

This Netflix Dataset has information about the TV Shows and Movies available on Netflix till 2021

This dataset is collected from Flixable which is a third-party Netflix search engine, and available on Kaggle website for free

Q1. Is there any Duplicate Record in this dataset ? If yes, then remove the duplicate records.

Q2. Is there any Null Value present in any column ? Show with Heat-map.

Q3. For 'House of Cards', what is the Show Id and Who is the Director of this show ?

Q4. In which year the highest number of the TV Shows & Movies were released ? Show with Bar Graph.

Q5. How many Movies & TV Shows are in the dataset ? Show with Bar Graph.

Q6. Show all the Movies that were released in year 2010.

Q7. Show only the Titles of all TV Shows that were released in India only.

Q8. Show Top 10 Directors, who gave the highest number of TV Shows & Movies to Netflix ?

Q9. Show all the Records, where "Category is Movie and Type is Comedies" or "Country is United Kingdom".

Q10.In how many movies/shows, Tom Cruise was cast ?

Q11. What are the different Ratings defined by Netflix ?

Q11.1How many Movies got the 'TV-14' rating, in Canada ?

Q11.2 How many TV Shows got the 'R' rating, after year 2018 ?

Q12.What is the maximum duration of a Movie>Show on Netflix ?

Q13.Which individual country has the Highest No. of TV Shows ?

Q14.How can we sort the dataset by Year ?

Q15.Find all the instances where: Category is 'Movie' and Type is 'Dramas' or Category is 'TV Show' & Type is 'Kids' TV'.

In []:

In [1]: `import pandas as pd`

#Importing pandas

In [106...]

`data= pd.read_csv(r"C:\Users\Arjun\OneDrive\Documents\DA\8. Netflix Dataset.csv")`

Getting some basic information about the dataset

a)head()

In [6]: `data.head(2)`

	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	Inte T TV TV ?
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Inte

b)shape

In [7]: `data.shape`

Out[7]: (7789, 11)

c)size

In [9]: `data.size`

Out[9]: 85679

d)columns

In [10]: `data.columns`

Out[10]: Index(['Show_Id', 'Category', 'Title', 'Director', 'Cast', 'Country', 'Release_Date', 'Rating', 'Duration', 'Type', 'Description'], dtype='object')

e)dtypes

In [11]: `data.dtypes`

```
Out[11]: 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
```

f)info()

```
In [12]: 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
```

Q1. Answer

```
In [13]: data.head()
```

Out[13]:

	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 TV
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min Int
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min Int
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connnelly...	United States	November 16, 2017	PG-13	80 min Inc M
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min

◀ ▶

In [15]: `data.shape`

Out[15]: `(7789, 11)`

In [16]: `data[data.duplicated()]`

Out[16]:

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

In [20]: `data.drop_duplicates()`

Out[20]:

	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	Seasc
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 n
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 n
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connnelly...	United States	November 16, 2017	PG-13	80 n
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 n
...									
7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmark...	October 19, 2020	TV-MA	99 n
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chan...	India	March 2, 2019	TV-14	111 n
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	44 n
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	TV-PG	1 Seas
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL'	Sam Dunn	NaN	United Kingdom, Canada,	March 1, 2020	TV-MA	90 n

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
	BAND FROM TEXAS				United States			


```
In [21]: data.drop_duplicates(inplace=True)      #Answer
```



```
In [23]: data[data.duplicated()]
```



```
Out[23]: Show_Id Category Title Director Cast Country Release_Date Rating Duration Type Descr
```

Q2. Answer

data.head(2)									
	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 [25]: data.isnull()
```

Out[25]:

	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

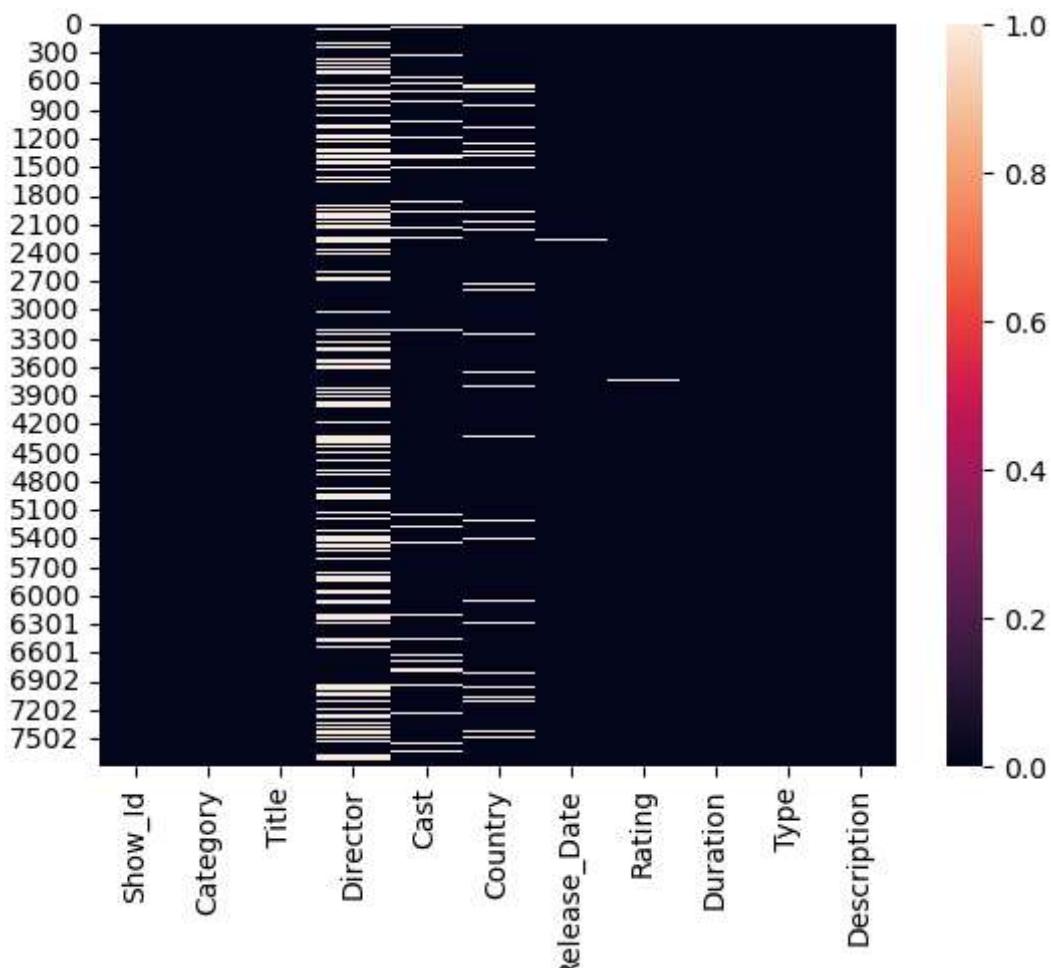
7787 rows × 11 columns

In [26]: `data.isnull().sum()`

```
Out[26]: 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 [27]: `import seaborn as sns`In [28]: `sns.heatmap(data.isnull())`

Out[28]: <AxesSubplot:>



Q3.Answer

```
In [29]: data.head()
```

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 TV
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min Int
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min Int
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connnelly...	United States	November 16, 2017	PG-13	80 min Inc M
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min

In [30]: `data[data["Title"].isin(['House of Cards'])]`

Out[30]:

	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	6 Seasons Thr

In [31]: `data[data['Title'].str.contains('House of Cards')]`

Out[31]:	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	6 Seasons T+

Q4.Answer

In [32]: `data.dtypes`

```
Out[32]: 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
```

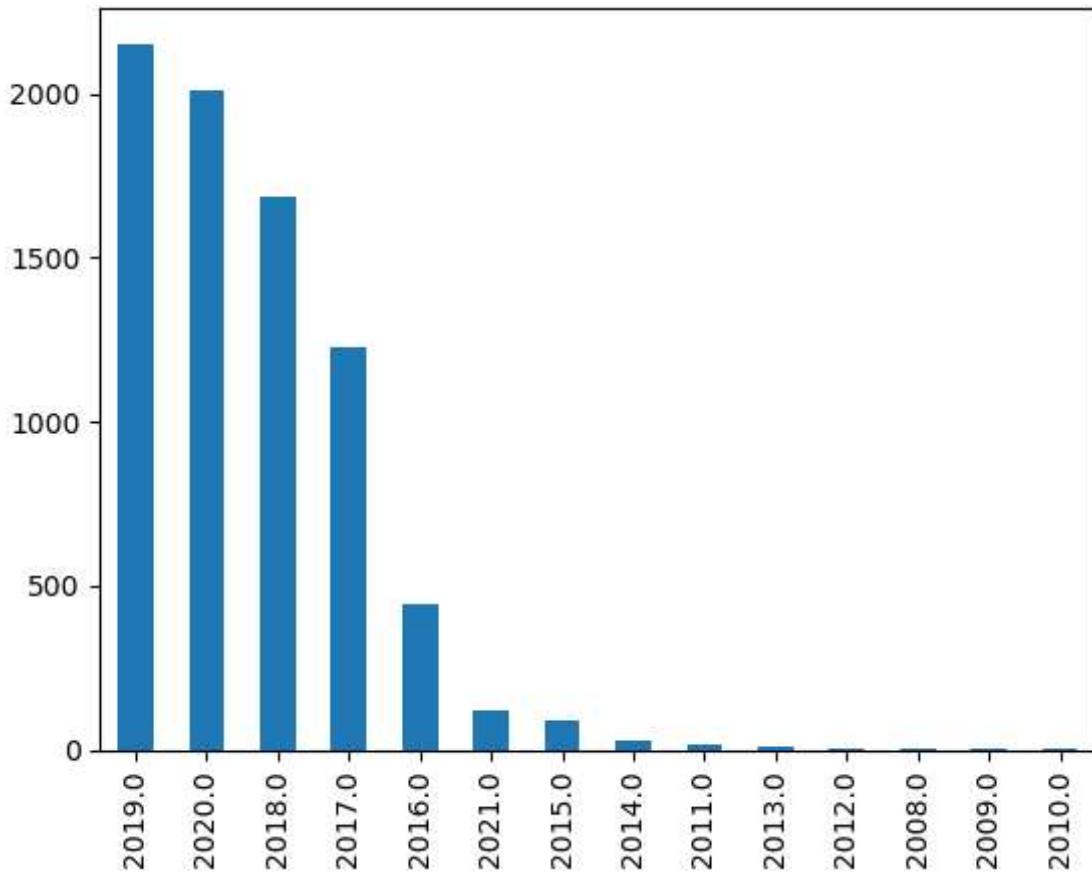
In [33]: `data['Date_N']=pd.to_datetime(data['Release_Date'])`

In [34]: `data['Date_N'].dt.year.value_counts()`

```
Out[34]: 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 [37]: `data['Date_N'].dt.year.value_counts().plot(kind="bar")`

Out[37]: <AxesSubplot:>



Q5. Answer

In [38]: `data.head(2)`

Out[38]:

	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

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

Out[43]:

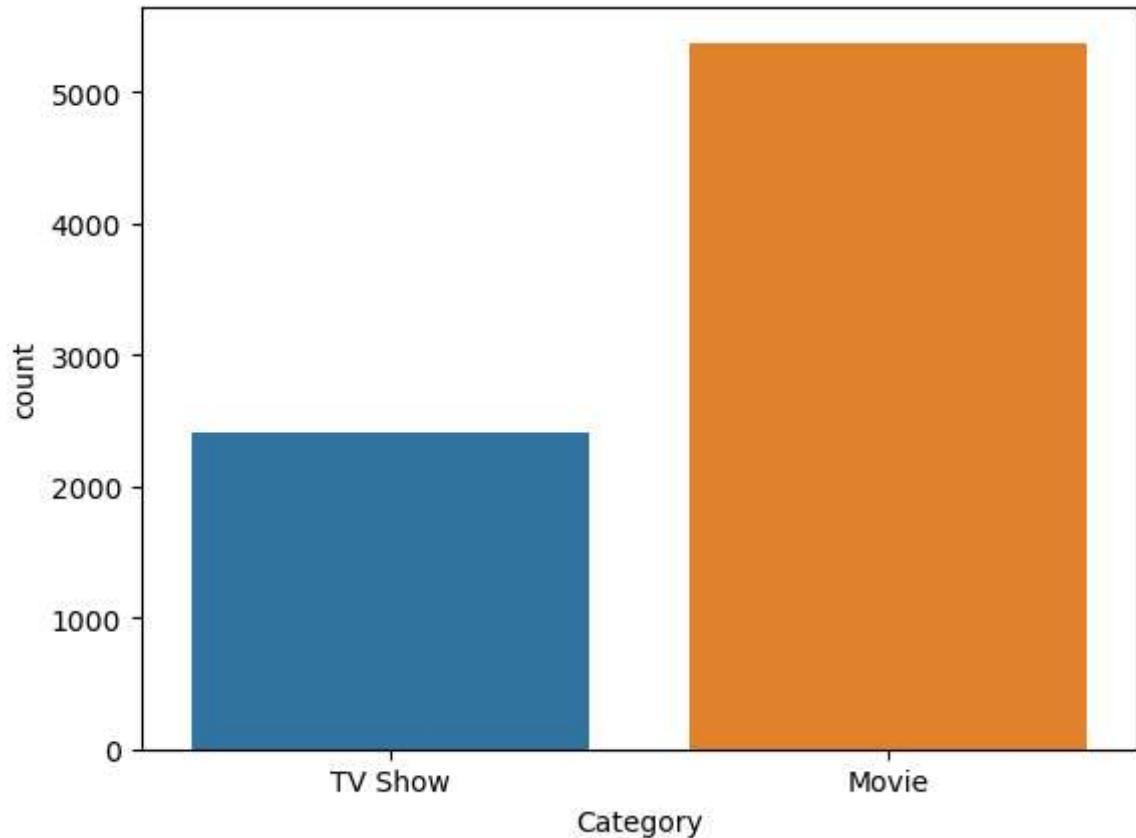
Category	Count
Movie	5377
TV Show	2410

Name: Category, dtype: int64

In [46]: `sns.countplot(data['Category'])`

```
C:\Users\Arjun\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarning
  g: Pass the following variable as a keyword arg: x. From version 0.12, the only va
lid positional argument will be `data`, and passing other arguments without an exp
licit keyword will result in an error or misinterpretation.

  warnings.warn(
Out[46]: <AxesSubplot:xlabel='Category', ylabel='count'>
```



Q6.Answer

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

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

```
In [49]:
```

	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 T TV TV ?
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min Inte

```
In [53]: data[(data['Category']=='Movie')&(data['Year']==2010)]
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
3840	s3841	Movie	Mad Ron's Previews from Hell	Jim Monaco	Nick Pawlow, Jordu Schell, Jay Kushwara, Michael...	United States	November 1, 2010	NR	84 min

Q7.Answer

```
In [54]: data.head(2)
```

	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 T TV TV ?
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min Inte

```
In [56]: data[(data['Category']=='TV Show')&(data['Country']=='India')]['Title']
```

```
Out[56]: 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
```

Q8.Answer

In [57]: `data.head(2)`

	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 T TV
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min Inte

In [59]: `data['Director'].value_counts().head(10)`

```
Out[59]: 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
```

Q9.Answer

In [60]: `data.head(2)`

Out[60]:					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	T TV	Inte	TV ?	
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Inte			

In [62]: `data[(data['Category'] == 'Movie') & (data['Type'] == 'Comedies')]`

Out[62]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Dura
33	s34	Movie	#realityhigh	Fernando Lebrija	Nesta Cooper, Kate Walsh, John Michael Higgins...	United States	September 8, 2017	TV-14	99
72	s73	Movie	17 Again	Burr Steers	Zac Efron, Leslie Mann, Matthew Perry, Thomas ...	United States	January 1, 2021	PG-13	102
84	s85	Movie	21 & Over	Jon Lucas, Scott Moore	Miles Teller, Skylar Astin, Justin Chon, Sarah...	United States	April 16, 2019	R	93
148	s149	Movie	A Bad Moms Christmas	Jon Lucas, Scott Moore	Mila Kunis, Kristen Bell, Kathryn Hahn, Susan ...	United States, China	February 14, 2020	R	104
174	s175	Movie	A Futile and Stupid Gesture	David Wain	Will Forte, Domhnall Gleeson, Martin Mull, Joe...	United States	January 26, 2018	TV-MA	102
...
7341	s7340	Movie	Undercover Brother 2	Leslie Small	Michael Jai White, Vince Swann, Barry Bostwick...	United States	November 5, 2019	R	85
7590	s7589	Movie	Where's the Money	Scott Zabielski	Andrew Bachelor, Kat Graham, Mike Epps, Terry ...	United States	January 22, 2018	R	86
7623	s7622	Movie	Wild Oats	Andy Tennant	Shirley MacLaine, Jessica Lange, Billy Connoll...	Germany, United States	May 13, 2017	PG-13	86
7634	s7633	Movie	Wine Country	Amy Poehler	Amy Poehler, Maya Rudolph,	United States	May 10, 2019	R	104

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Dura
				Ana Gasteyer, Rache...				
7664	s7663	Movie	Work It	Laura Terruso	Sabrina Carpenter, Jordan Fisher, Liza Koshy, ...	United States	August 7, 2020	TV-14

```
In [63]: data[(data['Category']=='Movie') & (data['Type']=='Comedies') | (data['Country']=='
```

Out[63]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Du
19	s20	Movie	'89	NaN	Lee Dixon, Ian Wright, Paul Merson	United Kingdom	May 16, 2018	TV-PG	80 min
33	s34	Movie	#realityhigh	Fernando Lebrija	Nesta Cooper, Kate Walsh, John Michael Higgins...	United States	September 8, 2017	TV-14	90 min
58	s59	TV Show	100% Hotter	NaN	Daniel Palmer, Melissa Sophia, Karen Williams,...	United Kingdom	November 1, 2019	TV-14	1 hour 50 min
72	s73	Movie	17 Again	Burr Steers	Zac Efron, Leslie Mann, Matthew Perry, Thomas ...	United States	January 1, 2021	PG-13	100 min
82	s83	Movie	2036 Origin Unknown	Hasraf Dulull	Katee Sackhoff, Ray Fearon, Julie Cox, Steven ...	United Kingdom	December 20, 2018	TV-14	90 min
...									
7670	s7669	TV Show	World War II in Colour	NaN	Robert Powell	United Kingdom	August 1, 2017	TV-MA	1 hour 50 min
7671	s7670	TV Show	World's Busiest Cities	NaN	Anita Rani, Ade Adepitan, Dan Snow	United Kingdom	February 1, 2019	TV-PG	1 hour 50 min
7688	s7687	Movie	XV: Beyond the Tryline	Pierre Deschamps	NaN	United Kingdom	March 18, 2020	TV-14	90 min
7725	s7724	Movie	You Can Tutu	James Brown	Lily O'Regan, Jeannettsy Enriquez Borges, Joel...	United Kingdom	December 31, 2017	TV-G	80 min
7740	s7739	TV Show	Young Wallander	NaN	Adam Pålsson, Richard	United Kingdom	September 3, 2020	TV-MA	1 hour 50 min

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Du
				Dillane, Leanne Best, El...				

105 106 107

Q10.Answers

In [64]: `data.head(2)`

Out[64]:

	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 TV TV S
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV- MA	93 min Inte

In [65]: `data[data['Cast']=='Tom Cruise']`

Out[65]:

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

In [66]: `data[data['Cast'].str.contains('Tom Cruise')]`

```
-----  
ValueError                                Traceback (most recent call last)  
~\AppData\Local\Temp\ipykernel_13024\2754440592.py in <module>  
----> 1 data[data['Cast'].str.contains('Tom Cruise')]
```

```
~\anaconda3\lib\site-packages\pandas\core\frame.py in __getitem__(self, key)  
    3493  
    3494      # Do we have a (boolean) 1d indexer?  
-> 3495      if com.is_bool_indexer(key):  
    3496          return self._getitem_bool_array(key)  
    3497
```

```
~\anaconda3\lib\site-packages\pandas\core\common.py in is_bool_indexer(key)  
    142          # Don't raise on e.g. ["A", "B", np.nan], see  
    143          # test_loc_getitem_list_of_labels_categoricalindex_wi  
th_na  
--> 144          raise ValueError(na_msg)  
    145          return False  
    146          return True
```

```
ValueError: Cannot mask with non-boolean array containing NA / NaN values
```

```
In [67]: data_new=data.dropna()
```

```
In [68]: data_new[data_new['Cast'].str.contains('Tom Cruise')]
```

Out[68]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
3860	s3861	Movie	Magnolia	Paul Thomas Anderson	Jeremy Blackman, Tom Cruise, Melinda Dillon, A...	United States	January 1, 2020	R	189 mi
5071	s5071	Movie	Rain Man	Barry Levinson	Dustin Hoffman, Tom Cruise, Valeria Golino, Ge...	United States	July 1, 2019	R	134 mi

Q11.Answer

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

Out[69]:

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

Out[70]: 14

```
In [71]: data['Rating'].unique()
```

```
Out[71]: 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)
```

Q11.1.Answer

```
In [72]: data.head(2)
```

Out[72]:	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 [73]: data[(data['Category']=='Movie') & (data['Rating']=='TV-14')].shape
```

Out[73]: (1272, 13)

```
In [74]: data[(data['Category']=='Movie') & (data['Rating']=='TV-14') & (data['Country']=='US')].shape
```

Out[74]: (0, 13)

11.2.Answer

```
In [75]: data.head(2)
```

Out[75]:	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 [76]: data[(data['Category']=='TV Show') & (data['Rating']=='R')]
```

```
Out[76]: Show_Id Category Title Director Cast Country Release_Date Rating Duration Type Descr
```

```
In [77]: data[(data["Category"]=="TV Show") & (data['Rating']=='R') & (data['Year']>2018)]
```

```
Out[77]: Show_Id Category Title Director Cast Country Release_Date Rating Duration Type Descr
```

Q12.Answer

In [78]: `data.head(2)`

Out[78]:

	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	Inte TV TV
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Inte

In [79]: `data.Duration.unique()`

Out[79]:

```
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 [80]: data.Duration.dtypes
```

```
Out[80]: dtype('O')
```

```
In [81]: data.head(2)
```

	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 TV T TV ?
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min Inte

```
In [86]: data[['Minutes', 'Unit']] = data['Duration'].str.split(' ', expand=True)
```

```
In [87]: data['Minutes'].max()
```

```
Out[87]: '99'
```

Q13.Answer

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

	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 TV T TV ?
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min Inte

```
In [89]: data_tvshow = data[data['Category'] == 'TV Show']
```

```
In [92]: data_tvshow.head(2)
```

	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
5	s6	TV Show	46	Serdar Akar	Erdal Beşikçioğlu, Yasemin Allen, Melis Birkan...	Turkey	July 1, 2017	TV-MA	1 Season

In [94]: `data_tvshow.Country.value_counts()`

```
Out[94]: 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: Country, Length: 183, dtype: int64
```

In [97]: `data_tvshow.Country.value_counts().head(1)`

```
Out[97]: United States      705
          Name: Country, dtype: int64
```

Q14.Answer

In [98]: `data.head(2)`

	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 [100...]: `data.sort_values(by="Year")`

Out[100]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Du
	7115	s7114	Movie To and From New York	Sorin Dan Mihalcescu	Barbara King, Shaana Diya, John Krisiukenas, Y...	United States	January 1, 2008	TV-MA	1 h 10 m
	1765	s1766	TV Show Dinner for Five	NaN	NaN	United States	February 4, 2008	TV-MA	1 h 19 m
	3248	s3249	Movie Just Another Love Story	Ole Bornedal	Anders W. Berthelsen, Rebecka Hemse, Nikolaj L...	Denmark	May 5, 2009	TV-MA	1 h 10 m
	5766	s5766	Movie Splatter	Joe Dante	Corey Feldman, Tony Todd, Tara Leigh, Erin Way...	United States	November 18, 2009	TV-MA	1 h 20 m
	3840	s3841	Movie Mad Ron's Prevues from Hell	Jim Monaco	Nick Pawlow, Jordu Schell, Jay Kushwara, Micha...	United States	November 1, 2010	NR	1 h 20 m
	3374	s3375	TV Show Kikoriki	NaN	Igor Dmitriev	NaN	NaN	TV-Y	S
	3492	s3493	TV Show La Familia P. Luche	NaN	Eugenio Derbez, Consuelo Duval, Luis Manuel Áv...	United States	NaN	TV-14	S
	3946	s3947	TV Show Maron	NaN	Marc Maron, Judd Hirsch, Josh Brener, Nora Zeh...	United States	NaN	TV-MA	S
	5138	s5138	TV Show Red vs. Blue	NaN	Burnie Burns, Jason Saldaña, Gustavo Sorola, G...	United States	NaN	NR	S
	6066	s6066	TV Show The Adventures	NaN	Luke Jurevicius,	Australia	NaN	TV-Y7	S

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Du
		of Figaro Pho		Craig Behenna, Charlotte Haml...				

```
In [101]: data.sort_values(by='Year', ascending=False)
```

Out[101]:	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Dur...
5564	s5564	Movie	Sherlock Holmes	Guy Ritchie	Robert Downey Jr., Jude Law, Rachel McAdams, M...	United States, Germany, United Kingdom, Australia	January 1, 2021	PG-13	128
5919	s5919	Movie	Surf's Up	Ash Brannon, Chris Buck	Shia LaBeouf, Jeff Bridges, Zooey Deschanel, J...	United States	January 1, 2021	PG	86
980	s981	TV Show	Bling Empire	NaN	NaN	NaN	January 15, 2021	TV-MA	1 Se
5955	s5955	Movie	Taare Zameen Par	Aamir Khan	Aamir Khan, Darsheel Safary, Tanay Chheda, Tis...	India	January 10, 2021	PG	162
366	s367	Movie	Al acecho	Francisco D'Eufemia	Rodrigo de la Serna, Belen Blanco, Walter Jak...	NaN	January 12, 2021	TV-MA	81
3374	s3375	TV Show	Kikoriki	NaN	Igor Dmitriev	NaN	NaN	TV-Y	See
3492	s3493	TV Show	La Familia P. Luche	NaN	Eugenio Derbez, Consuelo Duval, Luis Manuel Áv...	United States	NaN	TV-14	See
3946	s3947	TV Show	Maron	NaN	Marc Maron, Judd Hirsch, Josh Brener, Nora Zeh...	United States	NaN	TV-MA	See
5138	s5138	TV Show	Red vs. Blue	NaN	Burnie Burns, Jason	United States	NaN	NR	See

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
					Saldaña, Gustavo Sorola, G...				
6066	s6066	TV Show	The Adventures of Figaro Pho	NaN	Luke Jurevicius, Craig Behenna, Charlotte Haml...	Australia		NaN	TV-Y7

Q15.Answers

In [102...]: `data.head(2)`

Out[102]:

	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
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In [103...]: `data[(data['Category']=='Movie') & (data['Type']=='Dramas')].head(2)`

Out[103]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aaron...	United States	January 1, 2020	PG-13	123 min	Drama

7	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	R	119 min	Drama
---	----	-------	-----	----------------	---	---------------	------------------	---	---------	-------

In [104...]: `data[(data['Category']=='Tv Show') & (data['Type']=='Kids Tv')].head(2)`

Out[104]: Show_Id Category Title Director Cast Country Release_Date Rating Duration Type Descr

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Descr
In [105...]										

Out[105]:		Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123	r
7	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	R	119	r
170	s171	Movie	A Family Man	Mark Williams	Gerard Butler, Gretchen Mol, Alison Brie, Will...	Canada, United States	December 15, 2019	R	110	r
232	s233	Movie	A Stoning in Fulham County	Larry Elikann	Ken Olin, Jill Eikenberry, Maureen Mueller, Gr...	United States	October 1, 2011	TV-14	95	r
295	s296	Movie	Across Grace Alley	Ralph Macchio	Ben Hyland, Marsha Mason, Karina Smirnoff, Col...	United States	December 1, 2016	TV-PG	24	r
...
7417	s7416	Movie	Victor	Brandon Dickerson	Patrick Davis, Lisa Vidal, Josh Pence, José Zú...	United States	July 24, 2017	PG-13	110	r
7422	s7421	Movie	Villain	Philip Barantini	Craig Fairbrass, George Russo, Robert Gleniste...	United Kingdom	September 5, 2020	R	97	r
7449	s7448	Movie	VS.	Ed Lilly	Connor Swindells, Fola Evans-Akingbola, Nichol...	United Kingdom	June 19, 2019	TV-MA	99	r
7465	s7464	Movie	Wakefield	Robin Swicord	Bryan Cranston, Jennifer Garner,	United States	March 2, 2019	R	109	r

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Durat
				Jason O'Mara,...				
7480	s7479	Movie	War Horse	Steven Spielberg	Emily Watson, David Thewlis, Peter Mullan, Nie...	United States, India	May 6, 2019	PG-13 r