```python
#importing dataset
import pandas as pd
data = pd.read_csv(r"C:\Users\ankus\Downloads\Netflix data.csv")
```

```
data
```

```
      Show_Id Category                                        Title   \
0          s1  TV Show                                           3%
1          s2    Movie                                        07:19
2          s3    Movie                                        23:59
3          s4    Movie                                            9
4          s5    Movie                                           21
...       ...      ...                                          ...
7784    s7783    Movie                                         Zozo
7785    s7784    Movie                                       Zubaan
7786    s7785    Movie                            Zulu Man in Japan
7787    s7786  TV Show                         Zumbo's Just Desserts
7788    s7787    Movie   ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS


                   Director
Cast  \
0                       NaN   João Miguel, Bianca Comparato, Michel Gomes,
R...
1        Jorge Michel Grau   Demián Bichir, Héctor Bonilla, Oscar Serrano,
...
2             Gilbert Chan   Tedd Chan, Stella Chung, Henley Hii, Lawrence
...
3             Shane Acker   Elijah Wood, John C. Reilly, Jennifer
Connelly...
4           Robert Luketic   Jim Sturgess, Kevin Spacey, Kate Bosworth,
Aar...
...                    ...
...
7784          Josef Fares   Imad Creidi, Antoinette Turk, Elias Gergi,
Car...
7785          Mozez Singh   Vicky Kaushal, Sarah-Jane Dias, Raaghav
Chanan...
7786                  NaN
Nasty C
7787                  NaN                     Adriano Zumbo, Rachel
Khoo
7788            Sam Dunn
NaN


                                                  Country
Release_Date  \
0                                                  Brazil      August 14,
2020
1                                                  Mexico    December 23,
```

```
2016
2                                        Singapore    December 20,
2018
3                                    United States    November 16,
2017
4                                    United States     January 1,
2020
...                                            ...
...
7784  Sweden, Czech Republic, United Kingdom, Denmar...    October 19,
2020
7785                                         India       March 2,
2019
7786                                           NaN  September 25,
2020
7787                                     Australia     October 31,
2020
7788            United Kingdom, Canada, United States       March 1,
2020

      Rating    Duration
Type  \
0      TV-MA   4 Seasons  International TV Shows, TV Dramas, TV Sci-Fi
&...
1      TV-MA      93 min                         Dramas, International
Movies
2          R      78 min                 Horror Movies, International
Movies
3      PG-13      80 min  Action & Adventure, Independent Movies, Sci-
Fi...
4      PG-13     123 min
Dramas
...      ...         ...
...
7784   TV-MA      99 min                         Dramas, International
Movies
7785   TV-14     111 min     Dramas, International Movies, Music &
Musicals
7786   TV-MA      44 min  Documentaries, International Movies, Music &
M...
7787   TV-PG    1 Season                 International TV Shows, Reality
TV
7788   TV-MA      90 min                         Documentaries, Music &
Musicals

                                          Description
0     In a future where the elite inhabit an island ...
1     After a devastating earthquake hits Mexico Cit...
2     When an army recruit is found dead, his fellow...
```

```
3       In a postapocalyptic world, rag-doll robots hi...
4       A brilliant group of students become card-coun...
...                                                   ...
7784  When Lebanon's Civil War deprives Zozo of his ...
7785  A scrappy but poor boy worms his way into a ty...
7786  In this documentary, South African rapper Nast...
7787  Dessert wizard Adriano Zumbo looks for the nex...
7788  This documentary delves into the mystique behi...

[7789 rows x 11 columns]

data.head()    #top five record of the data set

  Show_Id Category  Title          Director  \
0      s1  TV Show     3%                NaN
1      s2    Movie  07:19  Jorge Michel Grau
2      s3    Movie  23:59       Gilbert Chan
3      s4    Movie      9        Shane Acker
4      s5    Movie     21     Robert Luketic


                                            Cast        Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...         Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...         Mexico
2  Tedd Chan, Stella Chung, Henley Hii, Lawrence ...      Singapore
3  Elijah Wood, John C. Reilly, Jennifer Connelly...  United States
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...  United States


        Release_Date Rating  Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min
2  December 20, 2018      R     78 min
3  November 16, 2017  PG-13     80 min
4    January 1, 2020  PG-13    123 min


                                            Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                     Dramas, International Movies
2             Horror Movies, International Movies
3  Action & Adventure, Independent Movies, Sci-Fi...
4                                          Dramas


                                     Description
0  In a future where the elite inhabit an island ...
1  After a devastating earthquake hits Mexico Cit...
2  When an army recruit is found dead, his fellow...
3  In a postapocalyptic world, rag-doll robots hi...
4  A brilliant group of students become card-coun...

data.tail()         #to show bottom five record of the data set
```

```
      Show_Id Category                             Title
Director  \
7784   s7783    Movie                               Zozo   Josef
Fares
7785   s7784    Movie                              Zubaan   Mozez
Singh
7786   s7785    Movie                  Zulu Man in Japan
NaN
7787   s7786  TV Show              Zumbo's Just Desserts
NaN
7788   s7787    Movie  ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS     Sam
Dunn

                                                     Cast  \
7784  Imad Creidi, Antoinette Turk, Elias Gergi, Car...
7785  Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...
7786                                            Nasty C
7787                        Adriano Zumbo, Rachel Khoo
7788                                                NaN

                                                  Country
Release_Date  \
7784  Sweden, Czech Republic, United Kingdom, Denmar...    October 19,
2020
7785                                              India       March 2,
2019
7786                                                NaN   September 25,
2020
7787                                          Australia    October 31,
2020
7788          United Kingdom, Canada, United States       March 1,
2020

      Rating  Duration
Type  \
7784  TV-MA    99 min                        Dramas, International
Movies
7785  TV-14   111 min     Dramas, International Movies, Music &
Musicals
7786  TV-MA    44 min  Documentaries, International Movies, Music &
M...
7787  TV-PG  1 Season                    International TV Shows, Reality
TV
7788  TV-MA    90 min                       Documentaries, Music &
Musicals

                                              Description
7784  When Lebanon's Civil War deprives Zozo of his ...
7785  A scrappy but poor boy worms his way into a ty...
7786  In this documentary, South African rapper Nast...
```

```
7787   Dessert wizard Adriano Zumbo looks for the nex...
7788   This documentary delves into the mystique behi...
```

```python
data.shape                                      #shape is used to show number of
                                                #rows & column
```

```
(7789, 11)
```

```python
data.size                               #to show the number of total
                                        #values(element) in the dataset
```

```
85679
```

```python
data.columns            #to show each column name
```

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

```python
data.dtypes                                     #to show the data types of each
                                                #columns
```

```
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
```

```python
data.info()                                     #to show indexes, columns, data-
                                                #types of each columns,memory at once
```

```
<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
```

```
data.head()

  Show_Id Category  Title          Director  \
0      s1  TV Show     3%               NaN
1      s2    Movie  07:19  Jorge Michel Grau
2      s3    Movie  23:59       Gilbert Chan
3      s4    Movie      9        Shane Acker
4      s5    Movie     21      Robert Luketic

                                           Cast        Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...         Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...         Mexico
2  Tedd Chan, Stella Chung, Henley Hii, Lawrence ...      Singapore
3  Elijah Wood, John C. Reilly, Jennifer Connelly...  United States
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...  United States

        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min
2  December 20, 2018      R     78 min
3  November 16, 2017  PG-13     80 min
4    January 1, 2020  PG-13    123 min

                                          Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                  Dramas, International Movies
2           Horror Movies, International Movies
3  Action & Adventure, Independent Movies, Sci-Fi...
4                                        Dramas

                                      Description
0  In a future where the elite inhabit an island ...
1  After a devastating earthquake hits Mexico Cit...
2  When an army recruit is found dead, his fellow...
3  In a postapocalyptic world, rag-doll robots hi...
4  A brilliant group of students become card-coun...

data.shape

(7789, 11)
```
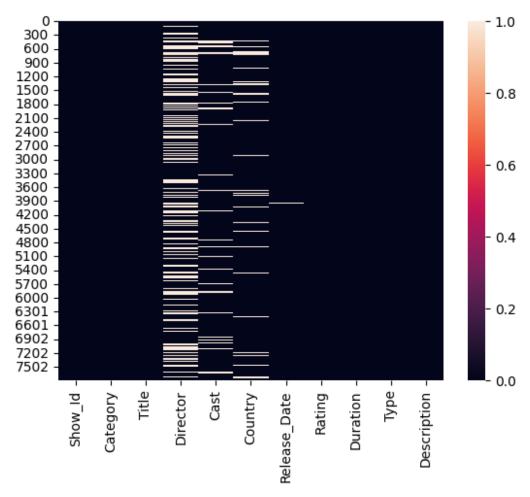
```
data[data.duplicated()]                              #to check row wise & detect
the Duplicate rows

      Show_Id Category              Title        Director  \
6300    s684    Movie              Backfire      Dave Patten
6622   s6621    Movie  The Lost Okoroshi  Abba T. Makama

                                             Cast        Country
\
6300  Black Deniro, Byron "Squally" Vinson, Dominic ...  United States

6622  Seun Ajayi, Judith Audu, Tope Tedela, Ifu Enna...        Nigeria


          Release_Date Rating Duration  \
6300       April 5, 2019  TV-MA    97 min
6622  September 4, 2020  TV-MA     94 min

                                        Type  \
6300  Dramas, Independent Movies, Thrillers
6622   Comedies, Dramas, Independent Movies

                                        Description
6300  When two would-be robbers accidentally kill a ...
6622  A disillusioned security guard transforms into...

data.drop_duplicates()

      Show_Id Category                               Title  \
0         s1  TV Show                                  3%
1         s2    Movie                                07:19
2         s3    Movie                                23:59
3         s4    Movie                                    9
4         s5    Movie                                   21
...      ...      ...                                 ...
7784   s7783    Movie                                Zozo
7785   s7784    Movie                              Zubaan
7786   s7785    Movie                   Zulu Man in Japan
7787   s7786  TV Show                Zumbo's Just Desserts
7788   s7787    Movie  ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS

                 Director
Cast  \
0                     NaN  João Miguel, Bianca Comparato, Michel Gomes,
R...
1     Jorge Michel Grau  Demián Bichir, Héctor Bonilla, Oscar Serrano,
...
2           Gilbert Chan  Tedd Chan, Stella Chung, Henley Hii, Lawrence
...
3           Shane Acker  Elijah Wood, John C. Reilly, Jennifer
Connelly...
```

```
4          Robert Luketic   Jim Sturgess, Kevin Spacey, Kate Bosworth,
Aar...
...                    ...
...
7784         Josef Fares   Imad Creidi, Antoinette Turk, Elias Gergi,
Car...
7785         Mozez Singh   Vicky Kaushal, Sarah-Jane Dias, Raaghav
Chanan...
7786                 NaN
Nasty C
7787                 NaN                      Adriano Zumbo, Rachel
Khoo
7788          Sam Dunn
NaN

                                             Country
Release_Date  \
0                                             Brazil      August 14,
2020
1                                             Mexico     December 23,
2016
2                                          Singapore     December 20,
2018
3                                      United States     November 16,
2017
4                                      United States        January 1,
2020
...                                              ...
...
7784  Sweden, Czech Republic, United Kingdom, Denmar...     October 19,
2020
7785                                            India         March 2,
2019
7786                                              NaN   September 25,
2020
7787                                        Australia       October 31,
2020
7788              United Kingdom, Canada, United States       March 1,
2020

      Rating    Duration
Type  \
0     TV-MA   4 Seasons   International TV Shows, TV Dramas, TV Sci-Fi
&...
1     TV-MA      93 min                       Dramas, International
Movies
2         R      78 min              Horror Movies, International
Movies
3     PG-13      80 min   Action & Adventure, Independent Movies, Sci-
```

```
Fi...
4      PG-13     123 min
Dramas
...       ...         ...
...
7784   TV-MA      99 min                        Dramas, International
Movies
7785   TV-14      111 min      Dramas, International Movies, Music &
Musicals
7786   TV-MA      44 min   Documentaries, International Movies, Music &
M...
7787   TV-PG    1 Season                    International TV Shows, Reality
TV
7788   TV-MA      90 min                        Documentaries, Music &
Musicals

                                                        Description
0       In a future where the elite inhabit an island ...
1       After a devastating earthquake hits Mexico Cit...
2       When an army recruit is found dead, his fellow...
3       In a postapocalyptic world, rag-doll robots hi...
4       A brilliant group of students become card-coun...
...                                                           ...
7784   When Lebanon's Civil War deprives Zozo of his ...
7785   A scrappy but poor boy worms his way into a ty...
7786   In this documentary, South African rapper Nast...
7787   Dessert wizard Adriano Zumbo looks for the nex...
7788   This documentary delves into the mystique behi...

[7787 rows x 11 columns]
```

```python
data.drop_duplicates(inplace=True)          #to remove the
duplicate row permanently

data[data.duplicated()]
```

```
Empty DataFrame
Columns: [Show_Id, Category, Title, Director, Cast, Country,
Release_Date, Rating, Duration, Type, Description]
Index: []
```

```python
data.shape
```

```
(7787, 11)
```

```python
data.head()
```

```
  Show_Id Category  Title          Director  \
0      s1  TV Show     3%               NaN
1      s2    Movie  07:19  Jorge Michel Grau
2      s3    Movie  23:59        Gilbert Chan
```

```
3      s4     Movie      9          Shane Acker
4      s5     Movie     21         Robert Luketic

                                               Cast        Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...          Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...          Mexico
2  Tedd Chan, Stella Chung, Henley Hii, Lawrence ...       Singapore
3  Elijah Wood, John C. Reilly, Jennifer Connelly...   United States
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...   United States

        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min
2  December 20, 2018      R     78 min
3  November 16, 2017  PG-13     80 min
4    January 1, 2020  PG-13    123 min

                                              Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                    Dramas, International Movies
2               Horror Movies, International Movies
3  Action & Adventure, Independent Movies, Sci-Fi...
4                                          Dramas

                                         Description
0  In a future where the elite inhabit an island ...
1  After a devastating earthquake hits Mexico Cit...
2  When an army recruit is found dead, his fellow...
3  In a postapocalyptic world, rag-doll robots hi...
4  A brilliant group of students become card-coun...
```

```python
#is there any null value present in any column? show with heat-map.
#isnull()
data.isnull()
#to show where Null values is present
```

```
      Show_Id Category Title Director   Cast Country Release_Date \
0       False    False False     True  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    False False    False  False   False        False

...       ...      ...   ...      ...    ...     ...          ...

7784    False    False False    False  False   False        False
```

7785	False	False	False	False	False	False	False
7786	False	False	False	True	False	True	False
7787	False	False	False	True	False	False	False
7788	False	False	False	False	True	False	False

```
      Rating  Duration   Type  Description
0      False     False  False        False
1      False     False  False        False
2      False     False  False        False
3      False     False  False        False
4      False     False  False        False
...      ...       ...    ...          ...
7784   False     False  False        False
7785   False     False  False        False
7786   False     False  False        False
7787   False     False  False        False
7788   False     False  False        False

[7787 rows x 11 columns]
```

```python
data.isnull().sum()                        #to show the count of null
values in each columns
```

```
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
```

```python
#seaborn library (heat-map)
import seaborn as sns            #to import seaborn library

sns.heatmap(data.isnull())
```
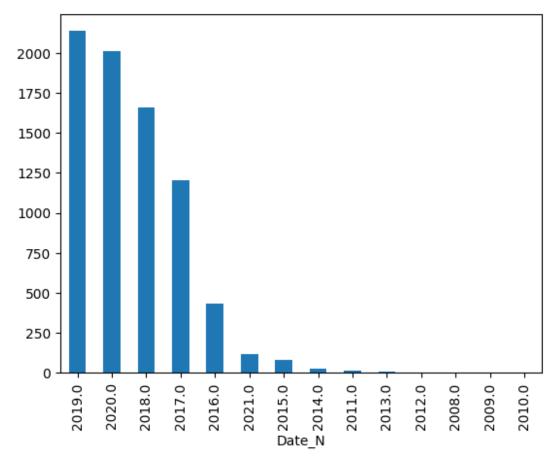
```
<Axes: >
```

```python
#for 'house of Cards',what is the show id and who is the director of
this show ?
#isin()
data.head()
```

```
  Show_Id Category  Title          Director  \
0      s1  TV Show      3%               NaN
1      s2    Movie   07:19  Jorge Michel Grau
2      s3    Movie   23:59       Gilbert Chan
3      s4    Movie       9        Shane Acker
4      s5    Movie      21     Robert Luketic

                                                 Cast        Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...         Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...         Mexico
2  Tedd Chan, Stella Chung, Henley Hii, Lawrence ...      Singapore
3  Elijah Wood, John C. Reilly, Jennifer Connelly...  United States
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...  United States

      Release_Date Rating   Duration  \
0  August 14, 2020  TV-MA  4 Seasons
```

```
1    December 23, 2016   TV-MA      93 min
2    December 20, 2018       R      78 min
3    November 16, 2017   PG-13      80 min
4      January 1, 2020   PG-13     123 min


                                           Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                       Dramas, International Movies
2                Horror Movies, International Movies
3  Action & Adventure, Independent Movies, Sci-Fi...
4                                             Dramas


                                        Description
0  In a future where the elite inhabit an island ...
1  After a devastating earthquake hits Mexico Cit...
2  When an army recruit is found dead, his fellow...
3  In a postapocalyptic world, rag-doll robots hi...
4  A brilliant group of students become card-coun...
```

data['Title']   #To show all record of a particular item in any column

```
0                                                   3%
1                                                07:19
2                                                23:59
3                                                    9
4                                                   21
                          ...
7784                                              Zozo
7785                                            Zubaan
7786                                  Zulu Man in Japan
7787                             Zumbo's Just Desserts
7788     ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS
Name: Title, Length: 7787, dtype: object
```

data['Title'].isin(['HOUSE of cards'])   #To show all record of a particular item in any column

```
0       False
1       False
2       False
3       False
4       False
        ...
7784    False
7785    False
7786    False
7787    False
7788    False
Name: Title, Length: 7787, dtype: bool
```

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

```
     Show_Id Category            Title  \
2832   s2833  TV Show  House of Cards

                                              Director  \
2832  Robin Wright, David Fincher, Gerald McRaney, J...

                                                  Cast        Country
\
2832  Kevin Spacey, Robin Wright, Kate Mara, Corey S...  United States

        Release_Date Rating   Duration                         Type  \
2832  November 2, 2018  TV-MA  6 Seasons  TV Dramas, TV Thrillers

                                           Description
2832  A ruthless politician will stop at nothing to ...
```

```
#str.contains()
#To show all records of a particular string in any column
data[data['Title'].str.contains('House of Cards')]
```

```
     Show_Id Category            Title  \
2832   s2833  TV Show  House of Cards

                                              Director  \
2832  Robin Wright, David Fincher, Gerald McRaney, J...

                                                  Cast        Country
\
2832  Kevin Spacey, Robin Wright, Kate Mara, Corey S...  United States

        Release_Date Rating   Duration                         Type  \
2832  November 2, 2018  TV-MA  6 Seasons  TV Dramas, TV Thrillers

                                           Description
2832  A ruthless politician will stop at nothing to ...
```

```
#Q2- In Which year hiighest number of the Tv shows & Movies Were
released? Show with Bar Graph.
#dtypes
data.dtypes
```

```
Show_Id         object
Category        object
Title           object
Director        object
Cast            object
Country         object
```
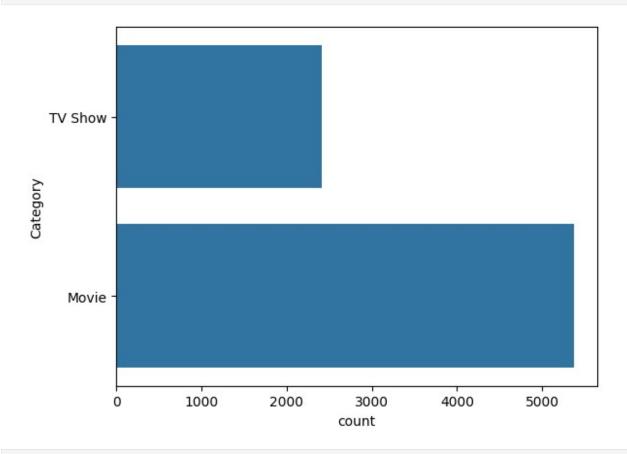
```
Release_Date      object
Rating            object
Duration          object
Type              object
Description       object
dtype: object
```

#to_datetime
```python
data['Date_N'] = pd.to_datetime(data['Release_Date'], errors='coerce')
```

```python
data.head()
```

```
  Show_Id Category  Title          Director  \
0      s1  TV Show      3%                NaN
1      s2    Movie   07:19  Jorge Michel Grau
2      s3    Movie   23:59       Gilbert Chan
3      s4    Movie       9        Shane Acker
4      s5    Movie      21     Robert Luketic

                                                Cast        Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...         Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...         Mexico
2  Tedd Chan, Stella Chung, Henley Hii, Lawrence ...      Singapore
3  Elijah Wood, John C. Reilly, Jennifer Connelly...  United States
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...  United States

        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min
2  December 20, 2018      R     78 min
3  November 16, 2017  PG-13     80 min
4    January 1, 2020  PG-13    123 min

                                                Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                    Dramas, International Movies
2            Horror Movies, International Movies
3  Action & Adventure, Independent Movies, Sci-Fi...
4                                          Dramas

                                         Description     Date_N
0  In a future where the elite inhabit an island ... 2020-08-14
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2  When an army recruit is found dead, his fellow... 2018-12-20
3  In a postapocalyptic world, rag-doll robots hi... 2017-11-16
4  A brilliant group of students become card-coun... 2020-01-01
```

```python
data.dtypes
```

```
Show_Id             object
Category            object
```

```
Title                           object
Director                        object
Cast                            object
Country                         object
Release_Date                    object
Rating                          object
Duration                        object
Type                            object
Description                     object
Date_N               datetime64[ns]
dtype: object
```

```
#dt.year.value_counts()     #it counts the occurrence of all individual
year in date columns.
data['Date_N'].dt.year.value_counts()
```

```
Date_N
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
data['Date_N'].dt.year.value_counts().plot(kind='bar')
```

```
<Axes: xlabel='Date_N'>
```

```
#Q3- how many Movies & Tv shows are in the dataset? show with bar
graph.
#groupby()
data.head(2)
```

```
  Show_Id Category  Title           Director  \
0      s1  TV Show     3%                 NaN
1      s2    Movie  07:19  Jorge Michel Grau

                                              Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico

        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min

                                              Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                      Dramas, International Movies

                                       Description    Date_N
```

```
0   In a future where the elite inhabit an island ... 2020-08-14
1   After a devastating earthquake hits Mexico Cit... 2016-12-23

data.groupby('Category')

<pandas.core.groupby.generic.DataFrameGroupBy object at
0x00000295B9B78C80>

data.groupby('Category').Category.count()        #To group all unique
items of columns & show their count

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

#countplot()  #to show the count of all unique values of any columns
in the form of bar graph
sns.countplot(data['Category'])

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



```
 #Q4 - Show all the movies that were released in year 2000 &2020.
data.head(2)
```

```
  Show_Id Category  Title           Director  \
0      s1  TV Show     3%                NaN
1      s2    Movie  07:19  Jorge Michel Grau


                                              Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico

      Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min


                                              Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                   Dramas, International Movies

                                        Description      Date_N
0  In a future where the elite inhabit an island ... 2020-08-14
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
```

#creating a new columns   #to create new year column & it will consider only year
```python
data['year'] = data['Date_N'].dt.year

data.head(2)
```

```
  Show_Id Category  Title           Director  \
0      s1  TV Show     3%                NaN
1      s2    Movie  07:19  Jorge Michel Grau


                                              Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico

      Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min


                                              Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                   Dramas, International Movies

                                        Description      Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

```python
#Filtering
#data[(data['category']--'Movie')&(data['year']--200)]
data[(data['Category']=='Movie') & (data['year']==2000)]
```

Empty DataFrame
Columns: [Show_Id, Category, Title, Director, Cast, Country,
Release_Date, Rating, Duration, Type, Description, Date_N, year]
Index: []

```python
#movies released in 2020
data[(data['Category']=='Movie') & (data['year']==2020)]
```

	Show_Id	Category	Title \
4	s5	Movie	21
6	s7	Movie	122
14	s15	Movie	3022
27	s28	Movie	#Alive
28	s29	Movie	#AnneFrank - Parallel Stories
...	...	...	...
7762	s7761	Movie	Zaki Chan
7783	s7782	Movie	Zoom
7784	s7783	Movie	Zozo
7786	s7785	Movie	Zulu Man in Japan
7788	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS

	Director \
4	Robert Luketic
6	Yasir Al Yasiri
14	John Suits
27	Cho Il
28	Sabina Fedeli, Anna Migotto
...	...
7762	Wael Ihsan
7783	Peter Hewitt
7784	Josef Fares
7786	NaN
7788	Sam Dunn

	Cast \
4	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...
6	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...
14	Omar Epps, Kate Walsh, Miranda Cosgrove, Angus...
27	Yoo Ah-in, Park Shin-hye
28	Helen Mirren, Gengher Gatti
...	...
7762	Ahmed Helmy, Yasmin Abdulaziz, Hassan Hosny, H...
7783	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...
7784	Imad Creidi, Antoinette Turk, Elias Gergi, Car...
7786	Nasty C
7788	NaN

```
                                                Country   Release_Date  \
4                                         United States    January 1,
2020
6                                                 Egypt       June 1,
2020
14                                        United States     March 19,
2020
27                                          South Korea   September 8,
2020
28                                                Italy       July 1,
2020
...                                                 ...
...
7762                                              Egypt       May 19,
2020
7783                                      United States   January 11,
2020
7784  Sweden, Czech Republic, United Kingdom, Denmar...    October 19,
2020
7786                                                NaN  September 25,
2020
7788            United Kingdom, Canada, United States       March 1,
2020

      Rating Duration                                               Type  \
4      PG-13   123 min
Dramas
6      TV-MA    95 min                   Horror Movies, International
Movies
14         R    91 min      Independent Movies, Sci-Fi & Fantasy,
Thrillers
27     TV-MA    99 min      Horror Movies, International Movies,
Thrillers
28     TV-14    95 min                   Documentaries, International
Movies
...      ...       ...                                                ..
.
7762   TV-PG   109 min      Comedies, International Movies, Romantic
Movies
7783      PG    88 min                   Children & Family Movies,
Comedies
7784   TV-MA    99 min                          Dramas, International
Movies
7786   TV-MA    44 min   Documentaries, International Movies, Music &
M...
7788   TV-MA    90 min                            Documentaries, Music &
```

```
Musicals

                                                 Description      Date_N
year
4         A brilliant group of students become card-coun... 2020-01-01
2020.0
6         After an awful accident, a couple admitted to ... 2020-06-01
2020.0
14        Stranded when the Earth is suddenly destroyed ... 2020-03-19
2020.0
27        As a grisly virus rampages a city, a lone man ... 2020-09-08
2020.0
28        Through her diary, Anne Frank's story is retol... 2020-07-01
2020.0
...                                                      ...        ...
...
7762  An unqualified young man has his work cut out ... 2020-05-19
2020.0
7783  Dragged from civilian life, a former superhero... 2020-01-11
2020.0
7784  When Lebanon's Civil War deprives Zozo of his ... 2020-10-19
2020.0
7786  In this documentary, South African rapper Nast... 2020-09-25
2020.0
7788  This documentary delves into the mystique behi... 2020-03-01
2020.0

[1312 rows x 13 columns]
```

#Q5-Shows only the title of all tv shows that were released in india
only.
#Filtering
data.head(2)

```
  Show_Id Category  Title              Director  \
0      s1  TV Show     3%                   NaN
1      s2    Movie  07:19  Jorge Michel Grau


                                                 Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico


        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min


                                                 Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                        Dramas, International Movies
```

```
                                                    Description      Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

```python
#data[(data['Category']=='TV Show')& (data['Country']==India)]['Title']
data[ (data['Category']=='TV Show') & (data['Country']=='India') ]['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
Name: Title, Length: 71, dtype: object
```

```python
#Q6- Show Top10 Directors,Who gave the highest number of TV Shows &
Movies to Netflix?
#Value_counts()
#data['Director'].value_Counts().head(10)
data.head(2)
```

```
  Show_Id Category  Title             Director  \
0      s1  TV Show     3%                  NaN
1      s2    Movie  07:19  Jorge Michel Grau

                                            Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico

        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min

                                            Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                    Dramas, International Movies

                                            Description      Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
```

```
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

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

```
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
```

```python
#Q7- Show all the records,Where"Category is Movie & Type is Comedies "
or "County is united kingdom".
#Filtering(And,Or Operators)
#data[(data['Category']=='Movie') & (data['Type']=='Comedies')]
data.head(2)
```

```
  Show_Id Category  Title           Director  \
0      s1  TV Show     3%                 NaN
1      s2    Movie  07:19  Jorge Michel Grau

                                           Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico

       Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min

                                           Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                    Dramas, International Movies

                                    Description      Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

```python
data[(data['Category']=='Movie') & (data['Type']=='Comedies')]
```

```
      Show_Id Category                             Title
Director  \
```

```
33       s34    Movie                    #realityhigh           Fernando
Lebrija
72       s73    Movie                       17 Again                Burr
Steers
84       s85    Movie                      21 & Over  Jon Lucas, Scott
Moore
148     s149    Movie        A Bad Moms Christmas  Jon Lucas, Scott
Moore
174     s175    Movie  A Futile and Stupid Gesture             David
Wain
...      ...     ...                          ...
...
7341   s7340    Movie           Undercover Brother 2            Leslie
Small
7590   s7589    Movie             Where's the Money             Scott
Zabielski
7623   s7622    Movie                     Wild Oats              Andy
Tennant
7634   s7633    Movie                  Wine Country              Amy
Poehler
7664   s7663    Movie                       Work It             Laura
Terruso

                                             Cast  \
33     Nesta Cooper, Kate Walsh, John Michael Higgins...
72     Zac Efron, Leslie Mann, Matthew Perry, Thomas ...
84     Miles Teller, Skylar Astin, Justin Chon, Sarah...
148    Mila Kunis, Kristen Bell, Kathryn Hahn, Susan ...
174    Will Forte, Domhnall Gleeson, Martin Mull, Joe...
...                                                ...
7341   Michael Jai White, Vince Swann, Barry Bostwick...
7590   Andrew Bachelor, Kat Graham, Mike Epps, Terry ...
7623   Shirley MacLaine, Jessica Lange, Billy Connoll...
7634   Amy Poehler, Maya Rudolph, Ana Gasteyer, Rache...
7664   Sabrina Carpenter, Jordan Fisher, Liza Koshy, ...

                        Country       Release_Date Rating Duration
Type  \
33              United States  September 8, 2017  TV-14    99 min
Comedies
72              United States    January 1, 2021  PG-13   102 min
Comedies
84              United States     April 16, 2019      R    93 min
Comedies
148      United States, China  February 14, 2020      R   104 min
Comedies
174             United States   January 26, 2018  TV-MA   102 min
Comedies
...                       ...                ...    ...       ...
```

```
...
7341          United States     November 5, 2019       R    85 min
Comedies
7590          United States     January 22, 2018       R    86 min
Comedies
7623  Germany, United States      May 13, 2017   PG-13    86 min
Comedies
7634          United States       May 10, 2019       R   104 min
Comedies
7664          United States     August 7, 2020   TV-14    94 min
Comedies

                                              Description      Date_N
year
33     When nerdy high schooler Dani finally attracts... 2017-09-08
2017.0
72     Nearing a midlife crisis, thirty-something Mik... 2021-01-01
2021.0
84     Jeff's straight-and-narrow life changes abrupt... 2019-04-16
2019.0
148    Stressed-out moms Amy, Carla and Kiki are back... 2020-02-14
2020.0
174    In a brief life full of triumph and failure, "... 2018-01-26
2018.0
...                                                   ...         ...
...
7341  When a beloved secret agent falls deep into a ... 2019-11-05
2019.0
7590  Hunting for a stash of stolen money, a sharp-w... 2018-01-22
2018.0
7623  When insurance accidentally pays her millions,... 2017-05-13
2017.0
7634  When longtime friends meet up for a wine-soake... 2019-05-10
2019.0
7664  A brilliant but clumsy high school senior vows... 2020-08-07
2020.0

[97 rows x 13 columns]
```

```python
#Now applying or Operator | in above syntax .
data[(data['Category']=='Movie') & (data['Type']=='Comedies') |
(data['Country']=='United Kingdom')]
```

```
     Show_Id Category                   Title           Director  \
19      s20    Movie                     '89                NaN
33      s34    Movie            #realityhigh  Fernando Lebrija
58      s59  TV Show             100% Hotter                NaN
72      s73    Movie                17 Again       Burr Steers
82      s83    Movie     2036 Origin Unknown     Hasraf Dulull
...     ...      ...                     ...                ...
```

```
7670  s7669  TV Show      World War II in Colour                NaN
7671  s7670  TV Show      World's Busiest Cities                NaN
7688  s7687    Movie      XV: Beyond the Tryline   Pierre Deschamps
7725  s7724    Movie              You Can Tutu         James Brown
7740  s7739  TV Show           Young Wallander                NaN

                                                   Cast  \
Country
19                   Lee Dixon, Ian Wright, Paul Merson   United
Kingdom
33      Nesta Cooper, Kate Walsh, John Michael Higgins...   United
States
58      Daniel Palmer, Melissa Sophia, Karen Williams,...   United
Kingdom
72      Zac Efron, Leslie Mann, Matthew Perry, Thomas ...   United
States
82      Katee Sackhoff, Ray Fearon, Julie Cox, Steven ...   United
Kingdom
...                                                  ...                ..
.
7670                                    Robert Powell   United
Kingdom
7671                 Anita Rani, Ade Adepitan, Dan Snow   United
Kingdom
7688                                              NaN   United
Kingdom
7725  Lily O'Regan, Jeannettsy Enriquez Borges, Joel...   United
Kingdom
7740  Adam Pålsson, Richard Dillane, Leanne Best, El...   United
Kingdom

          Release_Date Rating   Duration  \
19         May 16, 2018  TV-PG     87 min
33     September 8, 2017  TV-14     99 min
58      November 1, 2019  TV-14   1 Season
72       January 1, 2021  PG-13    102 min
82     December 20, 2018  TV-14     95 min
...                  ...    ...        ...
7670      August 1, 2017  TV-MA   1 Season
7671    February 1, 2019  TV-PG   1 Season
7688      March 18, 2020  TV-14     91 min
7725   December 31, 2017   TV-G     87 min
7740   September 3, 2020  TV-MA   1 Season

                                                   Type  \
19                                        Sports Movies
33                                             Comedies
58     British TV Shows, International TV Shows, Real...
72                                             Comedies
82                                      Sci-Fi & Fantasy
```

```
...                                                            ...
7670   British TV Shows, Docuseries, International TV...
7671                          British TV Shows, Docuseries
7688                          Documentaries, Sports Movies
7725                             Children & Family Movies
7740   Crime TV Shows, International TV Shows, TV Dramas

                                                  Description     Date_N
year
19     Mixing old footage with interviews, this is th... 2018-05-16
2018.0
33     When nerdy high schooler Dani finally attracts... 2017-09-08
2017.0
58     A stylist, a hair designer and a makeup artist... 2019-11-01
2019.0
72     Nearing a midlife crisis, thirty-something Mik... 2021-01-01
2021.0
82     Working with an artificial intelligence to inv... 2018-12-20
2018.0
...                                                           ...      ...
...
7670   Footage of the most dramatic moments from Worl... 2017-08-01
2017.0
7671   From Moscow to Mexico City, three BBC journali... 2019-02-01
2019.0
7688   Set against the 2015 Rugby World Cup, this doc... 2020-03-18
2020.0
7725   A gifted young ballet dancer struggles to find... 2017-12-31
2017.0
7740   An incendiary hate crime stirs civil unrest, f... 2020-09-03
2020.0

[485 rows x 13 columns]
```

```
#Q8 - In How Many Movies/Shows, Tom Cruise Was cast ?
data.head(2)

  Show_Id Category  Title           Director  \
0      s1  TV Show      3%                NaN
1      s2    Movie   07:19  Jorge Michel Grau


                                          Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico


      Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min


                                          Type  \
```

```
0   International TV Shows, TV Dramas, TV Sci-Fi &...
1                        Dramas, International Movies

                                        Description       Date_N
year
0   In a future where the elite inhabit an island ... 2020-08-14
2020.0
1   After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

```python
#Filtering
#data.cast
data[data['Cast']== 'Tom Cruise']
```

```
Empty DataFrame
Columns: [Show_Id, Category, Title, Director, Cast, Country,
Release_Date, Rating, Duration, Type, Description, Date_N, year]
Index: []
```

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

```
---------------------------------------------------------------------
-----
ValueError                                Traceback (most recent call
last)
Cell In[88], line 2
      1 #str.contains()
----> 2 data[data['Cast'].str.contains('Tom Cruise')]

File C:\Python312\Lib\site-packages\pandas\core\frame.py:3883, in
DataFrame.__getitem__(self, key)
   3880      return self.where(key)
   3882 # Do we have a (boolean) 1d indexer?
-> 3883 if com.is_bool_indexer(key):
   3884      return self._getitem_bool_array(key)
   3886 # We are left with two options: a single key, and a collection
of keys,
   3887 # We interpret tuples as collections only for non-MultiIndex

File C:\Python312\Lib\site-packages\pandas\core\common.py:133, in
is_bool_indexer(key)
    129      na_msg = "Cannot mask with non-boolean array containing NA
/ NaN values"
    130      if lib.is_bool_array(key_array, skipna=True):
    131          # Don't raise on e.g. ["A", "B", np.nan], see
    132          #
test_loc_getitem_list_of_labels_categoricalindex_with_na
--> 133          raise ValueError(na_msg)
    134      return False
```

```
    135 return True

ValueError: Cannot mask with non-boolean array containing NA / NaN
values
```

#creating a new data- frame
data_new = data.dropna()   #it drops line rows that contains all
or missing Values

data_new.head(2)

```
  Show_Id Category  Title            Director  \
1      s2    Movie  07:19  Jorge Michel Grau
2      s3    Movie  23:59       Gilbert Chan

                                                Cast     Country  \
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...      Mexico
2  Tedd Chan, Stella Chung, Henley Hii, Lawrence ...   Singapore

        Release_Date Rating Duration
Type  \
1  December 23, 2016  TV-MA   93 min           Dramas, International
Movies
2  December 20, 2018      R   78 min  Horror Movies, International
Movies

                                            Description      Date_N
year
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
2  When an army recruit is found dead, his fellow... 2018-12-20
2018.0
```

#str.contains()
data_new[data_new['Cast'].str.contains('Tom Cruise')]

```
     Show_Id Category     Title               Director  \
3860   s3861    Movie  Magnolia  Paul Thomas Anderson
5071   s5071    Movie  Rain Man         Barry Levinson

                                              Cast        Country
\
3860  Jeremy Blackman, Tom Cruise, Melinda Dillon, A...  United States

5071  Dustin Hoffman, Tom Cruise, Valeria Golino, Ge...  United States


        Release_Date Rating Duration                        Type  \
3860  January 1, 2020      R  189 min  Dramas, Independent Movies
5071      July 1, 2019      R  134 min       Classic Movies, Dramas
```

```
                                          Description    Date_N
year
3860  Through chance, human action, past history and... 2020-01-01
2020.0
5071  A fast-talking yuppie is forced to slow down w... 2019-07-01
2019.0
```

```python
#Q9 - What are the different Rating defined by Netflix?
#nunique()
data.head(2)
```

```
  Show_Id Category  Title            Director  \
0      s1  TV Show     3%                 NaN
1      s2    Movie  07:19  Jorge Michel Grau

                                          Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico

       Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min

                                          Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                   Dramas, International Movies

                                          Description    Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

```python
data['Rating'].nunique()
```

```
14
```

```python
#unique()
data['Rating'].unique()
```

```
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)
```

```python
#Q 9.1. How many Movies got the 'TV-14' rating.in Canada?
data.head(2)
```

```
  Show_Id Category  Title            Director  \
0      s1  TV Show     3%                 NaN
1      s2    Movie  07:19  Jorge Michel Grau
```

```
                                           Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico

        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min

                                           Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                  Dramas, International Movies

                                    Description      Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0

data[(data['Category']=='Movie') & (data['Rating']=='TV-14')]

      Show_Id Category                    Title              Director  \
8          s9    Movie                      706        Shravan Kumar
15        s16    Movie                   Oct-01        Kunle Afolayan
18        s19    Movie                   15-Aug    Swapnaneel Jayakar
20        s21    Movie       Kuch Bheege Alfaaz                  Onir
21        s22    Movie              Goli Soda 2          Vijay Milton
...       ...      ...                      ...                   ...
7765    s7764    Movie                    Zenda        Avadhoot Gupte
7766    s7765    Movie                     Zero            Aanand Rai
7770    s7769    Movie   Zindagi Kitni Haseen Hay      Anjum Shahzad
7771    s7770    Movie   Zindagi Na Milegi Dobara        Zoya Akhtar
7785    s7784    Movie                    Zubaan           Mozez Singh

                                       Cast   Country  \
8     Divya Dutta, Atul Kulkarni, Mohan Agashe, Anup...     India
15    Sadiq Daba, David Bailie, Kayode Olaiya, Kehin...   Nigeria
18    Rahul Pethe, Mrunmayee Deshpande, Adinath Koth...     India
20    Geetanjali Thapa, Zain Khan Durrani, Shray Rai...     India
21    Samuthirakani, Bharath Seeni, Vinoth, Esakki B...     India
...                                           ...       ...
7765  Santosh Juvekar, Siddharth Chandekar, Sachit P...     India
7766  Shah Rukh Khan, Anushka Sharma, Katrina Kaif, ...     India
7770  Feroze Khan, Sajal Ali, Jibrayl Ahmed Rajput, ...  Pakistan
7771  Hrithik Roshan, Abhay Deol, Farhan Akhtar, Kat...     India
7785  Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...     India

          Release_Date Rating Duration  \
8          April 1, 2019  TV-14  118 min
15     September 1, 2019  TV-14  149 min
```

```
18      March 29, 2019   TV-14   124 min
20    September 1, 2018   TV-14   110 min
21   September 15, 2018   TV-14   128 min
...                 ...     ...       ...
7765  February 15, 2018   TV-14   120 min
7766       May 21, 2019   TV-14   159 min
7770     October 1, 2018  TV-14   126 min
7771   December 15, 2019  TV-14   154 min
7785       March 2, 2019  TV-14   111 min

                                                Type  \
8                  Horror Movies, International Movies
15           Dramas, International Movies, Thrillers
18               Comedies, Dramas, Independent Movies
20    Dramas, Independent Movies, International Movies
21    Action & Adventure, Dramas, International Movies
...                                               ...
7765                      Dramas, International Movies
7766            Comedies, Dramas, International Movies
7770    Dramas, International Movies, Romantic Movies
7771            Comedies, Dramas, International Movies
7785    Dramas, International Movies, Music & Musicals

                                         Description      Date_N
year
8      When a doctor goes missing, his psychiatrist w... 2019-04-01
2019.0
15     Against the backdrop of Nigeria's looming inde... 2019-09-01
2019.0
18     On India's Independence Day, a zany mishap in ... 2019-03-29
2019.0
20     After accidentally connecting over the Interne... 2018-09-01
2018.0
21     A taxi driver, a gangster and an athlete strug... 2018-09-15
2018.0
...                                                 ...        ...
...
7765  A change in the leadership of a political part... 2018-02-15
2018.0
7766  Through his relationships with two wildly diff... 2019-05-21
2019.0
7770  Two young parents struggle to keep their marri... 2018-10-01
2018.0
7771  Three friends on an adventurous road trip/bach... 2019-12-15
2019.0
7785  A scrappy but poor boy worms his way into a ty... 2019-03-02
2019.0

[1272 rows x 13 columns]
```

```python
data[(data['Category']=='Movie') & (data['Rating']=='TV-14')].shape
#shape will show the count of movies & tv-14
```

```
(1272, 13)
```

```python
#now by Region 'Canada'
data[(data['Category']=='Movie') & (data['Rating']=='TV-14') &
(data['Country']=='Canada')]
```

```
      Show_Id Category                                       Title  \
30        s31    Movie                             #cats_the_mewvie
34        s35    Movie                                        #Roxy
608      s609    Movie                               At First Light
1506    s1507    Movie                     Counterfeiting in Suburbia
3713    s3714    Movie                             Long Time Running
3956    s3957    Movie  Martin Matte: La vie, la mort...eh la la..!
5336    s5336    Movie                     Sadie's Last Days on Earth
5393    s5393    Movie                                     Sardaar ji
6062    s6062    Movie                    The Accountant of Auschwitz
7025    s7024    Movie                          The Wrong Babysitter
7041    s7040    Movie                   There's Something in the Water

                               Director  \
30                      Michael Margolis
34                       Michael Kennedy
608                          Jason Stone
1506                       Jason Bourque
3713  Jennifer Baichwal, Nicholas de Pencier
3956                  Jean-François Blais
5336                       Michael Seater
5393                         Rohit Jugraj
6062                    Matthew Shoychet
7025                      George Mendeluk
7041                 Ellen Page, Ian Daniel

                                          Cast Country  \
30                                         NaN  Canada
34    Jake Short, Sarah Fisher, Booboo Stewart, Dann...  Canada
608   Stefanie Scott, Theodore Pellerin, Percy Hynes...  Canada
1506  Sarah Butler, Larissa Albuquerque, Kayla Walla...  Canada
3713  Gord Downie, Paul Langlois, Gord Sinclair, Rob...  Canada
3956                               Martin Matte  Canada
5336  Morgan Taylor Campbell, Clark Backo, Ricardo H...  Canada
5393  Diljit Dosanjh, Neeru Bajwa, Mandy Takhar, Jas...  Canada
6062                                        NaN  Canada
7025  Daphne Zuniga, Seann Gallagher, Lisa Marie Car...  Canada
7041                                 Ellen Page  Canada

         Release_Date Rating Duration  \
30    February 5, 2020  TV-14    90 min
```

```
34        April 10, 2019   TV-14   105 min
608    December 27, 2018   TV-14    91 min
1506        July 1, 2018   TV-14    88 min
3713   November 12, 2017   TV-14    96 min
3956    October 14, 2019   TV-14    62 min
5336    August 22, 2017   TV-14    94 min
5393   December 1, 2017   TV-14   140 min
6062        July 1, 2019   TV-14    78 min
7025      June 18, 2019   TV-14    89 min
7041     March 27, 2020   TV-14    72 min

                                                     Type  \
30                  Documentaries, International Movies
34                            Comedies, Romantic Movies
608                            Dramas, Sci-Fi & Fantasy
1506                                   Dramas, Thrillers
3713  Documentaries, International Movies, Music & M...
3956                                     Stand-Up Comedy
5336                          Comedies, Sci-Fi & Fantasy
5393   Comedies, International Movies, Music & Musicals
6062                 Documentaries, International Movies
7025                                            Thrillers
7041                 Documentaries, International Movies

                                            Description      Date_N
year
30     This pawesome documentary explores how our fel... 2020-02-05
2020.0
34     A teenage hacker with a huge nose helps a cool... 2019-04-10
2019.0
608    After mysterious lights imbue her with extraor... 2018-12-27
2018.0
1506  Two teenagers print counterfeit money in their... 2018-07-01
2018.0
3713  This documentary follows the 2016 tour of belo... 2017-11-12
2017.0
3956  Quebecois comedy star Martin Matte serves up e... 2019-10-14
2019.0
5336  High schooler Sadie Mitchell believes the worl... 2017-08-22
2017.0
5393  When a palatial wedding venue turns out to be ... 2017-12-01
2017.0
6062  Decades after WWII, a former SS officer stands... 2019-07-01
2019.0
7025  A widow searches for her missing teenage daugh... 2019-06-18
2019.0
7041  This documentary spotlights the struggle of mi... 2020-03-27
2020.0
```

```python
#find the count of canada movies with rating TV- 14 ?
data[(data['Category']=='Movie') & (data['Rating']=='TV-14') &
(data['Country']=='Canada')].shape
```

(11, 13)

```python
#Q.9.2 - How many TV Show Got the 'R' rating,after year 2018?
data.head(2)
```

```
  Show_Id Category  Title            Director  \
0      s1  TV Show     3%                 NaN
1      s2    Movie  07:19  Jorge Michel Grau


                                           Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico


        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min


                                           Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                     Dramas, International Movies


                                       Description     Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

```python
data[(data['Category']=='TV Show') & (data['Rating']=='R')]
```

```
      Show_Id Category                                  Title
Director  \
4497    s4498  TV Show                                  Nobel
NaN
6437    s6436  TV Show  The Hateful Eight: Extended Version  Quentin
Tarantino


                                           Cast Country  \
4497  Aksel Hennie, Tuva Novotny, Anders Danielsen L...   Norway
6437  Samuel L. Jackson, Kurt Russell, Jennifer Jaso...      NaN


          Release_Date Rating  Duration  \
4497  December 10, 2016      R  1 Season
6437     April 25, 2019      R  1 Season


                                           Type  \
4497  International TV Shows, TV Dramas, TV Thrillers
```

```
6437                                                  TV Shows

                                              Description      Date_N
year
4497  A series of incidents in Afghanistan set compl... 2016-12-10
2016.0
6437  Trapped at a stagecoach stop as a storm rages ... 2019-04-25
2019.0
```

#now adding third condition after 2018
data[(data['Category']=='TV Show') & (data['Rating']=='R') &
(data['year']>2018)]

```
      Show_Id Category                               Title
Director  \
6437   s6436  TV Show  The Hateful Eight: Extended Version  Quentin
Tarantino

                                              Cast Country  \
6437  Samuel L. Jackson, Kurt Russell, Jennifer Jaso...       NaN

        Release_Date Rating  Duration      Type  \
6437  April 25, 2019      R  1 Season  TV Shows

                                              Description      Date_N
year
6437  Trapped at a stagecoach stop as a storm rages ... 2019-04-25
2019.0
```

#Q10- What is maximum duration of a Movie/show on Netflix?

data['Duration'].unique()
#data.Duration.unique()   #both will work

```
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)
```

```python
data.Duration.dtypes                    #data type of  Duration column
```

```
dtype('O')
```

```python
#str.split()
data.head(2)
```

```
  Show_Id Category  Title            Director  \
0      s1  TV Show     3%                 NaN
1      s2    Movie  07:19  Jorge Michel Grau


                                         Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico


         Release_Date Rating   Duration  \
```

```
0     August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min

                                               Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                      Dramas, International Movies

                                        Description      Date_N
year
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0
```

```python
#in this we we will create two new column through str.splits
data[['minutes', 'units']] = data['Duration'].str.split(' ',expand=
True)

data.head(2)
```

```
  Show_Id Category  Title          Director  \
0      s1  TV Show     3%               NaN
1      s2    Movie  07:19  Jorge Michel Grau

                                        Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...   Mexico

        Release_Date Rating   Duration  \
0     August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min

                                               Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                      Dramas, International Movies

                                        Description      Date_N
year  \
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0

  minutes     units
0       4  Seasons
1      93      min
```

```python
#What is maximum duration of a Movie/show on Netflix?
#max()
data['minutes'].max()         #it will show maximum time duration of the
given data
```

```
'99'

data['minutes'].min()        #it will show minimum time duration of the
given data

'1'

data['minutes'].mean()

-----------------------------------------------------------------------
-----
TypeError                                 Traceback (most recent call
last)
Cell In[125], line 1
----> 1 data['minutes'].mean()

File C:\Python312\Lib\site-packages\pandas\core\series.py:6221, in
Series.mean(self, axis, skipna, numeric_only, **kwargs)
   6213 @doc(make_doc("mean", ndim=1))
   6214 def mean(
   6215     self,
   (...)
   6219     **kwargs,
   6220 ):
-> 6221     return NDFrame.mean(self, axis, skipna, numeric_only,
**kwargs)

File C:\Python312\Lib\site-packages\pandas\core\generic.py:11984, in
NDFrame.mean(self, axis, skipna, numeric_only, **kwargs)
   11977 def mean(
   11978     self,
   11979     axis: Axis | None = 0,
   (...)
   11982     **kwargs,
   11983 ) -> Series | float:
> 11984     return self._stat_function(
   11985         "mean", nanops.nanmean, axis, skipna, numeric_only,
**kwargs
   11986     )

File C:\Python312\Lib\site-packages\pandas\core\generic.py:11941, in
NDFrame._stat_function(self, name, func, axis, skipna, numeric_only,
**kwargs)
   11937 nv.validate_func(name, (), kwargs)
   11939 validate_bool_kwarg(skipna, "skipna", none_allowed=False)
> 11941 return self._reduce(
   11942     func, name=name, axis=axis, skipna=skipna,
numeric_only=numeric_only
   11943 )

File C:\Python312\Lib\site-packages\pandas\core\series.py:6129, in
```

```
Series._reduce(self, op, name, axis, skipna, numeric_only,
filter_type, **kwds)
   6124     # GH#47500 - change to TypeError to match other methods
   6125     raise TypeError(
   6126          f"Series.{name} does not allow
{kwd_name}={numeric_only} "
   6127          "with non-numeric dtypes."
   6128     )
-> 6129 return op(delegate, skipna=skipna, **kwds)

File C:\Python312\Lib\site-packages\pandas\core\nanops.py:147, in
bottleneck_switch.__call__.<locals>.f(values, axis, skipna, **kwds)
   145          result = alt(values, axis=axis, skipna=skipna, **kwds)
   146 else:
--> 147     result = alt(values, axis=axis, skipna=skipna, **kwds)
   149 return result

File C:\Python312\Lib\site-packages\pandas\core\nanops.py:404, in
_datetimelike_compat.<locals>.new_func(values, axis, skipna, mask,
**kwargs)
   401 if datetimelike and mask is None:
   402     mask = isna(values)
--> 404 result = func(values, axis=axis, skipna=skipna, mask=mask,
**kwargs)
   406 if datetimelike:
   407     result = _wrap_results(result, orig_values.dtype,
fill_value=iNaT)

File C:\Python312\Lib\site-packages\pandas\core\nanops.py:720, in
nanmean(values, axis, skipna, mask)
   718 count = _get_counts(values.shape, mask, axis,
dtype=dtype_count)
   719 the_sum = values.sum(axis, dtype=dtype_sum)
--> 720 the_sum = _ensure_numeric(the_sum)
   722 if axis is not None and getattr(the_sum, "ndim", False):
   723     count = cast(np.ndarray, count)

File C:\Python312\Lib\site-packages\pandas\core\nanops.py:1693, in
_ensure_numeric(x)
   1690 elif not (is_float(x) or is_integer(x) or is_complex(x)):
   1691     if isinstance(x, str):
   1692         # GH#44008, GH#36703 avoid casting e.g. strings to
numeric
-> 1693         raise TypeError(f"Could not convert string '{x}' to
numeric")
   1694     try:
   1695         x = float(x)

TypeError: Could not convert string
'49378801231951191181431031189911491144124871101281171002841999519 0102
```

1049910556125119181971069910793189105879710919311094475101189901904393
10137113898410210211413090949714391110795119931111019314013582701104111
71219212416453939183931141162938121841058612010692969799100126967594 12
9801031961771137148111121123121952899104122104941176107909410187928593
2295861371016812111111029142168102928622222115993868010992921899619587
9311131120117197981012591769082111921110941009119444108130831233 1068
7130100968995261561983010819212899851228457210710210391104911101111211
7799122150117126481229513316411515413311012714613610090881312441 0112
3211908987124881331101121298787112059174969159105631119699928690163111
0623893872510594107891921211113221746097122911218497127153158151115012
1051091118111621045494838510660102885110041311096910611560641101541471
1218763188142908979101121021228518351924084104911091009090949990951921
1031031034545590106275982112921031049217212596144128111212210131531531
1010999511916395584196102902106721127116128615780807575799312910887711
9791838511613011111397110210616013717117110495901281110312130481391053
1041621571510613088114611641041279231100721111181106556459122906013428
9111618687130107280796212938187211541981139189586311109812510693139901
2331131688310194110011713381911110410611212211102883991186491949095971
1019737388150979192111111110111273891295880651991261351271651661 6613815
9160159136112101143232127983619586118411119210297902111914799313087118
3831051911171171311117875781491031088494951411221341110711111261229588
1101746432747483172797280757572109132111099144911051661031281151188777
9819411125291021211161108811152895211137351111092411928173751998911211
0092100198979786105110096111159976411388106127901749111859010290871002
5941059911682120779210762577011987744971110041104562108839114911211111
1029810715912011115111611211713074150631381481141239710510710612879338
8126107410390681009510886816567786928346156813971321106641271131107124
3811588971163113211713710079311162144123795312113583114881169121838090
1061291594941208391130191102851188110111133112312180988190190941121298
5110860601971479983168116199106113016111162692110299891081238689881261
1711111331791121331967087898674139112128411008086105901639638919010251
1929421961108105158110511167716111011094151118110019513111339711090112
0155191909012910312103114951037394959497989814111976104114878102294298
1081281101221771041351271149816871151781731251261011111111221139939 5110
5110410411171221011201149311049911910312681461210492221142131113836763
1482119298988584821111114512510881131081411177496182753776010711 56110
1161481261351101291321181166112164110211218795861061211111598106194285
1211211131892129991051161211111152611217175135881121876326211121 1138
2125498287163112111274111632921051469619011410128046655986592991 59119
8710687112881051018686919910486104114756613411581181271130115111118687
1091511061130697711011022881069198103128911081104124951121961721249095
8551197811141371311572298249188691209811987366256118111103111411 21056
1351926117137841529611219010610611116119710011112796884581011126988911
1038817590909767112111021141410711110142788021111121112108674081120101
1145959045211999382961196595811102107156821181331531351171031093821151
5110311716411100811170521161210972155781031087511398110039193181903113
9711041161121121111211668584779773107146191127615811109094127897868621
9483431001923149931918810094111715310114693311071568213779492128101110
2102961625699183140621706637450692319488761079079136199978813787108941

1123812815711412711271102124132211111393113969013390692323165185174176
1661451091181541115212531219010813410711132871121107951659111061212200
3931111811209019990107891691488396999588941115113939392986512710597111
4313411421051051109410412694169828686111039411039784989768276246464614
2922109114611111891921621199922119710010294929719316285110170165114188
3529081911111071064392114012782986990292103118065133153100109102124110
5120134151141120106109105389123113111918582225210648373122277495732799
4143811968428279811939010919392499010282128901174941187108115114010919
1116366931241855910310551021107115281996988120195100191111101124966991
9610310296598133124112711110213410811113310315879101789610328195117121
1102510899106103114929060189541106161150801124198182199922229109913310
2111414694127515832619012272226951009731181192170110158916086916313310
3117181118101204229192294118989093112511061141408311799460609119610290
1231032137901124961782124601104833163211937410211831128886316621190134
9214510595939384112193819812311329274871110510996261881125118113100798
6615466877013211859110593651159135851139112135991031167286110414979210
2161104393359399106314752978511351751108891513458287106109978819811088
1231041281911328815857126101108211113519698989810211861481167961097078
7978621196951269710711813015490107959611115287103111099810111031110104
8510112916310017858471101455815622951161141111571101966858901261106192
1038217185121121779163222327718610334226011111031291131061051110191188
1372213089211011213514821001101961152969010375999921939090101511452959
2102590144113765981091506111711239396133718057981102221131111195102456
6651611496971062827867849512014912690143113210611553571211491100101322
1371381251951542106116116979341291111176541581101087995181199867370368
8613811031178127129911179113792211059389847996467996255101889518718390
4100473135151111092211092189998618658512998931115895899789901041191921
0717124118791129411118186510212212631172653118312618715697196892974014
3281121888711961041291241181111251209111313710418012735141211714034959
3971111181110011815014454117012111812612810410518694110692110889951039
2102126218741387318411110011994186142195958079813120261185104196911349
3112083182881021101961971051016868884891131101051169411016104111612471
0251143103104112783193176951491311791019789491140128585150821171121184
1062110790988287541102114991391948889938211791919789106116128118188180
1009680671197511221351110949112111081041124113118712878727278751401089
7110311958621041101949811114999410312899911610212918714810389119106901
1895110111231271161199990901532111221109212510611141211061111151034121
2221871163453102107114811628899100972134879188961071081051051271371 77
1081712939619910212913011511388198114092127127101110111291184110588141
5168116216314714214393861686558415444929012491761551011321922213294111
3294577107111031421281059790846958978071718575591119786916721031092626
1816913480538486441311947274177707787677162102625883113512411 69791816
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9199101111908470137133145915212311211113107128110110494961071921951069
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0611210787186111008097103109481182889813110111487131321011459311168511

```
8419298228899631211110410410513556107951962271115117586265616565586081
1261124851149313618512611997926231071061331471295110014916512452150165
1841041141094881131501187119211211114311611240194101104211011183110122
4118111185153145382140871683221865867621159349883111116110599121547831
0089373335321114713211021329710811101168100222131248112522222221044122
1111110917810315866241449358116111311390681048611181998912683109801401
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7812811411289511231731110143189751195611134192111091711291371921233214
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5012611018411897186198885101828111288997988811031151511151061621031 93
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6606312494100115102128212119988210683121178128113613251299862106129112
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3211721097419431105131105971023939796979118688210790153961049613613113
5150981581639877107116135104139851101721281343198799731102106862127941
8513610528084979211619511997712191210091102119111510011681144727373444
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4113818811122141147921731411231859791171130801019199321993961029585979
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1102125208161116110622371311021031041111099210396111721618992909131150
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1015312611768886104592301199144984646212711123111111012731119048111 41
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1499141061269612931111111061031130119118115919210311721389981251931111
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2499731081318018413528106816931196111105102929817124102103111199130521
9187969214019693211831109520382107965751110911103789869769989893 8912
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8518699110011081061089310217480929311109313216910197914194411472129111
4919311331401145681913135105929181124101106137151711481321471511197117
9519010411111210717811968817815463329387851157116113891107117111259481
1120111510317288198115221302216052611013109921311201598911126154961210
5891581104288194889911144190' to numeric

#Q11- Which individual country has the Highest No. of TV Shows ?
data.head(2)

```
  Show_Id Category  Title            Director  \
0      s1  TV Show      3%                NaN
1      s2    Movie  07:19   Jorge Michel Grau
```

```
                                                Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico
```

```
        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min
```

```
                                                Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                     Dramas, International Movies
```

```
                                        Description     Date_N
year  \
```

```
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0

   minutes     units
0        4   Seasons
1       93       min
```

```python
data_tvshow=data[data['Category']=='TV Show']        #creating new
Columns data_tvshow

data_tvshow.head(2)
```

```
   Show_Id Category Title       Director  \
0       s1  TV Show    3%            NaN
5       s6  TV Show    46  Serdar Akar

                                             Cast Country
Release_Date  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...   Brazil   August
14, 2020
5  Erdal Beşikçioğlu, Yasemin Allen, Melis Birkan...   Turkey      July
1, 2017

   Rating    Duration                                               Type
\
0   TV-MA   4 Seasons   International TV Shows, TV Dramas, TV Sci-Fi &...

5   TV-MA    1 Season    International TV Shows, TV Dramas, TV Mysteries


                                             Description      Date_N
year  \
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
5  A genetics professor experiments with a treatm... 2017-07-01
2017.0

   minutes     units
0        4   Seasons
5        1    Season
```

```python
data_tvshow['Country'].value_counts()        #tv_shows count of
different countries
```

```
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

data_tvshow['Country'].value_counts().head(1)

Country
United States    705
Name: count, dtype: int64
```

```python
#Q.12. How can we sort the dataset by year?
data.head(2)
```

```
  Show_Id Category  Title           Director  \
0      s1  TV Show     3%                NaN
1      s2    Movie  07:19  Jorge Michel Grau


                                        Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico


       Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA   4 Seasons
1  December 23, 2016  TV-MA      93 min


                                        Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                    Dramas, International Movies


                                        Description      Date_N
year  \
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0


   minutes     units
0        4   Seasons
1       93       min
```

```python
#shorting of data by years
data.sort_values(by = 'year')
```

```
      Show_Id Category                                Title
Director  \
7115    s7114    Movie         To and From New York  Sorin Dan
```

```
Mihalcescu
1765    s1766   TV Show                  Dinner for Five
NaN
3248    s3249    Movie    Just Another Love Story           Ole
Bornedal
5766    s5766    Movie                      Splatter           Joe
Dante
3840    s3841    Movie  Mad Ron's Prevues from Hell            Jim
Monaco
...        ...      ...                          ...             .
..
6952    s6951  TV Show                    The Tudors
NaN
6998    s6997  TV Show                  The West Wing
NaN
7448    s7447  TV Show                       Vroomiz
NaN
7524    s7523  TV Show    Weird Wonders of the World
NaN
7655    s7654  TV Show             Women Behind Bars
NaN

                                                     Cast  \
7115   Barbara King, Shaana Diya, John Krisiukenas, Y...
1765                                                  NaN
3248   Anders W. Berthelsen, Rebecka Hemse, Nikolaj L...
5766   Corey Feldman, Tony Todd, Tara Leigh, Erin Way...
3840   Nick Pawlow, Jordu Schell, Jay Kushwara, Micha...
...                                                  ...
6952   Jonathan Rhys Meyers, Henry Cavill, James Frai...
6998   Martin Sheen, Rob Lowe, Allison Janney, John S...
7448   Joon-seok Song, Jeong-hwa Yang, Sang-hyun Um, ...
7524                                        Chris Packham
7655                                                  NaN

                                             Country
Release_Date  \
7115                                   United States      January 1,
2008
1765                                   United States     February 4,
2008
3248                                         Denmark         May 5,
2009
5766                                   United States    November 18,
2009
3840                                   United States     November 1,
2010
...                                                ...              .
..
```

```
6952   Ireland, Canada, United States, United Kingdom       January 8,
2018
6998                                       United States     December 25,
2015
7448                                          South Korea      August 1,
2017
7524                                       United Kingdom      March 31,
2017
7655                                        United States     November 1,
2016

       Rating    Duration
Type   \
7115   TV-MA       81 min                Dramas, Independent Movies,
Thrillers
1765   TV-MA    1 Season                      Stand-Up Comedy & Talk
Shows
3248   TV-MA      104 min                      Dramas, International
Movies
5766   TV-MA       29 min                                      Horror
Movies
3840      NR       84 min                      Cult Movies, Horror
Movies
...       ...          ...
...
6952   TV-MA   4 Seasons                                          TV
Dramas
6998   TV-14   7 Seasons                                          TV
Dramas
7448    TV-Y   3 Seasons                       Kids' TV, Korean TV
Shows
7524   TV-PG   2 Seasons   British TV Shows, Docuseries, Science & Nature
TV
7655   TV-14   3 Seasons                         Crime TV Shows,
Docuseries

                                          Description     Date_N
year  \
7115   While covering a story in New York City, a Sea... 2008-01-01
2008.0
1765   In each episode, four celebrities join host Jo... 2008-02-04
2008.0
3248   When he causes a car accident that leaves a yo... 2009-05-05
2009.0
5766   After committing suicide, a washed-up rocker r... 2009-11-18
2009.0
3840   This collection cherry-picks trailers, forgott... 2010-11-01
2010.0
...                                                  ...        ...
```

```
...
6952  All the splendor and scandal of England's 16th...        NaT
NaN
6998  This powerful political epic chronicles the tr...        NaT
NaN
7448  For these half-car, half-animal friends, each ...        NaT
NaN
7524  From animal oddities and bizarre science to me...        NaT
NaN
7655  This reality series recounts true stories of w...        NaT
NaN

      minutes      units
7115       81        min
1765        1     Season
3248      104        min
5766       29        min
3840       84        min
...       ...        ...
6952        4    Seasons
6998        7    Seasons
7448        3    Seasons
7524        2    Seasons
7655        3    Seasons

[7787 rows x 15 columns]
```

```python
#data sort in descending sport
data.sort_values(by='year',ascending= False).head(10)
```

```
      Show_Id Category
Title  \
5564    s5564    Movie                                       Sherlock
Holmes
5919    s5919    Movie                                         Surf's
Up
980      s981  TV Show                                          Bling
Empire
1355    s1356    Movie  Chris Rock Total Blackout: The Tamborine
Exten...
5955    s5955    Movie                                   Taare Zameen
Par
366      s367    Movie                                             Al
acecho
560      s561    Movie
Apaharan
5922    s5922  TV Show                                       Surviving
Death
4269    s4270    Movie
Mud
```

```
1002    s1003    Movie                                              Blue
Streak

                       Director  \
5564              Guy Ritchie
5919  Ash Brannon, Chris Buck
980                       NaN
1355              Chris Rock
5955              Aamir Khan
366      Francisco D'Eufemia
560              Prakash Jha
5922                      NaN
4269            Jeff Nichols
1002            Les Mayfield

                                                   Cast  \
5564  Robert Downey Jr., Jude Law, Rachel McAdams, M...
5919  Shia LaBeouf, Jeff Bridges, Zooey Deschanel, J...
980                                                 NaN
1355                                         Chris Rock
5955  Aamir Khan, Darsheel Safary, Tanay Chheda, Tis...
366   Rodrigo de la Serna, Belen Blanco, Walter Jako...
560   Ajay Devgn, Nana Patekar, Bipasha Basu, Ayub K...
5922                                                NaN
4269  Matthew McConaughey, Reese Witherspoon, Tye Sh...
1002  Martin Lawrence, Luke Wilson, Peter Greene, Da...

                                             Country
Release_Date  \
5564  United States, Germany, United Kingdom, Australia   January 1,
2021
5919                                     United States   January 1,
2021
980                                                NaN   January 15,
2021
1355                                               NaN   January 12,
2021
5955                                             India   January 10,
2021
366                                                NaN   January 12,
2021
560                                              India    January 8,
2021
5922                                     United States    January 6,
2021
4269                                     United States   January 1,
2021
1002                       Germany, United States    January 1,
2021
```

```
      Rating  Duration                                              Type  \
5564  PG-13   128 min                            Action & Adventure, Comedies
5919     PG    86 min  Children & Family Movies, Comedies, Sports Movies
980   TV-MA  1 Season                                            Reality TV
1355  TV-MA    98 min                                       Stand-Up Comedy
5955     PG   162 min                          Dramas, International Movies
366   TV-MA    81 min                          International Movies, Thrillers
560   TV-14   161 min                          Dramas, International Movies
5922  TV-MA  1 Season                              Docuseries, Reality TV
4269  PG-13   131 min                          Dramas, Independent Movies
1002  PG-13    94 min                            Action & Adventure, Comedies

                                             Description      Date_N  year  \
5564  The game is afoot for an eccentric detective w... 2021-01-01  2021.0
5919  This Oscar-nominated animated comedy goes behi... 2021-01-01  2021.0
980   Follow LA's wildly wealthy Asian and Asian Ame... 2021-01-15  2021.0
1355  In this extended cut of his 2018 special, Chri... 2021-01-12  2021.0
5955  When daydreamer Ishaan is sent to boarding sch... 2021-01-10  2021.0
366   Looking for a fresh start, a park ranger gets ... 2021-01-12  2021.0
560   Raised under the condescending eye of his acti... 2021-01-08  2021.0
5922  What happens after we die? This docuseries exp... 2021-01-06  2021.0
4269  Two Mississippi teens meet peculiar drifter Mu... 2021-01-01  2021.0
1002  A jewel thief returns to his hiding place afte... 2021-01-01  2021.0

      minutes  units
5564      128    min
5919       86    min
```

```
980          1  Season
1355        98     min
5955       162     min
366         81     min
560        161     min
5922         1  Season
4269       131     min
1002        94     min
```

```python
#Q13 - Find all the instances Where:
#Category is 'Movie' and Type is 'Dramas'
#or
#Category is 'TV Show' & Type is 'Kids TV'
data.head(2)
```

```
  Show_Id Category  Title           Director  \
0      s1  TV Show      3%                NaN
1      s2    Movie  07:19  Jorge Michel Grau


                                            Cast Country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R...  Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...  Mexico


        Release_Date Rating   Duration  \
0    August 14, 2020  TV-MA  4 Seasons
1  December 23, 2016  TV-MA     93 min


                                            Type  \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1                      Dramas, International Movies


                                       Description      Date_N
year  \
0  In a future where the elite inhabit an island ... 2020-08-14
2020.0
1  After a devastating earthquake hits Mexico Cit... 2016-12-23
2016.0


  minutes     units
0       4  Seasons
1      93      min
```

```python
data[(data['Category']=='Movie') & (data['Type']=='Dramas')].head(2)
#first condition
```

```
  Show_Id Category Title          Director  \
4      s5    Movie    21  Robert Luketic
7      s8    Movie   187  Kevin Reynolds


                                            Cast         Country  \
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...  United States
```

```
7   Samuel L. Jackson, John Heard, Kelly Rowan, Cl...   United States

        Release_Date Rating Duration     Type  \
4    January 1, 2020  PG-13  123 min   Dramas
7  November 1, 2019      R  119 min   Dramas

                                              Description       Date_N
year  \
4  A brilliant group of students become card-coun... 2020-01-01
2020.0
7  After one of his high school students attacks ... 2019-11-01
2019.0

   minutes units
4      123   min
7      119   min
```

```python
data[(data['Category']=='TV Show') & (data['Type']=="Kids'
TV")].head(2)    #second condition
```

```
     Show_Id Category          Title      Director  \
111     s112  TV Show       44 Cats           NaN
276     s277  TV Show  Abby Hatcher  Kyran Kelly

                                              Cast
Country  \
111  Sarah Natochenny, Suzy Myers, Simona Berman, E...
Italy
276  Macy Drouin, Wyatt White, Paul Sun-Hyung Lee, ...  United States,
Canada

        Release_Date Rating   Duration     Type  \
111  October 1, 2020  TV-Y7  2 Seasons  Kids' TV
276     July 1, 2020   TV-Y   1 Season  Kids' TV

                                              Description       Date_N
year  \
111  Paw-esome tales abound when singing furry frie... 2020-10-01
2020.0
276  A big-hearted girl helps her Fuzzly friends wh... 2020-07-01
2020.0

     minutes    units
111        2  Seasons
276        1   Season
```

```python
#combining both the conditions
data[(data['Category']=='Movie') & (data['Type']=='Dramas') |
(data['Category']=='TV Show') & (data['Type']=="Kids' TV")]
```

```
     Show_Id Category                       Title            Director  \
4         s5    Movie                          21      Robert Luketic
7         s8    Movie                         187      Kevin Reynolds
111     s112  TV Show                     44 Cats                 NaN
170     s171    Movie               A Family Man      Mark Williams
232     s233    Movie  A Stoning in Fulham County      Larry Elikann
...      ...      ...                         ...                 ...
7668   s7667  TV Show               World of Winx      Iginio Straffi
7717   s7716  TV Show                        Yoko                 NaN
7719   s7718  TV Show                         YOM                 NaN
7758   s7757  TV Show                          Z4                 NaN
7761   s7760  TV Show                   Zak Storm                 NaN

                                                    Cast  \
4      Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...
7      Samuel L. Jackson, John Heard, Kelly Rowan, Cl...
111    Sarah Natochenny, Suzy Myers, Simona Berman, E...
170    Gerard Butler, Gretchen Mol, Alison Brie, Will...
232    Ken Olin, Jill Eikenberry, Maureen Mueller, Gr...
...                                                  ...
7668   Haven Paschall, Alysha Deslorieux, Jessica Paq...
7717   Eileen Stevens, Alyson Leigh Rosenfeld, Sarah ...
7719   Sairaj, Devyani Dagaonkar, Ketan Singh, Mayur ...
7758   Apollo Costa, Gabriel Santana, Matheus Lustosa...
7761   Michael Johnston, Jessica Gee-George, Christin...

                                             Country
Release_Date  \
4                                      United States    January 1,
2020
7                                      United States    November 1,
2019
111                                            Italy     October 1,
2020
170                       Canada, United States    December 15,
2019
232                                    United States     October 1,
2011
...                                              ...             ..
.
7668                          Italy, United States       June 16,
2017
7717                                             NaN       June 23,
2018
7719                                             NaN        June 7,
2018
7758                                          Brazil    February 22,
2019
7761   United States, France, South Korea, Indonesia  September 13,
2018
```

```
      Rating   Duration      Type  \
4      PG-13    123 min     Dramas
7          R    119 min     Dramas
111     TV-Y7  2 Seasons  Kids' TV
170         R    110 min     Dramas
232     TV-14     95 min     Dramas
...       ...        ...        ...
7668    TV-Y7  2 Seasons  Kids' TV
7717     TV-Y   1 Season  Kids' TV
7719    TV-Y7   1 Season  Kids' TV
7758    TV-PG  2 Seasons  Kids' TV
7761    TV-Y7  3 Seasons  Kids' TV

                                          Description      Date_N
year  \
4      A brilliant group of students become card-coun... 2020-01-01
2020.0
7      After one of his high school students attacks ... 2019-11-01
2019.0
111    Paw-esome tales abound when singing furry frie... 2020-10-01
2020.0
170    A ruthless corporate headhunter battles his ri... 2019-12-15
2019.0
232    After reckless teens kill an Amish child, a pr... 2011-10-01
2011.0
...                                                  ...        ...
...
7668  The reality show "WOW!" engages the Winx in th... 2017-06-16
2017.0
7717  Friends Mai, Oto and Vik's games at the park b... 2018-06-23
2018.0
7719  With the mind of a human being, and the body o... 2018-06-07
2018.0
7758  Fading music biz veteran Zé realizes he has ju... 2019-02-22
2019.0
7761  Teen surfer Zak Storm is mysteriously transpor... 2018-09-13
2018.0

      minutes     units
4         123       min
7         119       min
111         2   Seasons
170       110       min
232        95       min
...       ...       ...
7668        2   Seasons
7717        1    Season
7719        1    Season
7758        2   Seasons
```

```
7761          3  Seasons

[322 rows x 15 columns]
```