```
import pandas as pd

data = pd.read_csv("netflix_titles.csv")

data
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	To protect his family from a powerful drug lor...
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down amo...
4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, Romantic TV Shows, TV ...	In a city of coaching centers known to train I...
...	...	...	...	...	...	...	...	...	...	...	...	...

Next steps: [Generate code with `data`]   [🔘 View recommended plots]

Head

```
data.head(5)
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...
2	s3	TV Show	Ganglands	Julien	Sami Bouajila, Tracy Gotoas	NaN	September	2021	TV-MA	1 Season	Crime TV Shows, International	To protect his family from a...

Next steps: [Generate code with `data`]   [🔘 View recommended plots]

Tail

```
data.tail()
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
8802	s8803	Movie	Zodiac	David Fincher	Mark Ruffalo, Jake Gyllenhaal, Robert Downey J...	United States	November 20, 2019	2007	R	158 min	Cult Movies, Dramas, Thrillers	A political cartoonist, a crime reporter and a...
8803	s8804	TV Show	Zombie Dumb	NaN	NaN	NaN	July 1, 2019	2018	TV-Y7	2 Seasons	Kids' TV, Korean TV Shows, TV Comedies	While living alone in a spooky town, a young g...
					Jesse Ei...							

```
data = data.fillna("")
```

```
data
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson		United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...
1	s2	TV Show	Blood & Water		Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...		September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	To protect his family from a powerful drug lor...
3	s4	TV Show	Jailbirds New Orleans				September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down amo...
4	s5	TV Show	Kota Factory		Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, Romantic TV Shows, TV ...	In a city of coaching centers known to train I...
...	...	...	...	...	...	...	...	...	...	...	...	...

Next steps: [Generate code with `data`]   [🔘 View recommended plots]

Shape

```
data.shape
```

(8807, 12)

Size

```
data.size
```

105684

Columns

```
data.columns
```

```
Index(['show_id', 'type', 'title', 'director', 'cast', 'country', 'date_added',
       'release_year', 'rating', 'duration', 'listed_in', 'description'],
      dtype='object')
```

Data Types

```
data.dtypes
```

```
show_id         object
type            object
title           object
director        object
cast            object
country         object
date_added      object
release_year     int64
rating          object
duration        object
listed_in       object
description     object
dtype: object
```

Info

```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8807 entries, 0 to 8806
Data columns (total 12 columns):
 #   Column        Non-Null Count  Dtype
---  ------        --------------  -----
 0   show_id       8807 non-null   object
 1   type          8807 non-null   object
 2   title         8807 non-null   object
 3   director      8807 non-null   object
 4   cast          8807 non-null   object
 5   country       8807 non-null   object
 6   date_added    8807 non-null   object
 7   release_year  8807 non-null   int64
 8   rating        8807 non-null   object
 9   duration      8807 non-null   object
 10  listed_in     8807 non-null   object
 11  description   8807 non-null   object
dtypes: int64(1), object(11)
memory usage: 825.8+ KB
```

Find the Duplicate Values and remove them

```
data.duplicated().count()
```

```
8807
```

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

```
data
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	E
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson		United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...	
1	s2	TV Show	Blood & Water		Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...	
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...		September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	To protect his family from a powerful drug lor...	
3	s4	TV Show	Jailbirds New Orleans				September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down amo...	
4	s5	TV Show	Kota Factory		Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, Romantic TV Shows, TV ...	In a city of coaching centers known to train I...	
...	...	...	...	...	...	...	...	...	...	...	...	...	

Next steps: | Generate code with `data` | | View recommended plots |

```
data[data.duplicated()]
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	

Check if there is a null value in the dataset, show it in a heatmap

```
data.isnull().sum()
```

```
show_id         0
type            0
title           0
director        0
cast            0
country         0
date_added      0
release_year    0
rating          0
duration        0
listed_in       0
description     0
dtype: int64
```
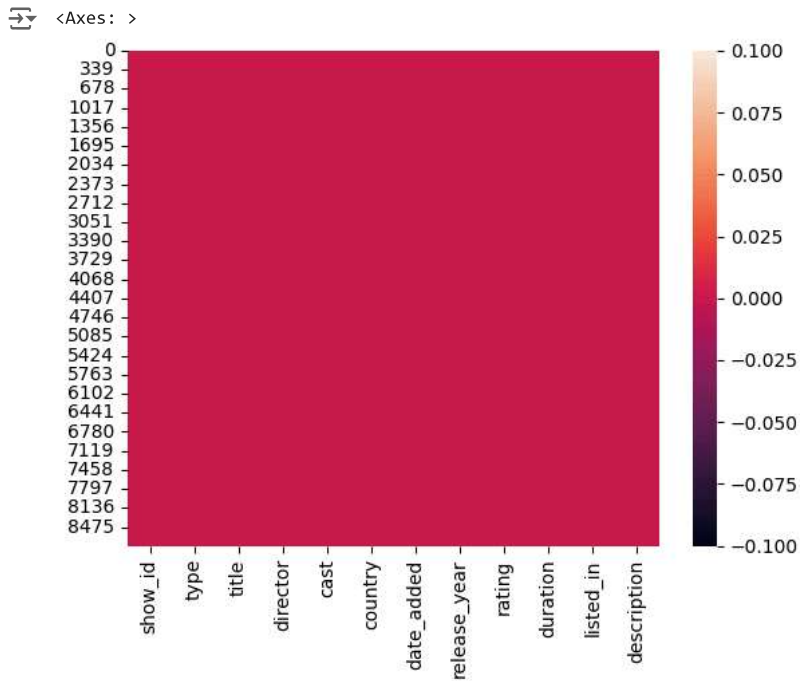
```
import seaborn as sns
```

```
sns.heatmap(data.isnull())
```

⇶ <Axes: >

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

data

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson		United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...
1	s2	TV Show	Blood & Water		Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...		September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	To protect his family from a powerful drug lor...
3	s4	TV Show	Jailbirds New Orleans				September 24, 2021	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down amo...
4	s5	TV Show	Kota Factory		Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, Romantic TV Shows, TV ...	In a city of coaching centers known to train l...
...	...	...	...	...	...	...	...	...	...	...	...	...

Next steps: [Generate code with `data`]   [🔵 View recommended plots]

```
data[(data['title'].str.contains('House of Cards'))]
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	
1059	s1060	TV	House of	Kevin Spacey, Robin	United	April 14,	2018	TV-MA		6	TV Dramas,	A ruthless politician will	

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

```python
data['Date_N'] = pd.to_datetime(data['release_year'])
```

```python
data['Date_N'].dt.year.value_counts()
```
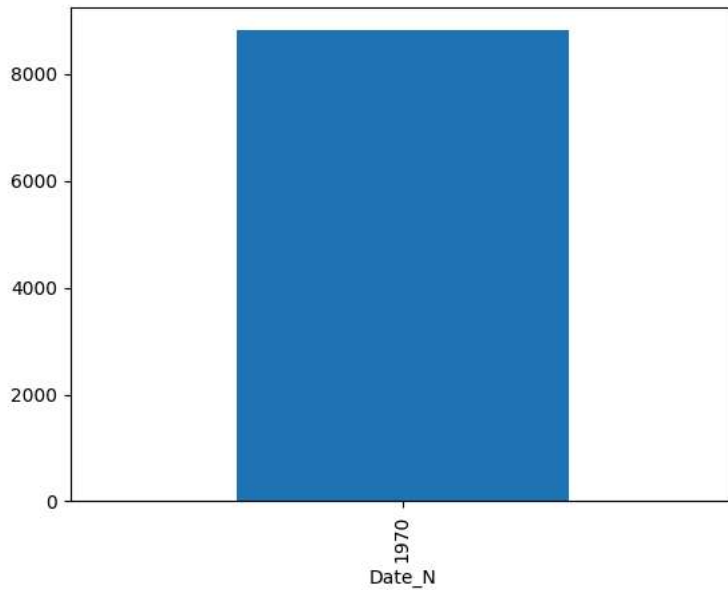
```
Date_N
1970    8807
Name: count, dtype: int64
```

```python
data['Date_N'].dt.year.value_counts().plot(kind='bar')
```
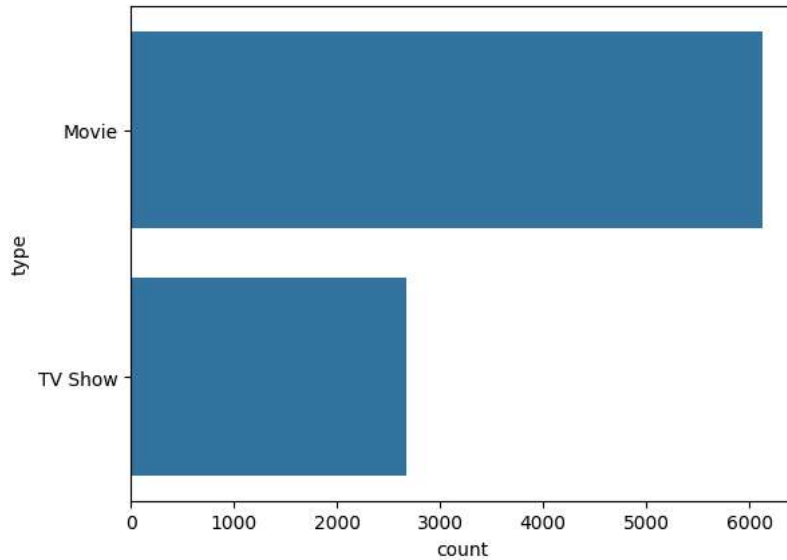
```
<Axes: xlabel='Date_N'>
```


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

```python
data.groupby(by='type').count()
```

type	show_id	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	Date_N
Movie	6131	6131	6131	6131	6131	6131	6131	6131	6131	6131	6131	6131
TV Show	2676	2676	2676	2676	2676	2676	2676	2676	2676	2676	2676	2676

```python
sns.countplot(data['type'])
```

```
<Axes: xlabel='count', ylabel='type'>
```


Show all the Movies that were released in year 2000.

```
data['year'] = data['Date_N'].dt.year
```

```
data.head()
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson		United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...	00:00:00
1	s2	TV Show	Blood & Water		Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...	00:00:00
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...		September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	To protect his family from a powerful drug lor...	00:00:00
												Feuds	

Next steps: [Generate code with `data`]   [⬤ View recommended plots]

```
data[(data['type'] == 'Movie') & (data['year'] == 2000)]
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	Date_N	year	

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

```
data.head()
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson		United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears the end of his life, filmm...	00:00:0C
1	s2	TV Show	Blood & Water		Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	2 Seasons	International TV Shows, TV Dramas, TV Mysteries	After crossing paths at a party, a Cape Town t...	00:00:0C
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...		September 24, 2021	2021	TV-MA	1 Season	Crime TV Shows, International TV Shows, TV Act...	To protect his family from a powerful drug lor...	00:00:0C
												Feuds	

Next steps: | Generate code with `data` | ⊙ View recommended plots |

```python
data[(data['type'] =='TV Show') & (data['country'] == 'India')]['title']
```

```
4                          Kota Factory
39                         Chhota Bheem
50                        Dharmakshetra
66             Raja Rasoi Aur Anya Kahaniyan
69          Stories by Rabindranath Tagore
                        ...
8173                          Thackeray
8235                        The Calling
8321      The Golden Years with Javed Akhtar
8349               The House That Made Me
8775                      Yeh Meri Family
Name: title, Length: 79, dtype: object
```

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

```python
data['director'].value_counts().head(10)
```

```
director
                         2634
Rajiv Chilaka             19
Raúl Campos, Jan Suter    18
Suhas Kadav               16
Marcus Raboy              16
Jay Karas                 14
Cathy Garcia-Molina       13
Jay Chapman               12
Youssef Chahine           12
Martin Scorsese           12
Name: count, dtype: int64
```

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

```python
data[(data['type'] == 'Movie') & (data['listed_in'] == 'Comedies') | (data['country'] == 'United Kingdom')]
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
8	s9	TV Show	The Great British Baking Show	Andy Devonshire	Mel Giedroyc, Sue Perkins, Mary Berry, Paul Ho...	United Kingdom	September 24, 2021	2021	TV-14	9 Seasons	British TV Shows, Reality TV	A talented batch of amateur bakers face off in...
27	s28	Movie	Grown Ups	Dennis Dugan	Adam Sandler, Kevin James, Chris Rock, David S...	United States	September 20, 2021	2010	PG-13	103 min	Comedies	Mourning the loss of their beloved junior high...
32	s33	TV Show	Sex Education		Asa Butterfield, Gillian Anderson, Ncuti Gatwa...	United Kingdom	September 17, 2021	2020	TV-MA	3 Seasons	British TV Shows, International TV Shows, TV C...	Insecure Otis has all the answers when it come...
65	s66	TV Show	Numberblocks		Beth Chalmers, David Holt, Marcel McCalla, Ter...	United Kingdom	September 15, 2021	2021	TV-Y	6 Seasons	Kids' TV	In a place called Numberland, math adds up to ...
72	s73	TV Show	Jack Whitehall: Travels with My Father		Jack Whitehall, Michael Whitehall	United Kingdom	September 14, 2021	2021	TV-MA	5 Seasons	British TV Shows, Docuseries, International TV...	Jovial comic Jack Whitehall invites his stuffy...
...	...	...	...	...	...	...	...	...	...	...	...	...
8740	s8741	TV Show	Wild Alaska		Dougray Scott	United Kingdom	March 31, 2017	2015	TV-PG	1 Season	British TV Shows, Docuseries, Science & Nature TV	The natural bounty of Alaska sustains its dive...
8741	s8742	TV Show	Wild Arabia		Alexander Siddig	United Kingdom	March 31, 2017	2013	TV-PG	1 Season	British TV Shows, Docuseries, Science & Nature TV	The widely varied geology and dramatic landsca...

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

```
data[data['cast'].str.contains('Tom Cruise')]
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	
341	s342	Movie	Magnolia	Paul Thomas Anderson	John C. Reilly, Philip Baker Hall, Tom Cruise	United States	August 1, 2021	1999	R	189 min	Dramas, Independent Movies	Through chance, history and divine interventio...	1 00:00:00.0

What are the different Ratings defined by Netflix ?

```
data['rating'].nunique()
```

```
18
```

```
data['rating'].unique()
```

```
array(['PG-13', 'TV-MA', 'PG', 'TV-14', 'TV-PG', 'TV-Y', 'TV-Y7', 'R',
       'TV-G', 'G', 'NC-17', '74 min', '84 min', '66 min', 'NR', '',
       'TV-Y7-FV', 'UR'], dtype=object)
```

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

```
data[(data['rating'] == 'TV-14') & (data['country'] == 'Canada') & (data['type'] == 'Movie')].shape
```
```
(13, 14)
```

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

```
data[(data['rating'] == 'R') & (data['release_year'] > 2018) & (data['type'] == 'TV Show')].shape
```
```
(0, 14)
```

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

```
data['duration'].max()
```
```
'99 min'
```

```
data[['Minutes', 'unit']]= data['duration'].str.split(' ', expand=True)
```

```
data.Minutes.max()
```
```
'99'
```

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