```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

df=pd.read_csv('ottdataset.csv')
df.head()
```

```
   Unnamed: 0 show_id OTT Platform   type  \
0           1   S0002       Amazon  Movie
1        9670   S9671       Disney  Movie
2        9673   S9674       Disney  Movie
3        9677   S9678       Disney  Movie
4        9680   S9681       Disney  Movie

                                  title          director  \
0                  Take Care Good Night      Girish Joshi
1           Ice Age: A Mammoth Christmas      Karen Disher
2                     Becoming Cousteau        Liz Garbus
3  A Muppets Christmas: Letters To Santa  Kirk R. Thatcher
4                      The Pixar Story     Leslie Iwerks

                                                cast        country  \
0   Mahesh Manjrekar, Abhay Mahajan, Sachin Khedekar          India
1  Raymond Albert Romano, John Leguizamo, Denis L...  United States
2              Jacques Yves Cousteau, Vincent Cassel  United States
3  Steve Whitmire, Dave Goelz, Bill Barretta, Eri...  United States
4  Stacy Keach, John Lasseter, Brad Bird, John Mu...  United States

          date_added  release_year rating duration
listed_in  \
0     March 30, 2021          2018    13+  110 min       Drama,
International
1  November 26, 2021          2011   TV-G   23 min  Animation, Comedy,
Family
2  November 24, 2021          2021  PG-13   94 min  Biographical,
Documentary
3  November 19, 2021          2008      G   45 min    Comedy, Family,
Musical
4  November 19, 2021          2007      G   91 min        Documentary,
Family

                                        description
0  A Metro Family decides to fight a Cyber Crimin...
1          Sid the Sloth is on Santa's naughty list.
2  An inside look at the legendary life of advent...
3  Celebrate the holiday season with all your fav...
4  A groundbreaking company forever changes the f...
```

```
df.columns
```

```
Index(['Unnamed: 0', 'show_id', 'OTT Platform', 'type', 'title',
'director',
       'cast', 'country', 'date_added', 'release_year', 'rating',
'duration',
       'listed_in', 'description'],
      dtype='object')
```

```
df.drop(['Unnamed: 0'],axis=1,inplace=True)
```

```
df.head()
```

```
  show_id OTT Platform   type
title  \
0   S0002       Amazon  Movie                    Take Care Good Night

1   S9671       Disney  Movie           Ice Age: A Mammoth Christmas

2   S9674       Disney  Movie                       Becoming Cousteau

3   S9678       Disney  Movie  A Muppets Christmas: Letters To Santa

4   S9681       Disney  Movie                         The Pixar Story


           director                                                cast
\
0      Girish Joshi   Mahesh Manjrekar, Abhay Mahajan, Sachin Khedekar

1      Karen Disher  Raymond Albert Romano, John Leguizamo, Denis L...

2        Liz Garbus              Jacques Yves Cousteau, Vincent Cassel

3  Kirk R. Thatcher  Steve Whitmire, Dave Goelz, Bill Barretta, Eri...

4     Leslie Iwerks  Stacy Keach, John Lasseter, Brad Bird, John Mu...


         country         date_added  release_year rating duration  \
0          India     March 30, 2021          2018    13+  110 min
1  United States  November 26, 2021          2011   TV-G   23 min
2  United States  November 24, 2021          2021  PG-13   94 min
3  United States  November 19, 2021          2008      G   45 min
4  United States  November 19, 2021          2007      G   91 min

                   listed_in  \
0       Drama, International
1  Animation, Comedy, Family
2  Biographical, Documentary
3    Comedy, Family, Musical
4        Documentary, Family
```

```
                                          description
0  A Metro Family decides to fight a Cyber Crimin...
1          Sid the Sloth is on Santa's naughty list.
2  An inside look at the legendary life of advent...
3  Celebrate the holiday season with all your fav...
4  A groundbreaking company forever changes the f...
```

```
df['OTT Platform'].value_counts()
```

```
OTT Platform
Netflix    5332
Disney      818
Amazon        1
Name: count, dtype: int64
```

```
df['type'].value_counts()
```

```
type
Movie      6004
TV Show     147
Name: count, dtype: int64
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 6151 entries, 0 to 6150
Data columns (total 13 columns):
 #   Column        Non-Null Count  Dtype 
---  ------        --------------  ----- 
 0   show_id       6151 non-null   object
 1   OTT Platform  6151 non-null   object
 2   type          6151 non-null   object
 3   title         6151 non-null   object
 4   director      6151 non-null   object
 5   cast          6151 non-null   object
 6   country       6151 non-null   object
 7   date_added    6151 non-null   object
 8   release_year  6151 non-null   int64 
 9   rating        6151 non-null   object
 10  duration      6151 non-null   object
 11  listed_in     6151 non-null   object
 12  description   6151 non-null   object
dtypes: int64(1), object(12)
memory usage: 624.8+ KB
```

```
def duration_to_min(duration):
    if 'Season' in duration:
        return int(duration.split()[0]) * 22* 30
    else:
        return int(duration.split()[0])
```

```
df['duration_min'] = df['duration'].map(duration_to_min)
df.drop(['duration'],axis=1,inplace=True)
df.head()
```

```
  show_id OTT Platform   type
title  \
0   S0002       Amazon  Movie                    Take Care Good Night

1   S9671       Disney  Movie            Ice Age: A Mammoth Christmas

2   S9674       Disney  Movie                       Becoming Cousteau

3   S9678       Disney  Movie  A Muppets Christmas: Letters To Santa

4   S9681       Disney  Movie                          The Pixar Story


           director                                                cast
\
0      Girish Joshi   Mahesh Manjrekar, Abhay Mahajan, Sachin Khedekar

1      Karen Disher  Raymond Albert Romano, John Leguizamo, Denis L...

2        Liz Garbus               Jacques Yves Cousteau, Vincent Cassel

3  Kirk R. Thatcher  Steve Whitmire, Dave Goelz, Bill Barretta, Eri...

4     Leslie Iwerks  Stacy Keach, John Lasseter, Brad Bird, John Mu...


         country         date_added  release_year rating  \
0          India     March 30, 2021          2018    13+
1  United States  November 26, 2021          2011   TV-G
2  United States  November 24, 2021          2021  PG-13
3  United States  November 19, 2021          2008      G
4  United States  November 19, 2021          2007      G

                   listed_in  \
0       Drama, International
1  Animation, Comedy, Family
2  Biographical, Documentary
3    Comedy, Family, Musical
4        Documentary, Family

                                          description  duration_min
0  A Metro Family decides to fight a Cyber Crimin...           110
1         Sid the Sloth is on Santa's naughty list.            23
2  An inside look at the legendary life of advent...            94
3  Celebrate the holiday season with all your fav...            45
4  A groundbreaking company forever changes the f...            91
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 6151 entries, 0 to 6150
Data columns (total 13 columns):
 #   Column        Non-Null Count  Dtype 
---  ------        --------------  ----- 
 0   show_id       6151 non-null   object
 1   OTT Platform  6151 non-null   object
 2   type          6151 non-null   object
 3   title         6151 non-null   object
 4   director      6151 non-null   object
 5   cast          6151 non-null   object
 6   country       6151 non-null   object
 7   date_added    6151 non-null   object
 8   release_year  6151 non-null   int64 
 9   rating        6151 non-null   object
 10  listed_in     6151 non-null   object
 11  description   6151 non-null   object
 12  duration_min  6151 non-null   int64 
dtypes: int64(2), object(11)
memory usage: 624.8+ KB
```

```
# Data type change for all columns
datatype_map = {
    'show_id' : 'str',
    'OTT Platform' : 'category',
    'type' : 'category',
    'title' : 'str',
    'director' : 'category',
    'cast' : 'category',
    'country' : 'category',
    'rating' : 'category',
    'duration_min' : 'int',
    'date_added' : 'datetime64',
    'listed_in' : 'category',
    'description' : 'str'
}
# apply mapped category
df = df.astype(datatype_map,errors='ignore')
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 6151 entries, 0 to 6150
Data columns (total 13 columns):
 #   Column        Non-Null Count  Dtype 
---  ------        --------------  ----- 
 0   show_id       6151 non-null   object
 1   OTT Platform  6151 non-null   category
```

```
 2   type          6151 non-null   category
 3   title         6151 non-null   object
 4   director      6151 non-null   category
 5   cast          6151 non-null   category
 6   country       6151 non-null   category
 7   date_added    6151 non-null   object
 8   release_year  6151 non-null   int64
 9   rating        6151 non-null   category
 10  listed_in     6151 non-null   category
 11  description   6151 non-null   object
 12  duration_min  6151 non-null   int32
dtypes: category(7), int32(1), int64(1), object(4)
memory usage: 711.8+ KB
```

```
df.head()
```

```
  show_id OTT Platform   type
title  \
0   S0002       Amazon  Movie                    Take Care Good Night

1   S9671       Disney  Movie            Ice Age: A Mammoth Christmas

2   S9674       Disney  Movie                       Becoming Cousteau

3   S9678       Disney  Movie  A Muppets Christmas: Letters To Santa

4   S9681       Disney  Movie                          The Pixar Story


           director                                                cast
\
0      Girish Joshi   Mahesh Manjrekar, Abhay Mahajan, Sachin Khedekar

1      Karen Disher  Raymond Albert Romano, John Leguizamo, Denis L...

2        Liz Garbus              Jacques Yves Cousteau, Vincent Cassel

3  Kirk R. Thatcher  Steve Whitmire, Dave Goelz, Bill Barretta, Eri...

4     Leslie Iwerks  Stacy Keach, John Lasseter, Brad Bird, John Mu...


         country         date_added  release_year rating  \
0          India     March 30, 2021          2018    13+
1  United States  November 26, 2021          2011   TV-G
2  United States  November 24, 2021          2021  PG-13
3  United States  November 19, 2021          2008      G
4  United States  November 19, 2021          2007      G

                    listed_in  \
0       Drama, International
```

```
1  Animation, Comedy, Family
2  Biographical, Documentary
3    Comedy, Family, Musical
4        Documentary, Family
```

```
                                          description  duration_min
0  A Metro Family decides to fight a Cyber Crimin...           110
1         Sid the Sloth is on Santa's naughty list.            23
2  An inside look at the legendary life of advent...            94
3  Celebrate the holiday season with all your fav...            45
4  A groundbreaking company forever changes the f...            91
```

```
ratings=df['rating'].unique()
ratings
```

```
['13+', 'TV-G', 'PG-13', 'G', 'PG', ..., 'TV-MA', 'R', 'NC-17', 'NR',
'UR']
Length: 15
Categories (15, object): ['13+', 'G', 'NC-17', 'NR', ..., 'TV-Y', 'TV-
Y7', 'TV-Y7-FV', 'UR']
```

```
ratings_order = ['TV-Y', 'TV-Y7', 'TV-Y7-FV', 'G', 'PG', 'TV-G', 'TV-
PG', 'PG-13', 'TV-14', 'R', 'NC-17', 'NR', 'UR', 'TV-MA','13+']

# Reorder the 'rating' column
# df['rating'] = pd.Categorical(df['rating'],
categories=ratings_order, ordered=True)
df['rating'].value_counts()
```

```
rating
TV-MA       1822
TV-14       1226
R            778
PG-13        536
TV-PG        535
PG           498
G            271
TV-G         241
TV-Y7         97
TV-Y          77
NR            58
TV-Y7-FV       6
UR             3
NC-17          2
13+            1
Name: count, dtype: int64
```

```
# Generating new features : `delay_in_release` In years (int) we can
take the difference between `date_added` and `released_date`
df['delay_in_release'] = df['date_added'].dt.year - df['release_year']
df.head()
```

```
  show_id OTT Platform   type
title  \
0   S0002       Amazon  Movie                    Take Care Good Night

1   S9671       Disney  Movie           Ice Age: A Mammoth Christmas

2   S9674       Disney  Movie                       Becoming Cousteau

3   S9678       Disney  Movie  A Muppets Christmas: Letters To Santa

4   S9681       Disney  Movie                          The Pixar Story


           director                                                cast
\
0      Girish Joshi   Mahesh Manjrekar, Abhay Mahajan, Sachin Khedekar

1      Karen Disher  Raymond Albert Romano, John Leguizamo, Denis L...

2        Liz Garbus              Jacques Yves Cousteau, Vincent Cassel

3  Kirk R. Thatcher  Steve Whitmire, Dave Goelz, Bill Barretta, Eri...

4     Leslie Iwerks  Stacy Keach, John Lasseter, Brad Bird, John Mu...


         country date_added  release_year rating
listed_in  \
0          India 2021-03-30          2018    13+       Drama,
International
1  United States 2021-11-26          2011   TV-G  Animation, Comedy,
Family
2  United States 2021-11-24          2021  PG-13  Biographical,
Documentary
3  United States 2021-11-19          2008      G    Comedy, Family,
Musical
4  United States 2021-11-19          2007      G        Documentary,
Family

                                        description  duration_min  \
0  A Metro Family decides to fight a Cyber Crimin...           110
1          Sid the Sloth is on Santa's naughty list.            23
2  An inside look at the legendary life of advent...            94
3  Celebrate the holiday season with all your fav...            45
4  A groundbreaking company forever changes the f...            91

   delay_in_release
0               3.0
1              10.0
2               0.0
```

```
3               13.0
4               14.0
```

```
director_counts = df['director'].str.split(',
').explode().value_counts().head()
# Print the most prolific directors
print("Most Prolific Directors:")
print(director_counts)
```

```
Most Prolific Directors:
director
Jan Suter       21
Raúl Campos     19
Jay Karas       16
Paul Hoen       16
Marcus Raboy    15
Name: count, dtype: int64
```

```
director_counts.index
```

```
Index(['Jan Suter', 'Raúl Campos', 'Jay Karas', 'Paul Hoen', 'Marcus
Raboy'], dtype='object', name='director')
```

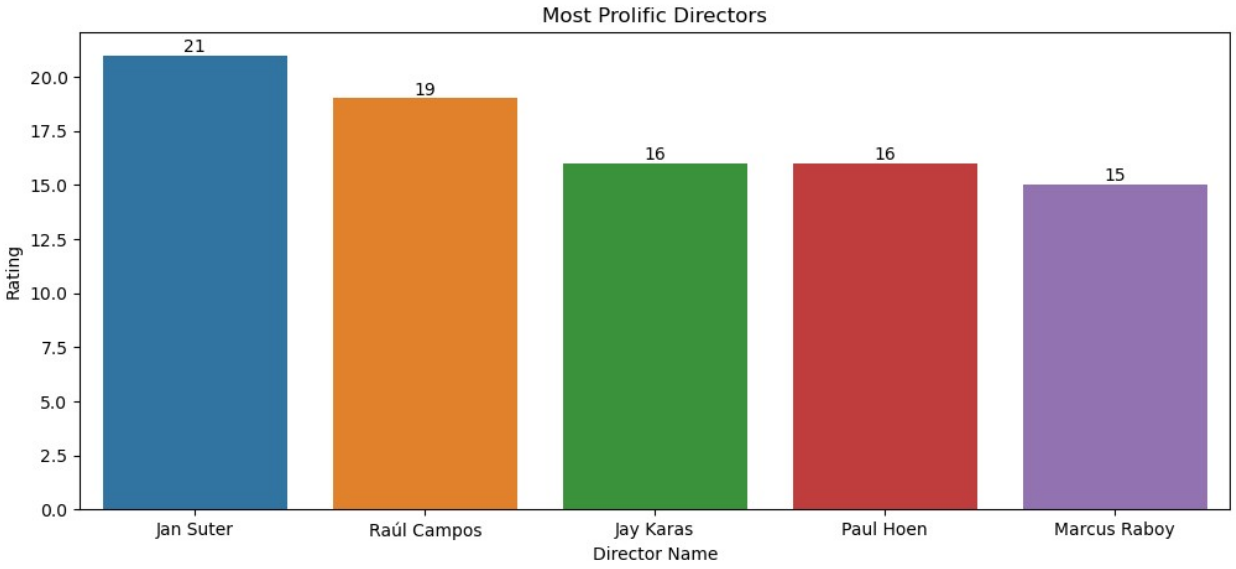
```
director_counts.values
```

```
array([21, 19, 16, 16, 15], dtype=int64)
```

```
# Converting series to DataFrame
data={
    'Director Name': director_counts.index,
    'Rating' : director_counts.values
}
director_df=pd.DataFrame(data)
director_df
```

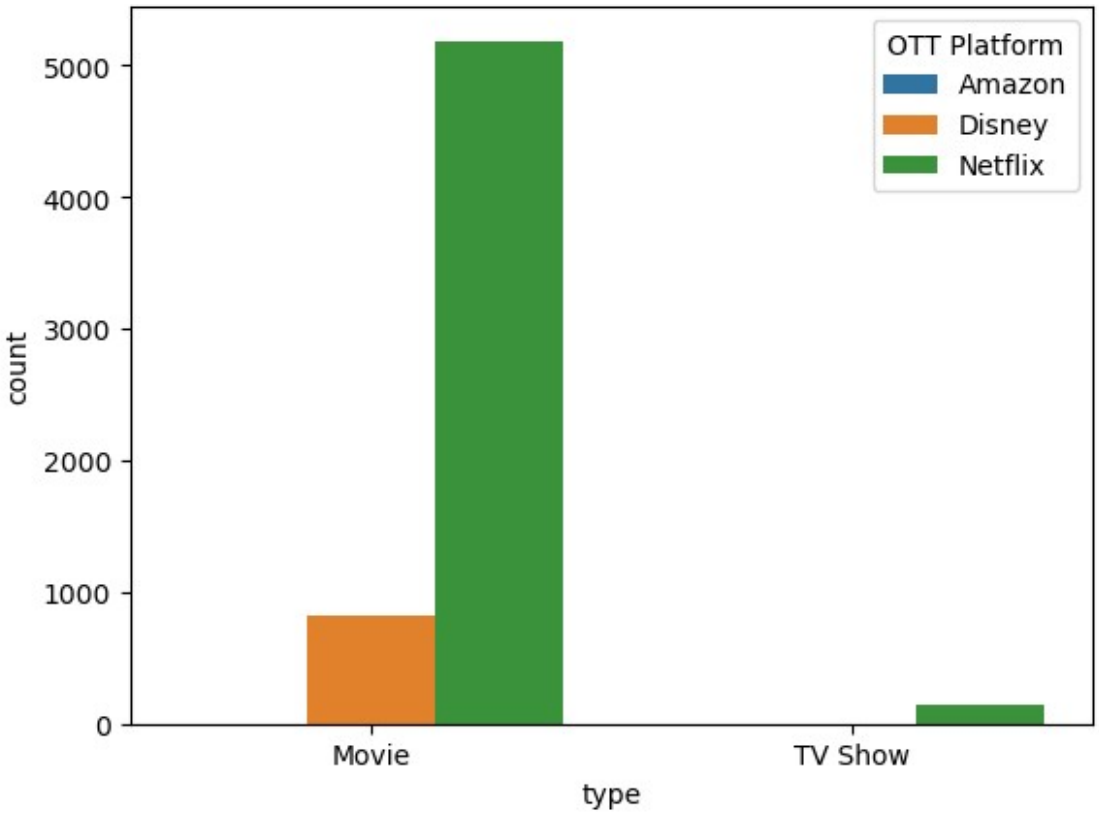
```
  Director Name  Rating
0     Jan Suter      21
1   Raúl Campos      19
2     Jay Karas      16
3     Paul Hoen      16
4  Marcus Raboy      15
```

```
plt.figure(figsize=(12,5))
plt.title('Most Prolific Directors')
chart=sns.barplot(x='Director Name',y='Rating',data=director_df)
for v in chart.containers: chart.bar_label(v)
```




```
sns.countplot(x='type',data=df,hue='OTT Platform')
```

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

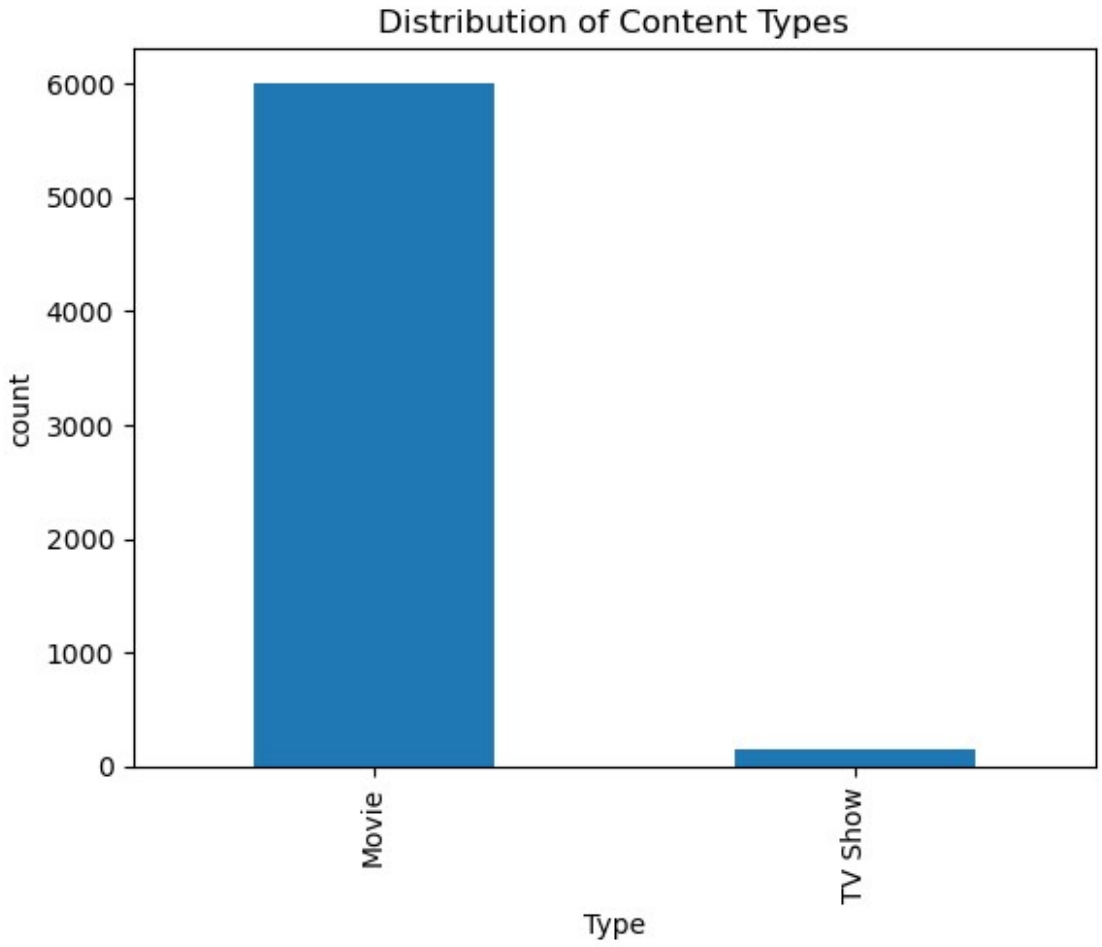


Distribution of content types(Movies vs TV Shows)

In this we specify that how many entries are of movies and TV Shows

```
distribution= df['type'].value_counts()
distribution.plot(kind='bar',title='Distribution of Content Types',
xlabel='Type' , ylabel='count')
```

```
<Axes: title={'center': 'Distribution of Content Types'},
xlabel='Type', ylabel='count'>
```

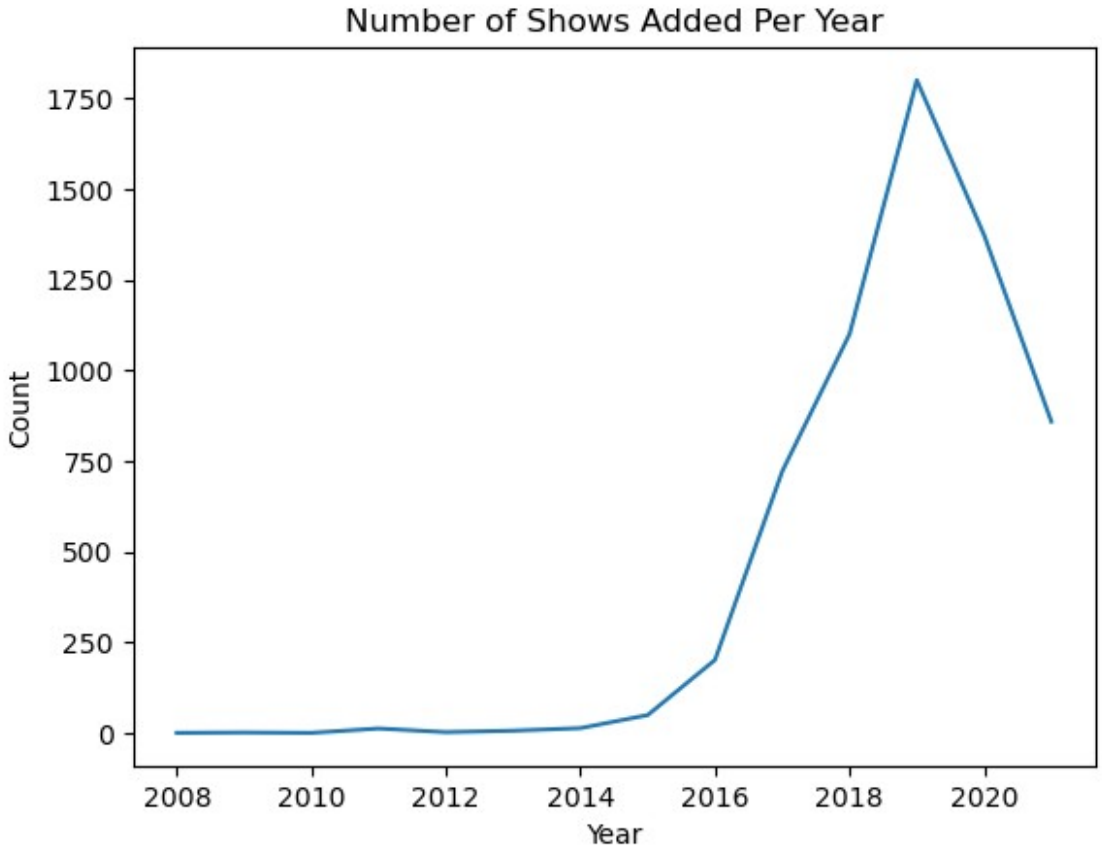


Number of Shows Added Per year

```
df['date_added'] = pd.to_datetime(df['date_added'], format='%B %d,
%Y', errors='coerce')
shows_per_year=df['date_added'].dt.year.value_counts().sort_index()
```

```
shows_per_year.plot(kind='line', title='Number of Shows Added Per
Year', xlabel= 'Year' , ylabel= 'Count')
```

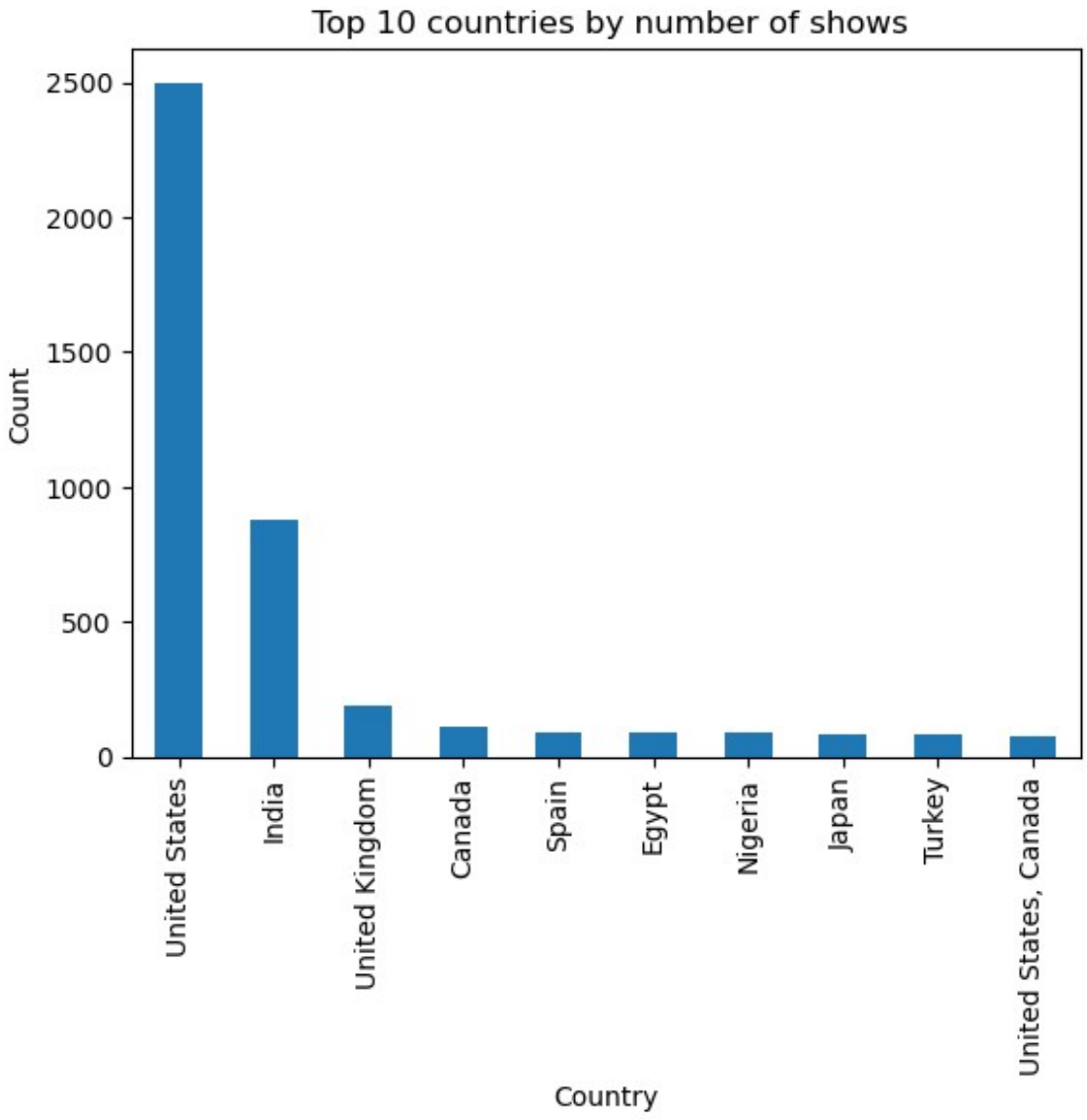
```
<Axes: title={'center': 'Number of Shows Added Per Year'},
xlabel='Year', ylabel='Count'>
```



Top 10 countries by number of shows

```
top_countries=df['country'].value_counts().head(10)
#value_counts().head(10): Counts the unique values in the 'country'
column and selects the top 10.
top_countries.plot(kind='bar', title=' Top 10 countries by number of
shows', xlabel= 'Country',ylabel='Count')
```

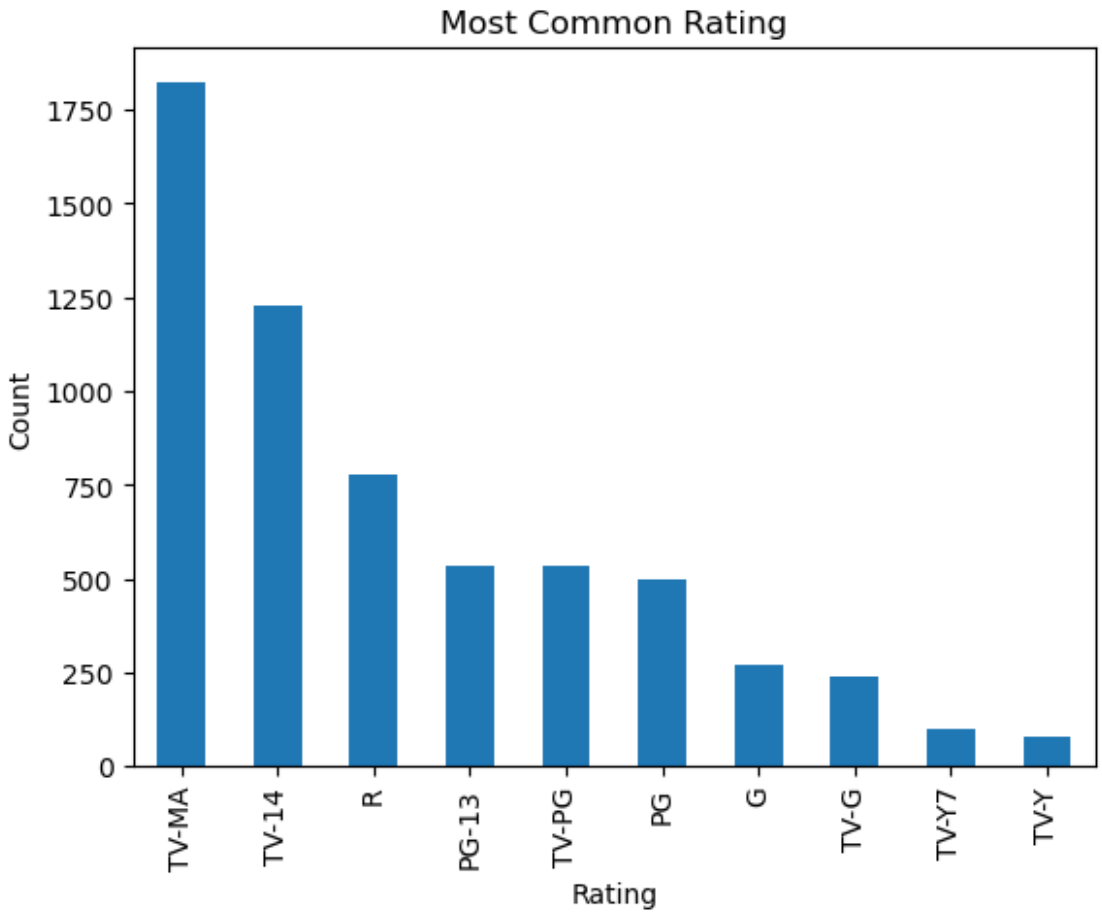
```
<Axes: title={'center': ' Top 10 countries by number of shows'},
xlabel='Country', ylabel='Count'>
```



Most common content ratings

```
count_ratings= df['rating'].value_counts().head(10)
count_ratings.plot(kind='bar', title='Most Common
Rating',xlabel='Rating',ylabel='Count')

<Axes: title={'center': 'Most Common Rating'}, xlabel='Rating',
ylabel='Count'>
```



Average duration of movies and TV shows

Extract numerical duration for movies

df['duration_minutes'] = df['duration'].apply(lambda x: int(x.split()[0]) if 'min' in x else 0)
average_duration = df.groupby('type')['duration_minutes'].mean()
average_duration.plot(kind='bar', title='Average Duration of Movies and TV Shows',
xlabel='Type', ylabel='Average Duration (minutes)')

print("Columns in dataframe:", df.columns)

Display the first few rows to inspect the data

print("First few rows of the dataframe:") print(df.head())

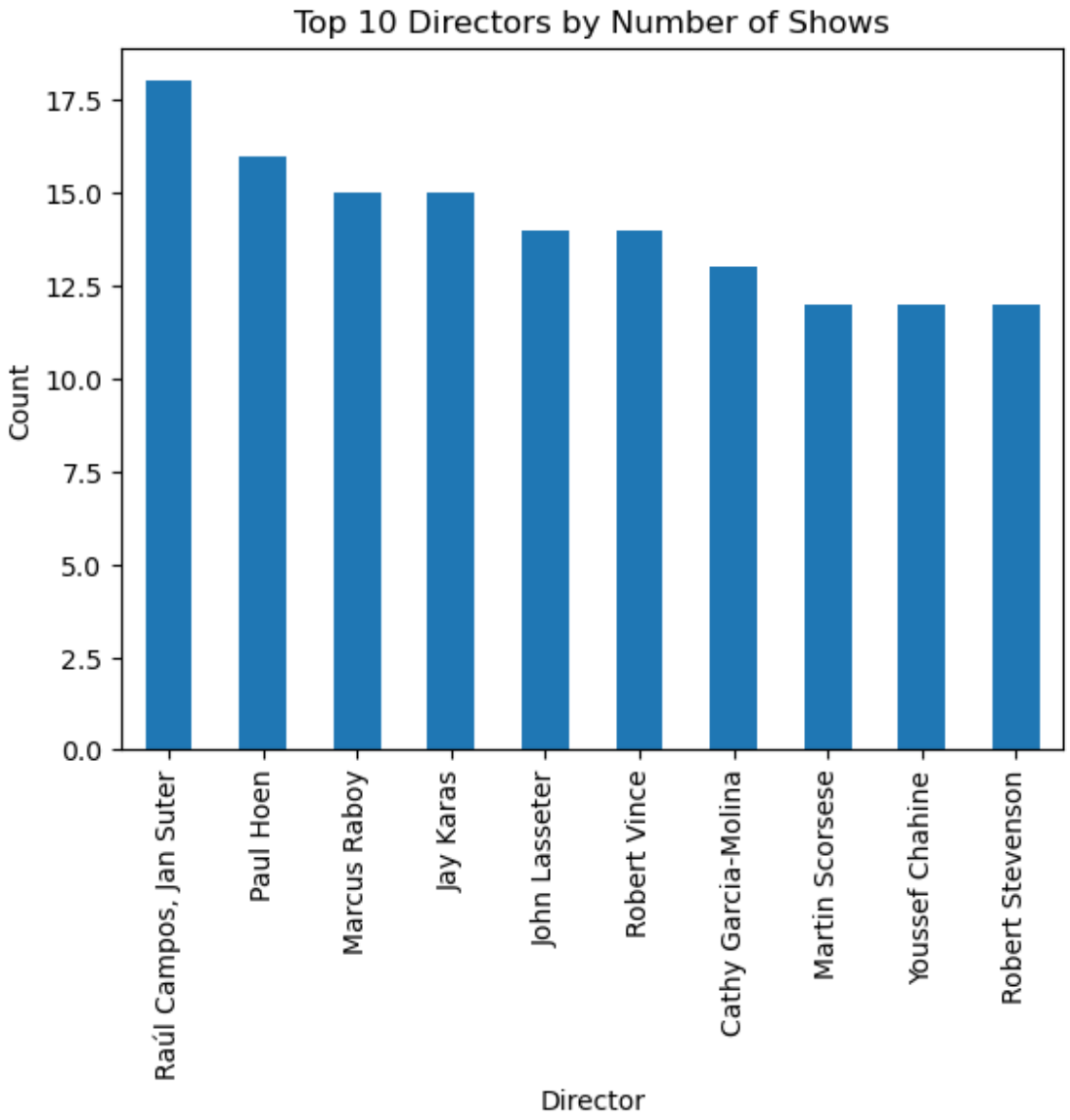
Check if 'duration' column exists

if 'duration' in df.columns: # Extract numerical duration for movies df['duration_minutes'] = df['duration'].apply(lambda x: int(x.split()[0]) if 'min' in x else 0) average_duration = df.groupby('type')['duration_minutes'].mean() average_duration.plot(kind='bar', title='Average Duration of Movies and TV Shows', xlabel='Type', ylabel='Average Duration (minutes)')

Top 10 directors by number of shows

```
top_directors = df['director'].value_counts().head(10)
top_directors.plot(kind='bar', title='Top 10 Directors by Number of Shows', xlabel='Director', ylabel='Count')
```

```
<Axes: title={'center': 'Top 10 Directors by Number of Shows'}, xlabel='Director', ylabel='Count'>
```



Top 10 actors/actresses by number of shows

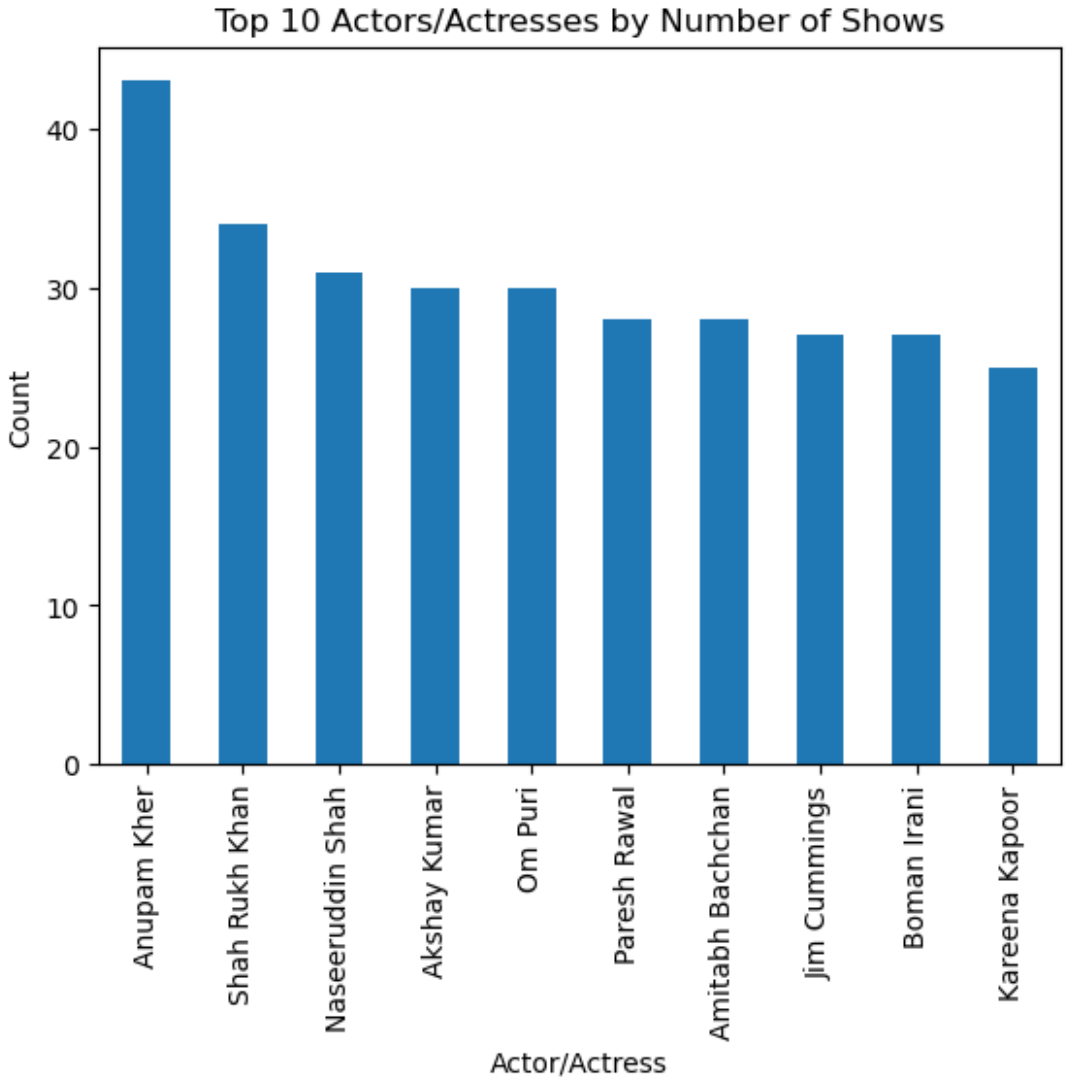
For calculating the actors/actresses we have to first split the 'cast' column into a list of actors. then we have to count the occurences of each actor by 'counter(flag_cast)

```
from collections import Counter

cast_members = df['cast'].str.split(', ')
flat_cast = [item for sublist in cast_members.dropna() for item in
sublist]
top_cast =
pd.Series(Counter(flat_cast)).sort_values(ascending=False).head(10)
```

```
top_cast.plot(kind='bar', title='Top 10 Actors/Actresses by Number of Shows', xlabel='Actor/Actress', ylabel='Count')
```

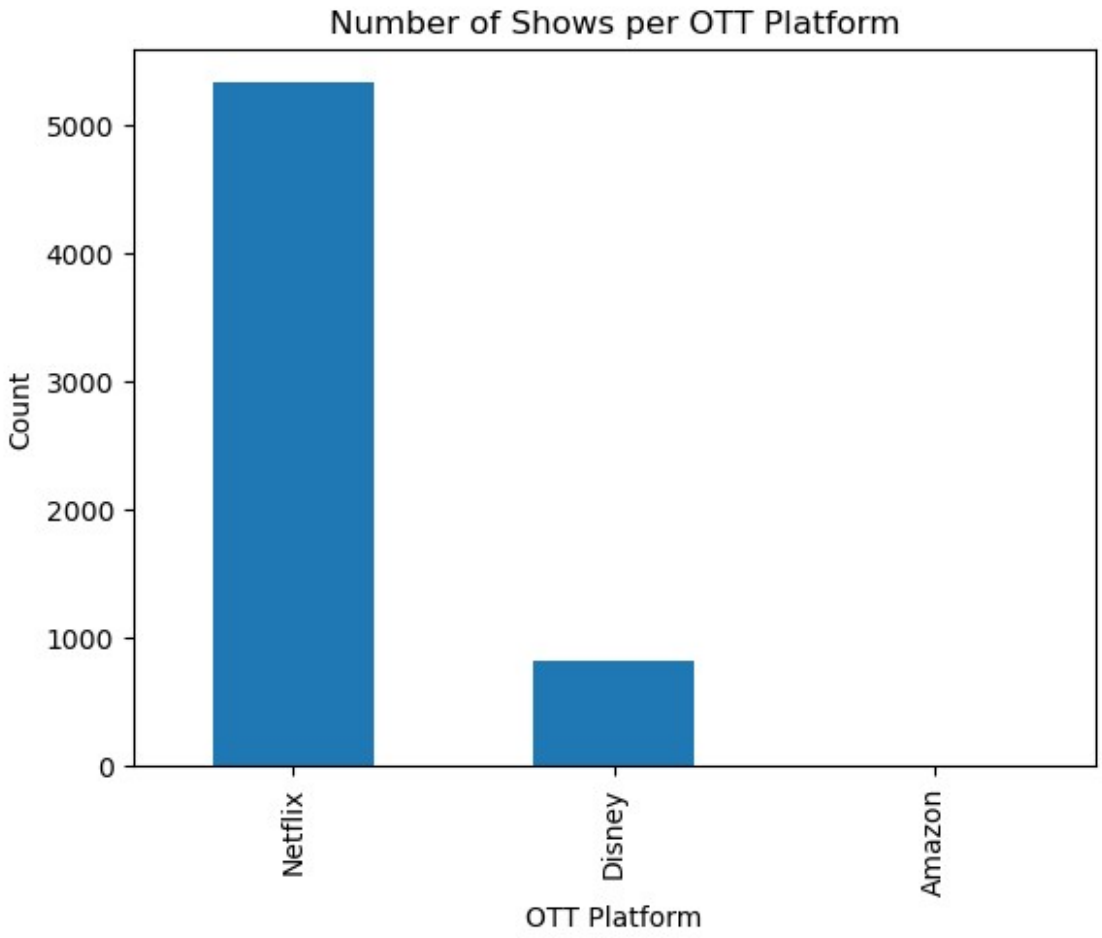
```
<Axes: title={'center': 'Top 10 Actors/Actresses by Number of Shows'}, xlabel='Actor/Actress', ylabel='Count'>
```



Number of shows per OTT platform

```
shows_per_platform = df['OTT Platform'].value_counts()
shows_per_platform.plot(kind='bar', title='Number of Shows per OTT Platform', xlabel='OTT Platform', ylabel='Count')
```

```
<Axes: title={'center': 'Number of Shows per OTT Platform'}, xlabel='OTT Platform', ylabel='Count'>
```



Distribution of genres/categories

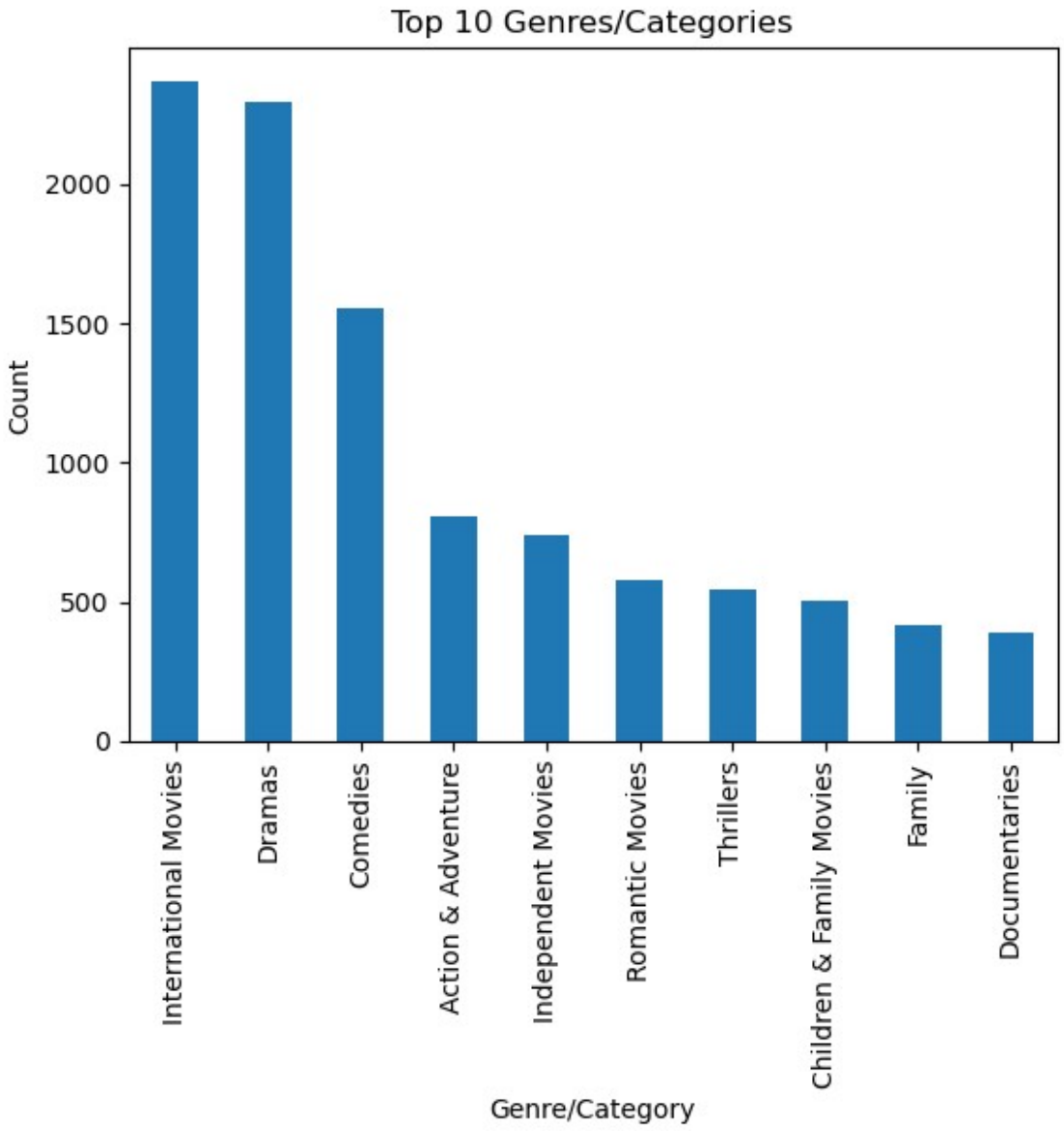
```
df['listed_in'] = df['listed_in'].astype(str).fillna('')

# Split the 'listed_in' column and explode it into separate rows
#Split and Explode: Split the 'listed_in' column on ', ' and use the
explode method to transform each list element into a separate row.
df_exploded = df.assign(listed_in=df['listed_in'].str.split(',
')).explode('listed_in')

# Get the top 10 genres/categories
category_distribution =
df_exploded['listed_in'].value_counts().head(10)

# Plot the distribution
category_distribution.plot(kind='bar', title='Top 10
Genres/Categories', xlabel='Genre/Category', ylabel='Count')
```

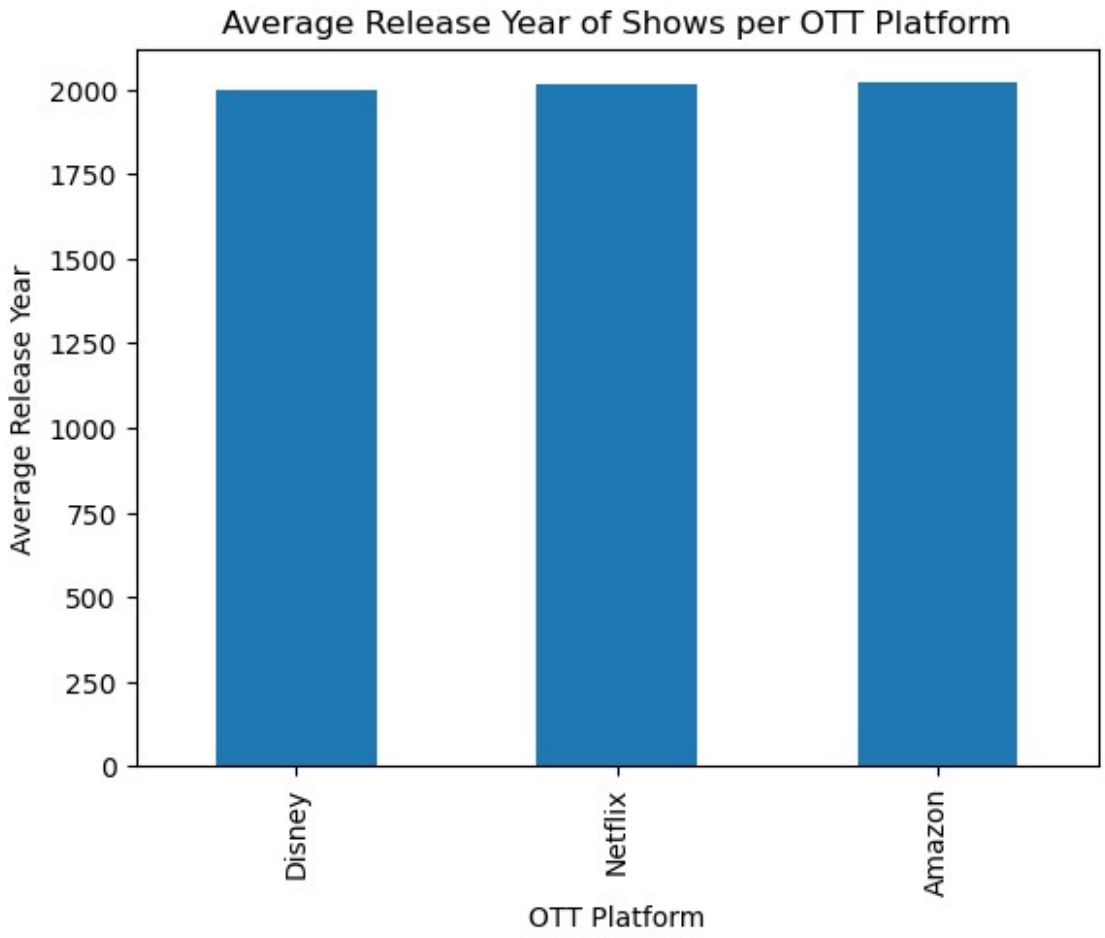
```
<Axes: title={'center': 'Top 10 Genres/Categories'},
xlabel='Genre/Category', ylabel='Count'>
```



Average release year of shows per OTT platform

```
average_release_year = df.groupby('OTT Platform')
['release_year'].mean().sort_values()
average_release_year.plot(kind='bar', title='Average Release Year of
Shows per OTT Platform', xlabel='OTT Platform', ylabel='Average
Release Year')
```

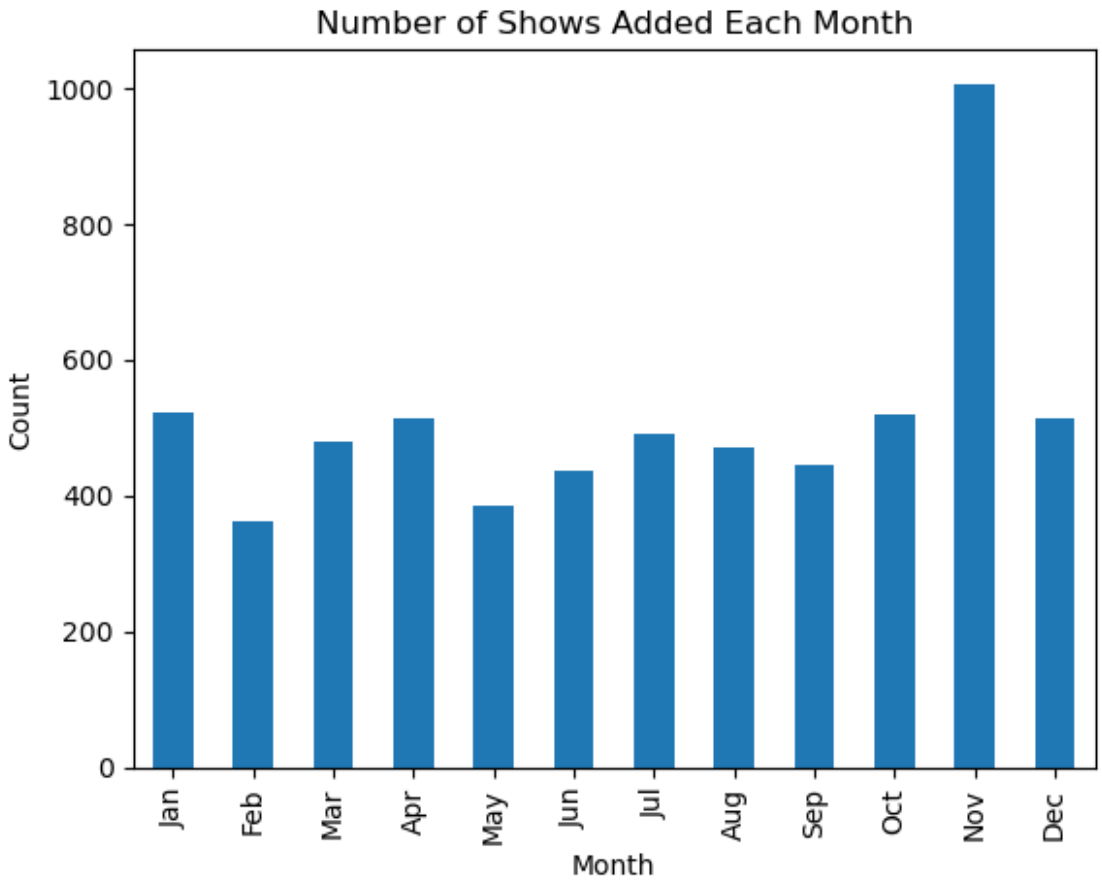
```
<Axes: title={'center': 'Average Release Year of Shows per OTT
Platform'}, xlabel='OTT Platform', ylabel='Average Release Year'>
```



Number of shows added each month

```
shows_per_month =
df['date_added'].dt.month.value_counts().sort_index()
shows_per_month.index = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun',
'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
shows_per_month.plot(kind='bar', title='Number of Shows Added Each
Month', xlabel='Month', ylabel='Count')
```

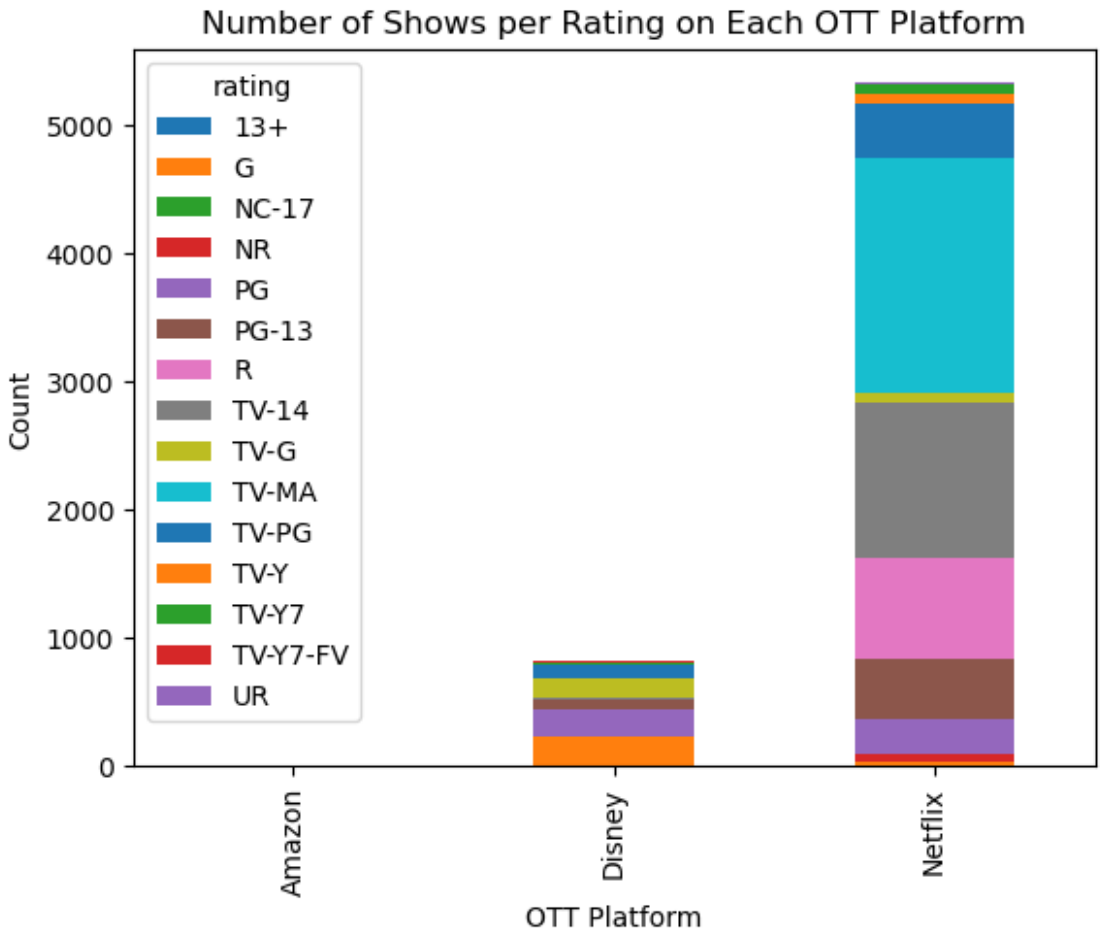
```
<Axes: title={'center': 'Number of Shows Added Each Month'},
xlabel='Month', ylabel='Count'>
```



Number of shows per rating on each OTT platform

```
platform_rating_distribution = df.groupby(['OTT Platform',
'rating']).size().unstack().fillna(0)
platform_rating_distribution.plot(kind='bar', stacked=True,
title='Number of Shows per Rating on Each OTT Platform', xlabel='OTT
Platform', ylabel='Count')
```

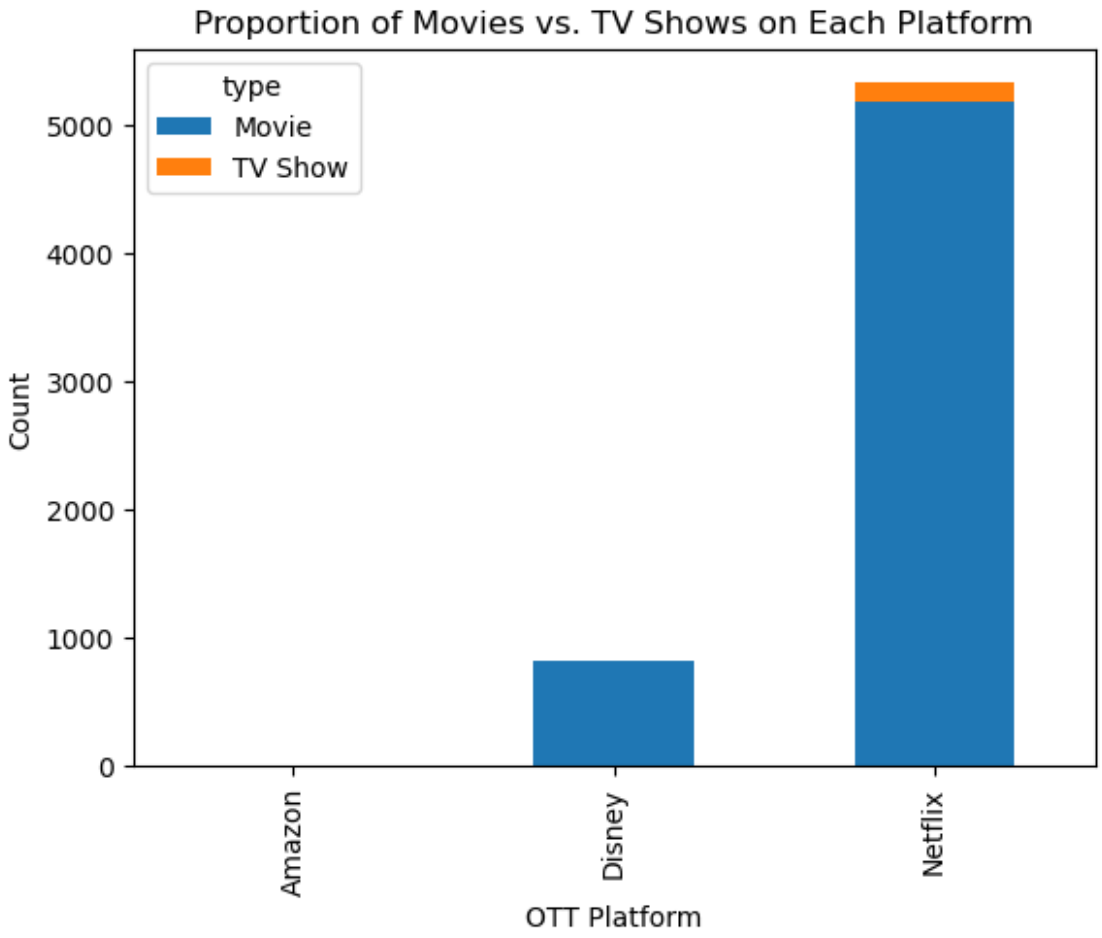
```
<Axes: title={'center': 'Number of Shows per Rating on Each OTT
Platform'}, xlabel='OTT Platform', ylabel='Count'>
```



Proportion of movies vs. TV shows on each platform

```
platform_type_distribution = df.groupby(['OTT Platform',
'type']).size().unstack().fillna(0)
platform_type_distribution.plot(kind='bar', stacked=True,
title='Proportion of Movies vs. TV Shows on Each Platform',
xlabel='OTT Platform', ylabel='Count')
```

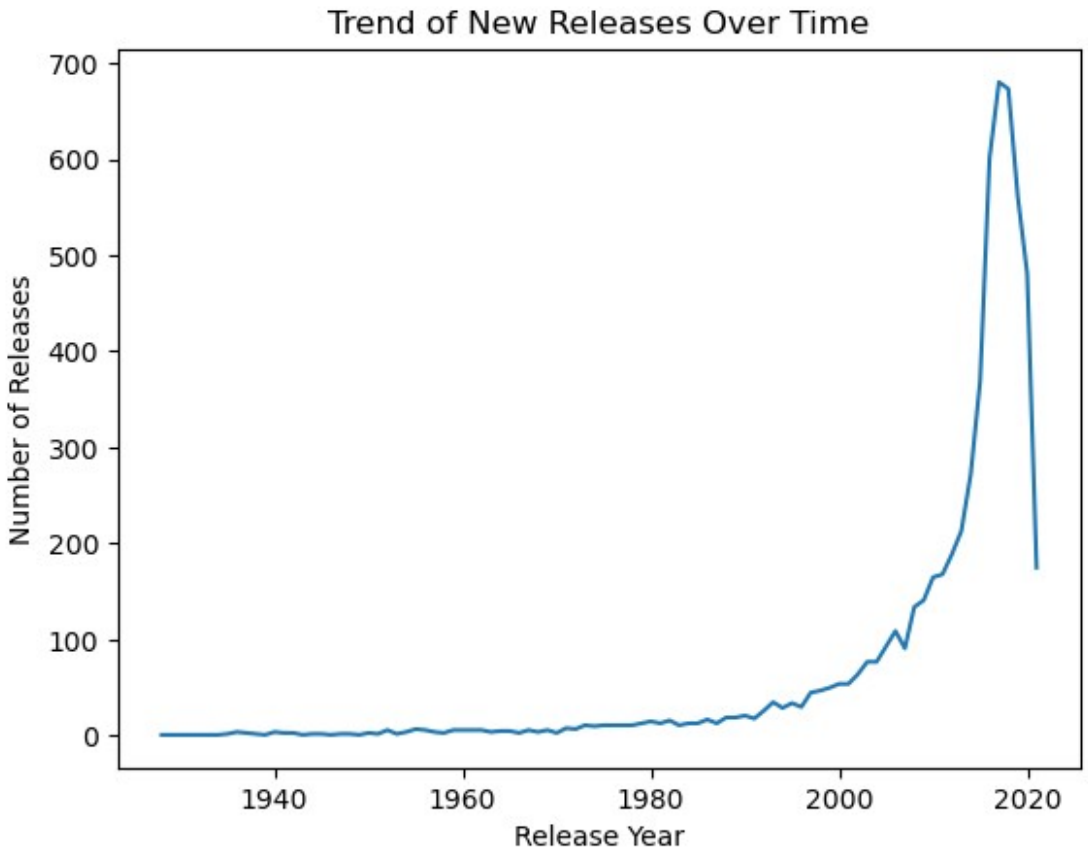
```
<Axes: title={'center': 'Proportion of Movies vs. TV Shows on Each
Platform'}, xlabel='OTT Platform', ylabel='Count'>
```



Trend of new releases over time

```
new_releases_trend = df['release_year'].value_counts().sort_index()
new_releases_trend.plot(kind='line', title='Trend of New Releases Over
Time', xlabel='Release Year', ylabel='Number of Releases')
```

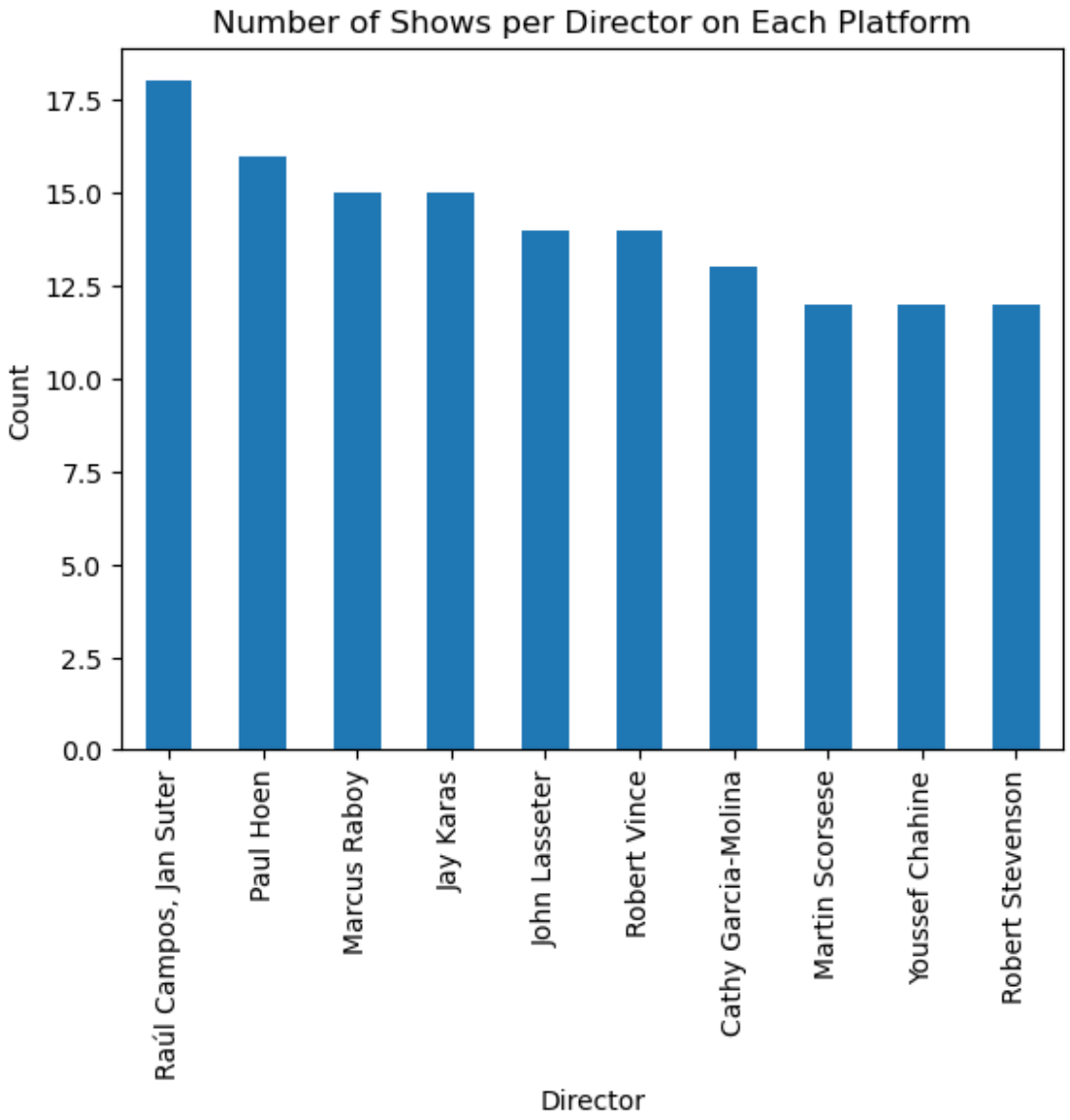
```
<Axes: title={'center': 'Trend of New Releases Over Time'},
xlabel='Release Year', ylabel='Number of Releases'>
```



Number of shows per director on each platform

```
director_platform_distribution = df.groupby(['director', 'OTT Platform']).size().unstack().fillna(0).sum(axis=1).sort_values(ascending=False).head(10)
director_platform_distribution.plot(kind='bar', title='Number of Shows per Director on Each Platform', xlabel='Director', ylabel='Count')
```

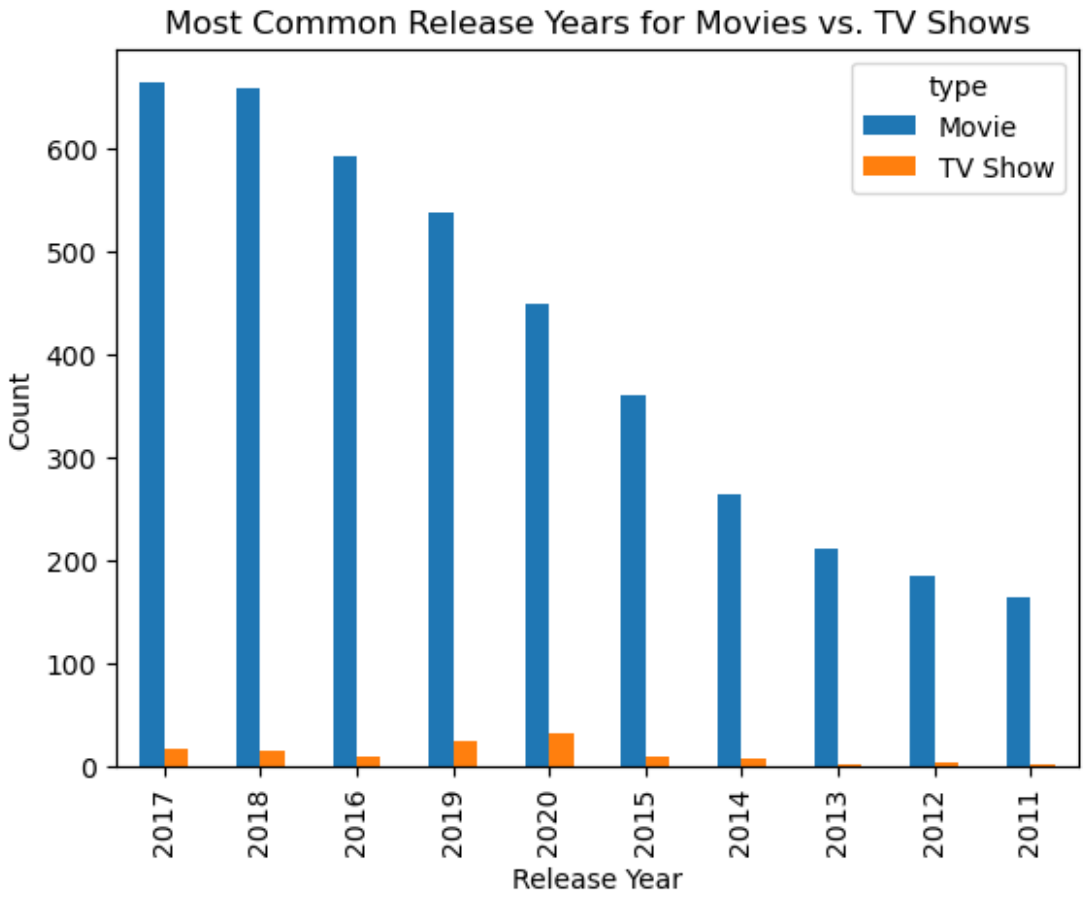
```
<Axes: title={'center': 'Number of Shows per Director on Each Platform'}, xlabel='Director', ylabel='Count'>
```



Most common release years for movies vs. TV shows

```
common_release_years = df.groupby(['release_year',
'type']).size().unstack().fillna(0).sort_values(by='Movie',
ascending=False).head(10)
common_release_years.plot(kind='bar', title='Most Common Release Years
for Movies vs. TV Shows', xlabel='Release Year', ylabel='Count')
```

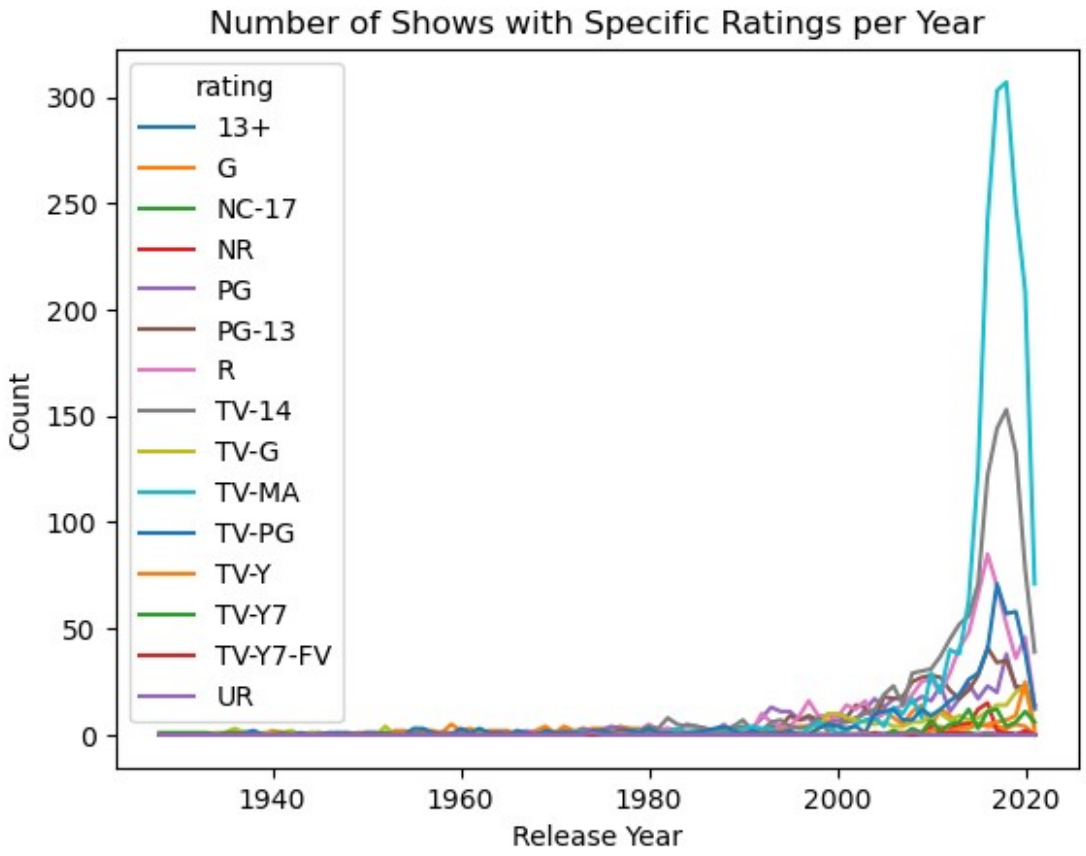
```
<Axes: title={'center': 'Most Common Release Years for Movies vs. TV
Shows'}, xlabel='Release Year', ylabel='Count'>
```



Number of shows with specific ratings per year

```
ratings_per_year = df.groupby(['release_year',
'rating']).size().unstack().fillna(0)
ratings_per_year.plot(kind='line', title='Number of Shows with
Specific Ratings per Year', xlabel='Release Year', ylabel='Count')
```

```
<Axes: title={'center': 'Number of Shows with Specific Ratings per
Year'}, xlabel='Release Year', ylabel='Count'>
```



Average rating of shows per year

```
print(df['rating'].unique())
```

```
['13+', 'TV-G', 'PG-13', 'G', 'PG', ..., 'TV-MA', 'R', 'NC-17', 'NR',
'UR']
Length: 15
Categories (15, object): ['13+', 'G', 'NC-17', 'NR', ..., 'TV-Y', 'TV-
Y7', 'TV-Y7-FV', 'UR']
```

```
import pandas as pd
import matplotlib.pyplot as plt


# Define a mapping for the ratings (example mapping)
rating_map = {
    'G': 1,
    'TV-G': 1,
    'PG': 2,
    'TV-PG': 2,
    'PG-13': 3,
    'TV-14': 3,
```

```
    'R': 4,
    'TV-MA': 4,
    'NC-17': 5,
    'NR'  : 0,
    'UR' : 0,

}

# Convert 'rating' using the mapping
df['numeric_rating'] = df['rating'].map(rating_map)

# Drop rows with NaN values in 'numeric_rating' or 'release_year'
df_clean = df.dropna(subset=['numeric_rating', 'release_year'])

# Calculate the average rating per year manually
average_rating_per_year = df_clean.groupby('release_year')
['numeric_rating'].mean().reset_index()

# Plot the results using matplotlib
plt.figure(figsize=(12, 6))
plt.plot(average_rating_per_year['release_year'],
average_rating_per_year['numeric_rating'], marker='o')
plt.title('Average Rating of Shows per Year')
plt.xlabel('Release Year')
plt.ylabel('Average Rating')
plt.grid(True)
plt.show()
```