	2 Seasons	Kids' TV, TV Comedies	Imagine your worst fears, then multiply them: ...	NaT	NaN	2	Seaso

7787 rows × 15 columns