

```
import pandas as pd
from google.colab import files
uploaded = files.upload()
```

Choose files No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving Netflix dataset.csv to Netflix dataset.csv

```
import numpy as np
import matplotlib.pyplot as plt
```

```
df = pd.read_csv('Netflix_dataset.csv')
```

```
df.head()
```

	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	August 14, 2020	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico City...
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	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	November 16, 2017	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...
					Jim Sturgess,						Δ brilliant group of

```
df.shape
```

```
(7789, 11)
```

```
df.tail()
```

	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, Denmark...	October 19, 2020	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 Chanhan...	India	March 2, 2019	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	September 25, 2020	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	October 31, 2020	TV-PG	1 Season	International TV Shows, Reality TV	Dessert wizard Adriano Zumbo looks for the nex...

```
df.size
```

```
85679
```

```
df.columns
```

```
Index(['Show_Id', 'Category', 'Title', 'Director', 'Cast', 'Country', 'Release_Date', 'Rating', 'Duration', 'Type', 'Description'],
```

```
dtype='object')
```

```
df.dtypes
```

Column	Dtype
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

```
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
```

▼ Check Duplicate Records

```
df.shape
```

```
(7789, 11)
```

```
df.duplicated()
```

Index	Duplicated
0	False
1	False
2	False
3	False
4	False
...	
7784	False
7785	False
7786	False
7787	False
7788	False

Length: 7789, dtype: bool

```
df[df.duplicated()]
```

	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	April 5, 2019	TV-MA	97 min	Dramas, Independent Movies, Thrillers	When two would-be robbers accidentally kill a ...
6622	c6621	Movie	The Lost	Abba T.	Seun Ajayi, Judith Audu,	Nigeria	September 4,	TV-MA	91 min	Comedies, Dramas,	A disillusioned security guard

```
df.drop_duplicates(inplace=True)
```

```
df[df.duplicated()]
```

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

```
df.shape
```

```
(7789, 11)
```

- ▼ Use heatmap to show null values if present

```
df.isnull()
```

	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
```

```
df.isnull().sum()
```

```
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
```

```
import seaborn as sns
```

```
sns.heatmap(df.isnull())
```

<Axes: >



▼ Q1. For 'House of Cards' what is the show id and who is director of the show?



df.head()

	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	August 14, 2020	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	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	December 20, 2018	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	November 16, 2017	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...

Δ brilliant group of

df['Title']

```

0           3%
1          07:19
2         23:59
3             9
4            21
...
7784        Zozo
7785      Zubaan
7786  Zulu Man in Japan
7787  Zumbo's Just Desserts
7788 ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS
Name: Title, Length: 7789, dtype: object

```

df['Title'].isin(['House of Cards'])

```

0    False
1    False
2    False
3    False
4    False
...
7784   False
7785   False
7786   False
7787   False
7788   False
Name: Title, Length: 7789, dtype: bool

```

df[df['Title'].isin(['House of Cards'])]

	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	November 2, 2018	TV-MA	6 Seasons	TV Dramas, TV Thrillers	A ruthless politician will stop at nothing to ...

df['Title'].str.contains('House of Cards')

```

0    False
1    False
2    False
3    False

```

```

4      False
...
7784    False
7785    False
7786    False
7787    False
7788    False
Name: Title, Length: 7789, dtype: bool

```

```
df[df['Title'].str.contains('House of Cards')]
```

	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	November 2, 2018	TV-MA	6 Seasons	TV Dramas, TV Thrillers	A ruthless politician will stop at nothing to ...

▼ Q2. In which year highest number of TV shows & movies were released? Show with bar graph.

```
df.dtypes
```

```

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

```

```
#Change datatype of Release_Date
```

```
df['Date_N']=pd.to_datetime(df['Release_Date'])
```

```
df.head()
```

	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	August 14, 2020	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	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico City...	2016-12-23
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	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 ...	United States	November 16, 2017	PG-13	80 min	Action & Adventure, Independent Movies, Sci-	In a postapocalyptic world, rag-doll ...	2017-11-16

```
df.dtypes
```

```

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
```

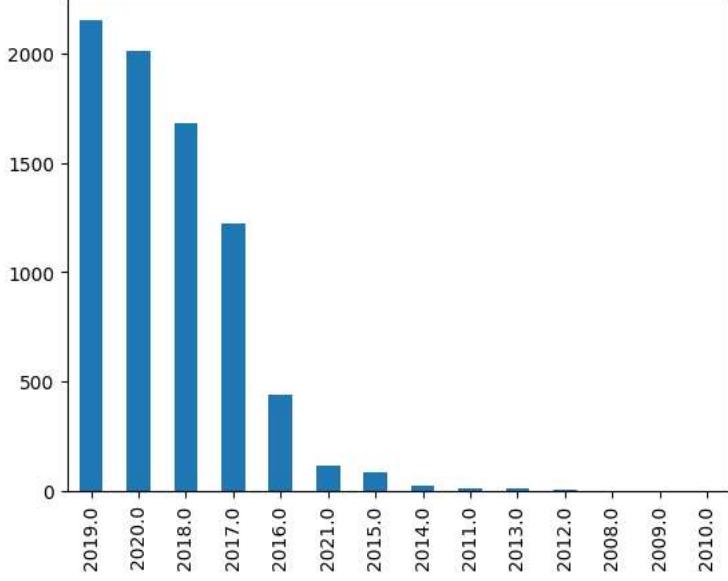
```
df['Date_N'].dt.year.value_counts()
```

2019.0	2154
2020.0	2010
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
```

```
df['Date_N'].dt.year.value_counts().plot(kind='bar')
```

```
<Axes: >
```



▼ Q3. How many Movies & TV shows are in dataset? Show with Bar Graph.

```
df.head()
```

	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	August 14, 2020	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	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico City...	2016-12-23
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	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 Aniston	United States	November 16, 2017	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi	In a postapocalyptic world, rag-doll	2017-11-16

```
df.groupby('Category').Category.count()
```

```
Category
Movie      5379
TV Show    2410
Name: Category, dtype: int64
```

```
df['Cat']=df['Category']
```

```
df.head(2)
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Minut...
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	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	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico City...	2016-12-23	2016.0	

```
df['Cat']=df['Cat'].astype(int)
```

```
-----  
ValueError  
-----  
<ipython-input-163-63e3e6408272> in <cell line: 1>()  
----> 1 df['Cat']=df['Cat'].astype(int)
```

```
-----  
6 frames  
-----  
/usr/local/lib/python3.10/dist-packages/pandas/core/dtypes/astype.py in astype_nansafe(arr, dtype, copy, skipna)  
168     if copy or is_object_dtype(arr.dtype) or is_object_dtype(dtype):  
169         # Explicit copy, or required since NumPy can't view from / to object.  
--> 170     return arr.astype(dtype, copy=True)  
171  
172     return arr.astype(dtype, copy=copy)
```

```
ValueError: invalid literal for int() with base 10: 'TV Show'
```

SEARCH STACK OVERFLOW

```
sns.countplot(df['Category'])
```

```
-----  
ValueError  
-----  
<ipython-input-113-7636cd2172f5> in <cell line: 1>()  
----> 1 sns.countplot(df['Category'])
```

```
-----  
4 frames  
-----  
/usr/local/lib/python3.10/dist-packages/pandas/core/series.py in __array__(self, dtype)  
891     ....  
892     ....  
--> 893     return np.asarray(self._values, dtype)  
894  
895     # -----
```

```
ValueError: could not convert string to float: 'TV Show'
```

SEARCH STACK OVERFLOW

▼ Q4. Show all the Movies that were released in year 2000.

```
df.head()
```

	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	August 14, 2020	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	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico City...	2016-12-23
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...	2018-12-20

df['Year']=df['Date_N'].dt.year

df.head()

	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	August 14, 2020	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	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico City...	2016-12-23	2016.0
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...	2018-12-20	2018.0
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer	United States	November 16, 2017	PG-13	80 min	Action & Adventure, Independent Movies. Sci-	In a postapocalyptic world, rag-doll	2017-11-16	2017.0

df[(df['Category']=='Movie')&(df['Year']==2020)]

6	s7	Movie	122	Yasir Al Yasiri	Aar...	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...	Egypt	June 1, 2020	TV-MA	95 min	Horror Movies, International Movies	After an awful accident, a couple admitted to ...	2020-06-01
14	s15	Movie	3022	John Suits	Omar Epps, Kate Walsh, Miranda Cosgrove, Angus...	United States	March 19, 2020	R	91 min	Independent Movies, Sci-Fi & Fantasy, Thrillers	Stranded when the Earth is suddenly destroyed ...	2020-03-19	
27	s28	Movie	#Alive	Cho Il	Yoo Ah-in, Park Shin-hye	South Korea	September 8, 2020	TV-MA	99 min	Horror Movies, International Movies, Thrillers	As a grisly virus rampages a city, a lone man ...	2020-09-08	
28	s29	Movie	#AnneFrank - Parallel Stories	Sabina Fedeli, Anna Migotto	Helen Mirren, Gengher Gatti	Italy	July 1, 2020	TV-14	95 min	Documentaries, International Movies	Through her diary, Anne Frank's story is retold...	2020-07-01	
...
7762	s7761	Movie	Zaki Chan	Wael Ihsan	Ahmed Helmy, Yasmin Abdulaziz, Hassan Hosny	Egypt	May 19, 2020	TV-PG	109 min	Comedies, International Movies, Romantic Movies	An unqualified young man has his work cut out	2020-05-19	

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

```
Courteney
df[(df['Category']=='TV Show') & (df['Country']=='India')] ['Title']
```

```
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 the highest number of TV Shows & Movies to Netflix ?

```
United
df['Director'].value_counts().head(10)
```

```
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
Robert Rodriguez              8
Name: Director, dtype: int64
```

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

```
df.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	August 14, 2020	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
df[(df['Category']=='Movie') & (df['Type'].str.contains('Comedies')) (df['Country']=='United Kingdom')]													
	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	
18	s19	Movie	15-Aug	Swapnaneel Jayakar	Rahul Pethe, Mrunmayee Deshpande, Adinath Koth...	India	March 29, 2019	TV-14	124 min	Comedies, Dramas, Independent Movies	On India's Independence Day, a zany mishap in ...	2019-03-29	
19	s20	Movie	'89	Nan	Lee Dixon, Ian Wright, Paul Merson	United Kingdom	May 16, 2018	TV-PG	87 min	Sports Movies	Mixing old footage with interviews, this is th...	2018-05-16	
33	s34	Movie	#realityhigh	Fernando Lebríja	Nesta Cooper, Kate Walsh, John Michael Higgins...	United States	September 8, 2017	TV-14	99 min	Comedies	When nerdy high schooler Dani finally attracts...	2017-09-08	
34	s35	Movie	#Roxy	Michael Kennedy	Jake Short, Sarah Fisher, Booboo Stewart, Dann...	Canada	April 10, 2019	TV-14	105 min	Comedies, Romantic Movies	A teenage hacker with a huge nose helps a cool...	2019-04-10	
36	s37	Movie	#Selfie	Cristina Jacob	Flavia Hojda, Crina Semciuc, Olimpia Melinte, ...	Romania	June 1, 2019	TV-MA	125 min	Comedies, Dramas, International Movies	Two days before their final exams, three teen ...	2019-06-01	
... 7766	s7765	Movie	Zero	Aanand Rai	Shah Rukh Khan, Anushka Sharma, Katrina Kaif, ...	India	May 21, 2019	TV-14	159 min	Comedies, Dramas, International Movies	Through his relationships with two wildly diff...	2019-05-21	
7771	s7770	Movie	Zindagi Na Milegi Dobara	Zoya Akhtar	Hrithik Roshan, Abhay Deol, Farhan Akhtar, Kat...	India	December 15, 2019	TV-14	154 min	Comedies, Dramas, International Movies	Three friends on an adventurous road trip/bach...	2019-12-15	
7774	s7773	Movie	Zipi & Zape y la Isla del Capitan	Oskar Santos	Teo Planell, Toni Gómez, Elena Anaya, Iria Cas...	Spain	July 1, 2017	TV-PG	105 min	Children & Family Movies, Comedies	At Christmas, Zip and Zap take a trip with the...	2017-07-01	
7780	s7779	Movie	Zombieland	Ruben Fleischer	Jesse Eisenberg, Woody Harrelson, Emma	United States	November 1, 2019	R	88 min	Comedies, Horror Movies	Looking to survive in a world taken over by zo...	2019-11-01	

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

```
df[df['Cast'].str.contains('Tom Cruise')]
```

```
-----  
ValueError                                Traceback (most recent call last)  
<ipython-input-130-5af05d9847e7> in <cell line: 1>()  
----> 1 df[df['Cast'].str.contains('Tom Cruise')]
```

```
_____ 1 frames _____  
/usr/local/lib/python3.10/dist-packages/pandas/core/common.py in is_bool_indexer(key)  
    133         # Don't raise on e.g. ["A", "B", np.nan], see  
    134         # test_loc_getitem_list_of_labels_categoricalindex_with_na  
--> 135         raise ValueError(na_msg)  
    136     return False  
    137     return True
```

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

```
data_new=df.dropna()
```

```
data_new.shape
```

```
(4811, 13)
```

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

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
3860	s3861	Movie	Magnolia	Paul Thomas Anderson	Jeremy Blackman, Tom Cruise, Melinda Dillon, A...	United States	January 1, 2020	R	189 min	Dramas, Independent Movies	Through chance, human action, past history and...	2020-01-01	2020.0
				Dustin Hoffman, Tom	Dustin Hoffman, Tom	United				Classic	A fast-talking yuppie is		2010

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

```
df.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	August 14, 2020	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	07:19	Jorge Michel	Demián Bichir, Héctor Bonilla,	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International	After a devastating earthquake	2016-12-23	2016.0

```
df['Rating'].value_counts()
```

TV-MA	2865
TV-14	1931
TV-PG	806
R	665
PG-13	386
TV-Y	280
TV-Y7	271
PG	247
TV-G	194
NR	84
G	39
TV-Y7-FV	6
UR	5
NC-17	3
Name: Rating, dtype: int64	

```
df['Rating'].nunique()
```

```
14
```

```
df['Rating'].unique()
```

```
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 ?

```
df[(df['Category']=='Movie') & (df['Rating']=='TV-14') & (df['Country']=='Canada')]
```

30	s31	Movie	#cats_the_mewvie	Michael Margolis	NaN	Canada	February 5, 2020	TV-14	90 min	Documentaries, International Movies	This pawesome documentary explores how our fel...			
34	s35	Movie	#Roxy	Michael Kennedy	Jake Short, Sarah Fisher, Booboo Stewart, Dann...	Canada	April 10, 2019	TV-14	105 min	Comedies, Romantic Movies	A teenage hacker with a huge nose helps a cool...			
608	s609	Movie	At First Light	Jason Stone	Stefanie Scott, Theodore Pellerin, Percy Hynes...	Canada	December 27, 2018	TV-14	91 min	Dramas, Sci-Fi & Fantasy	After mysterious lights imbue her with extra...			
1506	s1507	Movie	Counterfeiting in Suburbia	Jason Bourque	Sarah Butler, Larissa Albuquerque, Kayla Walla...	Canada	July 1, 2018	TV-14	88 min	Dramas, Thrillers	Two teenagers print counterfeit money in their...			
3713	s3714	Movie	Long Time Running	Jennifer Baichwal, Nicholas de Pencier	Gord Downie, Paul Langlois, Gord Sinclair, Rob...	Canada	November 12, 2017	TV-14	96 min	Documentaries, International Movies, Music & M...	This documentary follows the 2016 tour of belo...			
3956	s3957	Movie	Martin Matte: La vie, la mort...eh la la..!	Jean-François Blais	Martin Matte	Canada	October 14, 2019	TV-14	62 min	Stand-Up Comedy	Quebecois comedy star Martin Matte serves up e...			
5336	s5336	Movie	Sadie's Last Days on Earth	Michael Seater	Morgan Taylor Campbell, Clark Backo, Ricardo H...	Canada	August 22, 2017	TV-14	94 min	Comedies, Sci-Fi & Fantasy	High schooler Sadie Mitchell believes the worl...			
5393	s5393	Movie	Sardaar ji	Rohit Jugraj	Diljit Dosanjh, Neeru Bajwa, Mandy Takhar, Jas...	Canada	December 1, 2017	TV-14	140 min	Comedies, International Movies, Music & Musicals	When a palatial wedding venue turns out to be ...			
6062	s6062	Movie	The Accountant of Auschwitz	Matthew Shoychet	NaN	Canada	July 1, 2019	TV-14	78 min	Documentaries, International Movies	Decades after WWII, a former SS officer stands...			
7025	s7024	Movie	The Wrong Babysitter	George Mendeluk	Daphne Zuniga, Sean Gallagher, Lisa Marie Car...	Canada	June 18, 2019	TV-14	89 min	Thrillers	A widow searches for her missing teenage daugh...			
7041	s7040	Movie	There's Something in the Water	Ellen Page, Ian Daniel	Ellen Page	Canada	March 27, 2020	TV-14	72 min	Documentaries, International Movies	This documentary spotlights the struggle of mi...			

```
df[(df['Category']=='Movie') & (df['Rating']=='TV-14') & (df['Country']=='Canada')].shape
```

(11, 13)

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

```
df[(df['Category']=='TV Show') & (df['Rating']=='R') & (df['Year']>2018)]
```

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
6437	s6436	TV Show	The Hateful Eight: Extended Version	Quentin Tarantino	Samuel L. Jackson, Kurt Russell, Jennifer	NaN	April 25, 2019	R 1 Season	TV Shows	Trapped at a stagecoach stop as a storm rages ...	2019-04-25	2019.0

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

```
df['Duration'].value_counts()
```

```
1 Season      1608
2 Seasons     382
3 Seasons     184
90 min        136
93 min        131
...
182 min       1
224 min       1
233 min       1
196 min       1
191 min       1
Name: Duration, Length: 216, dtype: int64
```

```
df['Duration'].unique()
```

```
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', '189 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)
```

```
df.Duration.dtypes
```

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

```
df.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	August 14, 2020	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	07:19	Jorge Michel	Demián Bichir, Héctor Bonilla, Oscar	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico	2016-12-23	2016.0

```
df[['Minutes','Unit']] = df['Duration'].str.split(' ', expand=True)
```

```
df.head(2)
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Minutes
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	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
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico	2016-12-23	2016.0	93

```
df['Minutes']
```

```
0      4
1     93
2     78
3     80
4    123
...
7784   99
7785  111
7786   44
7787    1
7788   90
Name: Minutes, Length: 7789, dtype: object
```

```
#df['Minutes']=pd.to_int(df['Minutes'])
df['Minutes']=df['Minutes'].astype(int)
```

```
df['Minutes'].max()
```

```
312
```

```
df['Minutes'].min()
```

```
1
```

```
df['Minutes'].mean()
```

```
69.12954166131725
```

- ▼ Q. 11) Which individual country has the Highest No. of TV Shows ?

```
data_tvshow=df[df['Category']=='TV Show']
```

```
data_tvshow.head(2)
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Minut
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	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	
5	s6	TV Show	46	Serdar Akar	Erdal Beşikçioğlu, Yasemin ...	Turkey	July 1, 2017	TV-MA	1 Season	International TV Shows, TV Dramas, ...	A genetics professor experiments ...	2017-07-01	2017.0	

```
data_tvshow['Country'].value_counts().head(1)
```

```
United States    705
Name: Country, dtype: int64
```

▼ Q. 12) How can we sort the dataset by Year ?

```
df.sort_values(by = 'Year').head(2)
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Mir
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	81 min	Dramas, Independent Movies, Thrillers	While covering a story in New York City, a Sea...	2008-01-01	2008.0	
1765	s1766	TV Show	Dinner for Five	NaN	NaN	United States	February 4, 2008	TV-MA	1 Season	Stand-Up Comedy & Talk Shows	In each episode, four celebrities join host Jo...	2008-02-04	2008.0	

```
df.sort_values(by = 'Year', ascending=False).head(2)
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year	Mir
7353	s7352	Movie	Unknown	Jaume Collet-Serra	Liam Neeson, Diane Kruger, January Jones, Aida...	United Kingdom, Germany, France, United States	January 1, 2021	PG-13	113 min	Action & Adventure, Thrillers	Liam Neeson stars as a man who regains concio...	2021-01-01	2021.0	
2013	s2014	Movie	Enter the Dragon	Robert Clouse	Bruce Lee, John Saxon, Jim Kelly, Ahna Capri, ...	Hong Kong, United States	January 1, 2021	R	103 min	Action & Adventure, Classic Movies	Recruited by a British agent, Shaolin master L...	2021-01-01	2021.0	

▼ Q. 13) Find all the instances where: Category is 'Movie' and Type is 'Dramas' or Category is 'TV Show' & Type is 'Kids' TV'.

```
df[(df['Category'] == 'Movie') & (df['Type'] == 'Dramas')]
```

	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, Aar...	United States	January 1, 2020	PG-13	123 min	Dramas	A brilliant group of students become card-coun...	2020-01-01	2020.0
7	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	R	119 min	Dramas	After one of his high school students attacks ...	2019-11-01	2019.0
170	s171	Movie	A Family Man	Mark Williams	Gerard Butler, Gretchen Mol, Alison Brie, Will...	Canada, United States	December 15, 2019	R	110 min	Dramas	A ruthless corporate headhunter battles his ri...	2019-12-15	2019.0
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 min	Dramas	After reckless teens kill an Amish child, a pr...	2011-10-01	2011.0
295	s296	Movie	Across Grace Alley	Ralph Macchio	Ben Hyland, Marsha Mason, Karina Smirnoff, Col...	United States	December 1, 2016	TV-PG	24 min	Dramas	A young boy, upset by his parents' divorce, be...	2016-12-01	2016.0
...
7417	s7416	Movie	Victor	Brandon Dickerson	Patrick Davis, Lisa Vidal, Josh Pence, José Zú...	United States	July 24, 2017	PG-13	110 min	Dramas	In 1962 Brooklyn, a Puerto Rican teen who join...	2017-07-24	2017.0
7422	s7421	Movie	Villain	Philip Barantini	Craig Fairbrass, George Russo, Robert Gleniste...	United Kingdom	September 5, 2020	R	97 min	Dramas	Fresh out of prison, an ex-con tries to save h...	2020-09-05	2020.0
7449	s7448	Movie	VS.	Ed Lilly	Connor Swindells, Fola Evans-Akingbola, Nichol...	United Kingdom	June 19, 2019	TV-MA	99 min	Dramas	A young man in foster care finds his voice in ...	2019-06-19	2019.0
7465	s7464	Movie	Wakefield	Robin Swicord	Bryan Cranston, Jennifer Garner, Jason O'Mara,...	United States	March 2, 2019	R	109 min	Dramas	An unhappy father and lawyer quits his suburb...	2019-03-02	2019.0

```
df[(df['Category']=='TV Show') & (df['Type']=="Kids' TV")]
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Date_N	Year
111	s112	TV Show	44 Cats	NaN	Sarah Natochenny, Suzy Myers, Simona Berman, E...	Italy	October 1, 2020	TV-Y7	2 Seasons	Kids' TV	Paw-esome tales abound when singing furry fri...	2020-10-01	2020.0
276	s277	TV Show	Abby Hatcher	Kyran Kelly	Macy Drouin, Wyatt White, Paul Sun-Hyung Lee, ...	United States, Canada	July 1, 2020	TV-Y	1 Season	Kids' TV	A big-hearted girl helps her Fuzzy friends wh...	2020-07-01	2020.0
434	s435	TV Show	Alphablocks	NaN	Teresa Gallagher, David Holt, Lizzie Waterworth	United Kingdom	May 25, 2020	TV-Y	5 Seasons	Kids' TV	The letters of the alphabet come to life in Al...	2020-05-25	2020.0
598	s599	TV Show	Ask the StoryBots	NaN	Judy Greer, Erin Fitzgerald, Fred Tatasciore, ...	United States	August 2, 2019	TV-Y	3 Seasons	Kids' TV	Five curious little creatures track down the a...	2019-08-02	2019.0
706	s707	TV Show	Bal Ganesh	Vijay S. Bhanushali	Meghna Erande Joshi, Parminder Ghuman	NaN	March 31, 2020	TV-Y7	1 Season	Kids' TV	Watch Ganesh destroy demons, disarm invaders a...	2020-03-31	2020.0
...
7668	s7667	TV Show	World of Winx	Iginio Straffi	Haven Paschall, Alysha Deslorieux, Jessica Paq...	Italy, United States	June 16, 2017	TV-Y7	2 Seasons	Kids' TV	The reality show "WOW!" engages the Winx in th...	2017-06-16	2017.0
7717	s7716	TV Show	Yoko	NaN	Eileen Stevens, Alyson Leigh Rosenfeld, Sarah ...	NaN	June 23, 2018	TV-Y	1 Season	Kids' TV	Friends Mai, Oto and Vik's games at the park b...	2018-06-23	2018.0
7719	s7718	TV Show	YOM	NaN	Sairaj, Devyani Dagaonkar, Ketan Singh, Mayur ...	NaN	June 7, 2018	TV-Y7	1 Season	Kids' TV	With the mind of a human being, and the body o...	2018-06-07	2018.0
					Apollo Costa, Gabriel		February 2020		2 Kids'		Fading music		2020

df[(df['Category']=='Movie') & (df['Type']=='Dramas') | (df['Category']=='TV Show') & (df['Type']=="Kids' TV")]