```
In [1]: import pandas as pd
import numpy as np
import warnings
warnings.filterwarnings('ignore')
```

Show the use of Boolean masking on Series objects

Example 1

```
In [2]: twopowers_sr = pd.Series([1,2,4,8,16,32,64,128,256,512,1024])
        BM=[False, False, False, True, False, False, True, True, True, True, True]
In [3]: twopowers_sr[BM]
Out[3]: 3
                8
                64
               128
        8
               256
        9
               512
        10
              1024
        dtype: int64
        Example 2
In [4]: BM = twopowers_sr>=500
        twopowers_sr[BM]
Out[4]: 9
               512
             1024
        10
        dtype: int64
        Use on DataFrame
In [5]: data = pd.read_csv('netflix_titles_2021.csv')
```

Out[5]:

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	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

unique() and nunique() are used to count the the categorical values in a column

Example

```
In [9]: print(data.country.unique())
           ['United States' 'South Africa' nan 'India'
             United States, Ghana, Burkina Faso, United Kingdom, Germany, Ethiopia'
            'United Kingdom' 'Germany, Czech Republic' 'Mexico' 'Turkey' 'Australia'
            'United States, India, France' 'Finland' 'China, Canada, United States' 'South Africa, United States, Japan' 'Nigeria' 'Japan' 'Spain, United States' 'France' 'Belgium' 'United Kingdom, United States' 'United States, United Kingdom' 'France, United States' 'South Korea'
            'Spain' 'United States, Singapore' 'United Kingdom, Australia, France'
            'United Kingdom, Australia, France, United States'
            'United States, Canada' 'Germany, United States'
            'South Africa, United States' 'United States, Mexico'
            'United States, Italy, France, Japan'
            'United States, Italy, Romania, United Kingdom'
            'Australia, United States' 'Argentina, Venezuela'
'United States, United Kingdom, Canada' 'China, Hong Kong' 'Russia'
            'Canada' 'Hong Kong' 'United States, China, Hong Kong'
            'Italy, United States' 'United States, Germany'
            'United Kingdom, Canada, United States' ', South Korea' 'Ireland'
            'India, Nepal' 'New Zealand, Australia, France, United States' 'Italy'
           Display the count of movies in the release year 2020 for each country
In [10]: BM = data.release year == 2020
In [11]: print(data.country[BM])
                                           United States
           16
                                                      NaN
           17
                                                   Mexico
           32
                                          United Kingdom
           5972
                                                   Canada
                                           United States
           7594
           8099
                                           United States
           8125
                    United States, South Korea, China
                                           United States
           8132
           Name: country, Length: 953, dtype: object
In [12]: data[BM].country.value_counts()
Out[12]: United States
                                                           336
                                                            75
           India
           United Kingdom
                                                            44
           South Korea
                                                            28
           Canada
                                                            26
           Germany, Czech Republic
                                                             1
           United States, Bulgaria
                                                             1
           United Kingdom, France, Germany, Spain
           Thailand, United States
                                                             1
           United States, South Korea, China
                                                             1
           Name: country, Length: 107, dtype: int64
           Display the count of TV Shows in each country
In [13]: BM = data.type == 'TV Show'
           data[BM].country.value_counts()
Out[13]: United States
                                                                   760
           United Kingdom
                                                                   213
           Japan
                                                                   169
           South Korea
                                                                   158
           India
                                                                    79
           Belarus
           United Kingdom, Australia
                                                                     1
           France, Australia, Germany
                                                                     1
           Australia, New Zealand, United States
                                                                     1
           United States, France, South Korea, Indonesia
                                                                     1
```

Display the ratings of TV Shows in each year

Name: country, Length: 196, dtype: int64

In [14]: data.rating.unique()

```
Out[14]: 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', nan, 'TV-Y7-FV', 'UR'], dtype=object)
           PG
In [15]: BM = data.rating == 'PG'
           data[BM].release_year.value_counts()
Out[15]: 2018
                    31
           2011
                    18
                    15
           2014
           2017
                    15
           2020
                    15
           2013
                    14
           2016
                    14
           2019
                    12
           2021
                    11
           2015
                    11
           2007
                    10
           2008
                    10
           2009
                    10
           2010
                     8
           2006
           2004
                      8
                      7
           2012
                      5
5
           2005
           2001
           2003
           2002
                      4
           1976
                      4
           1984
                      4
           2000
                      4
           1993
           1989
                      3
           1994
                      3
                      3
           1992
           1981
           1975
                      2
                      2
           1982
                      2
           1995
           1978
           1977
                      2
           1986
                      2
           1999
                      2
           1983
                      1
           1974
           1973
                      1
           1997
                      1
           1980
                      1
           1979
           1985
                      1
           1991
                      1
           1990
                      1
           1996
           Name: release_year, dtype: int64
```

TV-MA

```
In [16]: BM = data.rating =='TV-MA'
         data[BM].release_year.value_counts()
Out[16]: 2018
                  549
          2019
                  500
          2020
                  469
          2017
                  451
          2016
                  341
          2021
                  270
          2015
          2014
                   79
          2013
                   64
          2012
                   54
          2010
                   42
          2011
                   27
          2008
                   25
          2009
                   18
          2006
                   17
          2007
                   17
          2004
                   10
          2003
                    8
          2005
                    8
          Number of shows in South Africa
In [17]: BM = data.country == 'South Africa'
         data[BM].type.value counts()
Out[17]: Movie
                     24
          TV Show
                      6
          Name: type, dtype: int64
          Number of countries released shows on August 27, 2021
In [18]: BM = data.date_added=='August 27, 2021'
         data[BM].country.value_counts()
Out[18]: India
                           18
          , South Korea
                            1
          Nigeria
                            1
          Ireland
         Name: country, dtype: int64
In [19]: data.listed_in.nunique()
Out[19]: 514
In [20]: data.listed in.unique()
                 'International Movies, Sports Movies', 'International TV Shows',
                 "Classic & Cult TV, Kids' TV, Spanish-Language TV Shows",
                 'Romantic TV Shows, Spanish-Language TV Shows, TV Dramas'
                 'Children & Family Movies, Comedies, Faith & Spirituality',
                 'British TV Shows, Crime TV Shows, TV Dramas',
                 'Classic Movies, Dramas, Music & Musicals',
                 'Cult Movies, Horror Movies, Thrillers',
                 'Action & Adventure, Classic Movies, Sci-Fi & Fantasy',
                 'TV Action & Adventure, TV Comedies'
                 'Classic Movies, Comedies, Music & Musicals', 'Independent Movies',
                 'Documentaries, Horror Movies',
'Classic & Cult TV, TV Horror, TV Mysteries',
                 'Comedies, Faith & Spirituality, International Movies',
                 'Dramas, Horror Movies, Sci-Fi & Fantasy',
                 'British TV Shows, TV Dramas, TV Sci-Fi & Fantasy',
                 'Comedies, Cult Movies, Horror Movies',
                 'Comedies, Cult Movies, Sports Movies',
                 'Classic Movies, Documentaries',
                 'Action & Adventure, Faith & Spirituality, Sci-Fi & Fantasy',
                 'Action & Adventure. Children & Family Movies'
```

List of countries which shows the genre 'Comedies, International Movies'

```
In [21]: BM = data.listed_in =='Comedies, International Movies'
         data[BM].country.value_counts()
Out[21]: Egypt
                                          29
         Turkey
                                          23
         India
                                          20
         Spain
                                          10
                                           9
7
         Nigeria
         Germany
         Hong Kong
         Italy
                                           4
         Brazil
                                           4
         Philippines
         Colombia
                                           3
         France, Belgium
         France
                                           3
                                           3
         Canada
         Argentina, Spain
                                           2
         Indonesia
         Chile
         Netherlands
                                           2
         Romania
         United Arab Emirates
         Saudi Arabia
         Mexico
         United Kingdom
                                           1
         Turkey, South Korea
                                           1
         Israel
         South Korea
                                           1
         United States
                                           1
         Sweden
         Peru
         United Kingdom, United States
         Kuwait, United States
                                           1
         Pakistan
                                           1
         Argentina
                                           1
         Ireland
                                           1
         Name: country, dtype: int64
```

Countries which shows :'Documentaries, LGBTQ Movies, Sports Movies'