!unzip netflix_titles.csv.zip

Archive: netflix_titles.csv.zip inflating: netflix_titles.csv

#importing libraries for our purpose import pandas as pd import numpy as np import matplotlib.pyplot as plt import seaborn as sns

df=pd.read_csv('netflix_titles.csv')

df.head()

| ₹ | | show_id | type | title | director | cast | country | date_added | release_year | rating | duration | listed_in | description |
|---|---|---------|------------|----------------------------|--------------------|---|------------------|-----------------------|--------------|--------|--------------|--|---|
| | 0 | s1 | Movie | Dick Johnson Is Dead | Kirsten Johnson | NaN | United States | September 25, 2021 | 2020 | PG-13 | 90 min | Documentaries | As her father nears the end of his life, filmm |
| | 1 | s2 | TV Show | Blood & Water | NaN | Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban | South Africa | September 24, 2021 | 2021 | TV-MA | 2 Seasons | International TV Shows, TV Dramas, TV Mysteries | After crossing paths at a party, a Cape Town t |
| | 4 | | | | | Sami | | | | | | Crima TV | To protect his |

#length of data
len(df)

→ 8807

#checking datatypes
df.dtypes

→ show_id object type object title object director object cast object object country ${\sf date_added}$ object release_year int64 rating object duration object listed_in object description object dtype: object

#number of unique values in our data
for i in df.columns:
 print(i,':',df[i].nunique())

```
→ show_id : 8807
     type: 2
     title : 8807
     director: 4528
     cast : 7692
    country : 748
date_added : 1767
     release_year : 74
     rating : 17
     duration : 220
     listed_in : 514
     description : 8775
#checking null values in every column of our data
df.isnull().sum()
→ show_id
                        0
                        0
     type
     title
                        a
                     2634
     director
     cast
                      825
     country
                      831
     date_added
                       10
     release_year
     rating
     duration
                        3
     listed_in
                        0
     description
                        0
     dtype: int64
#checking the occurences of each of the ratings
df['rating'].value_counts()
<del>_</del>
    TV-MA
                 3207
     TV-14
                 2160
     TV-PG
                  863
                  799
     PG-13
                  490
     TV-Y7
                  334
     TV-Y
                  307
                  287
     PG
     TV-G
                  220
     NR
                   80
                   41
     TV-Y7-FV
                    6
     NC-17
                    3
                    3
     74 min
                    1
     84 min
                    1
     Name: rating, dtype: int64
con1 = df['director'].apply(lambda x: str(x).split(', ')).tolist()
df_new1=pd.DataFrame(con1,index=df['title'])
df_new1
```

10

12

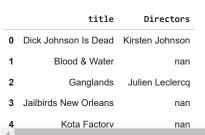
8807 rows × 13 columns



__

title Dick Johnson Is Dead Kirsten Johnson None **Blood & Water** nan None Ganglands Julien Leclercq None **Jailbirds New Orleans** nan None **Kota Factory** None nan Zodiac David Fincher None **Zombie Dumb** nan None Zombieland Ruben Fleischer None Zoom Peter Hewitt None Mozez Singh None Zubaan None None

```
#unnesting the directors column, i.e- creating separate lines for each director in a movie
constraint1=df['director'].apply(lambda x: str(x).split(', ')).tolist()
df_new1=pd.DataFrame(constraint1,index=df['title'])
df_new1=df_new1.stack()
df_new1=pd.DataFrame(df_new1.reset_index())
df_new1.rename(columns={0:'Directors'},inplace=True)
df_new1.drop(['level_1'],axis=1,inplace=True)
df_new1.head()
```



#unnesting the cast column, i.e- creating separate lines for each cast member in a movie
constraint2=df['cast'].apply(lambda x: str(x).split(', ')).tolist()
df_new2=pd.DataFrame(constraint2,index=df['title'])
df_new2=df_new2.stack()
df_new2=pd.DataFrame(df_new2.reset_index())
df_new2.rename(columns={0:'Actors'},inplace=True)
df_new2.drop(['level_1'],axis=1,inplace=True)
df_new2.head()

₹



#unnesting the listed_in column, i.e- creating separate lines for each genre in a movie
constraint3=df['listed_in'].apply(lambda x: str(x).split(', ')).tolist()
df_new3=pd.DataFrame(constraint3,index=df['title'])
df_new3=df_new3.stack()
df_new3=pd.DataFrame(df_new3.reset_index())
df_new3.rename(columns={0:'Genre'},inplace=True)
df_new3.drop(['level_1'],axis=1,inplace=True)
df_new3.head()

| | title | Genre |
|---|----------------------|------------------------|
| 0 | Dick Johnson Is Dead | Documentaries |
| 1 | Blood & Water | International TV Shows |
| 2 | Blood & Water | TV Dramas |
| 3 | Blood & Water | TV Mysteries |
| 4 | Ganglands | Crime TV Shows |

#unnesting the country column, i.e- creating separate lines for each country in a movie
constraint4=df['country'].apply(lambda x: str(x).split(', ')).tolist()

df_new4=pd.DataFrame(constraint4,index=df['title'])

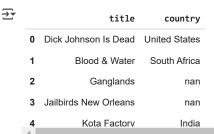
df_new4=df_new4.stack()

df_new4=pd.DataFrame(df_new4.reset_index())

df_new4.rename(columns={0:'country'},inplace=True)

df_new4.drop(['level_1'],axis=1,inplace=True)

df_new4.head()

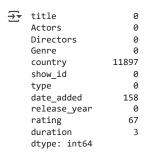


#merging the unnested director data with unnested actors data $\ensuremath{\mathsf{dfx}}$

| _ → | | title | Actors | Directors | Genre | country |
|----------------|---|----------------------|---------------|------------------|------------------------|---------------|
| | 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States |
| | 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa |
| : | 2 | Blood & Water | Ama Qamata | Unknown Director | TV Dramas | South Africa |
| ; | 3 | Blood & Water | Ama Qamata | Unknown Director | TV Mysteries | South Africa |
| 4 | 4 | Blood & Water | Khosi Ngema | Unknown Director | International TV Shows | South Africa |



#now checking nulls
df_final.isnull().sum()



In duration column, it was observed that the nulls had values which were written in corresponding ratings column, i.e- you can't expect ratings to be in min. So the duration column nulls are replaced by corresponding values in ratings column

df_final.loc[df_final['duration'].isnull(), 'duration']=df_final.loc[df_final['duration'].isnull(), 'duration'].fillna(df_final['rating'])
df_final.loc[df_final['rating'].str.contains('min', na=False), 'rating']='NR'
df_final.isnull().sum()

```
→ title
                         0
    Actors
    Directors
                         a
    Genre
                         0
                     11897
    country
                         0
    show id
    type
                         a
    date_added
                       158
    release_year
                         0
                        67
    rating
    duration
                         0
    dtype: int64
```

#Ratings can't be in min, so it has been made NR(i.e- Non Rated)
df_final.loc[df_final['rating'].str.contains('min', na=False),'rating']='NR'
df_final['rating'].fillna('NR',inplace=True)
pd.set_option('display.max_rows',None)

#just an attempt to observe nulls in date_added column
df_final[df_final['date_added'].isnull()].head()

| ₹ | | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration |
|---|--------|---|---------------------|---------------------|---------------------|-------------------|---------|------------|------------|--------------|--------|--------------|
| | 136893 | A Young Doctor's Notebook and Other Stories | Daniel Radcliffe | Unknown Director | British TV Shows | United Kingdom | s6067 | TV Show | NaN | 2013 | TV-MA | 2 Seasons |
| | 136894 | A Young Doctor's Notebook and Other Stories | Daniel Radcliffe | Unknown Director | TV Comedies | United Kingdom | s6067 | TV Show | NaN | 2013 | TV-MA | 2 Seasons |
| | 4 | *** 5 | | | | | | | | | | > |

```
#date added column is imputed on the basis of release year,i.e- suppose there's a null for date_added
#when release year was 2013.So below piece of code just checks the mode of date added for release year=2013
# and imputes in place of nulls the corresponding mode

for i in df_final[df_final['date_added'].isnull()]['release_year'].unique():
    imp=df_final[df_final['release_year']==i]['date_added'].mode().values[0]
    df_final.loc[df_final['release_year']==i, 'date_added']=df_final.loc[df_final['release_year']==i, 'date_added'].fillna(imp)

#country column is imputed on the basis of director,i.e- suppose there's a null for country
#when we have a director whose other movies have a country given.So below piece of code just checks the mode of
#country for the director
# and imputes in place of nulls the corresponding mode

for i in df_final[df_final['country'].isnull()]['Directors'].unique():
    if i in df_final[df_final['country'].isnull()]['Directors'].unique():
    imp=df_final[df_final['Directors']==i]['country'].mode().values[0]
    df_final.loc[df_final['Directors']==i,'country']=df_final.loc[df_final['Directors']==i,'country'].fillna(imp)
```

So we imputed the country column on the basis of directors whose other movie titles had countries given. But there might be directors who have only one occurence in our data. In that scenario, I have used Actors as a basis. i.e- for this Actor majorly acts in movies of which country? Imputation has been done on this basis. For remaining rows, country has been filled as Unknown Country

```
for i in df_final[df_final['country'].isnull()]['Actors'].unique():
 if i in df_final['country'].isnull()]['Actors'].unique():
   imp=df_final[df_final['Actors']==i]['country'].mode().values[0]
   df_final.loc[df_final['Actors']==i,'country']=df_final.loc[df_final['Actors']==i,'country'].fillna(imp)
#If there are still nulls, I just replace it by Unknown Country
df_final['country'].fillna('Unknown Country',inplace=True)
df_final.isnull().sum()
→ title
    Actors
                    0
    Directors
                    0
    Genre
                    0
    country
                    0
    show_id
                    0
    tvpe
    date_added
                    0
    release_year
                    0
    rating
    duration
                    0
    dtype: int64
```

df_final.head()

| _ | | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration |
|--------------|---|-------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|--------|--------------|
| | 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 90 min |
| | 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons |
| | 2 | Blood & Water | Ama Qamata | Unknown Director | TV Dramas | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons |
| | 4 | | | | | | | | | | | > |

```
df_final['duration'].value_counts()
```

```
→ 1 Season

                   35035
                    9559
    2 Seasons
                    5084
    3 Seasons
    94 min
                    4343
    106 min
                    4040
    97 min
                    3624
    95 min
                    3560
    96 min
                    3484
    93 min
                    3480
    90 min
```

```
105 min
               3209
107 min
               3103
101 min
               3048
102 min
               3017
103 min
               2985
98 min
               2984
99 min
               2956
91 min
               2915
92 min
               2863
104 min
               2822
88 min
               2781
110 min
               2711
100 min
               2697
108 min
               2614
               2594
112 min
85 min
               2486
89 min
               2420
86 min
               2213
4 Seasons
               2134
116 min
               2122
118 min
               2119
119 min
               2075
87 min
               2063
109 min
               2020
113 min
               1990
120 min
               1845
117 min
               1770
121 min
               1728
5 Seasons
               1698
111 min
               1667
124 min
               1590
114 min
               1529
127 min
               1505
115 min
               1444
123 min
               1398
125 min
               1299
122 min
               1298
84 min
               1268
128 min
               1241
130 min
               1216
126 min
               1205
81 min
               1203
83 min
               1192
133 min
               1169
137 min
               1122
               1100
82 min
136 min
               1092
132 min
               1047
```

#removing mins from data
df_final['duration']=df_final['duration'].str.replace(" min","")
df_final.head()

| → * | | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration |
|------------|-----|-------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|--------|--------------|
| | 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 90 |
| | 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons |
| | 2 | Blood & Water | Ama Qamata | Unknown Director | TV Dramas | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons |
| | 4 ■ | | | | | | | | | | | > |

df_final['duration'].unique()

```
Scaler_netflix_assignm

'165', '150', '133', '70', '84', '140', '78', '7 Seasons', '64',
'59', '139', '69', '148', '189', '141', '130', '138', '81', '132',
'10 Seasons', '123', '65', '68', '66', '62', '74', '131', '39',
'46', '38', '8 Seasons', '17 Seasons', '126', '155', '159', '137',
'12', '273', '36', '34', '77', '60', '49', '58', '72', '204',
'212', '25', '73', '29', '47', '32', '35', '71', '149', '33', '15',
'54', '224', '162', '37', '75', '79', '55', '158', '164', '173',
'181', '185', '21', '24', '51', '151', '42', '22', '134', '177',
'13 Seasons', '52', '14', '53', '8', '57', '28', '50', '9', '26',
'45', '171', '27', '44', '146', '20', '157', '17', '203', '41',
'30', '194', '15 Seasons', '233', '237', '230', '195', '253',
'152', '190', '160', '208', '180', '144', '5', '174', '170', '192',
'209', '187', '172', '16', '186', '11', '193', '176', '56', '169',
'40', '10', '3', '168', '312', '153', '214', '31', '163', '19',
'12 Seasons', '179', '11 Seasons', '43', '200', '196', '167',
'178', '228', '18', '205', '201', '191'], dtype=object)
df_final['duration_copy']=df_final['duration'].copy()
df_final1=df_final.copy()
df_final1.loc[df_final1['duration_copy'].str.contains('Season'),'duration_copy']=0
df_final1['duration_copy']=df_final1['duration_copy'].astype('int')
df_final1.head()
```

| _ | | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration | duration_copy |
|--------------|---|----------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|--------|--------------|---------------|
| | 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 90 | 90 |
| | 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 0 |
| | 2 | Blood & | Ama | Unknown | TV Dramas | South | s2 | TV | September | 2021 | TV-MA | 2 | 0 |

df_final1['duration_copy'].describe()

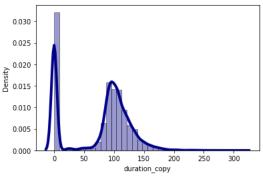
201991.000000 77,152789

→ count

mean

```
std
                  52.269154
                   0.000000
     min
     25%
                   0.000000
     50%
                  95.000000
     75%
                 112.000000
     max
                 312.000000
     Name: duration_copy, dtype: float64
import seaborn as sns
sns.distplot(df_final1['duration_copy'], hist=True, kde=True,
bins=int(36), color = 'darkblue',
hist_kws={'edgecolor':'black'},
kde_kws={'linewidth': 4})
plt.show()
```

//wsr/local/lib/python3.7/dist-packages/seaborn/distributions.py:2619: FutureWarning: `distplot` is a deprecated function and will be rem warnings.warn(msg, FutureWarning)



bins1 = [-1,1,50,80,100,120,150,200,315]
labels1 = ['<1','1-50','50-80','80-100','100-120','120-150','150-200','200-315']
df_final1['duration_copy'] = pd.cut(df_final1['duration_copy'],bins=bins1,labels=labels1)
df final1.head()</pre>

| ₹ | | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration | duration_copy |
|---|---|----------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|--------|--------------|---------------|
| | 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 90 | 80-100 |
| | 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | <1 |
| | 2 | Blood & | Ama | Unknown | TV Dramas | South | s2 | TV | September | 2021 | TV-MA | 2 | <1 |
| | 4 | | | | | | | | | | | |) |

df_final1.loc[~df_final1['duration'].str.contains('Season'), 'duration']=df_final1.loc[~df_final1['duration'].str.contains('Season'), 'duratio
df_final1.drop(['duration_copy'],axis=1,inplace=True)
df_final1.head()

| ₹ | | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration |
|---|---|-------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|--------|--------------|
| | 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 80-100 |
| | 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons |
| | 2 | Blood & Water | Ama Qamata | Unknown Director | TV Dramas | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons |
| | 4 | | | | | | | | | | | > |

df_final1['duration'].value_counts()

| - | 80-100 | 52937 |
|--------------|-----------|-------|
| | 100-120 | 48724 |
| | 1 Season | 35035 |
| | 120-150 | 26691 |
| | 2 Seasons | 9559 |
| | 50-80 | 7700 |
| | 150-200 | 6737 |
| | 3 Seasons | 5084 |
| | 1-50 | 2530 |
| | 4 Seasons | 2134 |
| | 5 Seasons | 1698 |
| | | |

```
7 Seasons
                843
6 Seasons
                633
200-315
8 Seasons
                 286
9 Seasons
                257
10 Seasons
                220
                132
13 Seasons
12 Seasons
                111
15 Seasons
                 96
17 Seasons
                 30
11 Seasons
                 30
```

Name: duration, dtype: int64

```
from datetime import datetime
from dateutil.parser import parse
arr=[]
for i in df_final1['date_added'].values:
 dt1=parse(i)
 arr.append(dt1.strftime('%Y-%m-%d'))
df_final1['Modified_Added_date'] =arr
df_final1['Modified_Added_date']=pd.to_datetime(df_final1['Modified_Added_date'])
df_final1['month_added']=df_final1['Modified_Added_date'].dt.month
df_final1['week_Added']=df_final1['Modified_Added_date'].dt.week
df_final1['year']=df_final1['Modified_Added_date'].dt.year
df_final1.head()
```

/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:10: FutureWarning: Series.dt.weekofyear and Series.dt.week have been deprec # Remove the CWD from sys.path while we load stuff.

| | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration | Modified_Added_date | r |
|-----|----------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|--------|--------------|---------------------|---|
| 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 80-100 | 2021-09-25 | |
| 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| 2 | Blood & Water | Ama Qamata | Unknown Director | TV Dramas | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| 3 | Blood & Water | Ama Qamata | Unknown Director | TV Mysteries | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| 4 | Blood & Water | Khosi Ngema | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| - 4 | | | | | | | | | | | | , | • |

#Titles such as Bahubali(Hindi Version),Bahubali(Tamil Version) were there. Since it's only one movie in different languages, #presence of brackets and content between brackets is removed. df_final1['title']=df_final1['title'].str.replace(r"\(.*\)","") df_final1.head()

/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:3: FutureWarning: The default value of regex will change from True to False This is separate from the ipykernel package so we can avoid doing imports until

| | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration | Modified_Added_date | r |
|---|----------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|--------|--------------|---------------------|-------------|
| 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 80-100 | 2021-09-25 | |
| 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| 2 | Blood & Water | Ama Qamata | Unknown Director | TV Dramas | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| 3 | Blood & Water | Ama Qamata | Unknown Director | TV Mysteries | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| 4 | Blood & | Khosi | Unknown | International | South | - | TV | September | | | 2 | | > |

Univariate Analysis in terms of counts of each column

```
#number of distinct titles on the basis of genre
df_final1.groupby(['Genre']).agg({"title":"nunique"})
```



Genre Action & Adventure 854 **Anime Features** 71 **Anime Series** 176 **British TV Shows** 253 **Children & Family Movies** 639 Classic & Cult TV 28 **Classic Movies** 116 Comedies 1673 Crime TV Shows 470 **Cult Movies** 71 **Documentaries** 869 **Docuseries** 395 Dramas 2418 Faith & Spirituality 65 **Horror Movies** 353 **Independent Movies** 756 **International Movies** 2738 International TV Shows 1351 Kids' TV 451 Korean TV Shows 151 **LGBTQ Movies** 102 Movies 57 Music & Musicals 372 Reality TV 255 **Romantic Movies** 615 **Romantic TV Shows** 370 Sci-Fi & Fantasy 243 Science & Nature TV 92 Spanish-Language TV Shows 174 **Sports Movies** 219 Stand-Up Comedy 343 Stand-Up Comedy & Talk Shows 56 TV Action & Adventure 168 **TV Comedies** 581 **TV Dramas** 763 TV Horror 75 **TV Mysteries** 98 TV Sci-Fi & Fantasy 84 TV Shows 16 TV Thrillers 57 Teen TV Shows 69 Thrillers 573

title

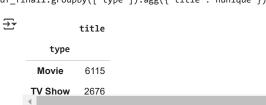
 $\label{lem:munique} $$ df_genre=df_final1.groupby(['Genre']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15] $$ plt.figure(figsize=(15,8)) $$$

plt.barh(df genre[::-1]['Genre']. df genre[::-1]['title'].color=['orange'])

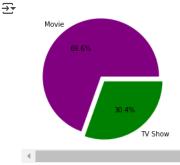
```
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
 <del>_</del>_
              International Movies
                       Comedies
            International TV Shows
                   Documentaries
               Action & Adventure
                       TV Dramas
              Independent Movies
          Children & Family Movies
                  Romantic Movies
                     TV Comedies
                         Thrillers
                  Crime TV Shows
                         Kids' TV
                       Docuseries
                                                                                                                                                              2500
                                                         500
                                                                                  1000
                                                                                                           1500
                                                                                                                                     2000
```

International Movies, Dramas and Comedies are the most popular.

#number of distinct titles on the basis of type
df_final1.groupby(['type']).agg({"title":"nunique"})



df_type=df_final1.groupby(['type']).agg({"title":"nunique"}).reset_index()
plt.pie(df_type['title'],explode=(0.05,0.05), labels=df_type['type'],colors=['purple','green'],autopct='%.1f%%')
plt.show()



We have 70:30 ratio of Movies and TV Shows in our data

#number of distinct titles on the basis of country
df_final1.groupby(['country']).agg({"title":"nunique"})



title country 3 Afghanistan Albania 1 Algeria 3 Angola 2 Argentina 94 Armenia 1 Australia 162 Austria 12 Azerbaijan 1 Bahamas 1 Bangladesh 4 Belarus 1 Belgium 94 Bermuda 1 Botswana Brazil 103 Bulgaria 10 Burkina Faso 1 Cambodia 5 Cambodia, 1 Cameroon 2 Canada 460 Cayman Islands 2 Chile 30 China 166 Colombia 54 Croatia 4 Cuba 2 Cyprus 1 Czech Republic 23 Denmark 50 Dominican Republic **East Germany** Ecuador 1 Egypt 134 Ethiopia 1 Finland 12 France 409 2 Georgia 231 Germany Ghana 8 Greece 11 Guatemala 2 Hona Kona 110

| Hungary | 11 |
|---------------|------|
| Iceland | 11 |
| India | 1126 |
| Indonesia | 97 |
| Iran | 4 |
| Iraq | 2 |
| Ireland | 46 |
| Israel | 30 |
| Italy | 102 |
| Jamaica | 1 |
| Japan | 338 |
| Jordan | 10 |
| Kazakhstan | 1 |
| Kenya | 6 |
| Kuwait | 9 |
| Latvia | 1 |
| Lebanon | 33 |
| Liechtenstein | 1 |
| Lithuania | 1 |
| Luxembourg | 12 |
| Malawi | 1 |
| Malaysia | 26 |
| Malta | 3 |
| Mauritius | 3 |
| Mexico | 175 |
| Mongolia | 1 |
| Montenegro | 1 |
| Morocco | 6 |
| Mozambique | 1 |
| Namibia | 2 |
| Nepal | 2 |
| Netherlands | 50 |
| New Zealand | 33 |
| Nicaragua | 1 |
| Nigeria | 140 |
| Norway | 30 |
| Pakistan | 24 |
| Palestine | 1 |
| Panama | 1 |
| Paraguay | 1 |
| Peru | 11 |
| Philippines | 90 |
| Poland | 41 |
| Poland, | 1 |
| Portugal | 6 |
| Puerto Rico | 1 |
| 0-4 | 40 |

Ωatar

| - April 1 | |
|----------------------|------|
| Romania | 14 |
| Russia | 27 |
| Samoa | 1 |
| Saudi Arabia | 14 |
| Senegal | 3 |
| Serbia | 7 |
| Singapore | 41 |
| Slovakia | 1 |
| Slovenia | 3 |
| Somalia | 1 |
| South Africa | 65 |
| South Korea | 235 |
| Soviet Union | 3 |
| Spain | 239 |
| Sri Lanka | 1 |
| Sudan | 1 |
| Sweden | 44 |
| Switzerland | 19 |
| Syria | 3 |
| Taiwan | 94 |
| Thailand | 74 |
| Turkey | 115 |
| Uganda | 1 |
| Ukraine | 3 |
| United Arab Emirates | 38 |
| United Kingdom | 829 |
| United Kingdom, | 2 |
| United States | 4245 |
| United States, | 1 |
| Unknown Country | 175 |
| Uruguay | 14 |
| Vatican City | 1 |
| Venezuela | 4 |
| Vietnam | 7 |
| West Germany | 5 |
| Zimbabwe 4 | 3 |
| | |
| | |

The above dataframe shows a flaw in which we are seeing countries, such as Cambodia and Cambodia, or United States and United States, are shown as different countries. They should have been same

df_final1['country'] = df_final1['country'].str.replace(',', '')
df_final1.head()

| ₹ | | title | Actors | Directors | Genre | country | show_id | type | date_added | release_year | rating | duration | Modified_Added_date | r |
|---|-----|----------------------------|------------------|---------------------|---------------------------|------------------|---------|------------|-----------------------|--------------|------------|--------------|---------------------|-------------|
| | 0 | Dick Johnson Is Dead | Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 80-100 | 2021-09-25 | |
| | 1 | Blood & Water | Ama Qamata | Unknown Director | International TV Shows | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| | 2 | Blood & Water | Ama Qamata | Unknown Director | TV Dramas | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| | 3 | Blood & Water | Ama Qamata | Unknown Director | TV Mysteries | South Africa | s2 | TV Show | September 24, 2021 | 2021 | TV-MA | 2 Seasons | 2021-09-24 | |
| | ∢ 📗 | Blood & | Khosi | Unknown | International | South | ^ | TV | September | 2024 | T\ / * 4 * | 2 | 2004 20 04 | > |

#number of distinct titles on the basis of country
df_final1.groupby(['country']).agg({"title":"nunique"})



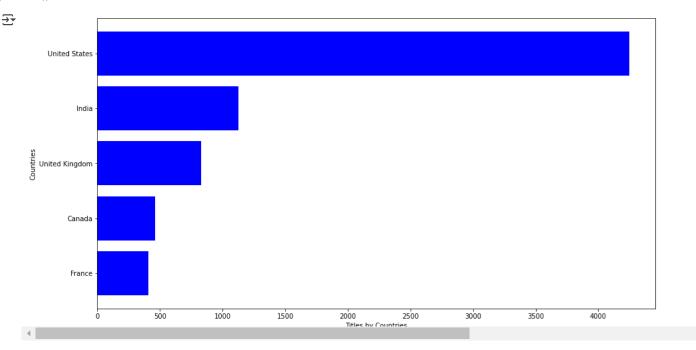
title country 3 Afghanistan Albania 1 Algeria 3 Angola 2 Argentina 94 Armenia 1 Australia 162 Austria 12 Azerbaijan 1 Bahamas 1 Bangladesh 4 Belarus 1 Belgium 94 Bermuda 1 Botswana Brazil 103 Bulgaria 10 Burkina Faso 1 6 Cambodia Cameroon 2 Canada 460 Cayman Islands 2 Chile 30 China 166 Colombia 54 Croatia 4 Cuba 2 Cyprus 1 Czech Republic 23 Denmark 50 **Dominican Republic** 1 **East Germany** Ecuador 1 Egypt 134 Ethiopia 1 Finland 12 France 409 Georgia 2 Germany 231 Ghana 8 Greece 11 Guatemala 2 Hong Kong 110 Hungary 11

| · 3. 4 | |
|----------------------|----------|
| Iceland | 11 |
| India | 1126 |
| Indonesia | 97 |
| Iran | 4 |
| Iraq | 2 |
| Ireland | 46 |
| Israel | 30 |
| Italy | 102 |
| Jamaica | 1 |
| Japan | 338 |
| Jordan | 10 |
| Kazakhstan | 1 |
| Kenya | 6 |
| Kuwait | 9 |
| Latvia | 1 |
| Lebanon | 33 |
| Liechtenstein | 1 |
| Lithuania | 1 |
| Luxembourg | 12 |
| Malawi | 1 |
| Malaysia | 26 |
| Malta | 3 |
| Mauritius | 3 |
| Mexico | 175 |
| Mongolia | 1 |
| Montenegro | 1 |
| Morocco | 6 |
| Mozambique | 1 |
| Namibia | 2 |
| Nepal | 2 |
| Netherlands | 50 |
| New Zealand | 33 |
| Nicaragua Nigeria | 1 140 |
| Norway | 30 |
| Pakistan | 24 |
| Palestine | 1 |
| Panama | 1 |
| Paraguay | 1 |
| Peru | 11 |
| Philippines | 90 |
| Poland | 42 |
| Portugal | 6 |
| Puerto Rico | 1 |
| Qatar | 10 |
| Romania | 14 |
| D | 07 |

| 1140014 | |
|----------------------|------|
| Samoa | 1 |
| Saudi Arabia | 14 |
| Senegal | 3 |
| Serbia | 7 |
| Singapore | 41 |
| Slovakia | 1 |
| Slovenia | 3 |
| Somalia | 1 |
| South Africa | 65 |
| South Korea | 235 |
| Soviet Union | 3 |
| Spain | 239 |
| Sri Lanka | 1 |
| Sudan | 1 |
| Sweden | 44 |
| Switzerland | 19 |
| Syria | 3 |
| Taiwan | 94 |
| Thailand | 74 |
| Turkey | 115 |
| Uganda | 1 |
| Ukraine | 3 |
| United Arab Emirates | 38 |
| United Kingdom | 831 |
| United States | 4246 |
| Unknown Country | 175 |
| Uruguay | 14 |
| Vatican City | 1 |
| Venezuela | 4 |
| Vietnam | 7 |
| West Germany | 5 |
| Zimbabwe | 3 |

Now it looks great.

```
df_country=df_final1.groupby(['country']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:5]
plt.figure(figsize=(15,8))
plt.barh(df_country[::-1]['country'], df_country[::-1]['title'],color=['blue'])
plt.xlabel('Titles by Countries')
plt.ylabel('Countries')
plt.show()
```

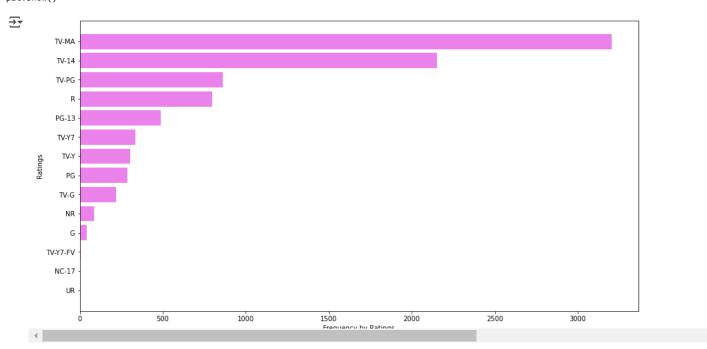


US,India,UK,Canada and France are leading countries in Content Creation on Netflix

#number of distinct titles on the basis of rating
df_final1.groupby(['rating']).agg({"title":"nunique"})

```
₹
               title
       rating
        G
                  41
       NC-17
                   3
        NR
                  87
        PG
                 287
      PG-13
                 490
        R
                 799
       TV-14
                2151
       TV-G
                 220
      TV-MA
                3204
      TV-PG
                 863
       TV-Y
                 305
      TV-Y7
                 334
     TV-Y7-FV
                   6
                   3
        UR
```

```
df_rating=df_final1.groupby(['rating']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_rating[::-1]['rating'], df_rating[::-1]['title'],color=['violet'])
plt.xlabel('Frequency by Ratings')
plt.ylabel('Ratings')
plt.show()
```

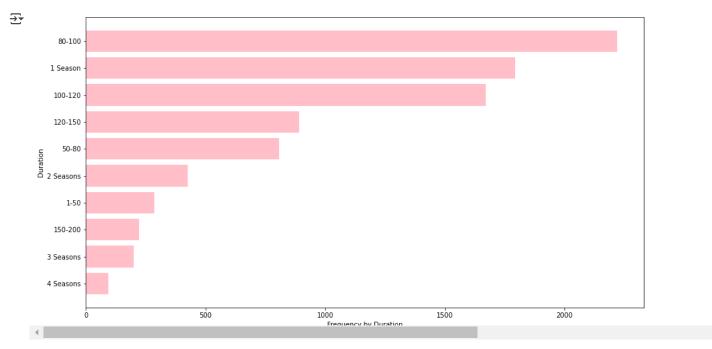


Most of the highly rated content on Netflix is intended for Mature Audiences, R Rated, content not intended for audience under 14 and those which require Parental Guidance

#number of distinct titles on the basis of duration
df_final1.groupby(['duration']).agg({"title":"nunique"})

```
₹
                  title
       duration
      1 Season
                   1793
         1-50
                    287
     10 Seasons
                      7
       100-120
                   1671
     11 Seasons
                      2
     12 Seasons
                      2
       120-150
                    891
     13 Seasons
                      3
     15 Seasons
                      2
       150-200
                    222
     17 Seasons
                      1
      2 Seasons
                    425
       200-315
                     19
                    199
      3 Seasons
      4 Seasons
                     95
      5 Seasons
                     65
        50-80
                    808
      6 Seasons
                     33
      7 Seasons
                     23
      8 Seasons
                     17
       80-100
                   2220
      9 Seasons
```

```
df_duration=df_final1.groupby(['duration']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]
plt.figure(figsize=(15,8))
plt.barh(df_duration[::-1]['duration'], df_duration[::-1]['title'],color=['pink'])
plt.xlabel('Frequency by Duration')
plt.ylabel('Duration')
plt.show()
```



The duration of Most Watched content in our whole data is 80-100 mins. These must be movies and Shows having only 1 Season.

#number of distinct titles on the basis of Actors df_final1.groupby(['Actors']).agg({"title":"nunique"})



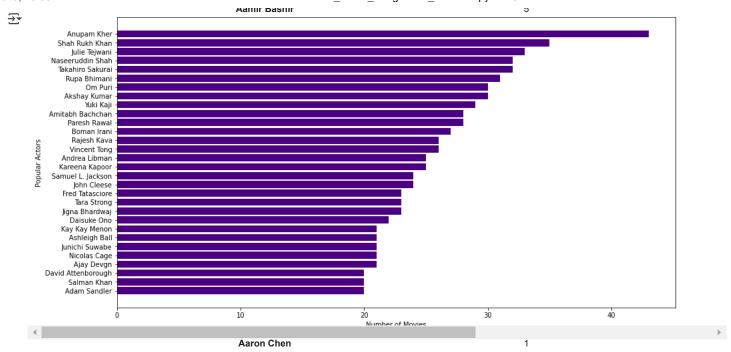
plt.figure(figsize=(15,8))

plt.show()

plt.xlabel('Number of Movies') plt.ylabel('Popular Actors')

title Actors Jr. 2 "Riley" Lakdhar Dridi 'Najite Dede 2 2 Chainz 2Mex 4Minute 50 Cent 5 9m88 A Boogie Wit tha Hoodie A. Murat Özgen A.C. Peterson A.D. Miles 3 A.J. Cook 2 A.J. Johnson A.J. LoCascio 3 A.K. Hangal A.R. Rahman A.S. Sasi Kumar AC Lim **AFRA** AJ Bowen AJ Michalka AJ Rivera ARAH Aabhas Yadav **Aachal Munjal** Aadarsh Balakrishna Aadhi Aadhya Anand 1 Aadil Khan df_actors=df_final1.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:31] df_actors=df_actors[df_actors['Actors']!='Unknown Actor'] plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo']) Aakarshan Singh Aakash Dabhade Aakash Dahiya

Aakash Pandey **Aakshath Das** Aamina Sheikh **Aamir Ahmed** A amir Daabir



Anupam Kher, SRK, Julie Tejwani, Naseeruddin Shahand Takahiro Sakurai occupy the top stop in Most Watched content.

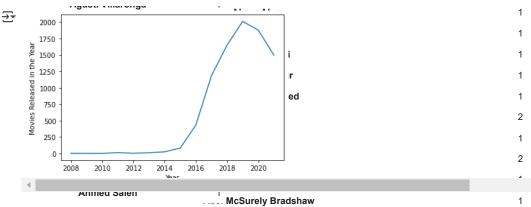
| Anupam Kher, SRK, Julie Tejwani, Naseeruddin Shahand Takahiro Sakurai occupy the top stop in Most Water | :hed _l conte |
|--|-------------------------|
| A | |
| <pre>#number of distinct titles on the basis of Actors df_final1.groupby(['Directors']).agg({"title":"nunique"})</pre> | |
| Aaron Douglas | 3 |
| Aaron Eckhart | 7 |
| Aaron Eisenberg | 1 |
| Aaron Farb | 1 |
| Aaron Glenane | 1 |
| Aaron Guy | 1 |
| Aaron Hale | 1 |
| Aaron Hernandez | 1 |
| Aaron Hilmer | 1 |
| Aaron Himelstein | 2 |
| Aaron Jakubenko | 3 |
| Aaron Jeffery | 3 |
| Aaron Keogh | 1 |
| Aaron Kwok | 1 |
| Aaron L. McGrath | 2 |
| Aaron Marsden | 2 |
| Aaron Marshall | 1 |
| Aaron McCusker | 2 |
| Aaron Merke | 1 |
| Aaron Michael Drozin | 1 |
| Aaron Moorhead | 1 |
| Aaron Moten | 1 |
| Aaron Munoz | 1 |
| Aaron Paul | 8 |
| Aaron Pearl | 1 |
| Aaron Pedersen | 1 |
| Aaron Pruner | 1 |
| | |

Aaron Stanford

```
title
                                                Aaron Staton
                             Directors
                                            Aaron Taylor-Johnson
                 A. L. Vijay
                                                 Aaron Tveit
                A. Raajdheep
                                             Aaron Washington
                  A. Salaam
                                                Aaron Wolff
              A.R. Murugadoss
                                                 Aaron Yan
               Aadish Keluskar
                                                 Aaron Yoo
                Aamir Bashir
                                               Aarti Chhabria
                 Aamir Khan
                                                 Aarti Mann
                 Aanand Rai
                                                 Aarti Patel
                Aaron Burns
                                                  Aarubala
                Aaron Hancox
                                              Aarushi Sharma
                 Aaron Hann
                                                 Aarya Dave
                Aaron Lieber
                                         Aarva DharmChand Kumar
              Aaron Moorhead
                                               Aaryan Menon
                 Aaron Nee
                                              <sup>'</sup>Aaryansh Malviya
                Aaron Sorkin
                                                 Aarón Díaz
               Aaron Woodley
                                                Aasha Pawar
                Aaron Woolf
                                               lashay Kulkarni
              Aatmaram Dharne
                                                Aashi Rawal
               Abba T. Makama
                                                Aashif Sheikh
          Abbas Alibhai Burmawalla
                                             5
Aashish Chaudhary
               Abbas Mustan
                                               ashish Kulkarni
               Abbas Tyrewala
                                                Aasif Mandvi
                Abby Epstein
                                                Aayam Mehta
             Abdellatif Kechiche
                                               Aayan Boradia
             Abdul Aziz Hashad
                                               Abayomi Alvin
             Abdulaziz Alshlahei
                                                Abba Ali Zaky
              Abdullah Al Noor
                                                   Abbas
                Abel Ferrara
                                                 Abbey Lee
               Abhay Chopra
                                                                                                            3
                                               Abbi Jacobson
             Abhiieet Deshpande
df_directors=df_final1.groupby(['Directors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:31]
df_directors=df_directors[df_directors['Directors']!='Unknown Director']
plt.figure(figsize=(15,8))
plt.barh(df_directors[::-1]['Directors'], df_directors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Movies')
plt.ylabel('Popular Directors')
plt.show()
             Abilibliek Gliaubey
                                                Abby Quinn
              Abhishek Kapoor
                                              Abby Rakic-Platt
              Abhishek Saxena
                                               by Ryder Fortson
              Abhishek Sharma
                                                 Abby Trott
              Abhishek Varman
                                               Abdalah Mishrif
               Abir Sengupta
                                             1
Abdalla Mahmoud
                 Abosi Ogba
                                               I Aziz El Mountassir
              Abu Bakr Shawky
                                              Abdel Aziz Khalil
                Achille Brice
                                               del Ghani Benizza
               Aco Tenriyagelli
                                             Abdel Ghani Nagdi
```

Adam Alleca

```
<del>_</del>__
               Rajiv Chilaka
               Jan Suter
Raúl Campos
              Marcus Raboy
               Suhas Kadav
         Jay Karas
Cathy Garcia-Molina
             Youssef Chahine
Martin Scorsese
               Jay Chapman
            Steven Spielberg
            Don Michael Paul
             Yılmaz Erdoğan
              David Dhawan
            Anurag Kashyap
             Kunle Afolayan
          Hanung Bramantyo
                Hakan Algül
             Fernando Ayllón
               Ryan Polito
Lance Bangs
              Umesh Mehra
            Robert Rodriguez
           Quentin Tarantino
                  Johnnie To
                  Trov Miller
              Justin G. Dyck
             Ozan Açıktan
Lasse Hallström
                                                                                                                  15
                                                                                                                                               20
                                                      ul Mohsen Alnimer
Rajiv Chilaka, Jan 8dæn Med Raul Campos are the most popular directors across Netflix Abdul Qadir
                   Adam Nimov
#number of distinct titles on the basis of year
df_final1.groupby(['year']).agg({"title":"nunique"})
                   Аиані Баіку
                                                      dulaziz Almuzaini
₹
              title
Adam Schlesinger
                                                     1
Abdulaziz Alshehri
       year
                 Adam Shankman
                                                      dulaziz El Nassar
       2008
                   <sup>2</sup> am Sjöberg
                                                Abdulhussain Abdulredah
       2009
                   Adam Smith
                                                      \bdulla Al-khudr
       2010
                   1 ım Wingard
                                                     1
Abdulla Bu Shehri
       2011
                  <sup>13</sup>Adam Wood
                                                      odullah Al Hamiri
       2012
                   <sup>3</sup> h Eshwarappa
                                                     ୀ
Abdullah Al Yousef
       2013
Adekunle Nodash Adejuyigbe
                                                      bdullah Al-Ramsi
       2014
                  ^{24}\, e K. Thomas
                                                   1
Abdullah Al-Turkumani
       2015
                 Adfrek Wattaleela
                                                      bdullah Al-bloshi
       2016
                 432 n Tresirikasem
                                                    1
Abdullah Bahman
       2017
                1185
Aditya Kripalani
                                                      dullah Bin Heider
       2018
               1650 va Sarpotdar
                                                    2
Abdullah Ibrahim
       2019 Aditya Vikram Sengupta
                                                       Abdullah Jan
       2020
                1877
                     rian Murray
                                                     Abdullah Moshref
       2021
                1498.
df_year=df_final1.groupby(['year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_year, x='year', y='title')
plt.ylabel("Movies Released in the Year")
plt.xlabel("Year")
plt.show()
                 Advait Chandan
                                                       Abdur Arsyad
                    Adze Ugah
                                                      Abdur Rehman
                  Afia Nathaniel
                                                     <sup>ղ</sup>
Abdurrahman Arif
                  Afonso Poyart
                                                       be Clifford-Barr
                  Agasyah Karim
                                                       Abe Goldfarb
                Agnidev Chatterjee
                                                        Abe Vigoda
                 Δαιιςτί Villaronαa
```



The Amount of **Someth Siddigs:** Netflix has increased from 2008 continuously till 2019. Then started decreasing from here(probably due to Abel Testaye

Covid)

Ahmed Yousry

1

Covid) Ahmed Yousry 1
Abelia Bala

#number of distinct titles on the basis of week
df_final1.groupby(['week_Added']).agg({"title":"nunique"})

| ₹ | | Ahmet Katıksız title | 1 Abhay Deol | 11 |
|---|---------|-----------------------------------|------------------------|-----|
| | week_Ac | Ahn Byoung-wook Ided | 1 Abhay Kulkarni | 1 |
| | | Aboon Pohim | 1 Abhay Mahajan | 3 |
| | 1 | 372 Aijaz Kiian | 1 | O . |
| | 2 | 108 | icha Thanachanun | 1 |
| | 3 | Ainclay Cardiner 113 | 1 Abhijit Kelkar | 1 |
| | 4 | anoi an egi 88 | Abhijit Sinha | 1 |
| | 5 | Aiov Pohl 208 | 1 Abhimanyu Dassani | 1 |
| | · | Ajay Diiuyan | 2 | _ |
| | 6 | 97 Alay Phansekar | bhimanyu Singh | 5 |
| | 7 | 147 | Abhinav Gomatam | 1 |
| | 8 | കുന്നുവനിar 110 | 1 .\bhinav Sharma | 1 |
| | Ū | Vrachdaeb | 1 | |
| | 9 | 254 | Abhinav Shukla 1 | 1 |
| | 10 | გი ი ყ ლიპიი 135 | hishek Bachchan | 13 |
| | 44 | ^khigha llazobhie | 1 Abhishek Banerjee | 5 |
| | 11 | 163 Anni aul | 1 | |
| | 12 | 109 | . bhishek D Shah | 1 |
| | 13 | Akihiko Yamashita 250 | 1 Abhishek Duhan | 1 |
| | 14 | Ariii Oiliotoso 173 | Abhishek H.N. | 1 |
| | 15 | Akira Saitoh 153 | 1 Abhishek Kale | 1 |
| | 16 | Akiva Goiusman 160 | 1 ∋hishek Krishnan | 1 |
| | 17 | Akiva Schaffer 154 | 3 Abhishek Rawat | 1 |
| | 18 | ariyuri siilnbo 234 | 1 Abhishek Saha | 1 |
| | 40 | Akram Earouk | 1 Abi Brittle | 1 |
| | 19 | 116 Anamay Ankineni | 1 | į. |
| | 20 | 130 Cabay Sanioov Chavan | Abi Tucker | 1 |
| | 21 | 117 | 1 Abigail Adriano | 1 |
| | 22 | Aksilay silankar 206 | 1 Abigail Breslin | 6 |
| | 23 | 151 | 1 Abigail Cowen | 3 |
| | 23 | Alaa Luulle Aljem | 1 | |
| | 24 | 164 | jigail Cruttenden 1 | 1 |
| | 25 | 143 | Abigail Jain | 1 |
| | 26 | 269 | 1 Abigail Oliver | 1 |
| | 27 | Alain Daarachers 241 | 1 Abigail Pniowsky | 1 |
| | 28 | Aiairi Gaynol 131 | 1 Abigail Spencer | 3 |
| | | Alan Alda | 1 Abigail Vibat | 1 |
| | 29 | 140 Alan mcks | 1 | |
| | 30 | 160 | imana Aryasatya | 1 |
| | | ulan i Makilla | · | |

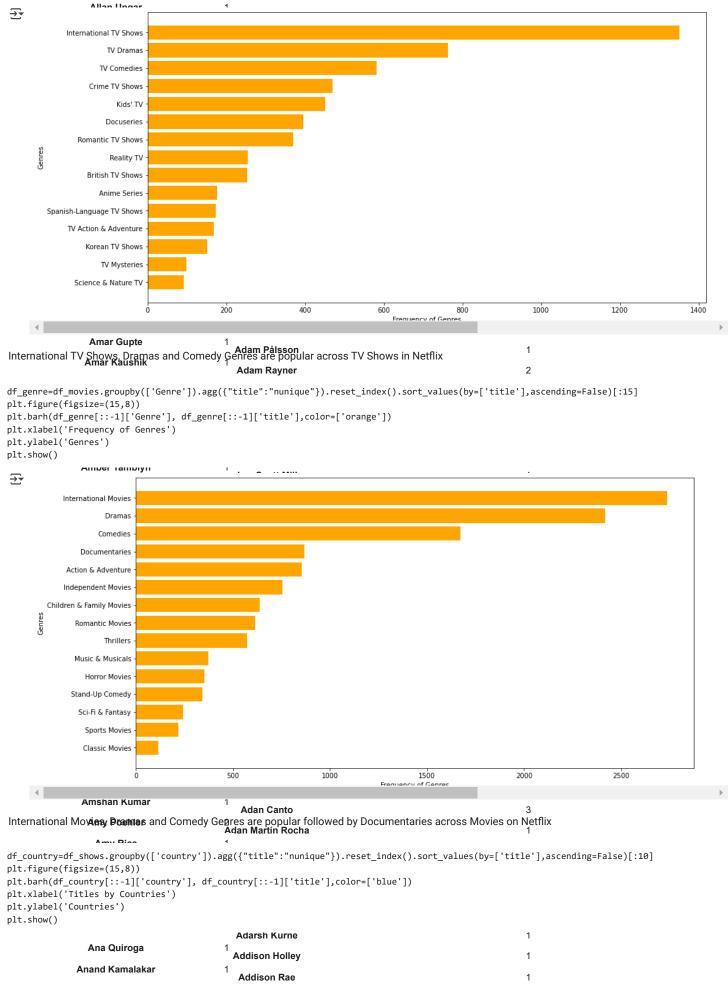
```
df_week=df_final1.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
plt.figure(figsize=(15,8))
sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
plt.show()
₹
        350
        300
      Movies Released in the Week
        250
        200
        150
        100
                                   10
                                                        20
                                                                              30
                                                                                                   40
                                                                                                                        50
              Alejanuro ⊾ozano
                                                  Achint Kaur
Achint Kaur

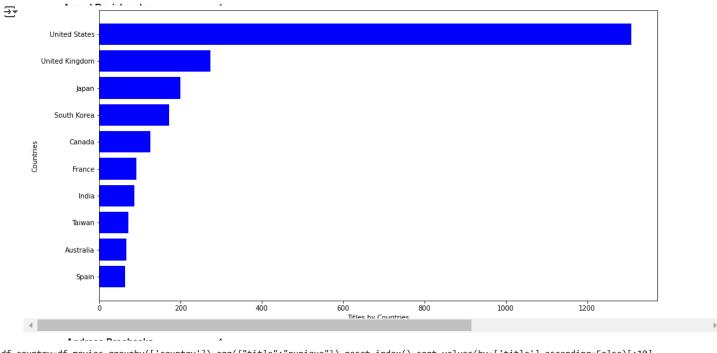
Most of the Content across Nevillaris added in the first week of the year and it follows a bit of a cyclical pattern
                                                 Achintya Bose
           53
                      104
#number of distinct titles on the basis of week
df_final1.groupby(['month_added']).agg({"title":"nunique"})
               Aleksey German
₹
                                                 Achyut Potdar
                    title
               Aleksey Tsitsilin
                                                Achyuth Kumar
      month added
                    ndra da Rossi
                                                   Aci Resti
                       738
            1
                                              2
Acushla-Tara Kupe
                      ngulo ہے۔
            2
                    563
sandro Pepe
                                                   Ada Ameh
            3
                       742
                      o.ن...onini
                                                 Ada Carrasco
                       765
                Alathaa linnes
                                                   Ada Choi
            5
                      631
                      _...er
                                                Ada Nicodemou
            6
                      726
                Alax Rurungva
                                                 Ada Ofoegbu
            7
                      832
                  nion Goiolti
                                                    Ada Pan
            8
                   ΔΙον Πίας
                                                  Adaar Malik
            9
                      771
                    nd، ما
                 758
Alax Gihney
                                                 Adah Sharma
           10
                                                 Adain Bradley
           11
                      706
                      .....es
                                                  Adair Curtis
           12
                       813
                                                .uaiyisa waiiiiiua
df_month=df_final1.groupby(['month_added']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_month, x='month_added', y='title')
plt.ylabel("Movies Released in the Month")
plt.xlabel("Month")
plt.show()
                Alex Parkinson
                                                 Adam Bartley
                 Alex Proyas
                                                  Adam Beach
                Alex Ranarivelo
                                                  Adam Bessa
               Alex Richanbach
```

Adam Bobik

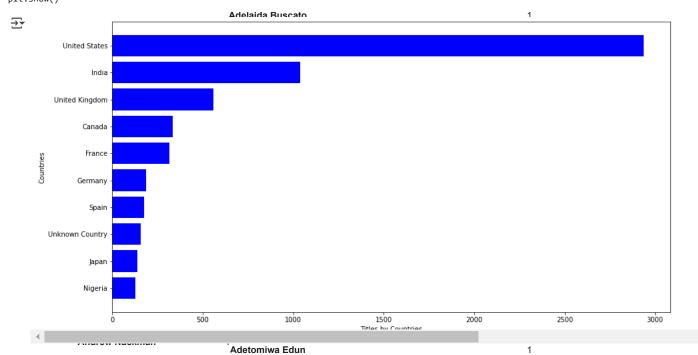
```
Alex Smith
<del>_</del>_
        800
        750
      the
        700
                                                            ell
      Rele
        650
        600
                                                            ck
        550
                                                10
                                                        12
              Alexandre Avancini
                                                Adam Cooper
Most of the content is adding the first and last months across Netflix(reinstating what we observed for first week in baove plot )
                                               Adam Copeland
df_release_year=df_final1[df_final1['release_year']>=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_release_year, x='release_year', y='title')
plt.ylabel("Movies Actual Release Date")
plt.xlabel("Year")
plt.show()
₹
        1200
        1000
                                                                                                              2
      Movies Actual Release Date
         800
         600
         400
         200
             1980
                        1990
                                  2000
                                             2010
                                                       2020
                 Ali Bin Matar
Net content release which are later uploaded to Netflix has increased since 1980 till 2020 though later reduced certainly due to COVID-19
                                                Adam Gardiner
                 Ali Kalthami
    Univariate Analysis separately for show & dame (Patroles
                  Ali Ragab
                                                  Adam Gibbs
               Ali Samadi Ahadi
df shows=df final1[df final1['type']=='TV Show']
df_movies=df_final1[df_final1['type']=='Movie']
df_genre=df_shows.groupby(['Genre']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_genre[::-1]['Genre'], df_genre[::-1]['title'],color=['orange'])
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
              Alice Rohrwacher
                                                dam Herschman
              Alice Waddington
                                                 Adam Hicks
                   Alice Wu
                                                dam Hochstetter
               Alicky Sussman
                                                Adam Horovitz
                Alik Sakharov
                                                 Adam Hurtig
               Alina Teodorescu
                                                Adam Jagwani
                Alison E. Rose
                                                 Adam James
               Alison Klayman
                                                Adam Jezierski
               Alison MacLean
                                                Adam Lambert
               Alistair Legrand
                                              Adam Lazarre-White
            Alka Amarkant Dubey
                                                Adam LeFevre
               Allan Jacobsen
```

Adam Levine





```
df_country=df_movies.groupby(['country']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]
plt.figure(figsize=(15,8))
plt.barh(df_country[::-1]['country'], df_country[::-1]['title'],color=['blue'])
plt.xlabel('Titles by Countries')
plt.ylabel('Countries')
plt.show()
```



United States is New Microsis both TV Shows and Movies. Surprisingly India is much more prevalentein Remains as compared TV Shows.

Adhir Kalvan

1

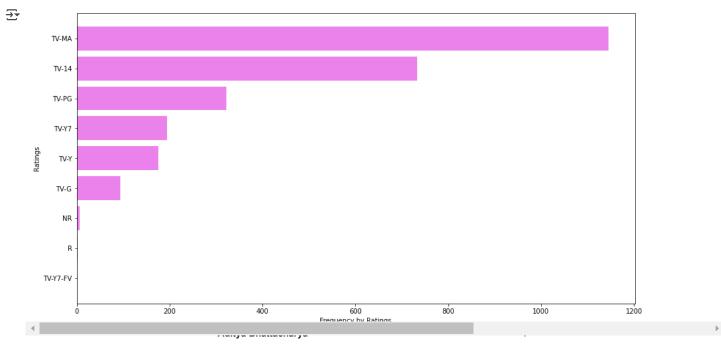
Moreover the nandambews and Movies across UK since India was rated as second in net sum of whole from the sum of the sum

```
Adhitya Alkatiri 1

df_rating=df_shows.groupby(['rating']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_rating[::-1]['rating'], df_rating[::-1]['title'],color=['violet'])
plt.xlabel('Frequency by Ratings')
plt.ylabel('Ratings')
plt.show()

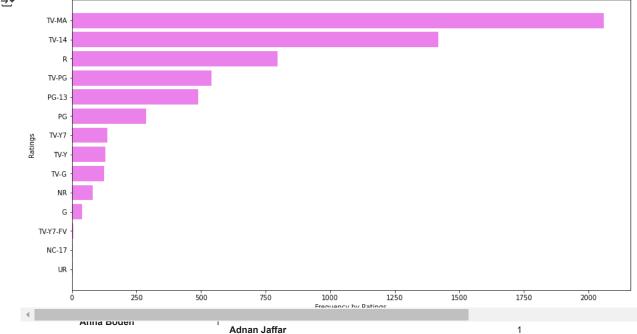
Adib Alkhalidey 1

Andrzej Bartkowiak 3
Adibah Noor 1
```



```
df_rating=df_movies.groupby(['rating']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_rating[::-1]['rating'], df_rating[::-1]['title'],color=['violet'])
plt.xlabel('Frequency by Ratings')
plt.ylabel('Ratings')
plt.show()

TV-MA
TV-14
```



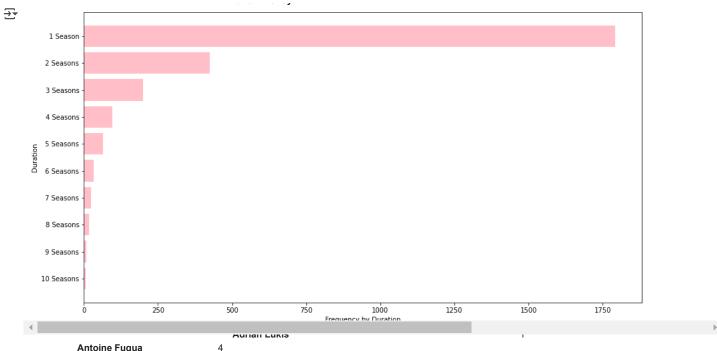
So it seems **Anna Migotto**Anna Migotto

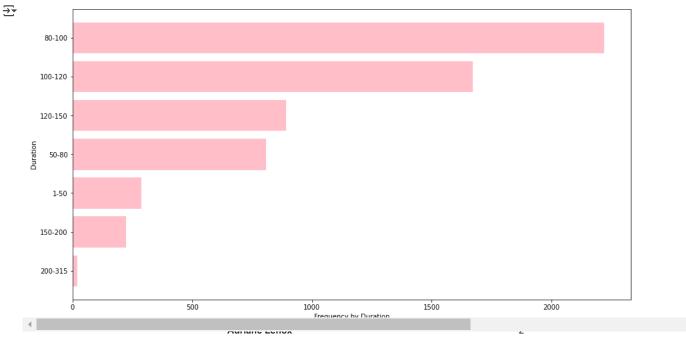
1

```
1/ ages. Anna Migotto
1 Adnan Shah
4
Moreover there alænna $\displace{\text{SNoBe}}\text{ows having a rating of R} Adnan Siddiqui}
1
```

df_duration=df_shows.groupby(['duration']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]
plt.figure(figsize=(15,8))
plt.barh(df_duration[::-1]['duration'], df_duration[::-1]['title'],color=['pink'])
plt.xlabel('Frequency by Duration')
plt.ylabel('Duration')
plt.show()

Adreea Diac 1
Anoop Sathyan 1
Adria Arjona 3
Anthony Abrams 1
Adrian Alandy 1



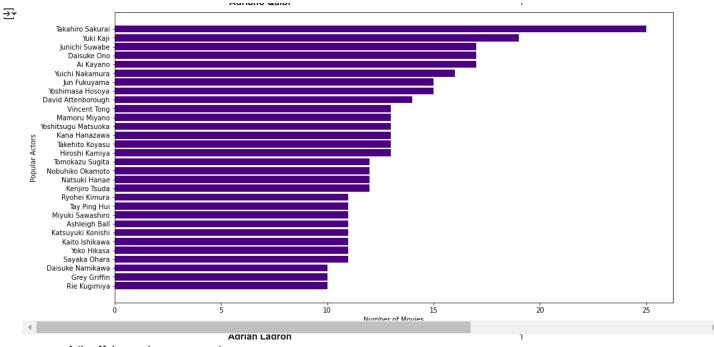


Appie Boudellah
Across movies 80-100,100-120 and 120-150 is thema gies a virishautes for which most movies lie. So quite possibly 80-150 mins is the sweet spot we would be Wanting for movies.

Apurva Dhar Badgaiyann

df_actors=df_shows.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:31]
df_actors=df_actors[df_actors['Actors']!='Unknown Actor']
plt.figure(figsize=(15,8))
plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Movies')
plt.ylabel('Popular Actors')
plt.show()

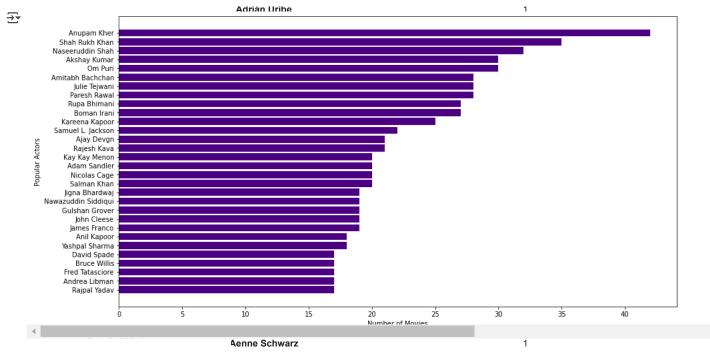
∆driano ∩alhi



Takahiro Sakurai, Yuki Kaji and other South Korea**nd/ananaste**actors are the most popular actors across TV Shews

Arthur Penn 1

```
df_actors=df_movies.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:31]
df_actors=df_actors[df_actors['Actors']!='Unknown Actor']
plt.figure(figsize=(15,8))
plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Movies')
plt.ylabel('Popular Actors')
plt.show()
```



Our bollywood actors sitch as Anupam Kher, SRK, Nasceruddin Shah are very much popular acrossmovies on Netflix

```
Atanu Mukherjee 1

df_directors=df_shows.groupby(['Directors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:31]

df_directors=df_directors[df_directors['Directors']!='Unknown Director']

plt.figure(figsize=(15,8))

plt.barh(df_directors[::-1]['Directors'], df_directors[::-1]['title'],color=['indigo'])

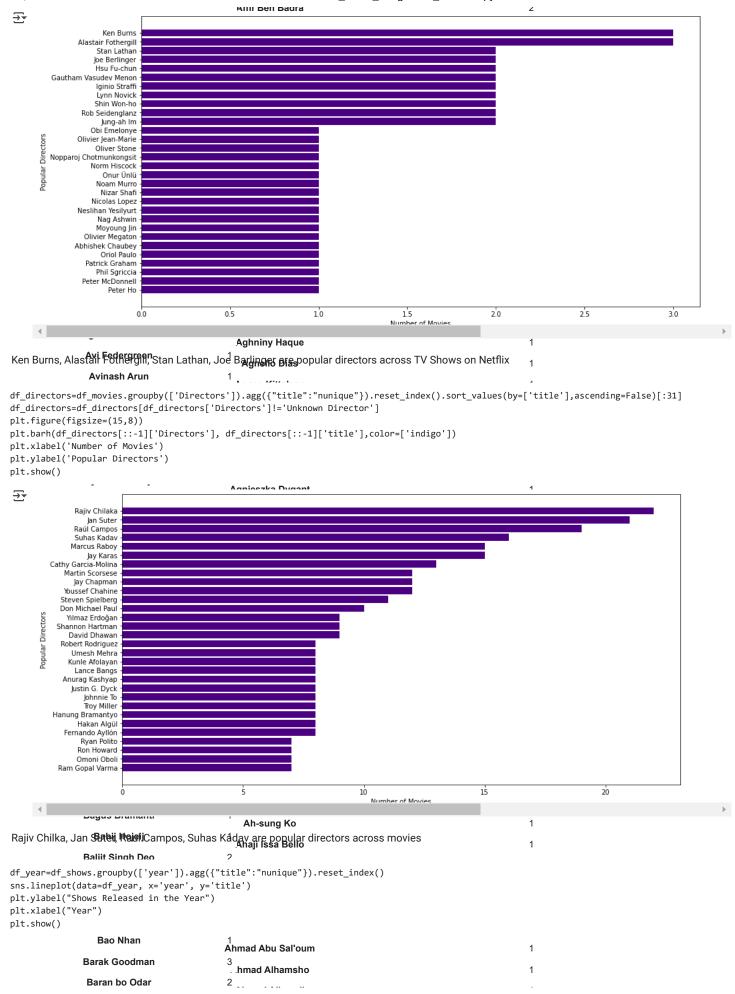
plt.xlabel('Number of Movies')

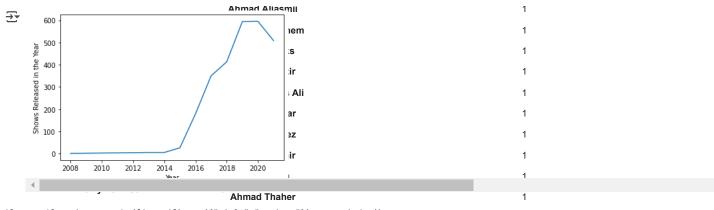
plt.ylabel('Popular Directors')

plt.show()

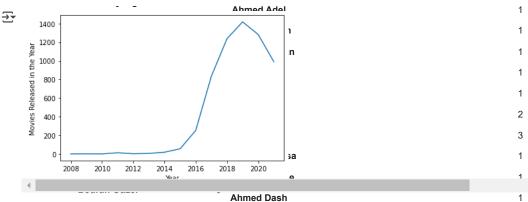
Afemo Omilami 1

Atsuko Ishizuka 1
```





```
df_year=df_movies.groupby(['year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_year, x='year', y='title')
plt.ylabel("Movies Released in the Year")
plt.xlabel("Year")
plt.show()
```

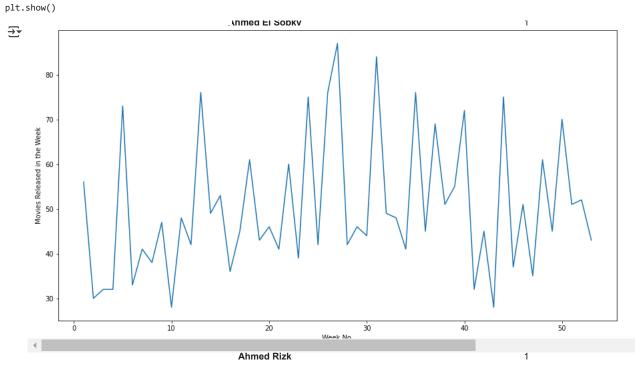


Till 2019, overal Rechten Kidt Russ Netflix was in reasing but due to Covid in 2020, though TV Shows didn't take a hit then Movies did take a hit.

3

```
df_week=df_shows.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
plt.figure(figsize=(15,8))
sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
```

Well later in 202**BetwynNamhlaiar**oss both was reduced significantly **Ahmed Eid**



df_week=df_movies.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
plt.figure(figsize=(15,8))

```
sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
plt.show()
                 Beniamin Ross
<del>_</del>_
         300
         250
      Movies Released in the Week
         200
         150
         100
          50
                                                                                                          40
                                                                                                                                50
                                      10
                                                             20
                Ó
                                                                                   30
     4
                  Betty Thomas
df_month=df_shows.groupby(['month_added']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_month, x='month_added', y='title')
plt.ylabel("TV Shows Released in the Month")
plt.xlabel("Month")
plt.show()
                  Rharat Nalluri
<del>_</del>
                                                                                                                       2
         260
       Released in the Month
                                                                                                                       2
         240
         220
       TV Shows
                                                                 n
         200
                                                                  k
         180
                                                                 ık
                                                             12
                                                    10
                    Bill Oliver
df_month=df_movies.groupby(['month_added']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_month, x='month_added', y='title')
plt.ylabel("Movies Released in the Month")
plt.xlabel("Month")
plt.show()
               Rilly Rob Thornton
₹
         550
         525
       Released in the
         500
         475
         450
                                                                                                                       2
         425
                                                                  na
         400
         375
                                                                 Çе
                            4
                                                    10
                                                             12
                 Biswajeet Bora
Ai Kayano
TV Shows are adged in Netflix by a tremendous amount in mid weeks/months of the year, i.e- July
                                                                                                                      19
                                                       Ai Maeda
```

Riörn Stein

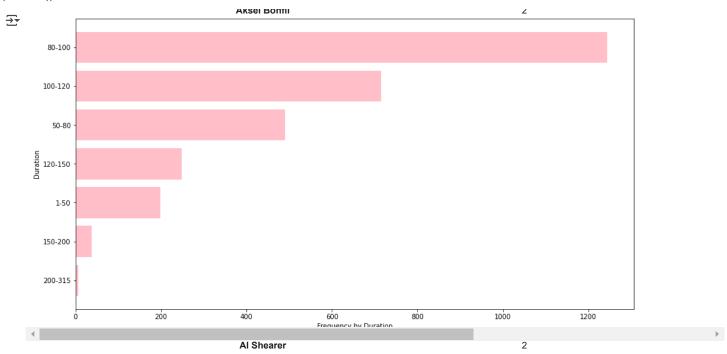
```
Movies are added in Netflix by a tremendous amothit Netflix week/last month of current year and first month of next year
df_release_year=df_movies[df_movies['release_year']>=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_release_year, x='release_year', y='title')
plt.ylabel("Movies Actual Release Date")
plt.xlabel("Year")
plt.show()
                               BO BURNNAM
                                                                                                                                                                                                        3
 ₹
                                                                                                               as
               800
                700
               600
           Release
               500
                400
           Actual
               300
               200
               100
                       1980
                                          1990
                                                             2000
                                                                                2010
                                                                                                    2020
                          DODCAL GOIGINWAIL
                                                                                           A:da Cabua
\label{lem:movies} $$ df_{movies[df_{movies['release\_year']}=1980].groupby(['release\_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies[df_{movies['release\_year']}=1980].groupby(['release\_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release\_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release\_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release\_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release\_year']).agg({"title":"nunique"}).reset_index() $$ df_{movies['release\_year']}=1980].groupby(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['release\_year']).agg(['rele
sns.lineplot(data=df_release_year, x='release_year', y='title')
plt.ylabel("Movies Actual Release Date")
plt.xlabel("Year")
plt.show()
                                                                                                              er
 ₹
                700
               600
                                                                                                              rd
               500
               400
           Actual
               300
                                                                                                              sona
               200
               100
                                          1990
                                                             2000
                                                                                2010
                                                                                                    2020
                       1980
                                                                                        Aiden Moodie
Actual Releases Prandon Conshows and Movies have taken a hit after 2020
                         Brandon Dickerson
      Brandon Jones
                                                                                        Aileen Mythen
1) So this time, Prendentianted evel is country and analysis of TV Shows/Movies the country brings. I am going to consider only the top
countries indigidually for a Which bring out quality content in both TV
                                                                                             Ailen Sit
Shows and Movies.
Brandon Somerhalder
Ailsa Marshall

2) Which Genres do these countries offer and what are the intended audiences(Ratings) which are popular in Netflix?
Aimee Carrero 2
3)In case of More what is the duration length of movies which makes them special and depicts attention span?
                                                                                         Aimee Garcia
4) Who are the proposed are the proposed and Movies in these countries?
                                                                                         Aimee Saras
5)In what time of the countries? Aimee Teegarden
                                                                                                                                                                                                        3
6)Popular ActoBeard Dir Mator Combinations in these countries .....ee-Ffion Edwards
                           Brent Bonacorso
#below countries will be analyzed for both shows and movies
shows_and_movies=['United States','India','United Kingdom']
#below countries will be only analyzed on basis of shows
only_shows=['Japan','South Korea']
                                                                                       Ainsley Harriott
      Univariate Analysis separately for shows and marmies in USA
                               Brett Harvey
```

```
#Analyzing USA for both shows and movies
df_usa_shows=df_final1[df_final1['country']=='United States'][df_final1[df_final1['country']=='United States']['type']=='TV Show']
df_usa_movies=df_final1[df_final1['country']=='United States'][df_final1[df_final1['country']=='United States']['type']=='Movie']
                                              shwarva Ghavdar
plt.figure(figsize=(15,8))
plt.barh(df_genre[::-1]['Genre'], df_genre[::-1]['title'],color=['orange'])
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
               Rrian Halnaland
TV Comedies
                      TV Dramas
                        Kids' TV
              International TV Shows
                      Docuseries
                  Crime TV Shows
                       Reality TV
                Romantic TV Shows
              TV Action & Adventure
                 TV Sci-Fi & Fantasy
               Science & Nature TV
          Spanish-Language TV Shows
                     TV Mysteries
        Stand-Up Comedy & Talk Shows
                       TV Horror
                                              50
                                                              100
                                                                                                                250
                                                                                                                                300
                                                                               150
                                                                                               200
              Briar Grace-Smith
Dramas,Comedy, Kids TV Shows, International TV Shows and Docuseries, Genres are popular in TV Series in USA
                                               Ajay Mishra
df_genre=df_usa_movies.groupby(['Genre']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_genre[::-1]['Genre'], df_genre[::-1]['title'],color=['orange'])
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
              DIOIIWEII HUYHES
₹
                    Dramas
               Documentaries
       Children & Family Movies
           Action & Adventure
           Independent Movies
                   Thrillers
             Stand-Up Comedy
              Romantic Movies
               Horror Movies
           International Movies
              Sci-Fi & Fantasy
              Music & Musicals
               Sports Movies
               Classic Movies
                                      100
                                                  200
                                                               300
                                                                            400
                                                                                         500
                                                                                                      600
                                                                                ency of Genres
                Bryan Singer
                                             Akanksha Thakur
Dramas,Comed நடு செய்வதர்கள் es, Family Movies and Action Genres in Movies are popular in USA isha Ranjan Kapoor
```

```
 df\_rating = df\_usa\_shows.groupby(['rating']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:15] 
plt.figure(figsize=(15,8))
plt.barh(df_rating[::-1]['rating'], df_rating[::-1]['title'],color=['violet'])
plt.xlabel('Frequency by Ratings')
plt.ylabel('Ratings')
plt.show()
                                               Akarsh Khurana
<del>_</del>__
        TV-MA
         TV-14
         TV-PG
         TV-Y7
          TV-Y
         TV-G
           NR
            R
                                   100
                                                         200
                                                                               300
                                                                  Frequency by Rati
                                                  Aki Yashiro
\label{lem:df_usa_movies.groupby(['rating']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:15]} \\
plt.figure(figsize=(15,8))
plt.barh(df_rating[::-1]['rating'], df_rating[::-1]['title'],color=['violet'])
plt.xlabel('Frequency by Ratings')
plt.ylabel('Ratings')
plt.show()
                  Can Illkay
₹
          TV-MA
          PG-13
          TV-14
            PG
          TV-PG
           TV-Y7
           TV-G
            NR
             G
        TV-Y7-FV
          NC-17
            UR
                                                                        400
                                                                   Franciancy by Dating
So it seems plaussible to conclude that the popular ratings across Netflix includes Mature Audiences and those appropriate for over 14/over Carol Reed
                                                 Akiya Henry
                                                                                                              1
17 ages in both Movies and TV Shows in USA
                                                Akiyoshi Nakao
df_duration=df_usa_movies.groupby(['duration']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]
plt.figure(figsize=(15,8))
plt.barh(df_duration[::-1]['duration'], df_duration[::-1]['title'],color=['pink'])
plt.xlabel('Frequency by Duration')
```

```
plt.ylabel('Duration')
plt.show()
```



Across movies 80-100, 100-120 is the ranges of minutes for which most movies lie. So quite possibly 80-120 mins is the sweet spot we would be wanting for not we want

```
Chaitanva Tamhane 1

df_actors=df_usa_shows.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]

df_actors=df_actors[df_actors['Actors']!='Unknown Actor']

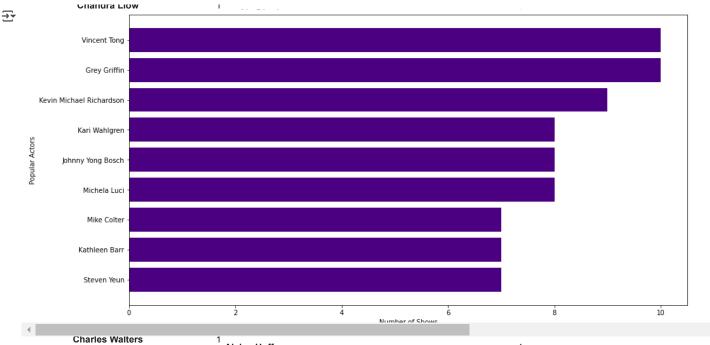
plt.figure(figsize=(15,8))

plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo'])

plt.xlabel('Number of Shows')

plt.ylabel('Popular Actors')

plt.show()
```



Alaina Huffman
Vincent Tong,Grey பெர்ளுக்குள் Kevin Richardson are the most popular actors across TV Shows in USA
Alam Khan

```
df_actors=df_usa_movies.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
df_actors=df_actors[df_actors['Actors']!='Unknown Actor']
plt.figure(figsize=(15,8))
plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Movies')
```

```
3/31/25, 10:50 AM
                                                                                                                                                                                                                    scaler_netflix_assignment_Detailed.ipynb - Colab
               plt.ylabel('Popular Actors')
              plt.show()
                                                                                                                                                                        Alan C. I im
                <del>_</del>
                                        Samuel L. Jackson
                                                 Adam Sandler
                                                   James Franco
                                                    Nicolas Cage
                                                Fred Tatasciore
                                                    David Spade
                                               Andrea Libman
                                                        Tara Strong
                                                   Alfred Molina
                                            Morgan Freeman
                                                Molly Shannon
                                                      Bruce Willis
                                                       Seth Rogen
                                                    lohnny Depp
                                                                                                                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                        Number of Movies
                                                                                                                                                                     Alan Rickman
                                                                                                                                                                                                                                                                                                                                                                    4
               Samuel Jackson, Aidahia Sandiller, James Franco and Nicolas Cage are very much popular across movies on Netflix in USA
              \label{lem:df_directors} $$ df_directors=df_usa\_shows.groupby(['Directors']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:10] $$ df_directors=df_usa\_shows.groupby(['Directors']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:10] $$ df_directors=df_usa\_shows.groupby(['Directors']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:10] $$ df_directors=df_usa\_shows.groupby(['Directors']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:10] $$ df_directors=df_usa\_shows.groupby(['Directors']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:10] $$ df_directors=df_usa\_shows.groupby(['Directors']).agg({"title":"nunique"}).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']).agg(['Directors']
               df_directors=df_directors[df_directors['Directors']!='Unknown Director']
              plt.figure(figsize=(15,8))
              plt.barh(df_directors[::-1]['Directors'], df_directors[::-1]['title'],color=['indigo'])
               plt.xlabel('Number of Movies')
               plt.ylabel('Popular Directors')
              plt.show()
                ₹
                                                                     Ken Burns
                                                                 Stan Lathan
                                                               Joe Berlinger
                                                       Rob Seidenglanz
                                  Popular Directors
                                                                 Lynn Novick
                                         Adrián García Bogliano
                                                                     Pali Yahya
                                                      Padraic McKinley
                                                        Oscar Micheaux
```

Ken Burns,Stan**¢larisaេក្សបេចម៉ាBa**rlinger are popular directors across TV Shows on Netflix in USA Alanoud Sajini df_directors=df_usa_movies.groupby(['Directors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15] df_directors=df_directors[df_directors['Directors']!='Unknown Director'] plt.figure(figsize=(15,8)) plt.barh(df_directors[::-1]['Directors'], df_directors[::-1]['title'],color=['indigo']) plt.xlabel('Number of Movies')

1.5

2.0

2.5

3.0

Alano Miller

1.0

0.0

CHIES DULIE

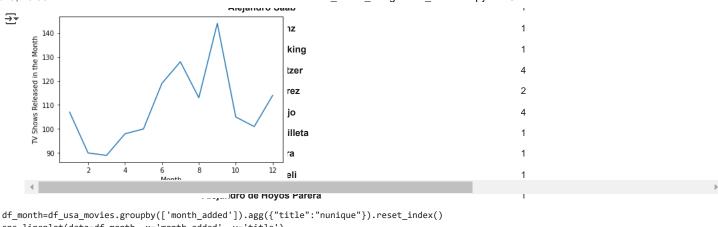
0.5

```
plt.ylabel('Popular Directors')
plt.show()
                                                    Alba Calaaba
<del>_</del>
               lav Karas
            Marcus Raboy
          Martin Scorsese
             Jay Chapman
          Steven Spielberg
          Don Michael Paul
         Shannon Hartman
             Lance Bangs
               Troy Miller
         Robert Rodriguez
             Ron Howard
           Clint Eastwood
          Lasse Hallström
                                                                                                        10
                                                                                                                        12
                                                                                                                                         14
                                                                                 Number of Movies
                                                    Albert Pujols
Jay Karas, Marcus (Raiso), Martin Scorcese and Jay Chapman are popular directors across movies in USA
                 Chris Williams
df_year=df_usa_shows.groupby(['year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_year, x='year', y='title')
plt.ylabel("Shows Released in the Year")
plt.xlabel("Year")
plt.show()
                Christian Do Vita
₹
                                                                                                                      3
                                                                 nn
         300
                                                                 ño
         250
                                                                 ok
      불 200
      Shows Released in
                                                                 sio
        150
                                                                 al
         100
                                                                 la
          50
                                                                                                                      2
                                                                 ez
                    2010
                           2012
                                   2014
                                          2016
                                                 2018
                                                        2020
                Christian Zühert
df_year=df_usa_movies.groupby(['year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_year, x='year', y='title')
plt.ylabel("Shows Released in the Year")
plt.xlabel("Year")
plt.show()
               Christopho Honoró
₹
         700
         600
                                                                 CO
      Released in the Year
         500
         400
                                                                 m
         300
                                                                 ch
         200
                                                                 ıer
         100
                    2010
                           2012
                                   2014
                                         2016
                                                 2018
                                                        2020
               Christopher Martin
In USA, number of shows remained the same in 2021 as they were in 2020 while number of movies declined:
```

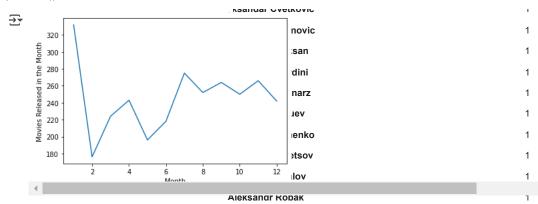
https://colab.research.google.com/drive/1yQA14pQBRn2spFfvJa0YBJuA73NNzrmc#scrollTo=4d0xl5o3ugg5&printMode=true

Aldis Hodge

```
df_week=df_usa_shows.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
plt.figure(figsize=(15,8))
sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
plt.show()
              omistopher a. Neon
₹
        40
        35
      Movies Released in the Week
        25
        20
        15
                                   10
                                                       20
     4
                  Clay Glen
                                              4....
                                                     .....
df_week=df_usa_movies.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
plt.figure(figsize=(15,8))
sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
plt.show()
₹
        160
        140
     Movies Released in the Week
         60
         40
         20
               ó
                                   10
                                                        20
                                                                             30
                                                                                                  40
                                                                    Week No
df_month=df_usa_shows.groupby(['month_added']).agg({"title":"nunique"}).reset_index()
\verb|sns.lineplot(data=df_month, x='month_added', y='title')|\\
plt.ylabel("TV Shows Released in the Month")
plt.xlabel("Month")
plt.show()
               Corbin Bernsen
                                                Alejandro Ruiz
                 Corey Grant
                                              1
Alajandra Saah
```



df_month=df_usa_movies.groupby(['month_added']).agg({"title":"nunique"}).reset_index(
sns.lineplot(data=df_month, x='month_added', y='title')
plt.ylabel("Movies Released in the Month")
plt.xlabel("Month")
plt.show()



Cyrus Nowrasteh
TV Shows are added in Netflix by a tremendous expandit sately lynand September in USA

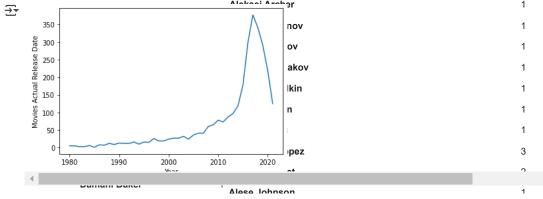
Cyrus Saidi

Movies are added in Netflix in USA by a treme**AldstaensInUstyuigoV**rst week/last month of current year and first month of next year

Cédric Jimenez

1

df_release_year=df_usa_movies[df_usa_movies['release_year']>=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_release_year, x='release_year', y='title')
plt.ylabel("Movies Actual Release Date")
plt.xlabel("Year")

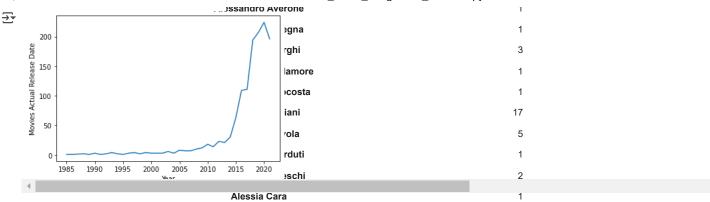


df_release_year=df_usa_shows[df_usa_shows['release_year']>=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_release_year, x='release_year', y='title')
plt.ylabel("Movies Actual Release Date")
plt.xlabel("Year")

plt.xlabel("Year")
plt.show()

plt.show()

| | Alessandra Negrini | 2 |
|----------------|----------------------------|---|
| Damián Romay | 2 . ssandra Oriti Niosi | 1 |
| Damon Cardasis | 1 Alessandra Rosaldo | 1 |
| Damon Davis | 1 ssandra Torresani | 1 |
| Dan Forgione | 1 Alessandra de Rossi | 3 |
| Dan Forrer | 2 | |



In USA, though both Movies and Shows have reduced in CANPahi the amount of decrease in number of TV Shows is small as compared to Movies

Dani Levy

Alessio Boni

1

Dani de la Orden
df_usa_movies.head()

Daniel Gordon

Daniel Gray Longino

Daniel J. Clark

Daniel Joseph

Daniel Kontur

Daniel Lee

| | | | AICSSIU FIALIC | U | | 1 | | | | | | | |
|--------------|--|--------------------|---------------------------------------|------------------|---------|-------|-----------------------|--------------|--------|----------|-------------------|--|--|
| _ | t Daniel Alalinors | Directors | 1 Genre Llessio Scalzot | country to | show_id | type | date_added | release_year | rating | duration | Modified_Added_da | | |
| | O Johnson Is Dead Unknown Actor | Kirsten Johnson | Documentaries | United States | s1 | Movie | September 25, 2021 | 2020 | PG-13 | 80-100 | 2021-09- | | |
| | Daniel Benmayor | | 2 Alex Abbad | | | | | 5 | | | | | |
| | 159 Paniel Burmana New Hudgens | Robert Cullen | 1 Children & Fam AyevioAries o | United States | s7 | Movie | September 24, 2021 | 2921 | PG | 80-100 | 2021-09- | | |
| | Gemantial Calparsoro | | 2 Alex Alemba | | | | | 1 | | | | | |
| | My Little Pony: A Vanessa New Hudgens Generation | José Luis Ucha | Children & Family Movies | United States | s7 | Movie | September 24, 2021 | 2021 | PG | 80-100 | 2021-09- | | |
| 4 | | | | | | | | | | | > | | |
| | Daniel Espinosa | | 1 Alex Barima | | | | | 3 | | | | | |
| | Daniel Goldhaber | | 1 Alex Barnett | | | | | 1 | | | | | |

#Analysing a combination of actors and directors
df_usa_movies['Actor_Director_Combination'] = df_usa_movies.Actors.str.cat(df_usa_movies.Directors, sep=' and ')
df_usa_movies_subset=df_usa_movies[df_usa_movies['Actors']!='Unknown Actor']
df_usa_movies_subset=df_usa_movies_subset[df_usa_movies_subset['Directors']!='Unknown Director']
df_usa_movies_subset.head()

Alex Beaton

Alex Biglane

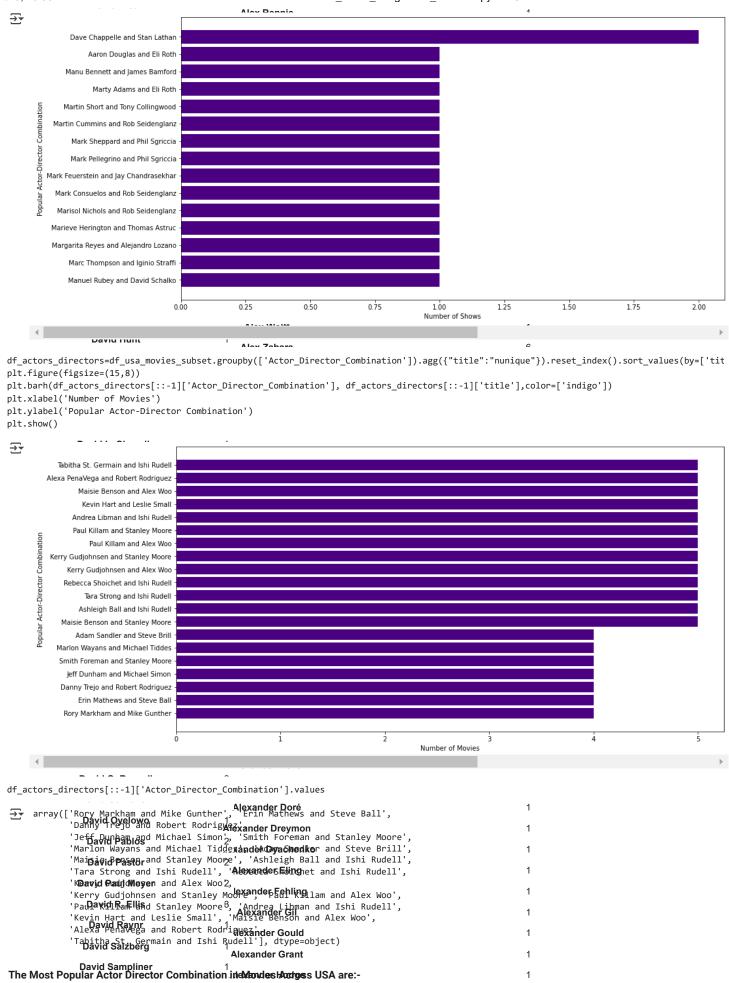
Alex Borstein

lex Brendemühl

Alex Calleja

| Daniel McCabe | 1 Alex Cox | 1 |
|------------------------|-----------------------|---|
| Daniel Minahan | 1 Alex Călin | 2 |
| Daniel Monzón | 1 Alex D. Linz | 1 |
| Daniel Noah | 1 Alex Datcher | 1 |
| Daniel Oriahi | 2 Alex Diaz | 1 |
| Daniel Prochaska | 1 Alex Dimitriades | 4 |
| Daniel Raim | 1 | 1 |
| Daniel Růžička | Alex Dobrenko | • |
| Daniel Sandu | Alex Ekubo | 2 |
| Daniel Schechter | Alex Essoe | 2 |
| Daniel Scheinert | Alex Estevez | 1 |
| Daniel Stamm | Alex Etel 2 | 1 |
| Daniel Sánchez Arévalo | Alex Feldman | 1 |
| Daniel Vernon | Alex Fernández | 2 |

| 25, 10 | U:5U F | AIVI | | | Famia | scaler_r | netilix_a | assignment_D | etalled.lpynb - | | | |
|------------------------------|-------------------------|--|-------------------------|---------------------------------------|------------------------------------|-----------------|------------|-----------------------|-----------------|-------------------|-----------|------------------------|
| → ▼ | | totalnel wanters | Directors | 1Genre | country | show_id | l type | date_added | release_year | 1 rating | duration | Modified_Added_date |
| | 159 | My Little Pony: A Vanessa New Hudgens Generation | Robert Cullen | Children & Family Movies | United States | s7 | ' Movie | September 24, 2021 | 2021 | PG | 80-100 | 2021-09-24 |
| | 160 | My Little Pony A lams Danish Wallamsa Danishka Esternazy Generation | José Luis Ucha | ₁ Family | Gonzaga | s7 | ' Movie | September 24, 2021 | 2021 | 1 1 PG 1 | 80-100 | 2021-09-24 |
| | 161 | My Little Pony: A Kimiko New Glenn Generation | Robert Cullen | Children & Family Movies | United States | s7 | ' Movie | September 24, 2021 | 2021 | PG | 80-100 | 2021-09-24 |
| | 162 | My Dáthay Leiner Pony: A Kimiko NPante Lagienn Generation Dar Gai | José Luis Ucha | 3Family | к Науфева | s7 | ' Movie | September 24, 2021 | 2021 | 1 PG 7 | 80-100 | 2021-09-24 |
| | 163 | My Little Pony: A James New Marsden Generation | Robert Cullen | Children & Family Movies | United States | s7 | ' Movie | September 24, 2021 | 2021 | PG | 80-100 | 2021-09-24 |
| | 4 | Darragh O'Connell | | 1 | | | | | | | | |
| | | Darren Grant | | 1 Alex | Jennings | | | | | 2 | | |
| | | Darren Lynn Bousma | an | 2 Alex | Kaluzhskv | | | | | 1 | | |
| _ | _ | ws_subset=df_usa_shows_subset.head() Dava Whisenant title Actors Di | | 1 | | | | | - | ating du | uration M | odified_Added_date m |
| | 111 | Midnight Kate | Mike | TV Dramas | United States | 96 | TV Show | September 24, 2021 | | | Season | 2021-09-24 |
| | 112 | Midniglotave Highsy | Mike Flanagan | | United | s6 | TV Show | September 24, 2021 | 2021 | ГV-МА 1 | Season | 2021-09-24 |
| | 113 | Midnight Kate Mass Siegel F | Mike Flanagan My | TV rsteries | United States | s6 _{ | TV Show | September 24, 2021 | 2021 | ΓV-MA 1 | Season | 2021-09-24 |
| | 114 | Midni Pave Skimmer Mass Gilford F David 'Tosh' Gitong | Mike Flanagan [a | 1 _{TV} Dramas Al e | United ex Lora States | s6 _{ | TV Show | September 24, 2021 | 2021 | ΓV- Μ ΙΑ 1 | Season | 2021-09-24 |
| | 115 | Midnight Zach Mass Gilford F | Mike Flanagan | TV Horror | United States | s6 (| TV Show | September 24, 2021 | 2021 | ΓV-MA 1 | Season | 2021-09-24 |
| | 4 | | | | | | | | | | | |
| | | David Alvarado | | 1 Ale | ex Marty | | | | | 3 | | |
| | | David Ayer | | | McArthur | | | | | 1 | | |
| t.f: t.b: t.x: t.y: | igure arh(d label | (figsize=(15,8)) f_actors_directors[('Number of Shows') ('Popular Actor-Dire | ::-1]['Acto | r_Directo | | | | | | | | ().sort_values(by=['t: |
| | | David Benullo | | 1 Alex | k Morgan | | | | | 1 | | |
| | | David Blair | | 1 Alex | k Murphy | | | | | 1 | | |
| | | David Briggs | | 1 lex N | leustaedte | r | | | | 5 | | |
| | | David Bruckner | | 1 Ale | x Norton | | | | | 1 | | |
| | | David Cantolla | | 1 Nex C | O'Dogherty | | | | | 1 | | |
| | | David Charhon | | 1 Ale | x Ozerov | | | | | 2 | | |
| | | David Chirchirillo | | 1 Ale | x Papps | | | | | 1 | | |
| | | David Chuang | | 1 Alex | c Pettyfer | | | | | 3 | | |
| | | David Cronenberg | | 1 Al e | ex Price | | | | | 1 | | |
| | | David Dhawan | | 9 Al | ex Reid | | | | | 1 | | |
| | | David Dietz | | 1 | | | | | | | | |



David Schalko

```
Alexander Holtmann
'Smith Foreman and Stanley Moore',
'Marlon Wayans and Michael Tiddes',
                                                 Alexander Koch
'Adam Sandler a Payde Wei Suall,
                                                Alexander Lloyd
'Maisie Benson appaly lot smile er ly loore',
                                                 lexander Ludwig
'Ashleigh Ball and Ishi Rudell',
David Sington
                                                Alexander Martin
'Tara Strong and Ishi Rudell',
'Rebecca Shoichet and Ishi Rudell',
                                                 lexander Morton
'Kerry Gudjohnsen ayid Aper Woo',
                                               Alexander Oblasov
'Kerry Gudjohnse Daarnd Stabbey Moore',
                                                 Nexander Peleg
'Paul Killam and Alex Wood
                                                Alexander Petrov
'Paul Killam and Stanley Moore',
David Wain
                                                 lexander Scheer
'Andrea Libman and Ishi Rudell',
'Kevin Hart and Leslie Small,
                                                Alexander Siddig
'Maisie Benson PavidAY arowes by
                                                 xander Skarsgård
'Alexa PenaVega pad Rebert Rodriguez',
                                               Alexander Strobele
'Tabitha St. Germain and Ishi Rudell'
The Second Most Popular Actor Director Combination in Movies Across USA are:-
                                                Alexander Vlahos
'Rory Markham and Mike Gunther',
Davis Guggenheim
'Erin Mathews and Steve Ball',
                                                 lexander Wraith
'Danny Trejo and Robert Rodriguez',
                                               Alexander Yatsenko
'Jeff Dunham and Indian Gerisimon'
                                                 Nexander Zwart
                 Dean DeBlois
                                                 Alexandra Ayo
   Univariate Analysis sparately for shows and movies in India
                                                 Jexandra Beaton
                 Dean Weilins
                                               Alexandra Borbély
#Analyzing India for both shows and movies
df_india_shows=df_final1[df_final1['country']=='India'][df_final1[df_final1['country']=='India']['type']=='TV Show']
df_india_movies=df_final1[df_final1['country']=='India'][df_final1[df_final1['country']=='India']['type']=='Movie']
df_genre=df_india_shows.groupby(['Genre']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_genre[::-1]['Genre'], df_genre[::-1]['title'],color=['orange'])
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
₹
        International TV Shows
                 TV Dramas
                TV Comedies
                   Kids' TV
           Romantic TV Shows
                 Docuseries
             Crime TV Shows
                  Reality TV
         TV Action & Adventure
           TV Sci-Fi & Fantasy
                 TV Thrillers
                  TV Shows
             British TV Shows
                TV Mysteries
                                                            20
```

Fraguency of Canra

Dennis Iliadis Dramas, Comedy, Kids 'TV Shows and International Properties are popular in TV Series in India Dennis Rovira van Boekholt ..exandre Harough

```
\label{linear_def} \texttt{df\_genre=df\_india\_movies.groupby(['Genre']).agg({"title":"nunique"}).reset\_index().sort\_values(by=['title'],ascending=False)[:15]}
plt.figure(figsize=(15,8))
plt.barh(df_genre[::-1]['Genre'], df_genre[::-1]['title'],color=['orange'])
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
                  регек неск
₹
            International Movies
                   Comedies
            Independent Movies
             Action & Adventure
               Romantic Movies
               Music & Musicals
                     Thrillers
        Children & Family Movies
                Horror Movies
                Documentaries
                Sports Movies
               Sci-Fi & Fantasy
                Classic Movies
              Stand-Up Comedy
                                                    200
                                                                              400
                                                                                                        600
                                                                                                                                 800
     4
              Dian Sastrowardoyo
                                                 Alexis Louder
International Moyies Drama Comedy, Indpeendent Movies and Action, Romance Genres are prevalent in India
                                                Alexis Michalik
df_rating=df_india_shows.groupby(['rating']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_rating[::-1]['rating'], df_rating[::-1]['title'],color=['violet'])
plt.xlabel('Frequency by Ratings')
plt.ylabel('Ratings')
plt.show()
                                                 Alavie da Anda
₹
         TV-MA
         TV-PG
         TV-Y7
         TV-G
                                              10
                                                                                                                30
                                                                                                                                35
                                                                   Frequency by Ratings
                                                  Alfonso Tort
df_rating=df_india_movies.groupby(['rating']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_rating[::-1]['rating'], df_rating[::-1]['title'],color=['violet'])
plt.xlabel('Frequency by Ratings')
plt.ylabel('Ratings')
plt.show()
```

```
Don Michael Paul
                                              10
<del>_</del>_
          TV-14
          TV-MA
          TV-PG
           TV-Y7
          PG-13
            TV-Y
            NR
            PG
           TV-G
             R
        TV-Y7-FV
                                   100
                                                                           300
                                                                                                400
                                                                           hv Ratio
                 Drew Stone
So it seems plaussible to conclude that the popular ratings across Netflix includes Mature Audiences in TV Shows and those appropriate for
                                                  Ali Al-Jabri
people over 14 in Movies in India.
Now this indeed seems to be the case. Indian To have the case. Indian To have the case without a shadow of doubt intended for Mature Audiences while Duncan McMath
                Duncan Jones
                                                   Ali Alsharif
Movies for over 14 years of age.
                Duncan Skiles
                                                  Ali Alshehabi
df_duration=df_india_movies.groupby(['duration']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]
plt.figure(figsize=(15,8))
plt.barh(df_duration[::-1]['duration'], df_duration[::-1]['title'],color=['pink'])
plt.xlabel('Frequency by Duration')
plt.ylabel('Duration')
plt.show()
                Dylan C Brown
₹
        120-150
        100-120
        150-200
         80-100
          50-80
           1-50
        200-315
                                         100
                                                                       ency by Duration
               Eduardo Roy Jr.
Across movies ranges of minutes in India are comparatively greater than USA with a sweet spot at 120-150 mins.
                                                   Ali Liebert
df_actors=df_india_shows.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]
df_actors=df_actors[df_actors['Actors']!='Unknown Actor']
plt.figure(figsize=(15,8))
plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Shows')
```

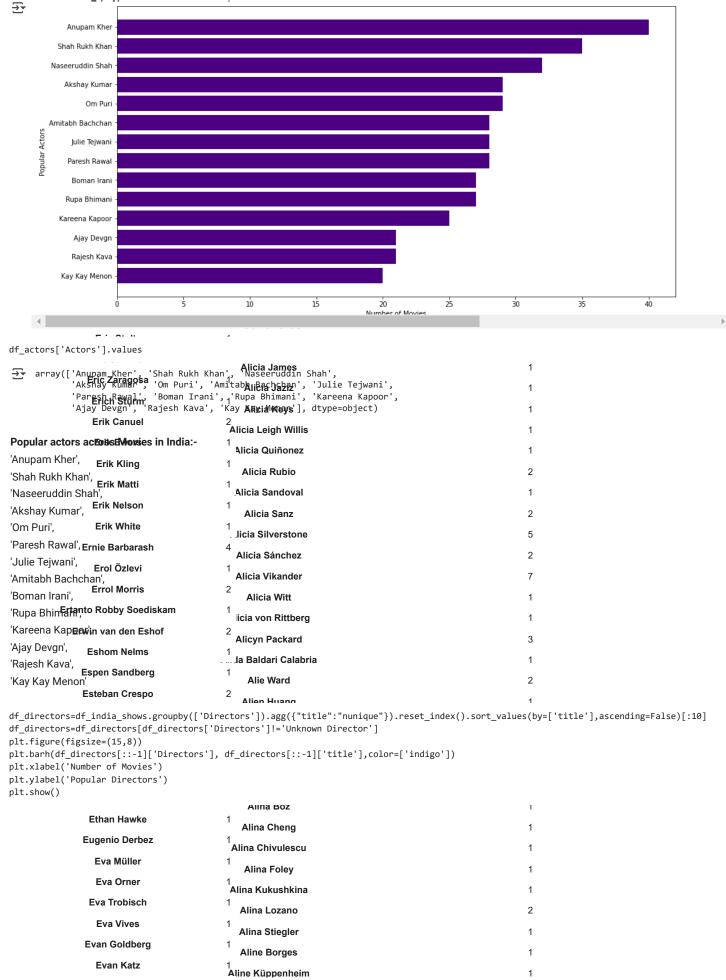
3/31/25, 10:50 AM scaler_netflix_assignment_Detailed.ipynb - Colab plt.ylabel('Popular Actors') plt.show() All Wawii _ Rajesh Kava Nishka Raheja Prakash Raj Sabina Malik Anjali Aranya Kaur Sonal Kaushal Chandan Anand Danish Husain 1.0 2.0 2.5 3.0 0.0 0.5 1.5 Number of Shows Ali Yörenç df_actors['Actors'].values Elle Callahan 1 → array(['Rajesh Kava', 'Nishka Raheja', 'Pr**AkaÇelik**aj', 'Sabina Malik', <mark>Eifeinamamannamanne Kaushal', 'Chandan Anand',</mark> 'Danish Husain'], dtype=object) **-Asghar Shahbazi** Ellen Brown Alia Almannai Popular Actors in TIVE SROWS in India are:-Alia Bhatt 'Rajesh Kava', Ellen Seidler 'Nishka Raheja' Ellen Weissbrod Alia Nemry Alia Shawkat 'Prakash Raj', Ellena Wood 'Sabina Malik', Aliaa Al-Husseini **Elliot Hegarty** 'Anjali', baba Akporobome 'Aranya Kaur', Elliot Silverstein Alican Yücesoy 'Sonal Kausha<mark>l</mark>'sa Flores Almaraz 'Chandan Anand', Elsa Nakamichi Alice Belaïdi Alice Bellagamba 'Danish Husain' Elvira Lind Alice Rocchi df_actors=df_india_movies.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15] df_actors=df_actors[df_actors['Actors']!='Unknown Actor'] plt.figure(figsize=(15,8)) plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo']) plt.xlabel('Number of Movies') plt.ylabel('Popular Actors') plt.show() Alice Dwver **Emily Hagins** Alice Englert **Emir Kusturica** Alice Eve **Emma Hatherley** Alice Greczyn Emma Tammi Alice Harding **Emmanuel Amara** Alice Isaaz **Emmanuel Mouret** Alice Ko **Emmett Malloy** Alice Krige **Enah Johnscott** Alice Lee Enrico Bisi Alice Li

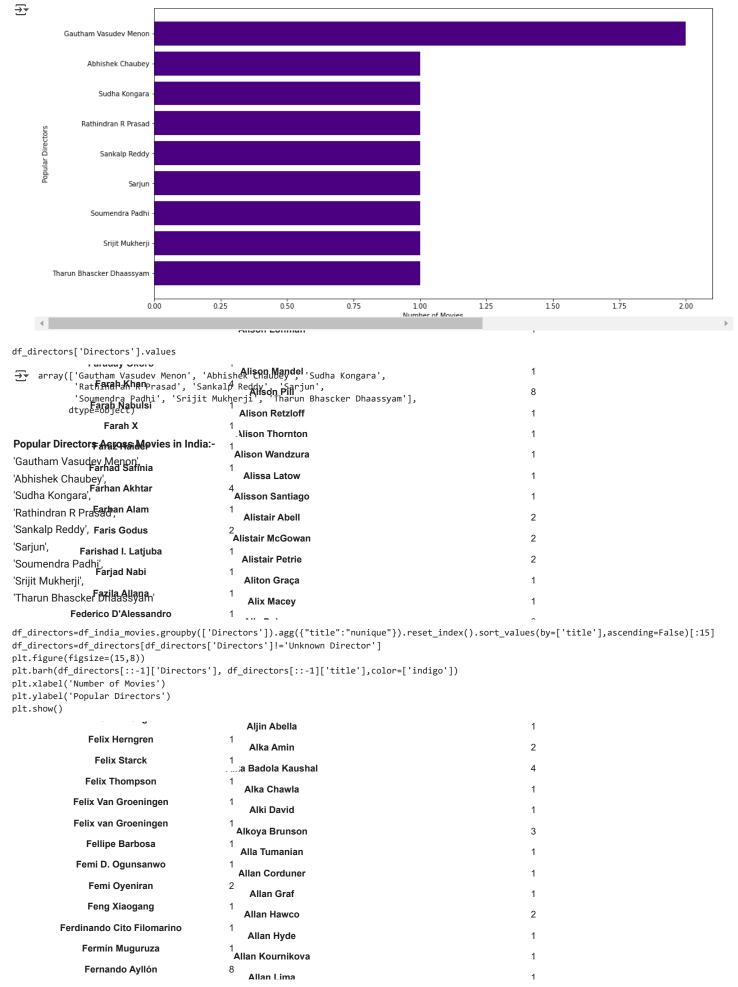
Alice Lowe

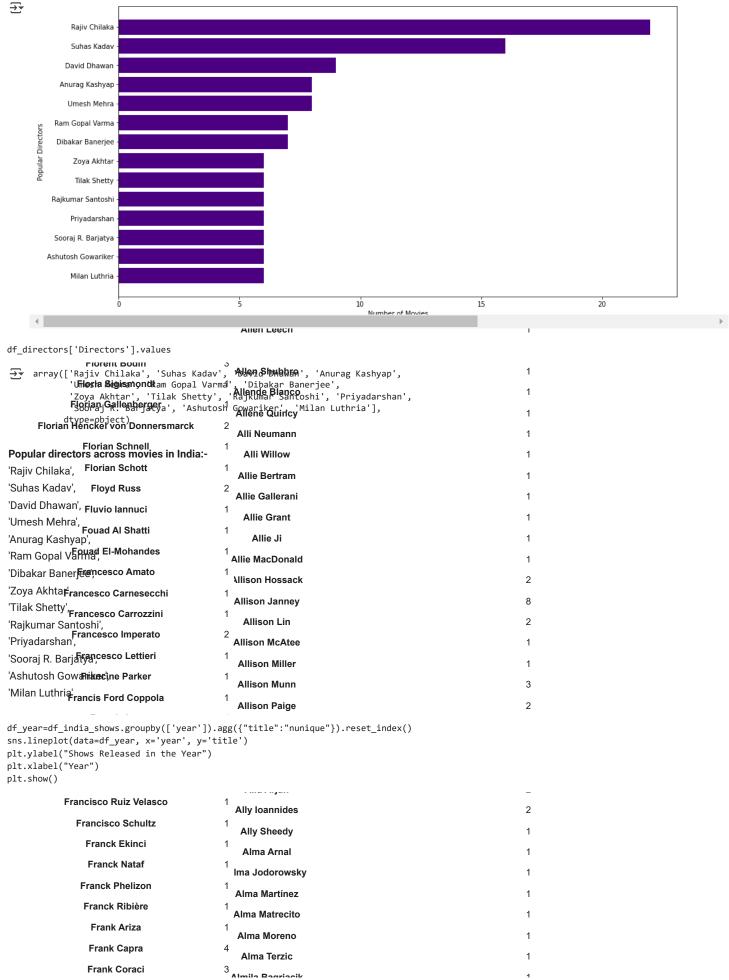
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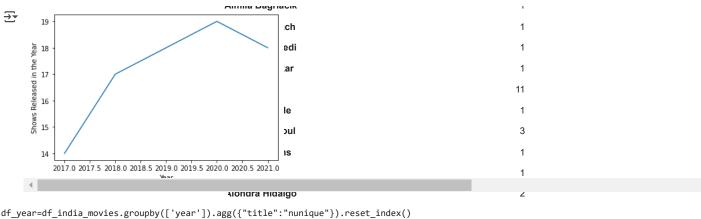
Enrique García Meza

Eondeok Han

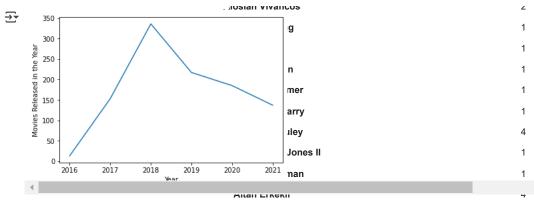








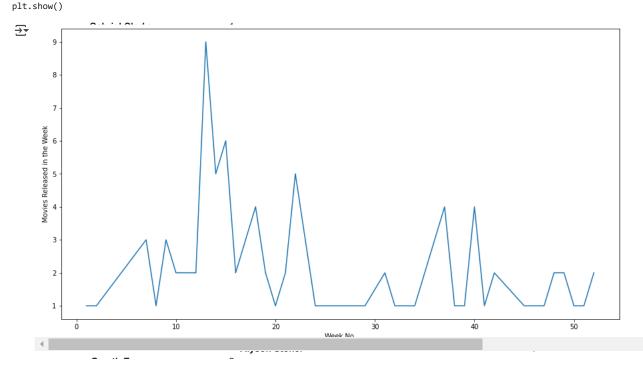
```
df_year=df_india_movies.groupby(['year']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_year, x='year', y='title')
plt.ylabel("Movies Released in the Year")
plt.xlabel("Year")
plt.show()
```



In India, Movies were increasingly added till 2018 WITH Street a huge downhill since then. Now that's prepositerous, since and soemthing Funke Akindele has to be recommended to the Netflix Team with Argan Region that.

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fuwad Khan

df_week=df_india_shows.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
plt.figure(figsize=(15,8))
sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
```



```
df_week=df_india_movies.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
 plt.figure(figsize=(15,8))
 sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
plt.show()
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\label{lem:continuous} $$ df_month=df_india_shows.groupby(['month_added']).agg({"title":"nunique"}).reset_index() $$ $$ descriptions for the continuous 
 sns.lineplot(data=df_month, x='month_added', y='title')
plt.ylabel("TV Shows Released in the Month")
plt.xlabel("Month")
plt.show()
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                    TV Shows Released in the Month A 9 8 0 7 1 1 1 1
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df_month=df_india_movies.groupby(['month_added']).agg({"title":"nunique"}).reset_index()
 sns.lineplot(data=df_month, x='month_added', y='title')
plt.ylabel("Movies Released in the Month")
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plt.show()
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Amanda Cerny

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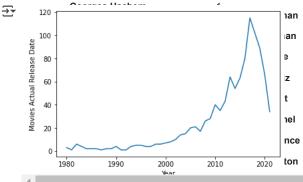
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Amanda Chou
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Amanda Chu Movies are additional individual number of the control of the cont

Amanda Clayton

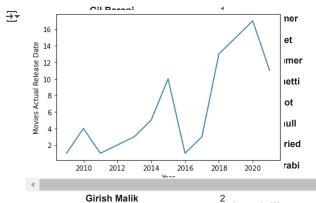
df_release_year=df_india_movies[df_india_movies['release_year']>=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index() sns.lineplot(data=df_release_year, x='release_year', y='title') plt.ylabel("Movies Actual Release Date")

plt.xlabel("Year") plt.show()



Coun_hyun Cho

df_release_year=df_india_shows[df_india_shows['release_year']>=1980].groupby(['release_year']).agg({"title":"nunique"}).reset_index() sns.lineplot(data=df_release_year, x='release_year', y='title') plt.ylabel("Movies Actual Release Date") plt.xlabel("Year") plt.show()



1

The understandable trend amongs movies and TV Shows across India in Netflix is the reduction of movies after 2020 Girish Mohite Amanda Zhou

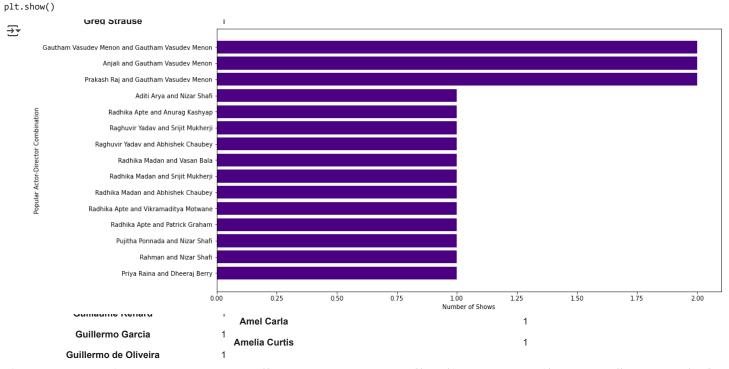
#Analysing a combination of actors and directors df_india_movies['Actor_Director_Combination'] = df_india_movies.Actors.str.cat(df_india_movies.Directors, sep=' and ') df india movies subset=df india movies[df india movies['Actors']!='Unknown Actor'] df_india_movies_subset=df_india_movies_subset[df_india_movies_subset['Directors']!='Unknown Director'] df_india_movies_subset.head()

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|----------------|-----|---|-----------------------------|---|--------------------------|---------|---------|-------|-----------------------|----------------|--------|----------|-------------|
| } ▼ | | է <u>Բ</u> վբը Keane | Actors | Dir ¹ ec tors | a Patil ^{Genre} | country | show_id | type | date_added | release_year | rating | duration | Modified_Ac |
| | 621 | Avvai Shanmughi Kar | nal Hassan | K.S. Ravikumar | Comedies | India | s23 | Movie | September 21, 2021 | 1996 | TV-PG | 150-200 | 2 |
| | 622 | Ayyai Glenn Miller Kai Shanmughi | nal Hassan | Amarı A K.S. II Ravik yamarı M | nternational | India | s23 | Movie | September 21, 2021 | 1 1996 1 | TV-PG | 150-200 | 2 |
| | 629 | Avvai Shanmughi | Nassar | K.S. Ravikumar | Comedies | India | s23 | Movie | September 21, 2021 | 1996 | TV-PG | 150-200 | 2 |
| | 630 | Golam Wibria Faroo Shanmughi | ki _{Nassar} | 1 K.S. II Ravik Amarjee | nternational | India | s23 | Movie | September 21, 2021 | 1 1996 | TV-PG | 150-200 | 2 |
| | 631 | Avvai Shanmughi Balasubi | S.P. ahmanyam | K.S. Ravikumar | Comedies | India | s23 | Movie | September 21, 2021 | 1996 | TV-PG | 150-200 | 2 |
| 4 | | | | | | | | | | | | | > |
| | | Gordon Chan | | 1 ıb. Rach | el Bakam | | | | | 1 | | | |
| | | Gordon Parks | | _1 | | | | | | | | | |

```
df_india_shows['Actor_Director_Combination'] = df_india_shows.Actors.str.cat(df_india_shows.Directors, sep=' and ')
df_india_shows_subset=df_india_shows[df_india_shows['Actors']!='Unknown Actor']
df_india_shows_subset=df_india_shows_subset[df_india_shows_subset['Directors']!='Unknown Director']
df_india_shows_subset.head()
```

| _ | | Grand Corps Malade | | | 1 | | | | | | 4 | 1 | | |
|---|----------------------|--------------------|------------------------------|---------------------|------------------|----------|---------|------------|-------------------|--------------|---------------------|----------|---------------------|------|
| ₹ | | | Actors Heslov | Directors | Gent e co | drarye | show_id | type | date_added | release_year | rating | duration | Modified_Added_date | mon1 |
| | 7005 | Navarasa | Suriya | Bejoy Nambiar | TV Shows | India | s298 | TV Show | August 6, 2021 | 2021 | TV-MA | 1 Season | 2021-08-06 | |
| | 7006 | Navarasa | Johnsor Suriya Singer | n Priyadarshan | 1 Amber Shows | Ghia | s298 | TV Show | August 6, 2021 | 2021 | T√IMA | 1 Season | 2021-08-06 | |
| | 7007 | Navarasa | Suriya | Karthik Narain | TV Shows | India | s298 | TV Show | August 6, 2021 | 2021 | TV-MA | 1 Season | 2021-08-06 | |
| | 7008 | Navarasa | Barker Suriya Berlanti | Vasanth Sai | A Thous | | s298 | TV Show | August 6, 2021 | 2021 | T ¹ 21MA | 1 Season | 2021-08-06 | |
| | 7009 Nav | | Suriya | Karthik Subbaraj | TV Shows | India | s298 | TV Show | August 6, 2021 | 2021 | TV-MA | 1 Season | 2021-08-06 | |
| | | Greg | Kons | | 1 | | | | | | | | | |
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| | Greg MacGillivray | | | | Amber Midthunder | | | | | | | | | |
| | Greg McLean | | | | 1 Amber Riley | | | | | | | | | |

df_actors_directors=df_india_shows_subset.groupby(['Actor_Director_Combination']).agg({"title":"nunique"}).reset_index().sort_values(by=['ti
plt.figure(figsize=(15,8))
plt.barh(df_actors_directors[::-1]['Actor_Director_Combination'], df_actors_directors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Shows')
plt.ylabel('Popular Actor-Director Combination')

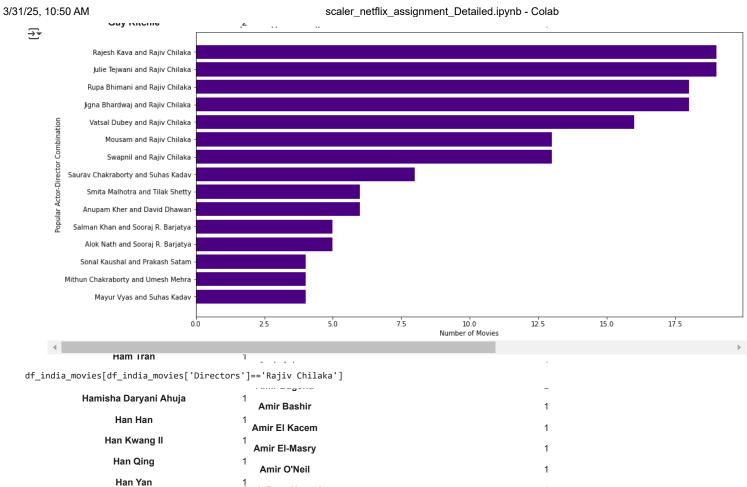


df_actors_directors=df_india_movies_subset.groupby(['Actor_Director_Combination']).agg({"title":"nunique"}).reset_index().sort_values(by=['t
plt.figure(figsize=(15,8))
plt.barh(df_actors_directors[::-1]['Actor_Director_Combination'], df_actors_directors[::-1]['title'],color=['indigo'])

plt.xlabel('Number of Movies')

plt.ylabel('Popular Actor-Director Combination')
plt.show()

| Gupse Özay | Amelie Fonlupt | 1 |
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| Gurmmeet Singh | 1 America Ferrara | 1 |
| Gurudev Bhalla | 1 America Ferrera | 7 |
| Gurvinder Singh | 1 America Young | 12 |
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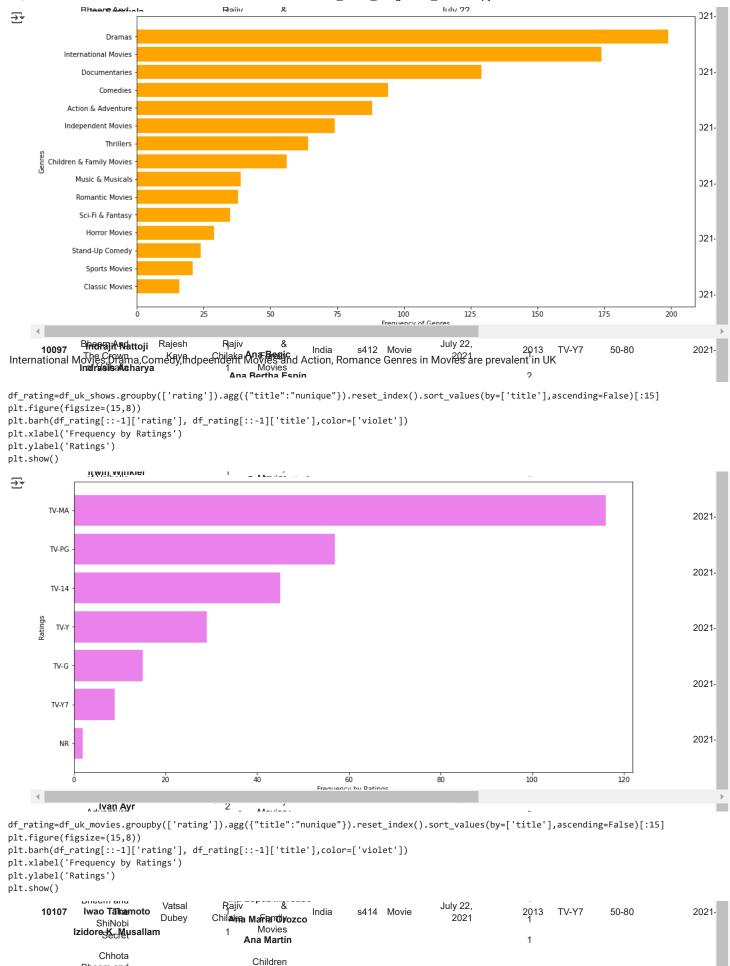


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| Handan İpekçi | Amir Raza Hussain | 1 |
| Hang-Jun Jang | Amir Salah | 1 |
| Hani Al-Shaibani | Amir Talai | 1 |
| Hani Hamdi | Amir Tessler | 1 |
| Hannah Fidell | Amir Wilson | 1 |
| Hannes Stöhr | Amira Casar | 2 |
| Hanno Olderdissen | Amirah Vann | 2 |
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| ₹ | | narry Baweja title Harry Bradbee | Actors | Directors | tosh Nagpal Genre co | untry | show_id | type | date_added | release_year | rating | duration | Modified_Added ^ |
| | 10058 | Chhota Bheem - Neeli | Vatsal Dubey | Rajiv Chilaka | Children & Family | India | | Movie | July 22, 2021 | 2013 | TV-Y7 | 50-80 | 2021- |
| | | Pahaadi | | 4 | Movies | | | | | | | | |
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| | 10059 | H Bh neanFujita | Julie | Rajiv | _ & | India | s407 | Movie | July 22, | 2013 | TV-Y7 | 50-80 | 2021- |
| | 10005 | Neeli | Tejwani | | marra Rallyma | iliulu | 3407 | WOVIC | 2021 | 2410 | 1 V-17 | 00-00 | 2021 |
| | | Hanaleya@lazer | | 1 mm | Movies o 'Too Sweet | • | | | | 1 | | | |
| | | Chhota | | | Children | | | | | | | | |
| | 10060 | Bheem - | Rupa | Rajiv | & | India | s407 | Movie | July 22, | 2013 | TV-Y7 | 50-80 | 2021- |
| | | Neeli | Bhimani | Chilaka | Family | | 0.0. | | 2021 | 20.0 | | 00 00 | 2021 |
| | | Pahaadi - | | | Movies | | | | | | | | |
| | | Chhota | .× | Amo | l Deshmukh Children | | | | | 1 | | | |
| | 10061 | Hasan Karacada | | R'aji ∖ An | nol Mhatre | India | s407 | Movie | July 22, | 2013 | TV-Y7 | 50-80 | 2021- |
| | Н | Neeli I ashim Nadeem K Pahaadi | han | Cilijaka | Family n oMPale kar | | | | 2021 | 2 | | | |
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| | | Chhota | Daisah | Deliv | Children | | | | luly 22 | | | | |
| | 10062 | Bheem - Neeli | Rajesh Kava | Rajiv Chilaka | & Family | India | s407 | Movie | July 22, 2021 | 2013 | TV-Y7 | 50-80 | 2021- |
| | | Pahaadi | rtava | Ormana | Movies | | | | 2021 | | | | |
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| | | HateOhlKohaaich | | 1 _{Raii} A m | Children I os Tamam | | | | July 22, | 1 | | | |
| | 10063 | Hayao Mayazak | _i Mousam | Chilaka | Family aro Grisales Movies | India | s407 | Movie | 2021 | 2013 2 | TV-Y7 | 50-80 | 2021- |
| | | Pahaadi Havato Date | | 1 | Movies | | | | | 2 | | | |
| | | Chhota | | ' | Children | | | | | | | | |
| | 10064 | Bheem - | Swapnil | Rajiv | & | India | s407 | Movie | July 22, | 2013 | TV-Y7 | 50-80 | 2021- |
| | 10004 | Neeli | Owapilli | Chilaka | Family | iliula | 5407 | MOVIE | 2021 | 2013 | 1 V-17 | 30-00 | 2021- |
| | | Pahaadi | | _ | Movies | | | | | | | | |
| | | Hazem Fouda Chhota | | 2 mr / | Abder Geleel | | | | | 3 | | | |
| | 10065 | He Kiao (eng | Vatsal | Rajiv | & | India | s408 | Movie | July 22, | 2009 | TV-Y7 | 50-80 | 2021- |
| | | Ganesh Heather Walsh | Dubey | | nrÆirKiaydy Mavias | | | | 2021 | -1** | | | |
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| | | Chhota | | | Children | | | | | | | | |
| | 10066 | Bheem & | Julie | Rajiv | & Eamily | India | s408 | Movie | July 22, 2021 | 2009 | TV-Y7 | 50-80 | 2021- |
| | | Ganesh | Tejwani | Chilaka | Family Movies | | | | 2021 | | | | |
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| | | Heidil Staman | Rupa | | | | | | July 22, | | | | |
| | 10067 | Bheem & | Bhimani | Chilaka | nrish Puri Family | India | s408 | Movie | 2021 | 20 09 | TV-Y7 | 50-80 | 2021- |
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| | 40000 | Chhota | Jigna | Rajiv | & | India | -400 | Marria | July 22, | 2000 | T\/ \/7 | E0 00 | 2024 |
| | 10068 | Bheem & Ganesh | Bhardwaj | Chilaka | Family | India | s408 | Movie | 2021 | 2009 | TV-Y7 | 50-80 | 2021- |
| | | | | CMIII | Movies | | | | | _ | | | |
| | | Hemant Gaba | | 1 . | Children | | | | | | | | |
| | 10069 | Bheem & Henri Wong | Rajesn | | nrita Argra | India | s408 | Movie | July 22, | 2009 | TV-Y7 | 50-80 | 2021- |
| It see | ms that | Rajiv engaka ha | Kava s worked | Chilaka on Chota A31 | Family Pe tan Ragehi ha | s been | able to c | reate so | 2021 ome good co | ntent in its ? nov | ies. He c | an be relie | d on for |
| more | Chota B | rik Martin Dahlsb heem stories | oakken | 1 | | | | | · · | | | | |
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| _ | 10074 | Rupa Shimiai ai Henry Sarwer Fo | nd Rajiv | Chilak a jiv | | India | | | July 22, | 2000 | T\/ \/7 | 50-80 | 2021- |
| | 10071 | Jigha Shlandwaj v _{2+c} Ganesby | "andaRaji | v Chehhaka A ı | mıfftanRlao | | | Movie | 2021 | 2009 | TV-Y7 | 30-60 | 2021- |
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| | 10072 | Salmaneekhason and | d Stylenterial | R. Bangajiya | ', & | India | s409 | Movie | July 22, | 2011 | TV-Y7 | 50-80 | 2021- |
| | | AlokKingthand Singayarhal | and Praka | sh Satam'. | Family Movies | | | | 2021 | | | | |
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| | 10073 | Krishna [.] | Teiwani | Chilaka | u ta Subhash Family | India | s409 | Movie | July 22, 2021 | 26)11 | TV-Y7 | 50-80 | 2021- |
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| - | | and Rafin Chilak | _ | Rajiv | & | India | 2400 | Mouric | July 22, | 2044 | T\/ \/7 | E0 00 | 2024 |
| | | Krishna: | Bhimani | Chilaka | Family | India | s409 | Movie | 2021 | 2011 | TV-Y7 | 50-80 | 2021- |
| nupa | ווווומו | i ang Prajiya Chila | ina, | _ | Movies | | | | | _ | | | |
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                                                                                                                                                         2021-
                                 Swapnil
                                                                                                                           IV-Y
                   Krishna:
                                              Chilaka
                                                        Family
                                                                                                   2021
#Analyzing India for both shows and movies
df_uk_shows=df_final1[df_final1['country']=='United Kingdom'][df_final1[df_final1['country']=='United Kingdom']['type']=='TV Show']
df_uk_movies=df_final1[df_final1['country']=='United Kingdom'][df_final1[df_final1['country']=='United Kingdom']['type']=='Movie']
                                                                              54 IU IVIUVIE
                                                                                                                   4010
                 Manay Troban Dubey
                                                                                                                                                         ZUZ I-
                                                                                                   2021
                                             Chiłaka
                                                        Family
df_genre=df_uk_shows.groupby(['Genre']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_genre[::-1]['Genre'], df_genre[::-1]['title'],color=['orange'])
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
₹
              British TV Shows
                                                                                                                                                         2021-
         International TV Shows
                  Docuseries
              Crime TV Shows
                 TV Comedies
                                                                                                                                                         2021-
                    Kids' TV
                  TV Dramas
                   Reality TV
                                                                                                                                                         2021-
          Science & Nature TV
           Romantic TV Shows
         TV Action & Adventure
             Classic & Cult TV
                                                                                                                                                         2021-
            TV Sci-Fi & Fantasy
                 TV Mysteries
                 TV Thrillers
                                                    50
                                                                              100
                                                                                                         150
                                                                                                                                   200
                                                                                                                                                         2021
                                                                                  Frequency of Genres
                                                     Amy Pietz
British TV Shows, International TV Shows, Docuseries, Childrene, Comedy are widely watched Genres in TV Shows in UK
                                                                                                                                                         2021-
                                                                    India
                                                                              s411 Movie
                The Broken
                                  Dubey
                                             Chilaka
                                                        Family
                                                                                                   2021
df_genre=df_uk_movies.groupby(['Genre']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
plt.figure(figsize=(15,8))
plt.barh(df_genre[::-1]['Genre'], df_genre[::-1]['title'],color=['orange'])
plt.xlabel('Frequency of Genres')
plt.ylabel('Genres')
plt.show()
                Bheem And
                                   Rupa
                                                Rajiv
                                                                                                 July 22,
       10088
                                                                                                                                                         2021-
                                                                                                                                       50-80
                                                                    India
                                                                              s411 Movie
                                                                                                                   2013
                                                                                                                           TV-Y7
                The Broken
                                Bhimani
                                              Chilaka
                                                        Family
                                                                                                   2021
                    Amulet
                                                        Movies
                   la0th Doatraiel
                                                       Children
                                                Raji Amy Seimetz
                Bheem And
                                   Jigna
                                                                                                 July 22,
       10089
                                                                                                                           TV-Y7
                                                                    India
                                                                                                                   2013
                                                                                                                                       50-80
                                                                                                                                                         2021-
                                                                                    Movie
                The Bedelman Bhardwaj
                                              Chi<del>l</del>aka
                                                                                                   2021
                                                     Amy Siriya
                    Amulet
Ian Kirby
                    Chhota
                                                       Children
                                                Rajiv
                                                                                                 July 22,
                Bheem And
                                  Rajesh
       10090
                                                                                                                           TV-Y7
                                                                                                                                       50-80
                                                                                                                                                         2021-
                                                                    India
                                                                              s411 Movie
                                                                                                                   2013
                The Broken
                                   Kava
                                              Chilaka
                                                        Family
                                                                                                   2021
                    Amulet
                                                        Movies
```

Aûhiyd**ra**n



Family

India

s414 Movie

July 22,

2021

2013

50-80

Bheem and

The

10108

Julie

Teiwani

Rajiv

Chilaka

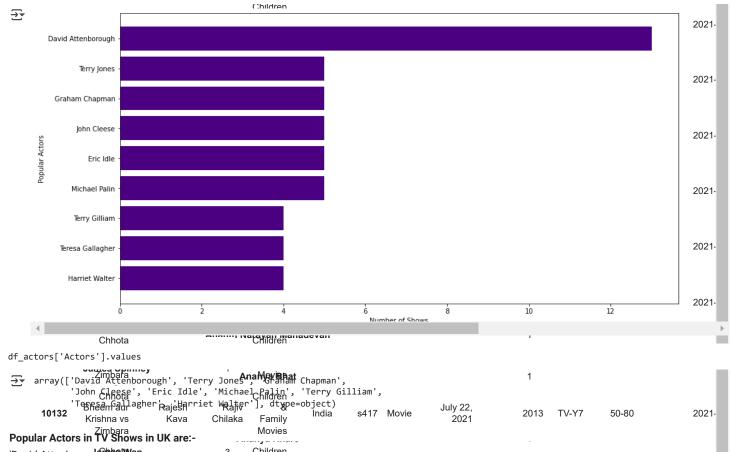
2021-

Movies

Anand Kumar

plt.ylabel('Popular Actors')

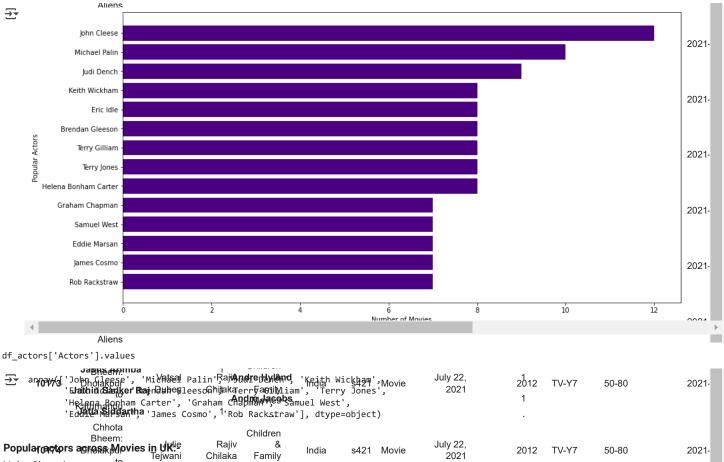
plt.show()



'David Attenboroughhestwan
Bheem aur Children Rafinanya Melkote July 22, **√anges**aWatkins Mousam 'Terry **Johas**', India s417 Movie 2013 TV-Y7 50-80 2021-Chilaka Family Ananya Nagalla Movies 2021 'Graham ChapmanZimbara Wong 2 'John Cleese', Chhota Children Rajiv July 22, Bheem aur 'Eric Idk0,134 Swapnil India s417 Movie 2013 TV-Y7 50-80 2021-Chilaka Krishna vs Family 2021 'Michael Palin', Movies Zimbara 'Terry Gilliam', **Jami** Chhota astasha Baranova 2 Teresa Gallagheria hie Babbit Vatsal Rajiv July 22, s420 Movie 2Q10 TV-Y7 50-80 2021-CAlpastasia Shocholata Bheem vs Dubey 2021 'Harriet Walter' Movies JamieliMn®Dagg astasia Dymitrow

df_actors=df_uk_movies.groupby(['Actors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:15]
df_actors=df_actors[df_actors['Actors']!='Unknown Actor']
plt.figure(figsize=(15,8))
plt.barh(df_actors[::-1]['Actors'], df_actors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Movies')
plt.ylabel('Popular Actors')
plt.show()

| 10162 | Chhota Bheem: Bheem vs Aliens | Julie Tejwani | Rajiv Chilaka | Sports Movies | India | s420 | Movie | July 22, 2021 | 2010 | TV-Y7 | 50-80 | 2021- |
|-------|---|----------------------------|--|--|-------|------|-------|------------------|----------------|-------|-------|-------|
| 10163 | Jani Nadhaue Bheem: Janusan Majews Aliens Jarand Herda | Rupa ski Bhimani | 2 R ande Chilaka And 1 | Children Cunningham Family ers Baasmo | 1 | s420 | Movie | July 22, 2021 | 1 2010 1 | TV-Y7 | 50-80 | 2021- |
| 10164 | Chhota Bheem: Bheem vs Aliens | Rupa Bhimani | Rajiv Chilaka | Sports Movies | India | s420 | Movie | July 22, 2021 | 2010 | TV-Y7 | 50-80 | 2021- |
| 10165 | Jared Stern Chhota Jarrad Paul Bheem vs Jasbir Bijendra E | Jigna Bhardwaj | Rajiv Chilaka ∧r 1 | derisi Pove & ndersulyul Movies ા idin Hansa | India | s420 | Movie | July 22, 2021 | 1 2010 1 | TV-Y7 | 50-80 | 2021- |
| 10166 | Chhota Bheem: Bheem vs | Jigna Bhardwaj | Rajiv Chilaka | Sports Movies | India | s420 | Movie | July 22, 2021 | 2010 | TV-Y7 | 50-80 | 2021- |



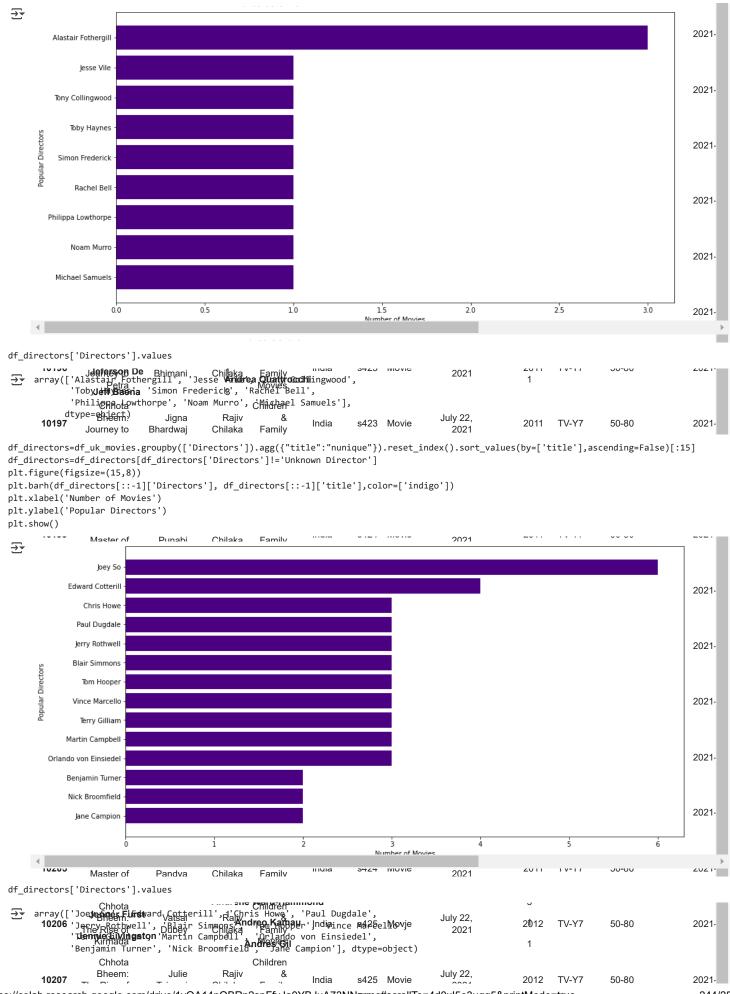
| annaw/s 'John Glasse', 'Mikased Pa 'Elatinin Gaarker Bain Duhes lee 'Helana Annam Carter', 'G 'Edate Marsantha 'James Cos | sominaka errvatiliyliam: | Keith Wickham' , 'Terry Jones uel West', , dtype=object | :'. | July 22, 2021 | 2012 1 | TV-Y7 | 50-80 | 2021- |
|--|---|--|-------|------------------|----------------|-------|-------|-------|
| Chhota Bheem: Popular potors agrees Movies in UKie 'John Cleese', to Tejwani 'Michael Palin', | Children Rajiv & Chilaka Family Movies | India s421 | Movie | July 22, 2021 | 2012 | TV-Y7 | 50-80 | 2021- |
| 'Judi Dench', JaVieirotalvo 'Judi Dench', Bheem: Rupa 'Keith Wind Ris am', ២អប់ខ្លាស់ ទូលាក់ខ្លាំ 'Eric Idle', Javier Grome 2 Santander 'Brendan Gleeson', | 1 undrealiAbolagye Rajiv & ChilakadreaFArciangeli 1 Movies Andrea Avery | India s421 | Movie | July 22, 2021 | 1 2012 1 | TV-Y7 | 50-80 | 2021- |
| 'Terry Gilliam', Chhota Bheem: Jigna 'Terry Jt91€\$ ', Dholakpur Bhardwaj 'Helena Bonham Carter' ^{to} Kathmandu | Children Rajiv & Chilaka Family Movies | India s421 | Movie | July 22, 2021 | 2012 | TV-Y7 | 50-80 | 2021- |
| 'Graham Chap naan ', nandraseknar Chhota 'Samuel West', Japlideamman 'Eddie Mersan', Dholakpur Kava 'James Cosmo' Kathmandu 'Rob Rackstraw' Chhota Rheem: | Andrea Brooks Children Raiindrea Carballo Chilaka Family Andrea ©assajal 1 Children | India s421 | Movie | July 22, 2021 | 1 2012 1 | TV-Y7 | 50-80 | 2021- |

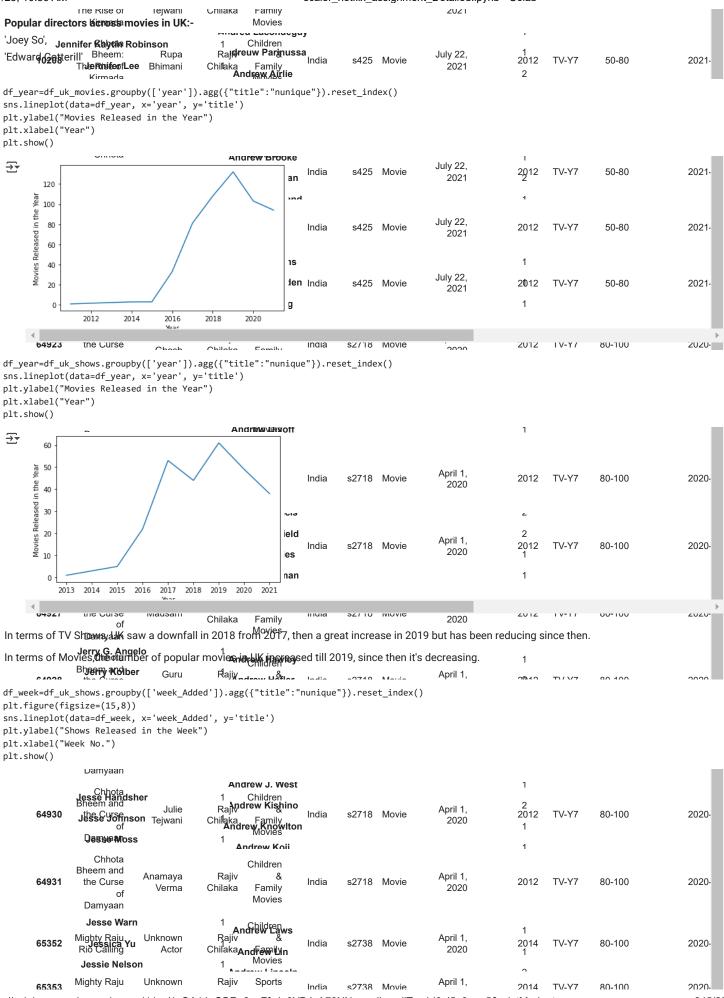
df_directors=df_uk_shows.groupby(['Directors']).agg({"title":"nunique"}).reset_index().sort_values(by=['title'],ascending=False)[:10]
df_directors=df_directors[df_directors['Directors']!='Unknown Director']
plt.figure(figsize=(15,8))
plt.barh(df_directors[::-1]['Directors'], df_directors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Movies')

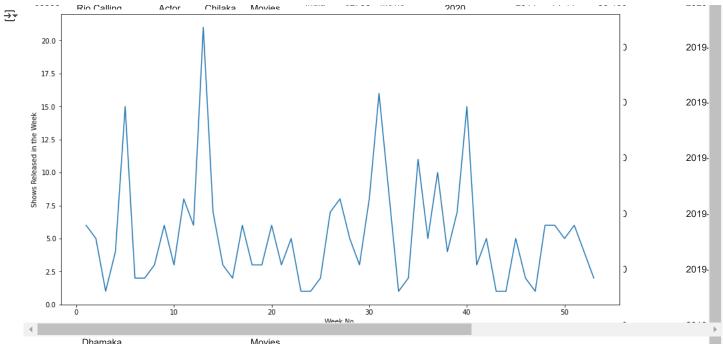
plt.ylabel('Popular Directors')

plt.show()

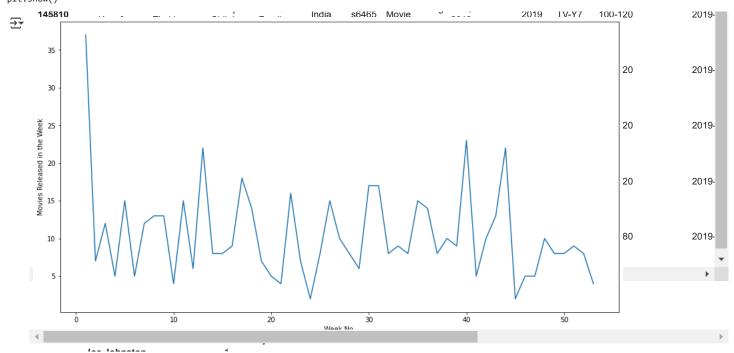
| . , | | | | | | | | | | | | |
|-------|--|-------------------------|------------------------------|---|-------|------|-------|------------------|----------------|-------|-------|-------|
| | i watery terrorer | And | rea Falzone | | | | | | | | | |
| 10180 | Chhota Bheem: Dus Pe Dus | Vatsal Dubey | Rajiv Chilaka | Children & Family Movies | India | s422 | Movie | July 22, 2021 | 2014 | TV-Y7 | 50-80 | 2021- |
| | ıpraka €hiRaal hak Bheem: va raj,Raj a <u>9</u> ekhara | an Naiy ^{rani} | Ra jiiridi Chilaka | rea Garrote Children rea Germani Family driverano | India | s422 | Movie | July 22, 2021 | 1 2014 1 | TV-Y7 | 50-80 | 2021- |
| 10184 | Chhota Bheem: Dus Pe Dus | Rupa Bhimani | Rajiv Chilaka | Children & Family | India | s422 | Movie | July 22, 2021 | 2014 | TV-Y7 | 50-80 | 2021- |





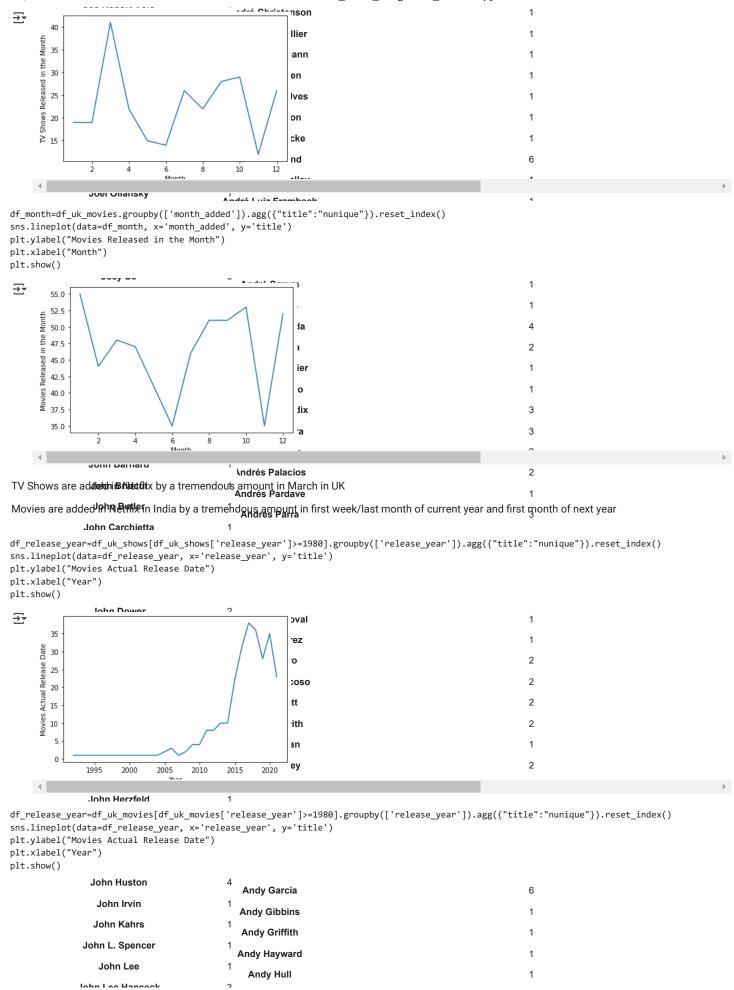


```
df_week=df_uk_movies.groupby(['week_Added']).agg({"title":"nunique"}).reset_index()
plt.figure(figsize=(15,8))
sns.lineplot(data=df_week, x='week_Added', y='title')
plt.ylabel("Movies Released in the Week")
plt.xlabel("Week No.")
plt.show()
```



df_month=df_uk_shows.groupby(['month_added']).agg({"title":"nunique"}).reset_index()
sns.lineplot(data=df_month, x='month_added', y='title')
plt.ylabel("TV Shows Released in the Month")
plt.xlabel("Month")
plt.show()

| Joe Menendez | 1 . \ndrzej Mrowiec | 1 |
|-----------------|------------------------|---|
| Joe Miale | 1 Andrzej Seweryn | 2 |
| Joe Murray | 1 Andrzej Łapicki | 1 |
| Joe Nussbaum | 1 András Faragó | 1 |
| Joe Penna | 1 André Bharti | 1 |
| Joe Piscatella | 1 André Chiang | 1 |
| Ice Pohert Cole | 1 | |



John Danola

```
70
                                                                                                                                           4
          60
       Movies Actual Release Date
                                                                          g
          50
          40
                                                                           ızie
          30
          20
                                                                           in
          10
                                                                           ee
                         1990
                                1995
                                       2000
                                              2005
                                                     2010 2015 2020
                                                            Andy Milonakis
Same trend of reduntionuskenovies and shows after 2020.

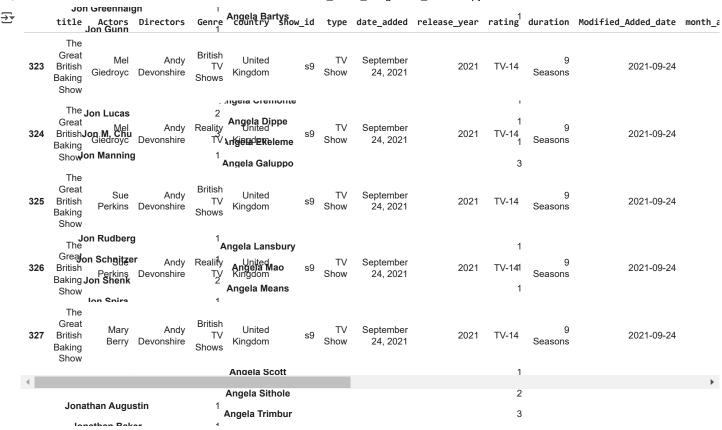
Andy Nyman
                                                                                                                                           5
```

#Analysing a combination of actors and directors
df_uk_movies['Actor_Director_Combination'] = df_uk_movies.Actors.str.cat(df_uk_movies.Directors, sep=' and ')
df_uk_movies_subset=df_uk_movies[df_uk_movies['Actors']!='Unknown Actor']
df_uk_movies_subset=df_uk_movies_subset[df_uk_movies_subset['Directors']!='Unknown Director']
df_uk_movies_subset.head()

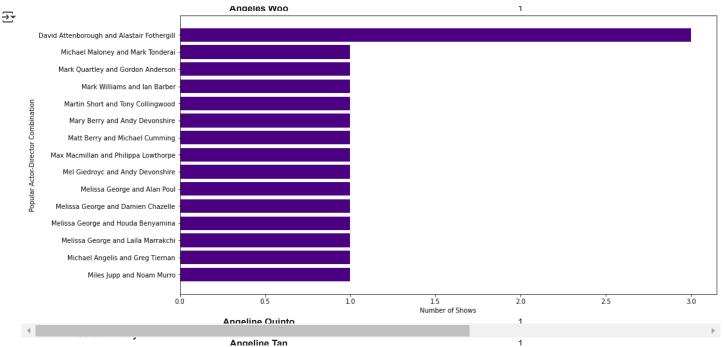
| ₹ | | John I title | R. Leonetti Actors | Directors | Angoleyn (Rei | ch te untry | show_id | type | date_added | release_yea® | rating | duration | Modified_Added_date |
|---|-----|-----------------|---------------------------------------|-----------------|----------------------------|------------------------------|---------|-------|-----------------------|--------------|--------|----------|---------------------|
| | 182 | Sankofa | Kofi Ghanaba | Haile Gerima | Dramas | United Kingdom | s8 | Movie | September 24, 2021 | 1993 | TV-MA | 120-150 | 2021-09-24 |
| | 188 | Sankofa | Sanforkofi Ghanaba Scheinfeld | Haile Gerima | Independent Andres | United erkisngdom | s8 | Movie | September 24, 2021 | 1993 | TV-MA | 120-150 | 2021-09-24 |
| | 194 | Sankofa | Kofi Ghanaba | Haile Gerima | International Movies | United Kingdom | s8 | Movie | September 24, 2021 | 1993 | TV-MA | 120-150 | 2021-09-24 |
| | 200 | Sankora | Syaithaanke Ogunlano Stephenson | Haile Gerima | 1 D Aanda s 1 | W ա United Kingdom | s8 | Movie | September 24, 2021 | 1993 | TV-MA | 120-150 | 2021-09-24 |
| | 206 | Sankofa | Oyafunmike Ogunlano | Haile Gerima | Independent Movies | | s8 | Movie | September 24, 2021 | 1993 | TV-MA | 120-150 | 2021-09-24 |
| | 4 | Iohn St | awart Mullar | | 1 | | | | | | | | > |
| | | John | Stockwell | | 2 Aneesh M | /lenon | | | | 2 | | | , |
| | | Johr | Sturges | | 1 Aneesha | Shah | | | | 1 | | | |

df_uk_shows['Actor_Director_Combination'] = df_uk_shows.Actors.str.cat(df_uk_shows.Directors, sep=' and ')
df_uk_shows_subset=df_uk_shows[df_uk_shows['Actors']!='Unknown Actor']
df_uk_shows_subset=df_uk_shows_subset[df_uk_shows_subset['Directors']!='Unknown Director']
df_uk_shows_subset.head()

| John Voorhees | 1 Anemone Valcke | 1 |
|-------------------|----------------------------|---|
| John Wells | 2 Anette Hoff | 1 |
| John Whitesell | 1 Aneurin Barnard | 1 |
| John Woo | 1 Anga Makubalo | 1 |
| Johnnie To | 8 Angad Bedi | 6 |
| Johnny Breedt | 1 Angad Mhaskar | 1 |
| Johnny Castuciano | 1 Angel Alkain | 1 |
| Johnny Kevorkian | 1 gel Bismark Curiel | 1 |
| Johnny Martin | 1 Angel Chipagua | 1 |
| Johnny To | 1 Angel Coulby | 1 |
| Johnson Esthappan | Angel David | 1 |
| Jon Alpert | 1 | 1 |
| Jon Avnet | 1 Angel Lin | 1 |
| Jon Carey | 1 Angel Locsin | 5 |
| Jon Favreau | 2 Angel Luis Rivera Jr. | 1 |
| Jon Freeman | 1 Angel Parker | 1 |
| Jon Garaño | 2 | |
| 1 | Angel Unigwe | 2 |



df_actors_directors=df_uk_shows_subset.groupby(['Actor_Director_Combination']).agg({"title":"nunique"}).reset_index().sort_values(by=['title
plt.figure(figsize=(15,8))
plt.barh(df_actors_directors[::-1]['Actor_Director_Combination'], df_actors_directors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Shows')
plt.ylabel('Popular Actor-Director Combination')
plt.show()



df_actors_directors=df_uk_movies_subset.groupby(['Actor_Director_Combination']).agg({"title":"nunique"}).reset_index().sort_values(by=['titl plt.figure(figsize=(15,8))
plt.barh(df_actors_directors[::-1]['Actor_Director_Combination'], df_actors_directors[::-1]['title'],color=['indigo'])
plt.xlabel('Number of Movies')
plt.ylabel('Popular Actor-Director Combination')
plt.show()

Jorge Granier

Angellie Saño

1

Jorge Hernandez Aldana

1

Angelo Moore

1