

Q1) Load the dataset and display the first five rows

```
In [6]: import pandas as pd
```

```
In [7]: data=pd.read_csv(r"C:\Users\HP LAPTOP\Downloads\8.-Netflix-Dataset.csv")
```

In [8]: data

Out[8]:

	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	Internal TV Show: Drama: Sci-F
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dra Internal M
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min	Horror Mc Internal M
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 min	Act Adver Indeper Movies
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min	Dra
...
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	Dra Internal M
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	TV-14	111 min	Dra Internal Movies, M & Mus
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	44 min	Documenta Internal Movies, M &
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	TV-PG	1 Season	Internal TV Sh Realit
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	Documenta Mu Mus

7789 rows × 11 columns

```
In [4]: data.head(5)
```

Out[4]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	
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 &...	wt
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	eat
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	W re
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...	pos w
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min	Dramas	A b b

Q2) Check for missing values in the dataset

In [5]: `data.isnull()`

Out[5]:

	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

7789 rows × 11 columns

Q3) Display the data type for 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

Q4) Find the number of unique values in each column

```
In [9]: data.nunique()
```

```
Out[9]: Show_Id      7787  
        Category      2  
        Title      7787  
        Director  4050  
        Cast      6831  
        Country     681  
        Release_Date 1565  
        Rating       14  
        Duration     216  
        Type        492  
        Description  7769  
        dtype: int64
```

Q5) Find all the movies released after 2015

```
In [6]: data['Release_Year']=pd.to_datetime(data['Release_Date'],errors='coerce').dt.year
```

```
In [7]: data[data['Release_Year']>2015]
```

Out[7]:

	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	Internal TV Show: Drama: Sci-F
1	s2	Movie	07:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dra Internal M
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min	Horror Mc Internal M
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 min	Act Adver Indeper Movies
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min	Dra
...
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	Dra Internal M
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	TV-14	111 min	Dra Internal Movies, M & Mus
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	44 min	Documenta Internal Movies, M &
7787	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	TV-PG	1 Season	Internal TV Sh Realii
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	Documenta Mu Mus

7634 rows × 12 columns



Q6) Retrieve all titles that contains the word "love"

```
In [9]: data[data['Title'].str.contains('love',case=False,na=False)]
```

Out[9]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	
198	s199	TV Show	A Little Thing Called First Love	NaN	Lai Kuan-lin, Zhao Jinmai, Wang Runze, Chai We...	China	October 26, 2019	TV-G	1 Season	F S
199	s200	TV Show	A Love So Beautiful	NaN	Kim Yo-han, So Joo-yeon, Yeo Hoi-hyun, Jeong J...	South Korea	December 28, 2020	TV-PG	1 Season	F S
200	s201	Movie	A Love Song for Latasha	Sophia Nahli Allison	NaN	United States	September 21, 2020	TV-PG	20 min	Do
201	s202	Movie	A Love Story	Maryo J. De los Reyes	Maricel Soriano, Aga Muhlach, Angelica Pangani...	Philippines	March 14, 2019	TV-14	117 min	
223	s224	Movie	A Secret Love	Chris Bolan	NaN	United States	April 29, 2020	TV-14	83 min	Doc LG
...	
7558	s7557	TV Show	What Is Love?	NaN	Chris Wu, Jade Chou, Duncan Lai, King Chin, Ki...	Taiwan	January 1, 2017	TV-14	1 Season	F S
7568	s7567	TV Show	What the Love! with Karan Johar	NaN	Karan Johar	United States	January 30, 2020	TV-14	1 Season	F
7574	s7573	Movie	What's Up With Love?	Rudy Soedjarwo, Riri Riza	Dian Sastrowardoyo, Nicholas Saputra, Ladya Ch...	Indonesia	December 8, 2018	R	110 min	
7584	s7583	Movie	When Love Happens	Seyi Babatope	Weruche Opia, Gideon Okeke, Beverly Naya, O.C....	Nigeria	February 26, 2020	TV-14	109 min	
7667	s7666	Movie	World Famous Lover	Kranthi Madhav	Vijay Deverakonda, Raashi Khanna, Aishwarya Ra...	India	April 15, 2020	TV-MA	147 min	

175 rows × 11 columns



Q7) Find the top 5 countries with the highest number of TV shows

```
In [13]: data[data['Category']=='TV Show']['Country'].value_counts()
```

```
Out[13]: 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
```

Q8) Find all the movies directed by "Chirstopher Nolan"

```
In [15]: data[(data['Category']=='Movie')&(data['Director']=='Chirstopher Nolan')]
```

Out[15]:

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description	Releas
<div><div></div><div></div></div>											

Q9) Find the most common rating in the dataset

```
In [9]: data["Rating"].value_counts()
```

```
Out[9]:
```

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

```
In [18]: data["Rating"].value_counts().idxmax()
```

```
Out[18]: 'TV-MA'
```

Type *Markdown* and LaTeX: α^2

Q10) Find the country that has produced the highest number of

In [16]: `data.head(2)`

Out[16]:

	Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	Description
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In wh elite an i
1	s2	Movie	07:19	Jorge Michel Grau	Demian Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	TV-MA	93 min	Dramas, International Movies	dev: earl hits

In [19]: `data[data['Category']=='Movie']['Country'].value_counts().idxmax()`

Out[19]: 'United States'

Q11) Find all the movies that were released in the last 5 years

In [9]: `data['Release_Year']=pd.to_datetime(data['Release_Date'],errors='coerce').dt.year`

```
In [10]: data[(data['Category']=='Movie') & (data['Release_Year']>=(data['Release_Year'].max()-5))]
```

Out[10]:

	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	Drama International Movie
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	R	78 min	Horror Movie International Movie
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	PG-13	80 min	Action Adventure Movies, S F
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	PG-13	123 min	Drama
6	s7	Movie	122	Yasir Al Yasiri	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...	Egypt	June 1, 2020	TV-MA	95 min	Horror Movie International Movie
...
7783	s7782	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020	PG	88 min	Children's Family Movie Comedy
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	Drama International Movie
7785	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	TV-14	111 min	Drama International Movies, Music & Music
7786	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	TV-MA	44 min	Documentary International Movies, Music & M

Show_Id	Category	Title	Director	Cast	Country	Release_Date	Rating	Duration	Type	
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	Documentary Music Musical

5276 rows × 12 columns