

- This Disney Plus Hotstar Dataset has information about the TV Shows and Movies available on Disney Plus Hotstar till 2021.
- This dataset is collected from Flixable which is a third-party Disney Plus Hotstar search engine, and available on Kaggle website for free.

• Import all the important package

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

• Read the Data Set

```
In [2]: data = pd.read_csv(r"C:\Users\Prathamesh Jadhav\Documents\PROJECTS\DISNAY PLUS HOTSTAR MOVIES
data
```

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

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
		LITTLE OL' BAND FROM TEXAS			Canada, United States			

7789 rows × 11 columns

- **Getting some basic information about the dataset**

1. head() ==> to show top-5 records of the dataset

In [3]: `data.head()`

Out[3]:

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

2. tail() ==> to show bottom-5 records of dataset

In [4]: `data.tail()`

Out[4]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	TV-MA	99 min	
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	TV-14	111 min	
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	44 min	D
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	TV-PG	1 Season	
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	TV-MA	90 min	D

3. shape ==> to show the No. of Rows and Columns

In [5]: data.shape

Out[5]: (7789, 11)

4. size ==> to show No. of total values (elements) in the dataset

In [6]: data.size

Out[6]: 85679

5. columns ==> to show each Column Name

In [7]: data.columns

Out[7]: Index(['Show_Id', 'Category', 'Title', 'Director', 'Cast', 'Country', 'Release_Date', 'Rating', 'Duration', 'Type', 'Description'], dtype='object')

6. dtype ==> to show the data-type of each column

In [8]: data.dtypes

```
Out[8]: 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() ==> To show indexes, columns, data-types of each column, memory at once

```
In [9]: 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 the duplicate records.

duplicate()

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

Out[10]:

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

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In [11]:

data.shape

Out[11]:

(7789, 11)

In [12]:

data[data.duplicated()] # To check row wise and detect the Duplicate rows

Out[12]:

	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	Inde
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	Inde

In [13]: data.drop_duplicates(inplace=True) # To Remove the Duplicate rows permanently

In [14]: data[data.duplicated()] #It means all the duplicated records are deleted

Out[14]:

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

In [15]: data.shape

Out[15]: (7787, 11)

Task 2. Is there any Null Value present in any column ? Show with Heat-map.

In [16]: data.head()

Out[16]:

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

In [17]:

```
data.isnull().sum() # To show the count of NULL values in each column
```

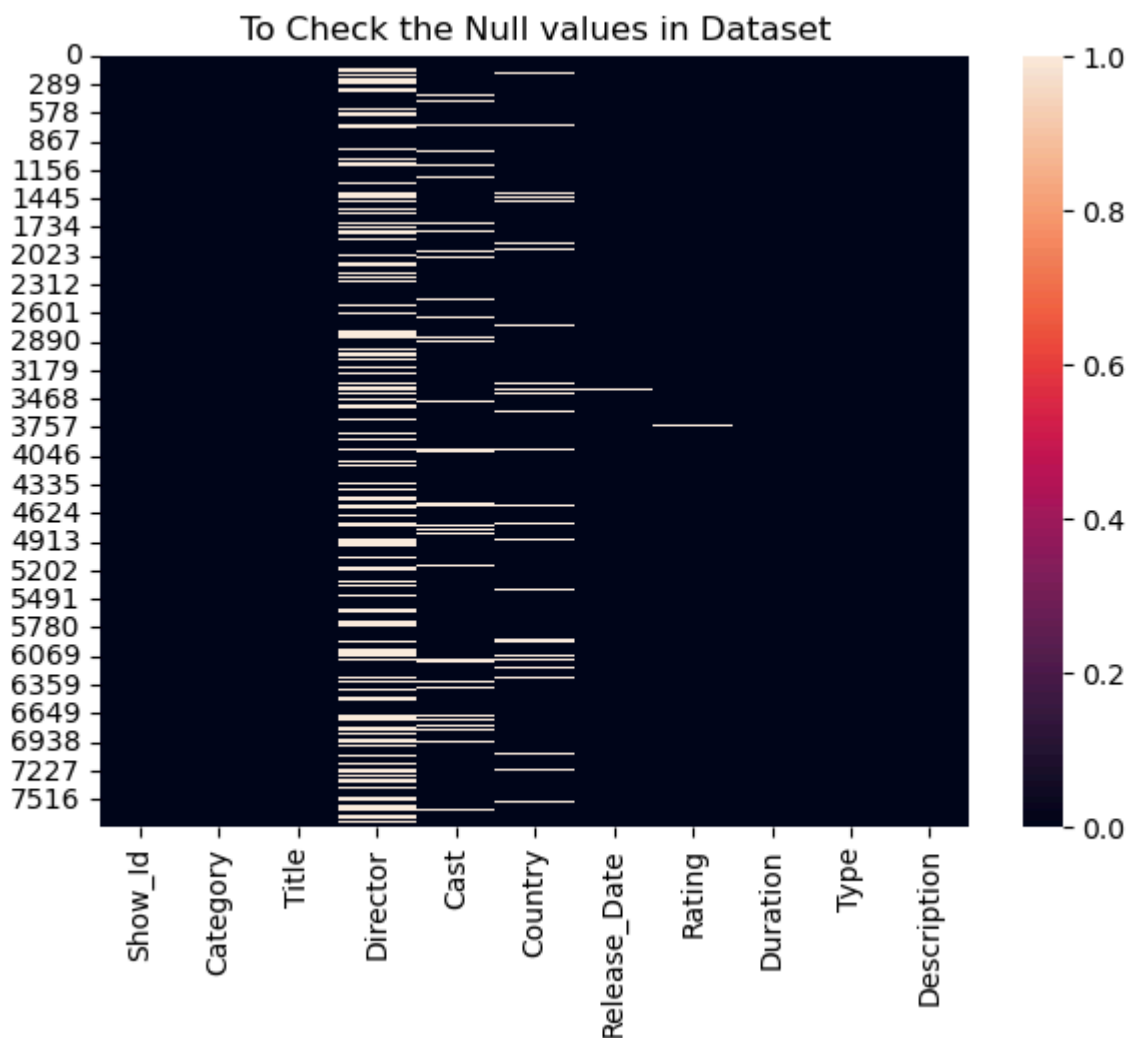
Out[17]:

```
Show_Id      0
Category     0
Title        0
Director    2388
Cast        718
Country     507
Release_Date  10
Rating       7
Duration     0
Type         0
Description  0
dtype: int64
```

- **seaborn library (heat-map)**

In [18]:

```
plt.figure(figsize=(7,5))
plt.title('To Check the Null values in Dataset')
sns.heatmap(data.isnull())
plt.show()
```

Q 1. For 'House of Cards', what is the Show Id and Who is the Director of this show ?

- Using `isin()` function

```
In [19]: data[data['Title'].isin(['House of Cards'])]
```

```
Out[19]:
```

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type
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	Drama, Thriller

- Using `str.contains()` function

```
In [20]: data[data['Title'].str.contains('House of Cards')]
```

Out[20]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type
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	Drama, Thriller

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

• dtype

In [21]: data.dtypes

Out[21]: Show_Id object
Category object
Title object
Director object
Cast object
Country object
Release_Date object
Rating object
Duration object
Type object
Description object
dtype: object

• to_datetime

In [23]: data['Data_D_P_H'] = pd.to_datetime(data['Release_Date'], errors='coerce')
data.head()

Out[23]:

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

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In [24]:

data.dtypes

Out[24]:

Show_Id object
Category object
Title object
Director object
Cast object
Country object
Release_Date object
Rating object
Duration object
Type object
Description object
Data_N datetime64[ns]
Data_D_P_H datetime64[ns]
dtype: object

- dt.year.value_count()

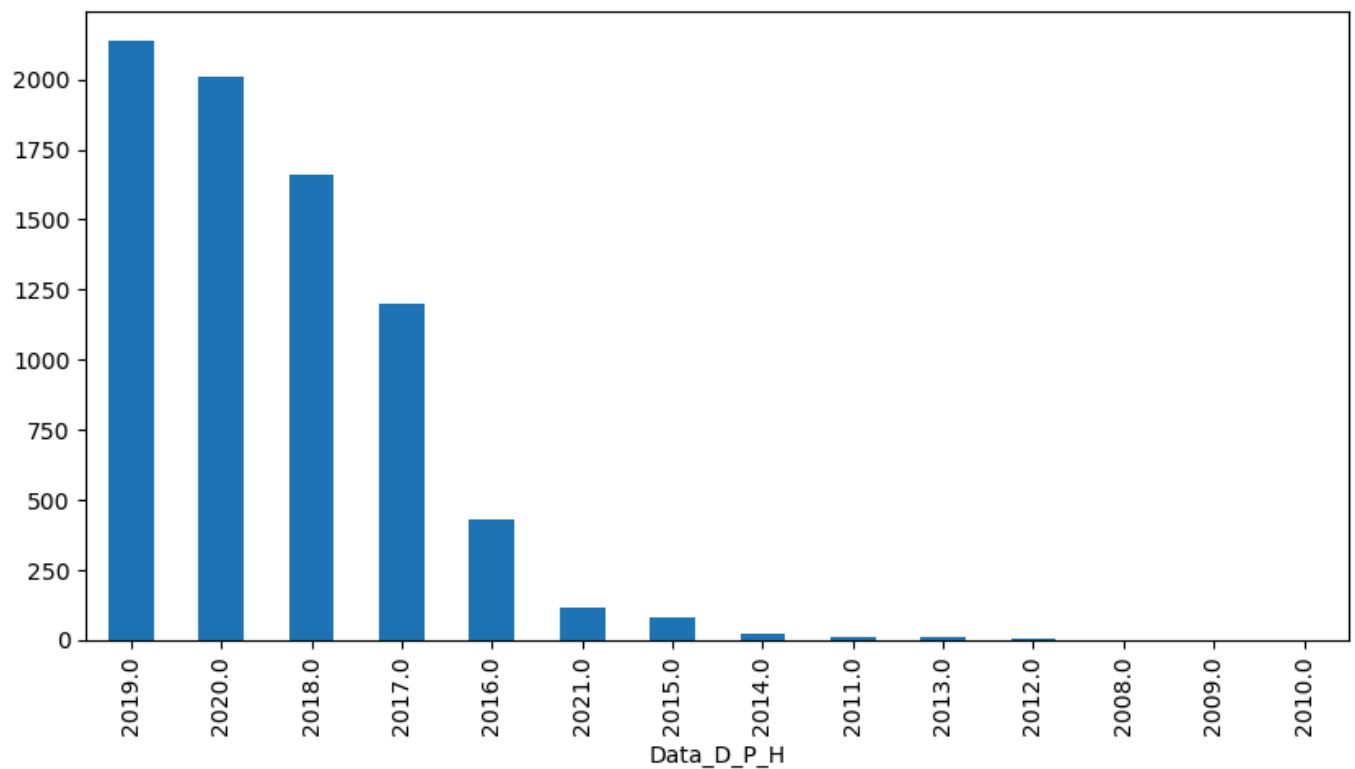
In [25]:

data['Data_D_P_H'].dt.year.value_counts() # It counts the occurrence of all individual Years

```
Out[25]: Data_D_P_H
2019.0    2136
2020.0    2008
2018.0    1661
2017.0    1201
2016.0     432
2021.0     117
2015.0      79
2014.0      24
2011.0      13
2013.0      10
2012.0       3
2008.0       2
2009.0       2
2010.0       1
Name: count, dtype: int64
```

Bar Graph

```
In [26]: plt.figure(figsize=(10,5))
data['Data_D_P_H'].dt.year.value_counts().plot(kind='bar')
plt.show()
```



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

groupby()

```
In [27]: data.head(1)
```

Out[27]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration		Ty
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons	Internatic	TV Sho TV Dram TV Sci-Fi

In [28]:

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

To group all unique items of a column and

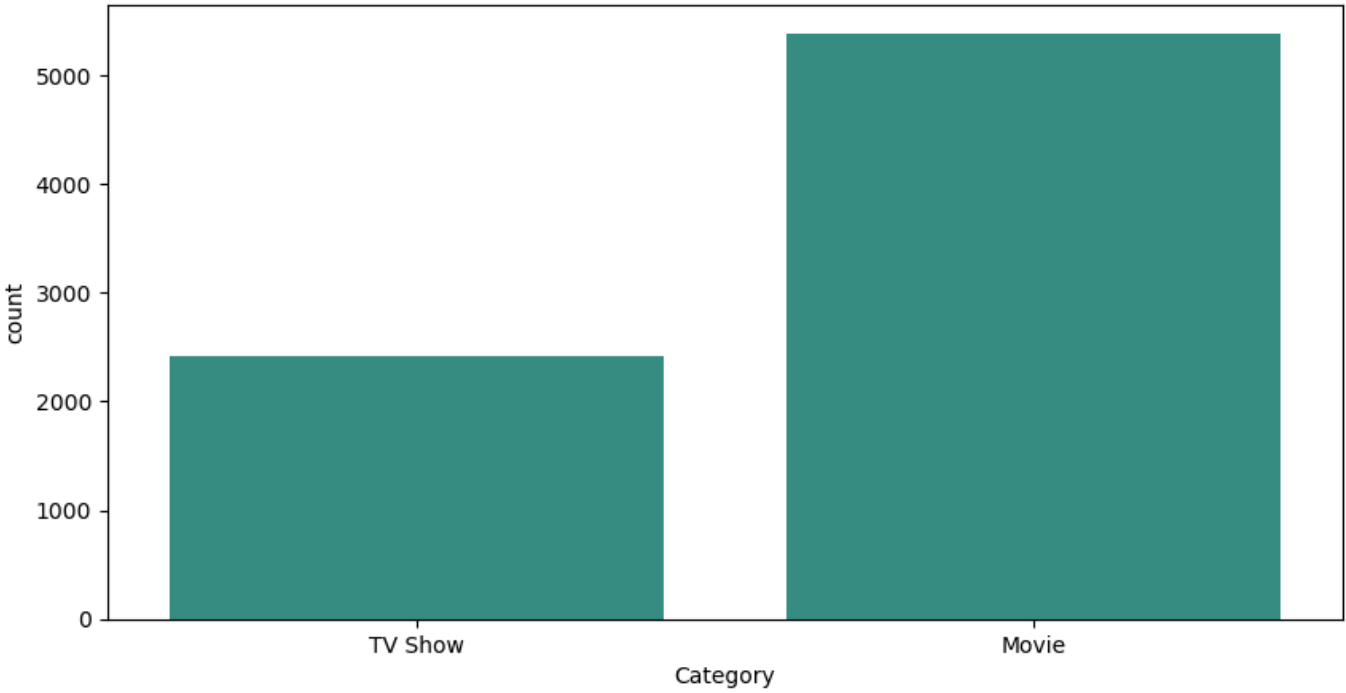
Out[28]:

```
Category
Movie      5377
TV Show    2410
Name: Category, dtype: int64
```

countplot()

In [29]:

```
plt.figure(figsize=(10,5))
sns.countplot(x=data['Category'], color='#2a9d8f') # To show the count of at L unique values of
plt.show()
```



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

Creating new column

In [30]:

```
data['Year'] = data['Data_D_P_H'].dt.year
data.head(2)
```

Out[30]:

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

Filtering

In [31]:

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

Out[31]:

	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 min
	6	s7	Movie	122	Yasir Al Yasiri	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...	Egypt	June 1, 2020	TV-MA	95 min
	14	s15	Movie	3022	John Suits	Omar Epps, Kate Walsh, Miranda Cosgrove, Angus...	United States	March 19, 2020	R	91 min
	27	s28	Movie	#Alive	Cho Il	Yoo Ah-in, Park Shin-hye	South Korea	September 8, 2020	TV-MA	99 min
	28	s29	Movie	#AnneFrank - Parallel Stories	Sabina Fedeli, Anna Migotto	Helen Mirren, Gengher Gatti	Italy	July 1, 2020	TV-14	95 min
	
	7762	s7761	Movie	Zaki Chan	Wael Ihsan	Ahmed Helmy, Yasmin Abdulaziz, Hassan Hosny, H...	Egypt	May 19, 2020	TV-PG	109 min
	7783	s7782	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020	PG	88 min
	7784	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	TV-MA	99 min
	7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	44 min

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	TV- MA	90 min

1312 rows × 14 columns

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

Filtering

```
In [32]: data[(data['Category'] == 'TV Show') & (data['Country'] == 'India')][['Title']]
```

```
Out[32]:
```

	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

71 rows × 1 columns

Q.6. Show Top 10 Directors, who gave the highest number of TV Shows & Movies to Disney Plus Hotstar ?

value_count()

```
In [33]: data['Director'].value_counts().head(10)
```



```
Out[33]: 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 the Records, where "Category is Movie and Type is Comedies" or "Country is United Kingdom".

Filtering (And, Or Operators)

```
In [34]: data[(data['Category'] == 'Movie') & (data['Type'] == 'Comedies') | (data['Country'] == 'Unit
```

Out[34]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
	3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 min
	4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min
	7	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	R	119 min
	10	s11	Movie	1922	Zak Hilditch	Thomas Jane, Molly Parker, Dylan Schmid, Kaitl...	United States	October 20, 2017	TV-MA	103 min
	14	s15	Movie	3022	John Suits	Omar Epps, Kate Walsh, Miranda Cosgrove, Angus...	United States	March 19, 2020	R	91 min
	
	7760	s7759	Movie	Zack and Miri Make a Porno	Kevin Smith	Seth Rogen, Elizabeth Banks, Craig Robinson, J...	United States	October 1, 2018	R	101 min
	7773	s7772	Movie	Zion	Floyd Russ	Zion Clark	United States	August 10, 2018	TV-PG	12 min
	7776	s7775	Movie	Zodiac	David Fincher	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States	November 20, 2019	R	158 min
	7780	s7779	Movie	Zombieland	Ruben Fleischer	Jesse Eisenberg,	United States	November 1, 2019	R	88 min

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
				Woody Harrelson, Emma Stone, ...					
7783	s7782	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020	PG	88 min

2578 rows × 14 columns

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

In [35]: `data.head(2)`

Out[35]:

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

In [36]: `data[data['Cast'] == 'Tom Cruise']`

Out[36]:

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

str.contains()

`data[data['Cast'].str.contains('Tom Cruise')] # error`

Creating new data-frare

In [37]: `data_new = data.dropna() # It drops the rows that contains all or any missing values.`

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

Out[38]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration		Ty
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min		Dram Internatio Mov
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min		Hor Mov Internatio Mov

In [39]: `data_new[data_new['Cast'].str.contains('Tom Cruise')]`

Out[39]:

	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 min	Ir
5071	s5071	Movie	Rain Man	Barry Levinson	Dustin Hoffman, Tom Cruise, Valeria Golino, Ge...	United States	July 1, 2019	R	134 min	

Q 9. What are the different Ratings defined by Disney Plus Hotstar?

nunique()

In [40]: `data['Rating'].nunique()`

Out[40]: 14

unique()

In [41]: `data['Rating'].unique()`

Out[41]: `array(['TV-MA', 'R', 'PG-13', 'TV-14', 'TV-PG', 'NR', 'TV-G', 'TV-Y', nan, 'TV-Y7', 'PG', 'G', 'NC-17', 'TV-Y7-FV', 'UR'], dtype=object)`

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

```
In [42]: data[(data['Category'] == 'Movie') & (data['Rating'] == 'TV-14') & (data['Country'] == 'Canada')]
```

Out[42]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	I
30	s31	Movie	#cats_the_mewvie	Michael Margolis	NaN	Canada	February 5, 2020	TV-14	
34	s35	Movie	#Roxy	Michael Kennedy	Jake Short, Sarah Fisher, Booboo Stewart, Dann...	Canada	April 10, 2019	TV-14	
608	s609	Movie	At First Light	Jason Stone	Stefanie Scott, Theodore Pellerin, Percy Hynes...	Canada	December 27, 2018	TV-14	
1506	s1507	Movie	Counterfeiting in Suburbia	Jason Bourque	Sarah Butler, Larissa Albuquerque, Kayla Walla...	Canada	July 1, 2018	TV-14	
3713	s3714	Movie	Long Time Running	Jennifer Baichwal, Nicholas de Pencier	Gord Downie, Paul Langlois, Gord Sinclair, Rob...	Canada	November 12, 2017	TV-14	
3956	s3957	Movie	Martin Matte: La vie, la mort...eh la la..!	Jean-François Blais	Martin Matte	Canada	October 14, 2019	TV-14	
5336	s5336	Movie	Sadie's Last Days on Earth	Michael Seater	Morgan Taylor Campbell, Clark Backo, Ricardo H...	Canada	August 22, 2017	TV-14	
5393	s5393	Movie	Sardaar ji	Rohit Jugraj	Diljit Dosanjh, Neeru Bajwa, Mandy Takhar, Jas...	Canada	December 1, 2017	TV-14	
6062	s6062	Movie	The Accountant of Auschwitz	Matthew Shoychet	NaN	Canada	July 1, 2019	TV-14	
7025	s7024	Movie	The Wrong Babysitter	George Mendeluk	Daphne Zuniga, Seann Gallagher, Lisa Marie Car...	Canada	June 18, 2019	TV-14	

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	I
7041	s7040	Movie	There's Something in the Water	Ellen Page, Ian Daniel	Ellen Page	Canada	March 27, 2020	TV-14	

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

In [43]: `data[(data['Category'] == 'TV Show') & (data['Rating'] == 'R') & (data['Year'] > 2018)]`

Out[43]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Ty
6437	s6436	TV Show	The Hateful Eight: Extended Version	Quentin Tarantino	Samuel L. Jackson, Kurt Russell, Jennifer Jaso...	NaN	April 25, 2019	R	1 Season	Sho



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

In [44]: `data['Duration'].unique()`

```
Out[44]: 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 [45]: data.Duration.dtype
```

```
Out[45]: dtype('O')
```

str.split()

```
In [46]: data[['Minutes', 'Unit']] = data['Duration'].str.split(' ', expand=True)
data[['Minutes', 'Unit']]
```


Out[46]:

	Minutes	Unit
0	4	Seasons
1	93	min
2	78	min
3	80	min
4	123	min
...
7784	99	min
7785	111	min
7786	44	min
7787	1	Season
7788	90	min

7787 rows × 2 columns

max()

```
In [47]: data.Minutes.max()
```

Out[47]: '99'

min()

```
In [48]: data.Minutes.min()
```

Out[48]: '1'

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

```
In [49]: data_tvshow = data[data['Category'] == 'TV Show']
```

```
In [50]: data_tvshow.head(2)
```

Out[50]:

	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	Internatic TV Sho TV Dran TV Sci-Fi
5	s6	TV Show	46	Serdar Akar	Erdal Beşikçioğlu, Yasemin Allen, Melis Birkan...	Turkey	July 1, 2017	TV-MA	1 Season	Internatic TV Sho TV Dran Myste

In [51]:

```
data_tvshow.Country.value_counts()
```

Out[51]:

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 [52]:

```
data_tvshow.Country.value_counts().head(1)
```

Out[52]:

Country	
United States	705
Name: count, dtype: int64	

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

In [53]:

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

Out[53]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
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	lr
1765	s1766	TV Show	Dinner for Five	NaN	NaN	United States	February 4, 2008	TV-MA	1 Season	

```
In [54]: data.sort_values(by='Year', ascending=False).head(2)
```

Out[54]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
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 min	A
5919	s5919	Movie	Surf's Up	Ash Brannon, Chris Buck	Shia LaBeouf, Jeff Bridges, Zooey Deschanel, J...	United States	January 1, 2021	PG	86 min	C

Q 13. Find all the instances where :

Category is 'Movie' and Type is 'Dramas'

or

Category is 'TV Show' & Type is 'Kids' TV'

```
In [56]: data[(data['Category'] == 'Movie') & (data['Type'] == 'Dramas') | (data['Category'] == 'TV sh
```

Out[56]:

	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 min
	7	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	R	119 min
	170	s171	Movie	A Family Man	Mark Williams	Gerard Butler, Gretchen Mol, Alison Brie, Will...	Canada, United States	December 15, 2019	R	110 min
	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
	295	s296	Movie	Across Grace Alley	Ralph Macchio	Ben Hyland, Marsha Mason, Karina Smirnoff, Col...	United States	December 1, 2016	TV-PG	24 min
	
	7417	s7416	Movie	Victor	Brandon Dickerson	Patrick Davis, Lisa Vidal, Josh Pence, José Zú...	United States	July 24, 2017	PG-13	110 min
	7422	s7421	Movie	Villain	Philip Barantini	Craig Fairbrass, George Russo, Robert Gleniste...	United Kingdom	September 5, 2020	R	97 min
	7449	s7448	Movie	VS.	Ed Lilly	Connor Swindells, Fola Evans-Akingbola, Nichol...	United Kingdom	June 19, 2019	TV-MA	99 min
	7465	s7464	Movie	Wakefield	Robin Swicord	Bryan Cranston, Jennifer	United States	March 2, 2019	R	109 min

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
7480	s7479	Movie	War Horse	Steven Spielberg	Garner, Jason O'Mara,...	United States, India	May 6, 2019	PG-13	147 min
					Emily Watson, David Thewlis, Peter Mullan, Nie...				

117 rows × 16 columns