



**2024**

# **NETFLIX DATA ANALYSIS WITH PYTHON**

**PRESENTED BY  
MUHAMMAD ABBAS**

# Netflix Data Analysis With Python

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## 0.1 Import Libraries

```
[2]: import numpy as np
import pandas as pd
import matplotlib.pyplot as mp
import seaborn as sc
```

## 0.2 Import Dataset

```
[3]: # pd.set_option('Display.max_columns',None)
# pd.set_option('Display.width',None)
# pd.set_option('Display.max_rows',None)

ds=pd.read_csv("netflix.csv")
```

```
[4]: ds
```

```
[4]:
```

	show_id	type	title	director \
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson
1	s3	TV Show	Ganglands	Julien Leclercq
2	s6	TV Show	Midnight Mass	Mike Flanagan
3	s14	Movie	Confessions of an Invisible Girl	Bruno Garotti
4	s8	NaN	Sankofa	Haile Gerima
...	...	...	...	...
8786	s8797	NaN	Yunus Emre	Not Given
8787	s8798	NaN	Zak Storm	Not Given
8788	s8801	NaN	Zindagi Gulzar Hai	Not Given
8789	s8784	TV Show	Yoko	Not Given
8790	s8786	TV Show	YOM	Not Given

	country	date_added	release_year	rating	duration \
0	United States	9/25/2021	2020.0	PG-13	90 min
1	France	9/24/2021	2021.0	TV-MA	1 Season
2	United States	9/24/2021	2021.0	TV-MA	1 Season
3	Brazil	9/22/2021	2021.0	TV-PG	91 min
4	United States	9/24/2021	1993.0	TV-MA	125 min
...	...	...	...	...	...
8786	Turkey	1/17/2017	2016.0	TV-PG	2 Seasons

8787	United States	9/13/2018	NaN	TV-Y7	3 Seasons
8788	Pakistan	12/15/2016	2012.0	TV-PG	1 Season
8789	Pakistan	6/23/2018	2016.0	TV-Y	1 Season
8790	Pakistan	6/7/2018	2016.0	TV-Y7	1 Season

```

                                listed_in
0                                Documentaries
1  Crime TV Shows, International TV Shows, TV Act...
2                                TV Dramas, TV Horror, TV Mysteries
3                                Children & Family Movies, Comedies
4  Dramas, Independent Movies, International Movies
...
8786                               International TV Shows, TV Dramas
8787                               Kids' TV
8788  International TV Shows, Romantic TV Shows, TV ...
8789                               Kids' TV
8790                               Kids' TV

```

[8791 rows x 10 columns]

## 0.3 Some Basics Information About Dataset

### 0.3.1 Head()

```
[5]: ds.head()
```

```

[5]:  show_id    type                                title    director \
0      s1      Movie          Dick Johnson Is Dead  Kirsten Johnson
1      s3  TV Show                Ganglands      Julien Leclercq
2      s6  TV Show          Midnight Mass        Mike Flanagan
3     s14      Movie  Confessions of an Invisible Girl  Bruno Garotti
4      s8      NaN                Sankofa        Haile Gerima

```

	country	date_added	release_year	rating	duration
0	United States	9/25/2021	2020.0	PG-13	90 min
1	France	9/24/2021	2021.0	TV-MA	1 Season
2	United States	9/24/2021	2021.0	TV-MA	1 Season
3	Brazil	9/22/2021	2021.0	TV-PG	91 min
4	United States	9/24/2021	1993.0	TV-MA	125 min

```

                                listed_in
0                                Documentaries
1  Crime TV Shows, International TV Shows, TV Act...
2                                TV Dramas, TV Horror, TV Mysteries
3                                Children & Family Movies, Comedies
4  Dramas, Independent Movies, International Movies

```

### 0.3.2 Tail()

```
[6]: ds.tail()
```

```
[6]:      show_id      type      title  director      country \
8786   s8797      NaN      Yunus Emre  Not Given      Turkey
8787   s8798      NaN      Zak Storm  Not Given  United States
8788   s8801      NaN  Zindagi Gulzar Hai  Not Given      Pakistan
8789   s8784  TV Show      Yoko  Not Given      Pakistan
8790   s8786  TV Show      YOM  Not Given      Pakistan

      date_added  release_year  rating  duration \
8786   1/17/2017      2016.0  TV-PG   2 Seasons
8787   9/13/2018      NaN  TV-Y7   3 Seasons
8788  12/15/2016      2012.0  TV-PG   1 Season
8789   6/23/2018      2016.0  TV-Y   1 Season
8790   6/7/2018      2016.0  TV-Y7   1 Season

                                listed_in
8786                                International TV Shows, TV Dramas
8787                                Kids' TV
8788  International TV Shows, Romantic TV Shows, TV ...
8789                                Kids' TV
8790                                Kids' TV
```

### 0.3.3 Shape

```
[7]: ds.shape
```

```
[7]: (8791, 10)
```

### 0.3.4 Size

```
[8]: ds.size
```

```
[8]: 87910
```

### 0.3.5 Columns

```
[9]: ds.columns
```

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

### 0.3.6 dtypes

```
[10]: ds.dtypes
```

```
[10]: show_id      object
      type        object
      title       object
      director    object
      country     object
      date_added  object
      release_year float64
      rating      object
      duration    object
      listed_in   object
      dtype: object
```

### 0.3.7 Info()

```
[11]: ds.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8791 entries, 0 to 8790
Data columns (total 10 columns):
 #   Column          Non-Null Count  Dtype
---  -
 0   show_id         8791 non-null  object
 1   type            8775 non-null  object
 2   title           8790 non-null  object
 3   director        8782 non-null  object
 4   country         8791 non-null  object
 5   date_added      8790 non-null  object
 6   release_year    8784 non-null  float64
 7   rating          8789 non-null  object
 8   duration        8791 non-null  object
 9   listed_in       8791 non-null  object
dtypes: float64(1), object(9)
memory usage: 686.9+ KB
```

### 0.3.8 Now Check The Duplicates Values In Datasets

```
[12]: ds.duplicated()
```

```
[12]: 0      False
      1      False
      2      False
      3      False
      4      False
      ...
```

```

8786    False
8787    False
8788    False
8789    False
8790    False
Length: 8791, dtype: bool

```

```
[13]: ds[ds.duplicated()]
```

```

[13]: Empty DataFrame
Columns: [show_id, type, title, director, country, date_added, release_year,
rating, duration, listed_in]
Index: []

```

### 0.3.9 Check The Null Values In Datasets

```
[14]: ds.isnull()
```

```

[14]:
   show_id  type  title  director  country  date_added  release_year  \
0      False False False    False    False      False      False
1      False False False    False    False      False      False
2      False False False    False    False      False      False
3      False False False    False    False      False      False
4      False  True  False    False    False      False      False
...
8786    False  True  False    False    False      False      False
8787    False  True  False    False    False      False      True
8788    False  True  False    False    False      False      False
8789    False False  False    False    False      False      False
8790    False False  False    False    False      False      False

   rating  duration  listed_in
0      False      False      False
1      False      False      False
2      False      False      False
3      False      False      False
4      False      False      False
...
8786    False      False      False
8787    False      False      False
8788    False      False      False
8789    False      False      False
8790    False      False      False

[8791 rows x 10 columns]

```

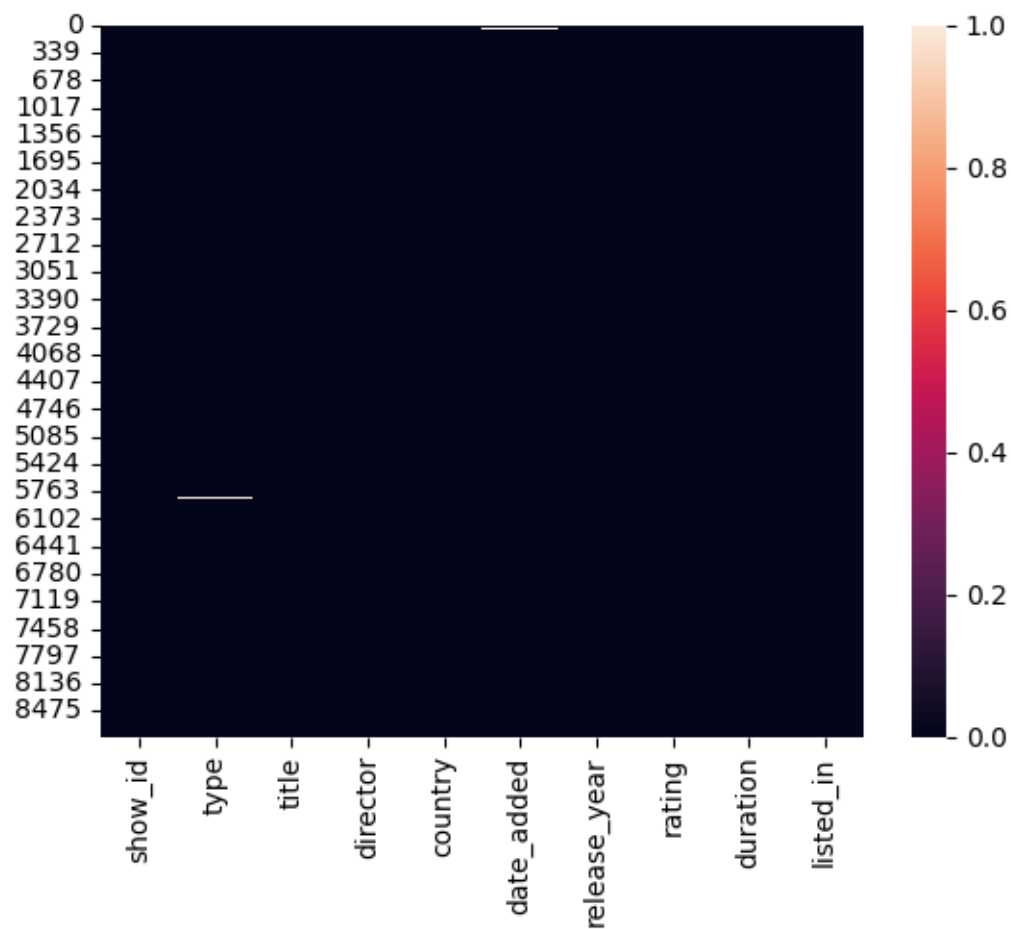
```
[15]: ds.isnull().sum()
```

```
[15]: show_id      0
      type        16
      title        1
      director      9
      country       0
      date_added    1
      release_year   7
      rating        2
      duration      0
      listed_in     0
      dtype: int64
```

### 0.3.10 Using Of HeatMap To Show Null Values

```
[16]: sc.heatmap(ds.isnull())
```

```
[16]: <Axes: >
```



**0.3.11 Show that the ‘Rumble’ movie is given or not also show the it’s Show\_id and director name**

```
[17]: ds[ds['title'].isin(['Rumble'])]
```

```
[17]:      show_id  type  title      director country date_added \
5785    s7900  Movie  Rumble  R. Ellis Frazier  Mexico  9/15/2017

      release_year rating duration      listed_in
5785          2016.0  TV-MA    92 min  Action & Adventure, Independent Movies
```

**0.3.12 Show that the in which year highest number of movies and tv shows released**

```
[18]: ds['release_y']=pd.to_datetime(ds['date_added'])
```

```
[19]: ds.head()
```

```
[19]:      show_id      type      title      director \
0         s1    Movie      Dick Johnson Is Dead  Kirsten Johnson
1         s3  TV Show      Ganglands  Julien Leclercq
2         s6  TV Show      Midnight Mass    Mike Flanagan
3        s14    Movie  Confessions of an Invisible Girl  Bruno Garotti
4         s8      NaN      Sankofa    Haile Gerima
```

```
      country date_added  release_year rating  duration \
0  United States  9/25/2021      2020.0  PG-13    90 min
1         France  9/24/2021      2021.0  TV-MA    1 Season
2  United States  9/24/2021      2021.0  TV-MA    1 Season
3         Brazil  9/22/2021      2021.0  TV-PG    91 min
4  United States  9/24/2021      1993.0  TV-MA   125 min
```

```
      listed_in  release_y
0      Documentaries  2021-09-25
1  Crime TV Shows, International TV Shows, TV Act...  2021-09-24
2      TV Dramas, TV Horror, TV Mysteries  2021-09-24
3      Children & Family Movies, Comedies  2021-09-22
4  Dramas, Independent Movies, International Movies  2021-09-24
```

```
[20]: ds['release_y'].dt.year.value_counts()
```

```
[20]: release_y
2019.0    2016
2020.0   1879
2018.0   1648
2021.0   1498
2017.0   1185
2016.0    426
2015.0     82
```



```

2014.0      24
2011.0      13
2013.0      11
2012.0       3
2009.0       2
2008.0       2
2010.0       1
Name: count, dtype: int64

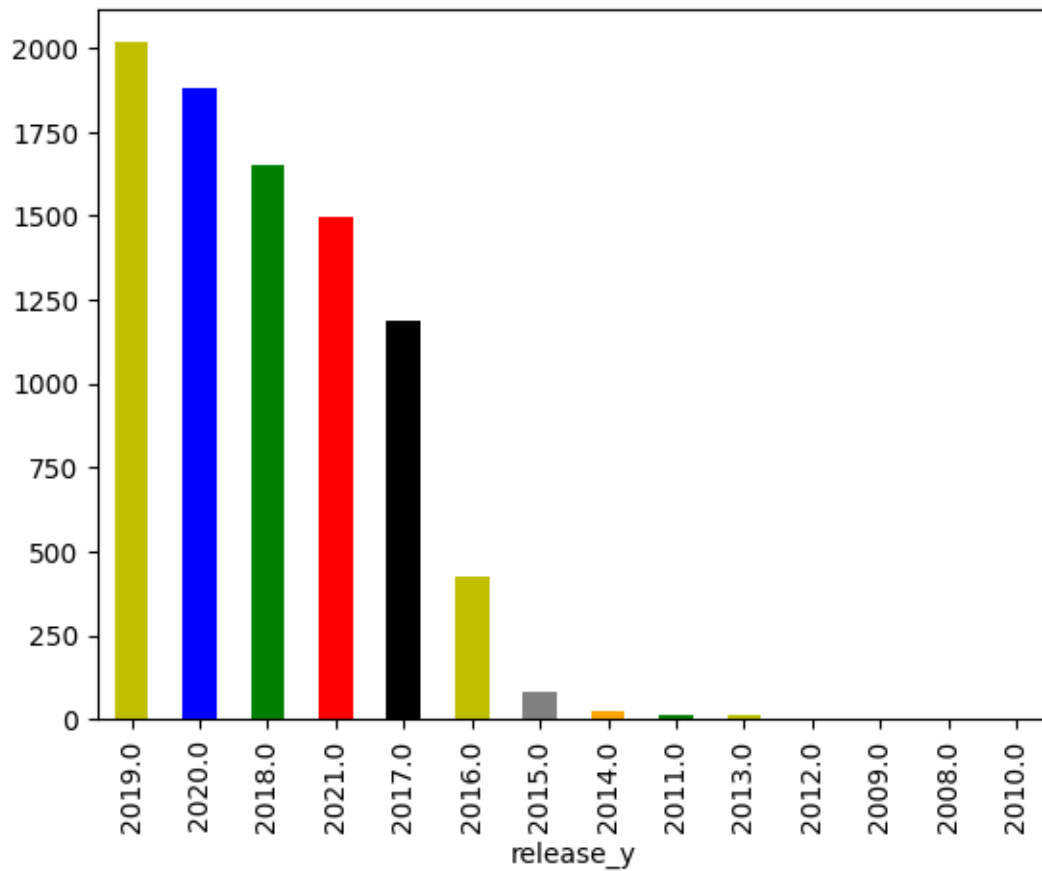
```

### 0.3.13 Show In Bar Graph

```
[67]: clr=['y','b','g','r','k','y','gray','orange','g','y']
```

```
[68]: ds['release_y'].dt.year.value_counts().plot(kind="bar",color=clr)
```

```
[68]: <Axes: xlabel='release_y'>
```



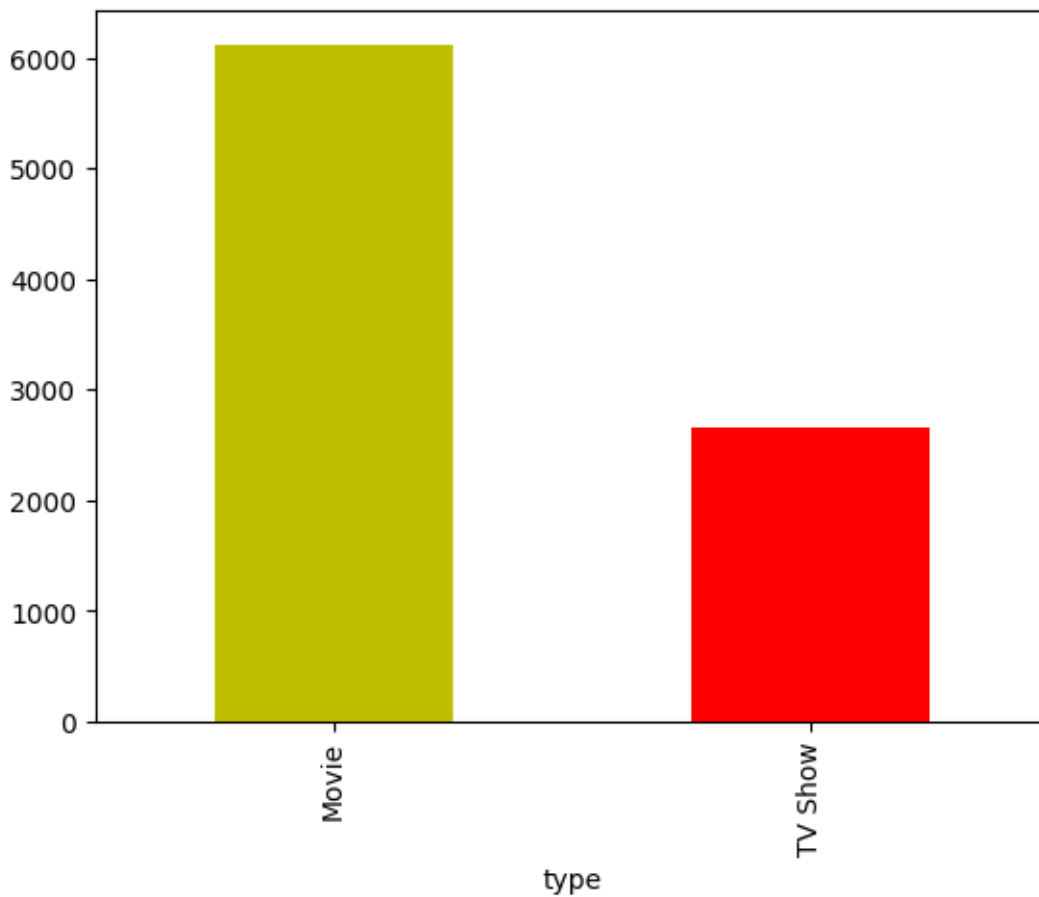
### 0.3.14 Show That How Many Movies And TV shows in DataSets

```
[23]: ds.groupby("type").type.count()
```

```
[23]: type
      Movie      6116
      TV Show    2659
      Name: type, dtype: int64
```

```
[24]: ds.groupby("type").type.count().plot(kind="bar",color=['y','r'])
```

```
[24]: <Axes: xlabel='type'>
```



### 0.3.15 Check The Movies In Randomly Year

```
[25]: ds['years']=ds['release_y'].dt.year
```

```
[26]: ds[(ds['type']=="Movie") & (ds['years']==2021)]
```

```

[26]: show_id  type                                     title \
0      s1  Movie                                     Dick Johnson Is Dead
3      s14 Movie                                     Confessions of an Invisible Girl
6      s10 Movie                                     The Starling
7      s939 Movie                                    Motu Patlu in the Game of Zones
8      s13  Movie                                     Je Suis Karl
...      ...      ...
6827   s1162 Movie  Elizabeth and Margaret: Love and Loyalty
6863   s1288 Movie   Fate: The Winx Saga - The Afterparty
6907   s1426 Movie   Creating The Queen's Gambit
6911   s1432 Movie   Stuck Apart
6923   s1467 Movie   The Minimalists: Less Is Now

      director      country date_added  release_year rating \
0      Kirsten Johnson  United States  9/25/2021      2020.0  PG-13
3      Bruno Garotti    Brazil      9/22/2021      2021.0  TV-PG
6      Theodore Melfi   United States  9/24/2021      2021.0  PG-13
7      Suhas Kadav      India      5/1/2021      2019.0  TV-Y7
8      Christian Schwochow  Germany  9/23/2021      2021.0  TV-MA
...      ...      ...      ...      ...
6827      Not Given  United Kingdom  3/26/2021      2020.0  TV-PG
6863      Not Given  United Kingdom  2/20/2021      2021.0  TV-14
6907      Not Given  United States   1/8/2021      2021.0  TV-14
6911      Not Given   Turkey      1/8/2021      2021.0  TV-MA
6923      Not Given  United States   1/1/2021      2021.0  TV-14

      duration      listed_in  release_y \
0      90 min      Documentaries 2021-09-25
3      91 min      Children & Family Movies, Comedies 2021-09-22
6      104 min      Comedies, Dramas 2021-09-24
7      87 min  Children & Family Movies, Comedies, Music & Mu... 2021-05-01
8      127 min      Dramas, International Movies 2021-09-23
...      ...      ...
6827      87 min      Documentaries 2021-03-26
6863      36 min      Comedies, Dramas 2021-02-20
6907      14 min      Documentaries 2021-01-08
6911      97 min      Comedies, Dramas, International Movies 2021-01-08
6923      54 min      Documentaries 2021-01-01

      years
0      2021.0
3      2021.0
6      2021.0
7      2021.0
8      2021.0
...      ...
6827   2021.0

```

```
6863 2021.0
6907 2021.0
6911 2021.0
6923 2021.0
```

```
[990 rows x 12 columns]
```

### 0.3.16 Show The All Movies which is released in Pakistan

```
[27]: ds[(ds['type'] == "Movie") & (ds["country"] == 'Pakistan')]
```

```
[27]:
```

	show_id	type	title \
12	s852	Movie	99 Songs (Tamil)
67	s1093	Movie	Dolly Parton: A MusiCares Tribute
111	s405	Movie	9to5: The Story of a Movement
127	s642	Movie	Sisters on Track
152	s718	Movie	Headspace: Unwind Your Mind
...	...	...	...
7933	s4535	Movie	Super Monsters Save Halloween
8290	s5787	Movie	Karol Modzelewski, Łukasz „Lotek” Lodkowski No...
8326	s5920	Movie	Iliza Shlesinger: Freezing Hot
8525	s7117	Movie	Jake's Buccaneer Blast
8526	s7139	Movie	John Mellencamp: Plain Spoken

	director	country	date_added	release_year	rating	duration \
12	Not Given	Pakistan	5/21/2021	2021.0	TV-14	131 min
67	Not Given	Pakistan	4/7/2021	2021.0	TV-PG	55 min
111	Not Given	Pakistan	7/22/2021	2021.0	TV-MA	85 min
127	Not Given	Pakistan	6/24/2021	2021.0	PG	97 min
152	Not Given	Pakistan	6/15/2021	2021.0	TV-G	273 min
...	...	...	...	...	...	...
7933	Not Given	Pakistan	10/5/2018	2018.0	TV-Y	25 min
8290	Not Given	Pakistan	9/19/2016	2016.0	TV-MA	65 min
8326	Not Given	Pakistan	1/23/2015	2015.0	TV-MA	72 min
8525	Not Given	Pakistan	8/6/2017	2014.0	TV-Y	22 min
8526	Not Given	Pakistan	2/1/2018	2017.0	TV-MA	80 min

	listed_in	release_y	years
12	Dramas, International Movies, Music & Musicals	2021-05-21	2021.0
67	Documentaries, Music & Musicals	2021-04-07	2021.0
111	Documentaries	2021-07-22	2021.0
127	Documentaries, Sports Movies	2021-06-24	2021.0
152	Documentaries	2021-06-15	2021.0
...	...	...	...
7933	Children & Family Movies	2018-10-05	2018.0
8290	Stand-Up Comedy	2016-09-19	2016.0
8326	Stand-Up Comedy	2015-01-23	2015.0

```

8525                                     Movies 2017-08-06  2017.0
8526                                Documentaries, Music & Musicals 2018-02-01  2018.0

```

```
[71 rows x 12 columns]
```

```
[28]: ds[(ds['type'] == "Movie") & (ds["country"] == 'Pakistan')]['title']
```

```

[28]: 12                                99 Songs (Tamil)
      67                                Dolly Parton: A MusiCares Tribute
      111                               9to5: The Story of a Movement
      127                               Sisters on Track
      152                               Headspace: Unwind Your Mind
      ...
      7933                             Super Monsters Save Halloween
      8290    Karol Modzelewski, Łukasz „Lotek” Lodkowski No...
      8326                               Iliza Shlesinger: Freezing Hot
      8525                               Jake's Buccaneer Blast
      8526                               John Mellencamp: Plain Spoken
      Name: title, Length: 71, dtype: object

```

### 0.3.17 Top 10 Directors Which Gives The Highest Movies And TV Shows to the NetFlix

```
[29]: ds['director'].value_counts().head(10)
```

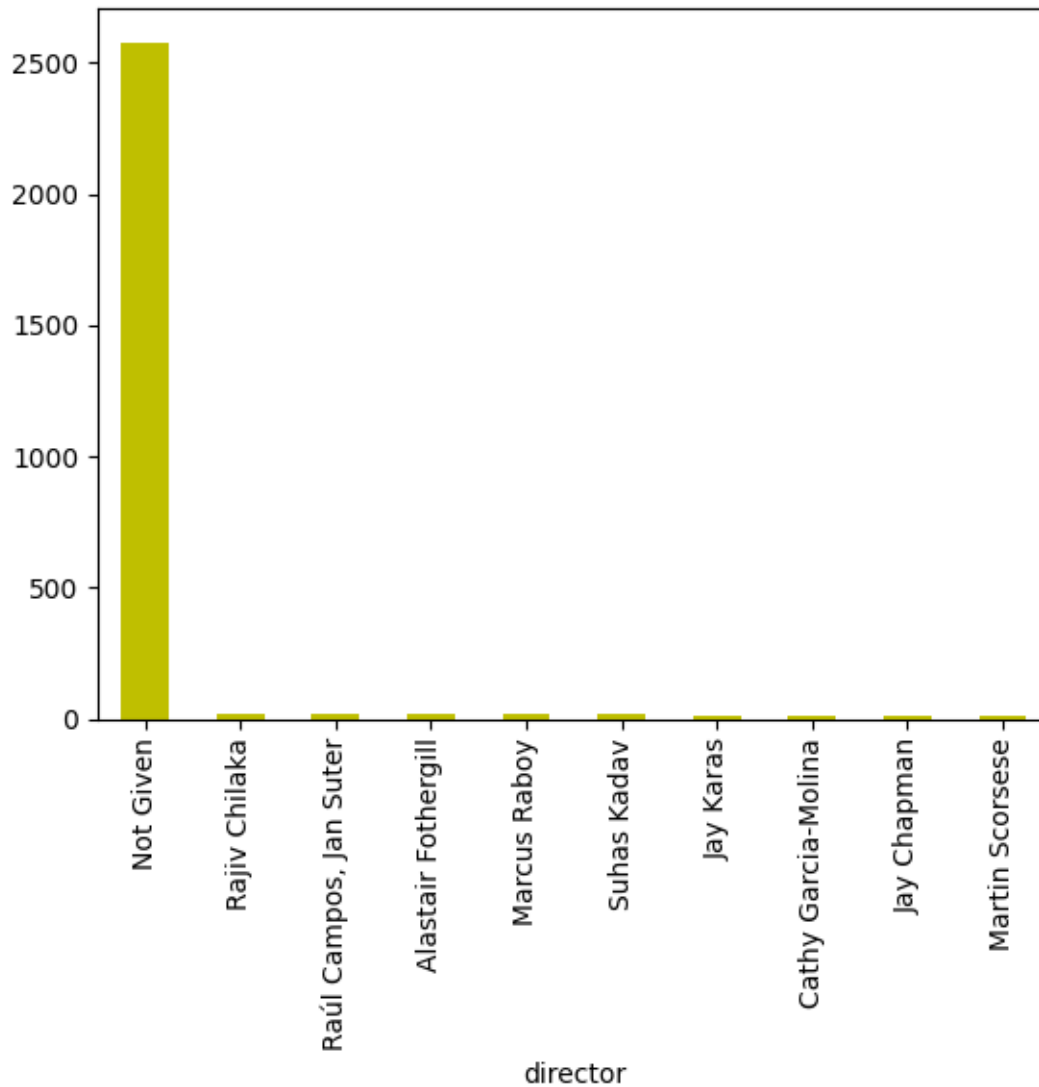
```

[29]: director
      Not Given                2579
      Rajiv Chilaka             20
      Raúl Campos, Jan Suter    18
      Alastair Fothergill       18
      Marcus Raboy              16
      Suhas Kadav               16
      Jay Karas                 14
      Cathy Garcia-Molina       13
      Jay Chapman               12
      Martin Scorsese           12
      Name: count, dtype: int64

```

```
[30]: ds['director'].value_counts().head(10).plot(kind='bar',color='y')
```

```
[30]: <Axes: xlabel='director'>
```



### 0.3.18 Show Those Movies Which Are Comedians & Country Is United States

```
[31]: ds[(ds['type']=="Movie") & (ds["listed_in"]=="Comedies") &
      ↪(ds["country"]=="Pakistan")]
```

```
[31]:
```

	show_id	type	title	director	\
184	s1029	Movie	Dad Stop Embarrassing Me - The Afterparty	Not Given	
6780	s889	Movie	The Upshaws - The Afterparty	Not Given	

	country	date_added	release_year	rating	duration	listed_in	release_y	\
184	Pakistan	4/16/2021	2021.0	TV-14	37 min	Comedies	2021-04-16	
6780	Pakistan	5/14/2021	2021.0	TV-14	32 min	Comedies	2021-05-14	

```

        years
184    2021.0
6780   2021.0

```

### 0.3.19 Which Country Has The Highest Number Of TV Shows

```
[32]: ds.head()
```

```

[32]:  show_id    type                                title    director \
0      s1      Movie                Dick Johnson Is Dead  Kirsten Johnson
1      s3  TV Show                        Ganglands      Julien Leclercq
2      s6  TV Show                Midnight Mass          Mike Flanagan
3     s14      Movie  Confessions of an Invisible Girl    Bruno Garotti
4      s8      NaN                                Sankofa      Haile Gerima

        country date_added  release_year rating  duration \
0  United States  9/25/2021        2020.0  PG-13    90 min
1           France  9/24/2021        2021.0  TV-MA    1 Season
2  United States  9/24/2021        2021.0  TV-MA    1 Season
3           Brazil  9/22/2021        2021.0  TV-PG    91 min
4  United States  9/24/2021        1993.0  TV-MA   125 min

                                listed_in  release_y  years
0                                Documentaries  2021-09-25  2021.0
1  Crime TV Shows, International TV Shows, TV Act...  2021-09-24  2021.0
2                                TV Dramas, TV Horror, TV Mysteries  2021-09-24  2021.0
3                                Children & Family Movies, Comedies  2021-09-22  2021.0
4  Dramas, Independent Movies, International Movies  2021-09-24  2021.0

```

```
[33]: ds_tvshow=ds[ds["type"] == "TV Show"]
```

```
[34]: ds_tvshow.head(5)
```

```

[34]:  show_id    type                                title    director \
1      s3  TV Show                        Ganglands      Julien Leclercq
2      s6  TV Show                Midnight Mass          Mike Flanagan
5      s9  TV Show    The Great British Baking Show  Andy Devonshire
17     s4  TV Show                Jailbirds New Orleans          Not Given
18    s15  TV Show  Crime Stories: India Detectives          Not Given

        country date_added  release_year rating  duration \
1           France  9/24/2021        2021.0  TV-MA    1 Season
2  United States  9/24/2021        2021.0  TV-MA    1 Season
5  United Kingdom  9/24/2021        2021.0  TV-14    9 Seasons
17           Pakistan  9/24/2021        2021.0  TV-MA    1 Season
18           Pakistan  9/22/2021        2021.0  TV-MA    1 Season

```

		listed_in	release_y	years
1	Crime TV Shows, International TV Shows, TV Act...		2021-09-24	2021.0
2	TV Dramas, TV Horror, TV Mysteries		2021-09-24	2021.0
5	British TV Shows, Reality TV		2021-09-24	2021.0
17	Docuseries, Reality TV		2021-09-24	2021.0
18	British TV Shows, Crime TV Shows, Docuseries		2021-09-22	2021.0

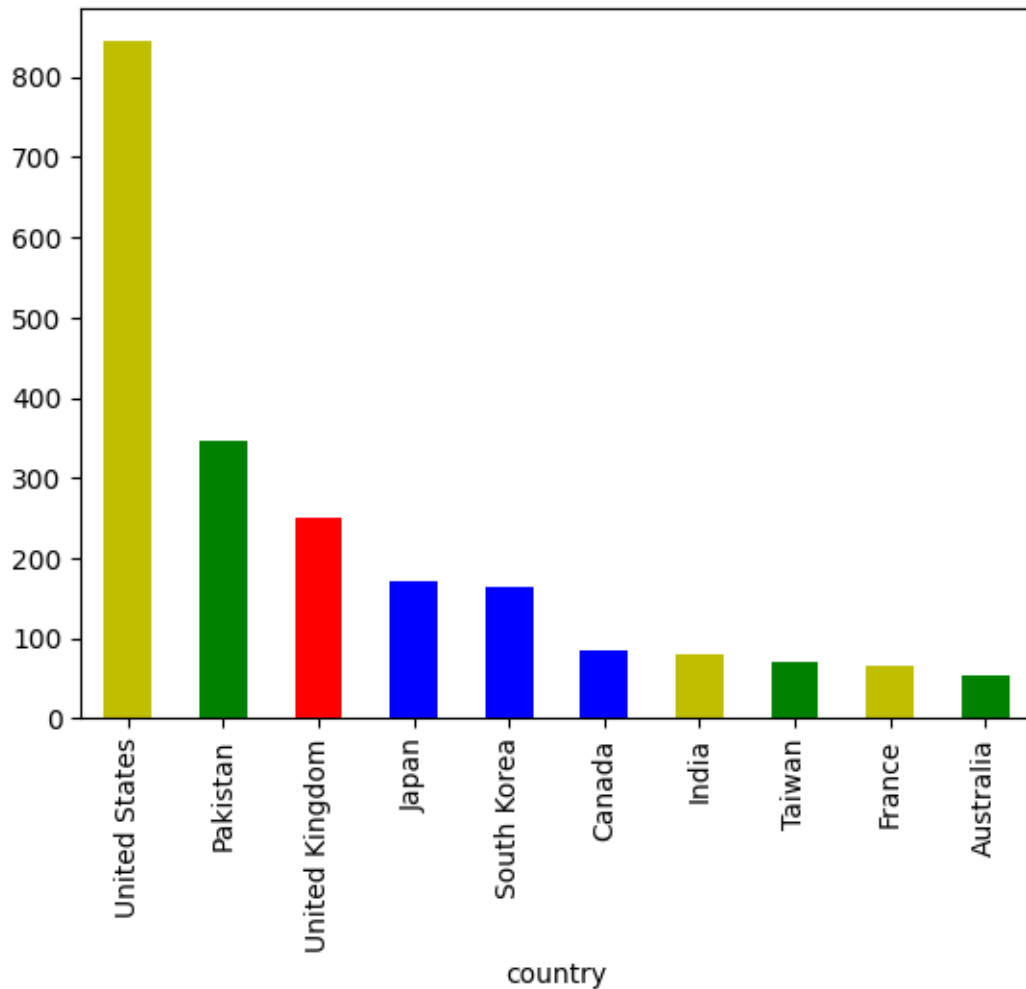
```
[35]: ds_tvshow.country.value_counts().head(10)
```

```
[35]: country
United States      844
Pakistan           346
United Kingdom     251
Japan              172
South Korea        165
Canada             84
India              81
Taiwan             71
France             65
Australia          53
Name: count, dtype: int64
```

```
[36]: ds_tvshow.country.value_counts().head(10).
      ↪plot(kind="bar",color=['y','g','r','b','b','b','y','g'])
```

```
[36]: <Axes: xlabel='country'>
```





### 0.3.20 Sort The Values By Years

```
[37]: ds.sort_values(by="years").head(10)
```

```
[37]:
```

	show_id	type	title \
8424	s6612	TV Show	Dinner for Five
4254	s5958	Movie	To and From New York
4253	s5957	Movie	Just Another Love Story
4252	s5956	Movie	Splatter
5382	s7371	Movie	Mad Ron's Prevues from Hell
4246	s5950	Movie	Too Young the Hero
4251	s5955	Movie	Even the Rain
4250	s5954	Movie	Joseph: King of Dreams
4249	s5953	Movie	Victim of Beauty
4248	s5952	Movie	Unspeakable Acts

	director	country	date_added	release_year	\
8424	Not Given	United States	2/4/2008	2007.0	
4254	Sorin Dan Mihalcescu	United States	1/1/2008	2006.0	
4253	Ole Bornedal	Denmark	5/5/2009	2007.0	
4252	Joe Dante	United States	11/18/2009	2009.0	
5382	Jim Monaco	United States	11/1/2010	1987.0	
4246	Buzz Kulik	United States	10/1/2011	1988.0	
4251	Iciar Bollain	Spain	5/17/2011	2010.0	
4250	Rob LaDuca, Robert C. Ramirez	United States	9/27/2011	2000.0	
4249	Roger Young	United States	10/1/2011	1991.0	
4248	Linda Otto	United States	10/1/2011	1990.0	

	rating	duration	listed_in	\
8424	TV-MA	1 Season	Stand-Up Comedy & Talk Shows	
4254	TV-MA	81 min	Dramas, Independent Movies, Thrillers	
4253	TV-MA	104 min	Dramas, International Movies	
4252	TV-MA	29 min	Horror Movies	
5382	NR	84 min	Cult Movies, Horror Movies	
4246	TV-MA	94 min	Dramas	
4251	TV-MA	103 min	Dramas, International Movies	
4250	TV-PG	75 min	Children & Family Movies, Dramas, Faith & Spir...	
4249	TV-14	93 min	Dramas, Thrillers	
4248	TV-14	95 min	Dramas	

	release_y	years
8424	2008-02-04	2008.0
4254	2008-01-01	2008.0
4253	2009-05-05	2009.0
4252	2009-11-18	2009.0
5382	2010-11-01	2010.0
4246	2011-10-01	2011.0
4251	2011-05-17	2011.0
4250	2011-09-27	2011.0
4249	2011-10-01	2011.0
4248	2011-10-01	2011.0

### 0.3.21 What Are The Different Rating Which Is Define By The NetFlix

```
[38]: ds.rating.nunique()
```

```
[38]: 14
```

```
[39]: ds.rating.unique()
```

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

### 0.3.22 How Many Movies Got The TV-14 Rating In Pakistan

```
[40]: ds[(ds["type"] == "Movie") & (ds["rating"] == "TV-14") & (ds["country"] ==  
↵ "Pakistan")].shape
```

```
[40]: (19, 12)
```

### 0.3.23 How Many Movies Got The TV-14 Rating after 2020

```
[41]: ds[(ds["type"] == "Movie") & (ds["rating"] == "TV-14") & (ds["years"] > 2020)]
```

```
[41]:
```

	show_id	type	title \
12	s852	Movie	99 Songs (Tamil)
13	s471	Movie	Bridgerton - The Afterparty
16	s913	Movie	The Circle - The Afterparty
30	s25	Movie	Jeans
53	s19	Movie	Intrusion
...	...	...	...
6785	s976	Movie	Shadow and Bone - The Afterparty
6790	s1012	Movie	Free to Play
6863	s1288	Movie	Fate: The Winx Saga - The Afterparty
6907	s1426	Movie	Creating The Queen's Gambit
6923	s1467	Movie	The Minimalists: Less Is Now

		director	country	date_added \
12		Not Given	Pakistan	5/21/2021
13	Kryisia Plonka, Kristian Mercado		United States	7/13/2021
16	Kryisia Plonka, Kristian Mercado		United States	5/7/2021
30		S. Shankar	India	9/21/2021
53		Adam Salky	Not Given	9/22/2021
...	...	...	...	...
6785		Not Given	United States	4/24/2021
6790		Not Given	United States	4/19/2021
6863		Not Given	United Kingdom	2/20/2021
6907		Not Given	United States	1/8/2021
6923		Not Given	United States	1/1/2021

	release_year	rating	duration \
12	2021.0	TV-14	131 min
13	2021.0	TV-14	39 min
16	2021.0	TV-14	35 min
30	1998.0	TV-14	166 min
53	2021.0	TV-14	94 min
...	...	...	...
6785	2021.0	TV-14	33 min
6790	2014.0	TV-14	76 min
6863	2021.0	TV-14	36 min
6907	2021.0	TV-14	14 min

6923            2021.0   TV-14    54 min

		listed_in	release_y	years
12	Dramas, International Movies, Music & Musicals	2021-05-21	2021.0	
13		Movies	2021-07-13	2021.0
16		Comedies	2021-05-07	2021.0
30	Comedies, International Movies, Romantic Movies	2021-09-21	2021.0	
53		Thrillers	2021-09-22	2021.0
...		...	...	...
6785	Action & Adventure, Comedies, Dramas	2021-04-24	2021.0	
6790		Documentaries	2021-04-19	2021.0
6863		Comedies, Dramas	2021-02-20	2021.0
6907		Documentaries	2021-01-08	2021.0
6923		Documentaries	2021-01-01	2021.0

[200 rows x 12 columns]

### 0.3.24 Which Movie/TV Shows On Netflix Have Maximum Duration Time

```
[42]: ds["duration"].unique()
```

```
[42]: array(['90 min', '1 Season', '91 min', '125 min', '9 Seasons', '104 min',  
          '87 min', '127 min', '76 min', '71 min', '131 min', '39 min',  
          '36 min', '34 min', '35 min', '46 min', '67 min', '65 min',  
          '61 min', '166 min', '103 min', '97 min', '106 min', '2 Seasons',  
          '4 Seasons', '147 min', '94 min', '161 min', '111 min', '110 min',  
          '105 min', '96 min', '124 min', '116 min', '98 min', '115 min',  
          '122 min', '55 min', '99 min', '88 min', '100 min', '6 Seasons',  
          '3 Seasons', '23 min', '102 min', '93 min', '95 min', '85 min',  
          '83 min', '182 min', '5 Seasons', '92 min', '84 min', '48 min',  
          '145 min', '119 min', '80 min', '128 min', '143 min', '273 min',  
          '117 min', '114 min', '118 min', '108 min', '37 min', '121 min',  
          '63 min', '142 min', '113 min', '154 min', '120 min', '82 min',  
          '109 min', '101 min', '86 min', '77 min', '229 min', '15 min',  
          '89 min', '156 min', '112 min', '107 min', '129 min', '44 min',  
          '68 min', '135 min', '136 min', '165 min', '150 min', '133 min',  
          '47 min', '70 min', '56 min', '58 min', '78 min', '140 min',  
          '64 min', '59 min', '60 min', '69 min', '19 min', '22 min',  
          '148 min', '189 min', '54 min', '141 min', '130 min', '81 min',  
          '7 Seasons', '138 min', '132 min', '8 Seasons', '123 min',  
          '66 min', '62 min', '74 min', '38 min', '13 min', '139 min',  
          '126 min', '155 min', '159 min', '12 min', '137 min', '49 min',  
          '72 min', '204 min', '25 min', '212 min', '73 min', '149 min',  
          '224 min', '162 min', '75 min', '79 min', '32 min', '158 min',  
          '164 min', '173 min', '181 min', '185 min', '21 min', '24 min',  
          '51 min', '151 min', '42 min', '134 min', '177 min', '52 min',  
          '53 min', '8 min', '57 min', '28 min', '50 min', '9 min', '26 min',
```

```
'45 min', '171 min', '27 min', '33 min', '29 min', '146 min',
'20 min', '157 min', '203 min', '41 min', '30 min', '17 min',
'194 min', '15 Seasons', '233 min', '230 min', '237 min',
'195 min', '253 min', '152 min', '190 min', '160 min', '208 min',
'180 min', '144 min', '5 min', '174 min', '170 min', '192 min',
'209 min', '187 min', '172 min', '16 min', '186 min', '11 min',
'193 min', '176 min', '169 min', '40 min', '3 min', '168 min',
'153 min', '214 min', '31 min', '163 min', '14 min', '179 min',
'43 min', '200 min', '196 min', '167 min', '178 min', '228 min',
'18 min', '205 min', '201 min', '191 min', '10 Seasons',
'17 Seasons', '13 Seasons', '10 min', '312 min', '12 Seasons',
'11 Seasons'], dtype=object)
```

```
[43]: ds[["Minute","Unit"]]=ds["duration"].str.split(" ",expand=True)
```

```
[44]: ds.head(2)
```

```
[44]:  show_id      type      title      director      country \
0      s1      Movie  Dick Johnson Is Dead  Kirsten Johnson  United States
1      s3  TV Show      Ganglands  Julien Leclercq      France

      date_added  release_year  rating  duration \
0  9/25/2021      2020.0  PG-13      90 min
1  9/24/2021      2021.0  TV-MA      1 Season

                                listed_in  release_y  years \
0                                Documentaries  2021-09-25  2021.0
1  Crime TV Shows, International TV Shows, TV Act...  2021-09-24  2021.0

      Minute      Unit
0          90      min
1           1  Season
```

```
[45]: ds['Minute'].max()
```

```
[45]: '99'
```

```
[46]: ds['Minute'].min()
```

```
[46]: '1'
```

### 0.3.25 Show Movies Which are Comedies OR Show TV Shows Which are Kids' TV

```
[47]: ds[(ds["type"] == "Movie") & (ds["listed_in"] == "Comedies")]
```

```
[47]:  show_id      type      title \
16      s913  Movie  The Circle - The Afterparty
31      s28  Movie      Grown Ups
```

184	s1029	Movie	Dad Stop Embarrassing Me - The Afterparty
186	s153	Movie	Janoskians: Untold and Untrue
254	s183	Movie	Welcome Home Roscoe Jenkins
...	...	...	...
6825	s1158	Movie	Bad Trip
7611	s3630	Movie	Otherhood
7698	s3828	Movie	Still LAUGH-IN: The Stars Celebrate
7958	s4696	Movie	Party Monster: Scratching the Surface
7977	s4762	Movie	Father of the Year

		director	country	date_added	\
16	Kryisia Plonka,	Kristian Mercado	United States	5/7/2021	
31		Dennis Dugan	United States	9/20/2021	
184		Not Given	Pakistan	4/16/2021	
186		Brett Weiner	United States	9/1/2021	
254		Malcolm D. Lee	United States	9/1/2021	
...		...	...	...	
6825		Not Given	United States	3/26/2021	
7611		Not Given	United Kingdom	8/2/2019	
7698		Not Given	United States	5/14/2019	
7958		Not Given	United States	8/17/2018	
7977		Not Given	United States	7/20/2018	

	release_year	rating	duration	listed_in	release_y	years	Minute	Unit
16	2021.0	TV-14	35 min	Comedies	2021-05-07	2021.0	35	min
31	2010.0	PG-13	103 min	Comedies	2021-09-20	2021.0	103	min
184	2021.0	TV-14	37 min	Comedies	2021-04-16	2021.0	37	min
186	2016.0	TV-MA	88 min	Comedies	2021-09-01	2021.0	88	min
254	2008.0	PG-13	114 min	Comedies	2021-09-01	2021.0	114	min
...	...	...	...	...	...	...	...	...
6825	2021.0	TV-MA	87 min	Comedies	2021-03-26	2021.0	87	min
7611	2019.0	R	101 min	Comedies	2019-08-02	2019.0	101	min
7698	2019.0	TV-MA	61 min	Comedies	2019-05-14	2019.0	61	min
7958	2018.0	TV-14	33 min	Comedies	2018-08-17	2018.0	33	min
7977	2018.0	TV-MA	95 min	Comedies	2018-07-20	2018.0	95	min

[110 rows x 14 columns]

```
[48]: ds[(ds["type"] == "TV Show") & (ds["listed_in"] == "Kids' TV")]
```

```
[48]:
```

	show_id	type	title	\
20	s4832	TV Show	True: Magical Friends	
21	s4833	TV Show	True: Wonderful Wishes	
22	s4857	TV Show	Dance & Sing with True	
37	s35	TV Show	Tayo and Little Wizards	
42	s90	TV Show	Mighty Raju	
...	...	...	...	

8744	s8524	TV Show	The Super Mario Bros. Super Show!
8757	s8597	TV Show	Tip the Mouse
8766	s8670	TV Show	V.R. Troopers
8789	s8784	TV Show	Yoko
8790	s8786	TV Show	YOM

		director	country	date_added	release_year \
20		Mark Thornton, Todd Kauffman	United States	6/15/2018	2018.0
21		Mark Thornton, Todd Kauffman	United States	6/15/2018	2018.0
22		Mark Thornton, Todd Kauffman	United States	5/18/2018	2018.0
37		Not Given	Pakistan	NaN	2020.0
42		Not Given	Pakistan	9/9/2021	2017.0
...		...	...	...	...
8744		Not Given	United States	5/22/2016	1989.0
8757		Not Given	Germany	9/1/2017	2014.0
8766		Not Given	United States	1/1/2016	1995.0
8789		Not Given	Pakistan	6/23/2018	2016.0
8790		Not Given	Pakistan	6/7/2018	2016.0

	rating	duration	listed_in	release_y	years	Minute	Unit
20	NaN	1 Season	Kids' TV	2018-06-15	2018.0	1	Season
21	TV-Y	1 Season	Kids' TV	2018-06-15	2018.0	1	Season
22	TV-Y	1 Season	Kids' TV	2018-05-18	2018.0	1	Season
37	TV-Y7	1 Season	Kids' TV	NaN	NaN	1	Season
42	TV-Y7	4 Seasons	Kids' TV	2021-09-09	2021.0	4	Seasons
...	...	...	...	...	...	...	...
8744	TV-Y7	1 Season	Kids' TV	2016-05-22	2016.0	1	Season
8757	TV-Y	1 Season	Kids' TV	2017-09-01	2017.0	1	Season
8766	TV-G	2 Seasons	Kids' TV	2016-01-01	2016.0	2	Seasons
8789	TV-Y	1 Season	Kids' TV	2018-06-23	2018.0	1	Season
8790	TV-Y7	1 Season	Kids' TV	2018-06-07	2018.0	1	Season

[218 rows x 14 columns]

```
[49]: ds[(ds["type"] == "Movie") & (ds["listed_in"] == "Comedies") | (ds["type"] == "TV Show") & (ds["listed_in"] == "Kids' TV")]
```

```
[49]:
```

	show_id	type	title \
16	s913	Movie	The Circle - The Afterparty
20	s4832	TV Show	True: Magical Friends
21	s4833	TV Show	True: Wonderful Wishes
22	s4857	TV Show	Dance & Sing with True
31	s28	Movie	Grown Ups
...	...	...	...
8744	s8524	TV Show	The Super Mario Bros. Super Show!
8757	s8597	TV Show	Tip the Mouse
8766	s8670	TV Show	V.R. Troopers

```

8789    s8784    TV Show                                Yoko
8790    s8786    TV Show                                YOM

```

```

                                director      country date_added  release_year \
16    Krysia Plonka, Kristian Mercado  United States   5/7/2021      2021.0
20      Mark Thornton, Todd Kauffman  United States   6/15/2018      2018.0
21      Mark Thornton, Todd Kauffman  United States   6/15/2018      2018.0
22      Mark Thornton, Todd Kauffman  United States   5/18/2018      2018.0
31      Dennis Dugan  United States   9/20/2021      2010.0
...
8744      Not Given  United States   5/22/2016      1989.0
8757      Not Given      Germany   9/1/2017      2014.0
8766      Not Given  United States   1/1/2016      1995.0
8789      Not Given      Pakistan   6/23/2018      2016.0
8790      Not Given      Pakistan   6/7/2018      2016.0

```

```

        rating  duration listed_in  release_y  years Minute      Unit
16    TV-14      35 min  Comedies  2021-05-07  2021.0    35      min
20      NaN    1 Season  Kids' TV  2018-06-15  2018.0     1    Season
21    TV-Y      1 Season  Kids' TV  2018-06-15  2018.0     1    Season
22    TV-Y      1 Season  Kids' TV  2018-05-18  2018.0     1    Season
31    PG-13    103 min  Comedies  2021-09-20  2021.0   103      min
...
8744  TV-Y7      1 Season  Kids' TV  2016-05-22  2016.0     1    Season
8757  TV-Y      1 Season  Kids' TV  2017-09-01  2017.0     1    Season
8766  TV-G      2 Seasons  Kids' TV  2016-01-01  2016.0     2    Seasons
8789  TV-Y      1 Season  Kids' TV  2018-06-23  2018.0     1    Season
8790  TV-Y7      1 Season  Kids' TV  2018-06-07  2018.0     1    Season

```

[328 rows x 14 columns]

### 0.3.26 Which Country Has The Highest Number Of Movies On Netflix

```
[50]: ds.head(3)
```

```

[50]:  show_id    type      title      director      country \
0      s1    Movie  Dick Johnson Is Dead  Kirsten Johnson  United States
1      s3  TV Show      Ganglands  Julien Leclercq      France
2      s6  TV Show    Midnight Mass    Mike Flanagan  United States

```

```

        date_added  release_year rating  duration \
0  9/25/2021      2020.0  PG-13    90 min
1  9/24/2021      2021.0  TV-MA    1 Season
2  9/24/2021      2021.0  TV-MA    1 Season

```

```

                                listed_in  release_y  years \
0                                Documentaries  2021-09-25  2021.0

```



```

1 Crime TV Shows, International TV Shows, TV Act... 2021-09-24 2021.0
2 TV Dramas, TV Horror, TV Mysteries 2021-09-24 2021.0

```

```

Minute Unit
0 90 min
1 1 Season
2 1 Season

```

```
[56]: ds_movie=ds[ds["type"] == "Movie"]
```

```
[57]: ds_movie
```

```
[57]:
```

	show_id	type	title	director	\
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	
3	s14	Movie	Confessions of an Invisible Girl	Bruno Garotti	
6	s10	Movie	The Starling	Theodore Melfi	
7	s939	Movie	Motu Patlu in the Game of Zones	Suhas Kadav	
8	s13	Movie	Je Suis Karl	Christian Schwochow	
...	...	...	...	...	
8703	s8232	Movie	The Bund	Not Given	
8708	s8269	Movie	The Darkest Dawn	Not Given	
8717	s8331	Movie	The Great Battle	Not Given	
8764	s8648	Movie	Twisted Trunk, Big Fat Body	Not Given	
8784	s8785	Movie	Yoko and His Friends	Not Given	

	country	date_added	release_year	rating	duration	\
0	United States	9/25/2021	2020.0	PG-13	90 min	
3	Brazil	9/22/2021	2021.0	TV-PG	91 min	
6	United States	9/24/2021	2021.0	PG-13	104 min	
7	India	5/1/2021	2019.0	TV-Y7	87 min	
8	Germany	9/23/2021	2021.0	TV-MA	127 min	
...	...	...	...	...	...	
8703	Hong Kong	9/20/2018	1983.0	TV-14	103 min	
8708	United Kingdom	6/23/2018	2016.0	TV-MA	75 min	
8717	South Korea	4/8/2019	2018.0	TV-MA	136 min	
8764	India	1/15/2017	2015.0	TV-14	89 min	
8784	Russia	6/23/2018	2015.0	TV-Y	78 min	

	listed_in	release_y	years	\
0	Documentaries	2021-09-25	2021.0	
3	Children & Family Movies, Comedies	2021-09-22	2021.0	
6	Comedies, Dramas	2021-09-24	2021.0	
7	Children & Family Movies, Comedies, Music & Mu...	2021-05-01	2021.0	
8	Dramas, International Movies	2021-09-23	2021.0	
...	...	...	...	
8703	Action & Adventure, Dramas, International Movies	2018-09-20	2018.0	
8708	Action & Adventure, Independent Movies, Intern...	2018-06-23	2018.0	

8717	Action & Adventure, Dramas, International Movies	2019-04-08	2019.0
8764	Dramas, International Movies	2017-01-15	2017.0
8784	Children & Family Movies	2018-06-23	2018.0

	Minute	Unit
0	90	min
3	91	min
6	104	min
7	87	min
8	127	min
...	...	...
8703	103	min
8708	75	min
8717	136	min
8764	89	min
8784	78	min

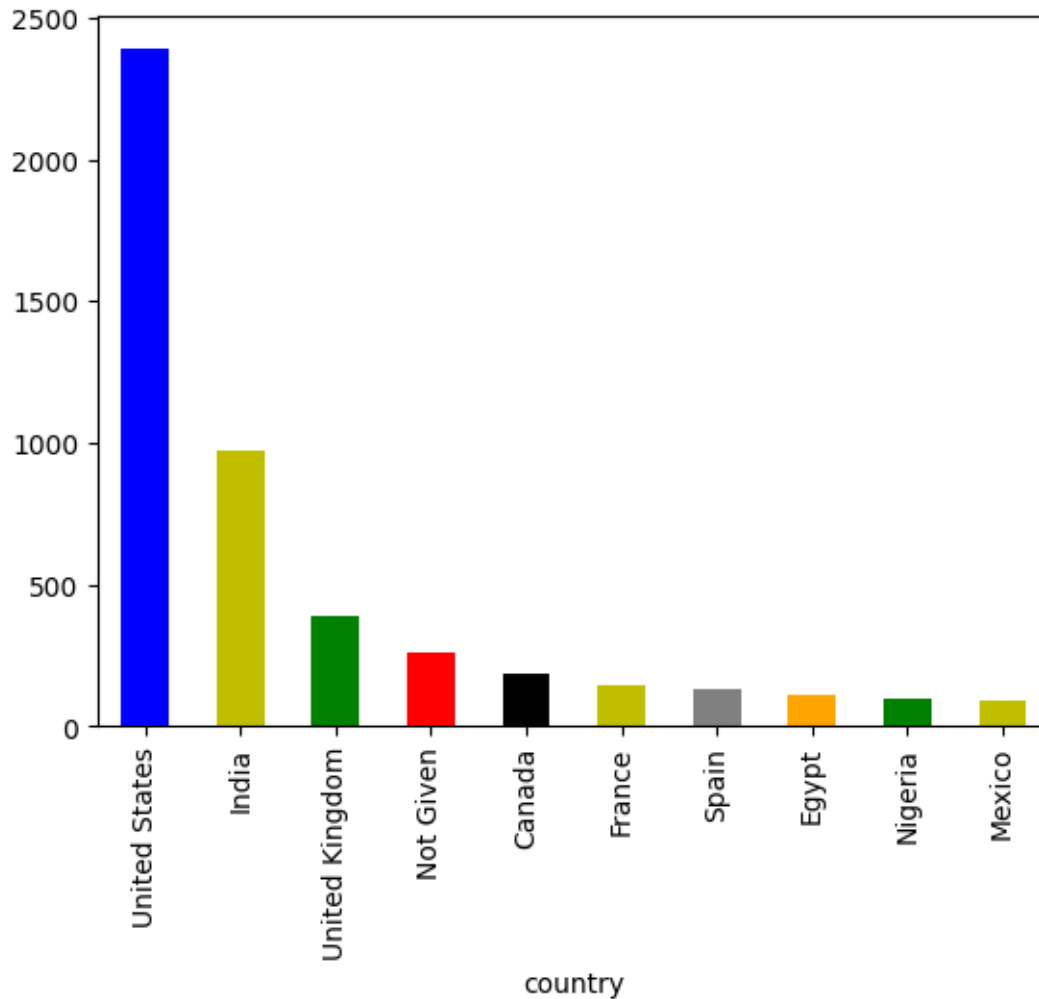
[6116 rows x 14 columns]

```
[58]: ds_movie.country.value_counts()
```

```
[58]: country
United States    2388
India            975
United Kingdom   386
Not Given        257
Canada           187
...
Zimbabwe         1
Mozambique       1
Namibia          1
Cameroon         1
Croatia          1
Name: count, Length: 78, dtype: int64
```

```
[64]: ds_movie.country.value_counts().head(10).
      plot(kind="bar",color=['b','y','g','r','k','y','gray','orange','g','y'])
```

```
[64]: <Axes: xlabel='country'>
```



### 0.3.27 Show That How Many Movies And TV shows On Netflix Released By Pakistan

```
[76]: pakistan_records = ds[ds['country'] == 'Pakistan']
```

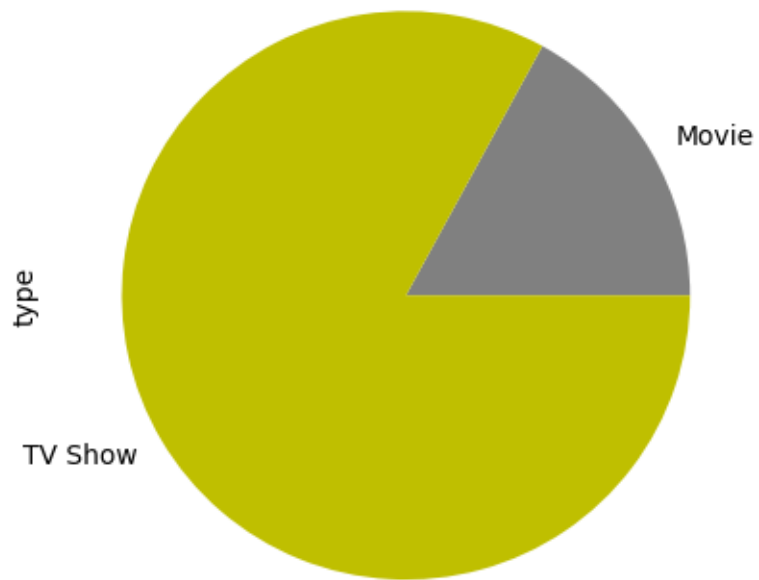
```
[77]: pakistan_type_counts = pakistan_records.groupby('type').type.count()
```

```
[78]: pakistan_type_counts
```

```
[78]: type
      Movie      71
      TV Show  346
      Name: type, dtype: int64
```

```
[84]: pakistan_type_counts.plot(kind="pie", colors=['gray', 'y'])
```

```
[84]: <Axes: ylabel='type'>
```



[ ]: