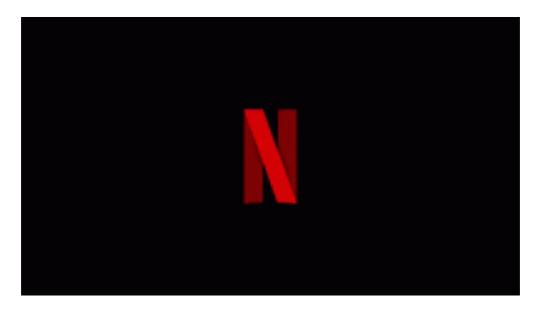
Business Case: Netflix_Project



```
In []: import numpy as np
   import pandas as pd
   import matplotlib.pyplot as plt
   import seaborn as sns

In []: !gdown https://d2beiqkhq929f0.cloudfront.net/public_assets/assets/000/000/940/origi
   Downloading...
   From: https://d2beiqkhq929f0.cloudfront.net/public_assets/assets/000/000/940/origi
   nal/netflix.csv
   To: /content/netflix.csv
   100% 3.40M/3.40M [00:00<00:00, 129MB/s]

In []: df = pd.read_csv('/content/netflix.csv')
   df.head(10)</pre>
```

ut[]:	S	show_id	type	title	director	cast	country	date_added	release_year	rating
	0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13
	1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban	South Africa	September 24, 2021	2021	TV- MA
	2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi	NaN	September 24, 2021	2021	TV- MA
	3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV- MA
	4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K	India	September 24, 2021	2021	TV- MA
	5	s6	TV Show	Midnight Mass	Mike Flanagan	Kate Siegel, Zach Gilford, Hamish Linklater, H	NaN	September 24, 2021	2021	TV- MA
	6	s7	Movie	My Little Pony: A New Generation	Robert Cullen, José Luis Ucha	Vanessa Hudgens, Kimiko Glenn, James Marsden,	NaN	September 24, 2021	2021	PG
	7	s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D	United States, Ghana, Burkina Faso, United Kin	September 24, 2021	1993	TV- MA
	8	s9	TV Show	The Great British Baking Show	Andy Devonshire	Mel Giedroyc, Sue Perkins, Mary Berry, Paul Ho	United Kingdom	September 24, 2021	2021	TV-14
	9	s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy,	United States	September 24, 2021	2021	PG-13

cast

country date added release year rating

title

director

show id

type

```
Chris
                                                  O'Dowd,
                                                Kevin Kline,
                                                       T...
         df.shape
In [ ]:
         (8807, 12)
Out[ ]:
         df.columns
In [ ]:
         Index(['show_id', 'type', 'title', 'director', 'cast', 'country', 'date_added',
Out[ ]:
                'release_year', 'rating', 'duration', 'listed_in', 'description'],
               dtype='object')
         df.dtypes
In [ ]:
                         object
         show_id
Out[]:
         type
                         object
         title
                         object
         director
                         object
         cast
                         object
         country
                         object
         date_added
                         object
         release_year
                          int64
         rating
                         object
         duration
                         object
         listed in
                         object
         description
                         object
         dtype: object
In [ ]: # Converting categorical attributes to 'category' data type if necessary.
         for column in df.columns:
             if df[column].dtype == 'object':
                 unique_values_count = len(df[column].unique())
                 total_values_count = len(df[column])
                 if unique_values_count / total_values_count < 0.5:</pre>
                     df[column] = df[column].astype('category')
         df.dtypes
         show_id
                           object
Out[ ]:
         type
                         category
         title
                           object
         director
                           object
         cast
                           object
         country
                         category
         date_added
                         category
         release year
                             int64
         rating
                         category
         duration
                         category
         listed_in
                         category
         description
                           object
         day_added
                         category
        year_added
                         category
         month_added
                         category
         dtype: object
         df["date_added"] = pd.to_datetime(df['date_added'])
         df['day_added'] = df['date_added'].dt.day
         df['year_added'] = df['date_added'].dt.year
```

df['month_added']=df['date_added'].dt.month
df.head(10)

						- 17	,			
]:		show_id	type	title	director	cast	country	date_added	release_year	rating
	0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	2021-09-25	2020	PG-13
	1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban	South Africa	2021-09-24	2021	TV- MA
	2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi	NaN	2021-09-24	2021	TV- MA
	3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	2021-09-24	2021	TV- MA
	4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K	India	2021-09-24	2021	TV- MA
	5	s6	TV Show	Midnight Mass	Mike Flanagan	Kate Siegel, Zach Gilford, Hamish Linklater, H	NaN	2021-09-24	2021	TV- MA
	6	s7	Movie	My Little Pony: A New Generation	Robert Cullen, José Luis Ucha	Vanessa Hudgens, Kimiko Glenn, James Marsden,	NaN	2021-09-24	2021	PG
	7	s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmike Ogunlano, Alexandra D	United States, Ghana, Burkina Faso, United Kin	2021-09-24	1993	TV- MA
	8	s9	TV Show	The Great British Baking Show	Andy Devonshire	Mel Giedroyc, Sue Perkins, Mary Berry, Paul Ho	United Kingdom	2021-09-24	2021	TV-14
	9	s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy,	United States	2021-09-24	2021	PG-13
						•				

cast

country date added release year rating

title

director

show id

type

```
Chris
                                                  O'Dowd,
                                                Kevin Kline,
                                                      T...
In [ ]:
         df.dtypes
         show_id
                           object
Out[ ]:
         type
                         category
         title
                           object
         director
                           object
         cast
                           object
         country
                         category
         date_added
                         category
         release_year
                            int64
         rating
                         category
         duration
                         category
         listed_in
                         category
         description
                           object
         day_added
                         category
                         category
         year added
         month_added
                         category
         dtype: object
In [ ]: df.isnull().sum()
                            0
        show_id
Out[]:
         type
                            0
         title
                            0
         director
                         2634
         cast
                          825
         country
                          831
         date_added
                           10
         release_year
                            0
         rating
                            4
         duration
                            3
         listed in
                            0
                            0
         description
         dtype: int64
         df.director.fillna("Not available",inplace=True)
In [ ]:
         df.cast.fillna("Not available",inplace=True)
         df.country.fillna("Not available",inplace=True)
         df.date_added.fillna("Not available",inplace=True)
         df.rating.fillna("Not available",inplace=True)
         df.duration.fillna("Not available",inplace=True)
         df.day_added.fillna("Not available",inplace=True)
         df.month_added.fillna("Not available",inplace=True)
         df.year_added.fillna("Not available",inplace=True)
         df.isnull().sum()
```

```
0
         show_id
Out[]:
                          0
         type
         title
                          0
         director
                          0
         cast
                          0
         country
                          0
         date_added
                          0
         release_year
                          0
         rating
                          0
         duration
                          0
         listed_in
                          0
         description
                          0
         day_added
                          0
                          0
         year_added
         month_added
                          0
         dtype: int64
         df.isnull().sum()
In [ ]:
         show_id
                          0
Out[]:
         type
                          0
         title
                          0
         director
                          0
         cast
                          0
         country
                          0
         date_added
                          0
         release_year
                          0
         rating
                          0
         duration
                          0
         listed_in
                          0
         description
                          0
         day_added
                          0
         year_added
                          0
         month_added
                          0
         dtype: int64
In [ ]: # Generate statistical summary for numerical attributes
         df.describe()
Out[]:
                release_year
               8807.000000
         count
         mean
                2014.180198
           std
                   8.819312
                1925.000000
           min
                2013.000000
          25%
          50%
                2017.000000
          75%
                2019.000000
          max 2021.000000
         df.type.value_counts()
In [ ]:
         Movie
                    6131
Out[]:
         TV Show
                     2676
         Name: type, dtype: int64
         df.nunique()
In [ ]:
```

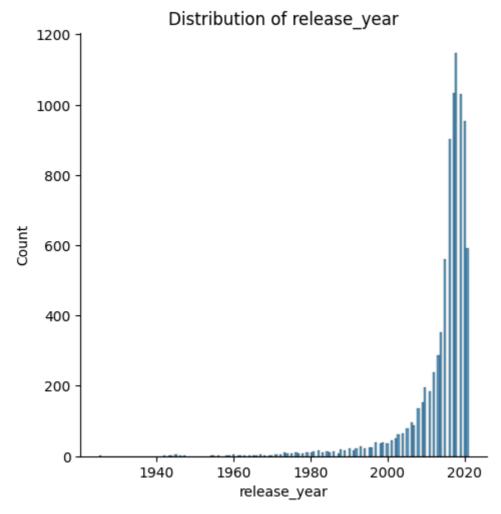
```
8807
        show_id
Out[ ]:
        type
                            2
        title
                         8807
        director
                         4528
        cast
                         7692
        country
                          748
        date_added
                         1767
        release_year
                           74
                          17
        rating
        duration
                          220
        listed_in
                          514
        description
                         8775
        dtype: int64
In [ ]: df.cast.value_counts()
        David Attenborough
Out[]:
        Vatsal Dubey, Julie Tejwani, Rupa Bhimani, Jigna Bhardwaj, Rajesh Kava, Mousam, Sw
        apnil
        14
        Samuel West
        10
        Jeff Dunham
        David Spade, London Hughes, Fortune Feimster
        Michael Peña, Diego Luna, Tenoch Huerta, Joaquin Cosio, José María Yazpik, Matt Le
        tscher, Alyssa Diaz
        Nick Lachey, Vanessa Lachey
        Takeru Sato, Kasumi Arimura, Haru, Kentaro Sakaguchi, Takayuki Yamada, Kendo Kobay
        ashi, Ken Yasuda, Arata Furuta, Suzuki Matsuo, Koichi Yamadera, Arata Iura, Chikak
        o Kaku, Kotaro Yoshida
        Toyin Abraham, Sambasa Nzeribe, Chioma Chukwuka Akpotha, Chioma Omeruah, Chiwetalu
        Agu, Dele Odule, Femi Adebayo, Bayray McNwizu, Biodun Stephen
        Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanana, Manish Chaudhary, Meghna Malik, M
        alkeet Rauni, Anita Shabdish, Chittaranjan Tripathy
        Name: cast, Length: 7692, dtype: int64
        unique_actors = df['cast'].str.split(', ').explode().unique()
In [ ]:
         unique actors
        array([nan, 'Ama Qamata', 'Khosi Ngema', ..., 'Malkeet Rauni',
Out[ ]:
                'Anita Shabdish', 'Chittaranjan Tripathy'], dtype=object)
        actor_counts = df['cast'].str.split(', ').explode().value_counts()
In [ ]:
         actor_counts
```

```
Anupam Kher
                                    43
Out[ ]:
        Shah Rukh Khan
                                    35
        Julie Tejwani
                                    33
        Naseeruddin Shah
                                    32
        Takahiro Sakurai
                                    32
                                    . .
        Maryam Zaree
                                     1
        Melanie Straub
                                     1
        Gabriela Maria Schmeide
        Helena Zengel
                                     1
        Chittaranjan Tripathy
                                     1
        Name: cast, Length: 36439, dtype: int64
In [ ]: df.director.value_counts()
        Rajiv Chilaka
                                           19
Out[ ]:
        Raúl Campos, Jan Suter
                                           18
        Marcus Raboy
                                           16
        Suhas Kadav
                                           16
        Jay Karas
                                           14
        Raymie Muzquiz, Stu Livingston
                                            1
        Joe Menendez
                                            1
        Eric Bross
                                             1
        Will Eisenberg
        Mozez Singh
        Name: director, Length: 4528, dtype: int64
In [ ]: unique_directors = df['director'].str.split(', ').explode().unique()
         unique_directors
        array(['Kirsten Johnson', nan, 'Julien Leclercq', ..., 'Majid Al Ansari',
Out[ ]:
                'Peter Hewitt', 'Mozez Singh'], dtype=object)
         director_counts = df['director'].str.split(', ').explode().value_counts()
In [ ]:
         director_counts
                           22
        Rajiv Chilaka
Out[ ]:
        Jan Suter
                           21
        Raúl Campos
                           19
        Suhas Kadav
                           16
        Marcus Raboy
                           16
                           . .
        Raymie Muzquiz
                            1
        Stu Livingston
                            1
        Joe Menendez
                            1
        Eric Bross
                            1
                            1
        Mozez Singh
        Name: director, Length: 4993, dtype: int64
In [ ]: unique_countries = df['country'].str.split(', ').explode().unique()
         unique countries
```

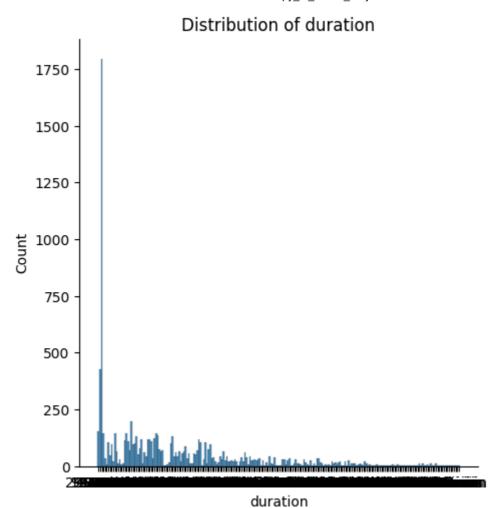
```
array(['United States', 'South Africa', nan, 'India', 'Ghana',
Out[ ]:
                'Burkina Faso', 'United Kingdom', 'Germany', 'Ethiopia',
                'Czech Republic', 'Mexico', 'Turkey', 'Australia', 'France',
                'Finland', 'China', 'Canada', 'Japan', 'Nigeria', 'Spain',
                'Belgium', 'South Korea', 'Singapore', 'Italy', 'Romania', 'Argentina', 'Venezuela', 'Hong Kong', 'Russia', '', 'Ireland',
                'Nepal', 'New Zealand', 'Brazil', 'Greece', 'Jordan', 'Colombia',
                'Switzerland', 'Israel', 'Taiwan', 'Bulgaria', 'Algeria', 'Poland',
                'Saudi Arabia', 'Thailand', 'Indonesia', 'Egypt', 'Denmark',
                'Kuwait', 'Netherlands', 'Malaysia', 'Vietnam', 'Hungary',
                'Sweden', 'Lebanon', 'Syria', 'Philippines', 'Iceland',
                'United Arab Emirates', 'Norway', 'Qatar', 'Mauritius', 'Austria',
                'Cameroon', 'Palestine', 'Uruguay', 'United Kingdom,', 'Kenya',
                'Chile', 'Luxembourg', 'Cambodia', 'Bangladesh', 'Portugal',
                'Cayman Islands', 'Senegal', 'Serbia', 'Malta', 'Namibia',
                'Angola', 'Peru', 'Mozambique', 'Cambodia,', 'Belarus', 'Zimbabwe',
                'Puerto Rico', 'Pakistan', 'Cyprus', 'Guatemala', 'Iraq
                                                                          ', 'Malawi',
                'Paraguay', 'Croatia', 'Iran', 'West Germany', 'United States,',
                'Albania', 'Georgia', 'Soviet Union', 'Morocco', 'Slovakia',
                'Ukraine', 'Bermuda', 'Ecuador', 'Armenia', 'Mongolia', 'Bahamas',
                'Sri Lanka', 'Latvia', 'Liechtenstein', 'Cuba', 'Nicaragua',
                'Poland,', 'Slovenia', 'Dominican Republic', 'Samoa', 'Azerbaijan',
                'Botswana', 'Vatican City', 'Jamaica', 'Kazakhstan', 'Lithuania',
                'Afghanistan', 'Somalia', 'Sudan', 'Panama', 'Uganda',
                'East Germany', 'Montenegro'], dtype=object)
In [ ]: country_counts = df['country'].str.split(', ').explode().value counts()
         country_counts
        United States
                           3689
Out[ ]:
         India
                           1046
         United Kingdom
                            804
         Canada
                            445
         France
                            393
         Bermuda
         Ecuador
                              1
         Armenia
                              1
        Mongolia
                              1
        Montenegro
                              1
        Name: country, Length: 127, dtype: int64
In [ ]: from scipy.stats import zscore
         # Compute z-scores for numerical columns
         z_scores = df.select_dtypes(include=['float64', 'int64']).apply(zscore)
         # Set a threshold for z-score (e.g., 3 standard deviations)
         threshold = 3
         outliers = (z_scores > threshold).any(axis=1)
         # Print rows with outliers
         print("Rows with outliers:")
         print(df[outliers])
         Rows with outliers:
         Empty DataFrame
         Columns: [show_id, type, title, director, cast, country, date_added, release_year,
         rating, duration, listed_in, description]
         Index: []
In [ ]: # Univariate analysis for continuous variables
         continuous_vars = ['release_year', 'duration', 'rating']
         for var in continuous vars:
             plt.figure(figsize=(66, 56))
```

```
# distplot
sns.displot(df[var], kde=False)
plt.title(f'Distribution of {var}')
plt.xlabel(var)
plt.ylabel('Count')
plt.show()
```

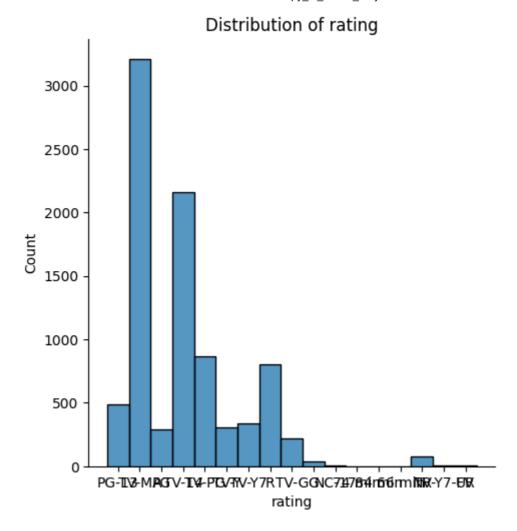
<Figure size 6600x5600 with 0 Axes>



<Figure size 6600x5600 with 0 Axes>



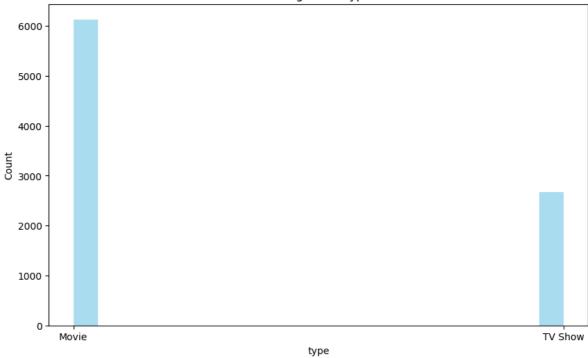
<Figure size 6600x5600 with 0 Axes>



The distribution of release years shows variations, indicating that movies have been released over a range of years. The distribution of movie durations shows that most movies fall within a certain range of durations, likely reflecting industry standards or viewer preferences. The distribution of ratings reveals the frequency of different rating categories assigned to movies.

```
In [ ]: plt.figure(figsize=(10, 6))
   plt.hist(df[var], bins=20, color='skyblue', alpha=0.7)
   plt.title(f'Histogram of {var}')
   plt.xlabel(str(var)) # Ensure var is converted to a string
   plt.ylabel('Count')
   plt.show()
```

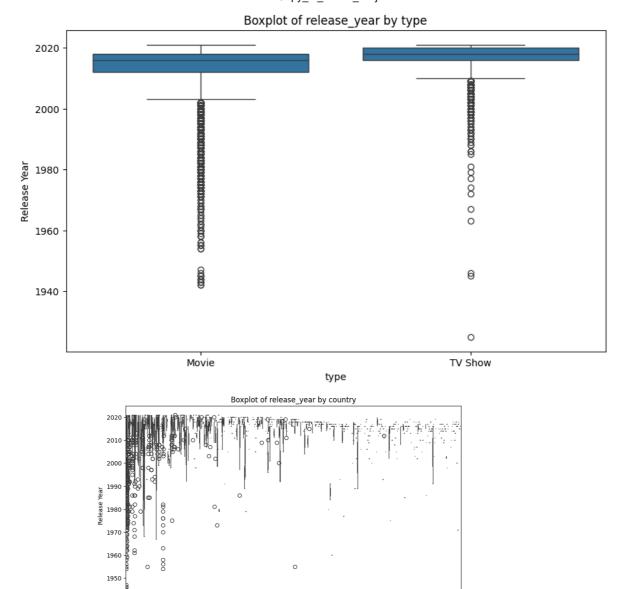
Histogram of type



Insights:

The histogram provides insights into the distribution shape, central tendency, spread, presence of outliers, skewness, and patterns within the data for the continuous variable var. These insights help understand the data's characteristics and guide further analysis and decision-making processes.

```
In [ ]: # Conduct univariate analysis for categorical variables using boxplot
    categorical_vars = ['type', 'country']
    for var in categorical_vars:
        plt.figure(figsize=(10, 6))
        sns.boxplot(x=df[var], y= 'release_year', data=df)
        plt.title(f'Boxplot of release_year by {var}')
        plt.xlabel(var)
        plt.ylabel('Release Year')
        plt.show()
```



United States (Gln

1940

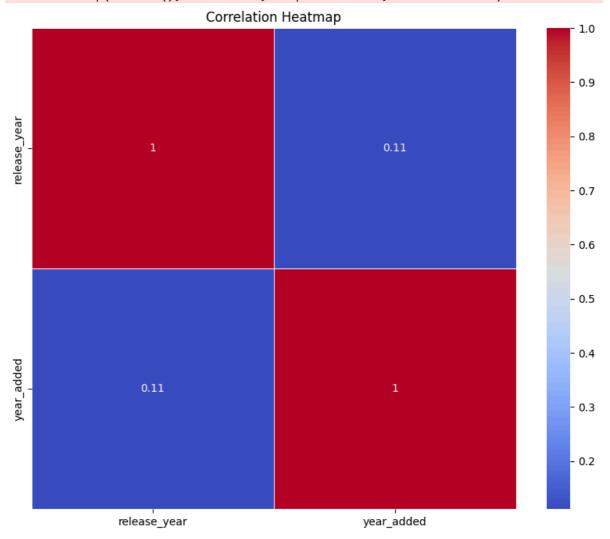
By analyzing the boxplots of release year against categorical variables, we gain insights into how content type and country contribute to variations in the distribution of release years. These insights can inform content acquisition strategies, regional content preferences, and audience targeting efforts to enhance viewer engagement and satisfaction on the streaming platform.

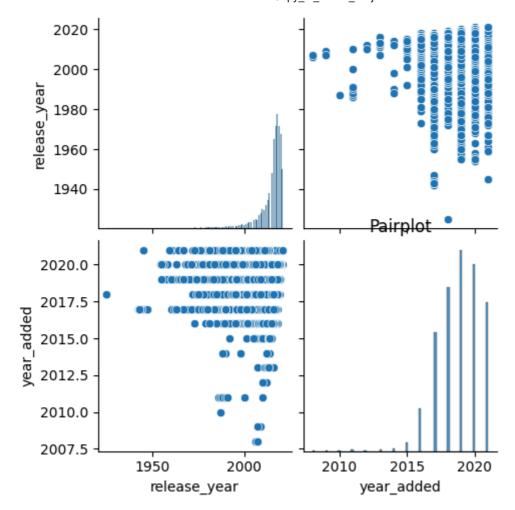
```
In []: # Visualize correlations using heatmaps and pairplots
   plt.figure(figsize=(10, 8))
   sns.heatmap(df.corr(), annot=True, cmap='coolwarm', linewidths=0.5)
   plt.title('Correlation Heatmap')
   plt.show()

sns.pairplot(df)
   plt.title('Pairplot')
   plt.show()
```

<ipython-input-199-327cb59200a0>:3: FutureWarning: The default value of numeric_on
ly in DataFrame.corr is deprecated. In a future version, it will default to False.
Select only valid columns or specify the value of numeric_only to silence this war
ning.

sns.heatmap(df.corr(), annot=True, cmap='coolwarm', linewidths=0.5)

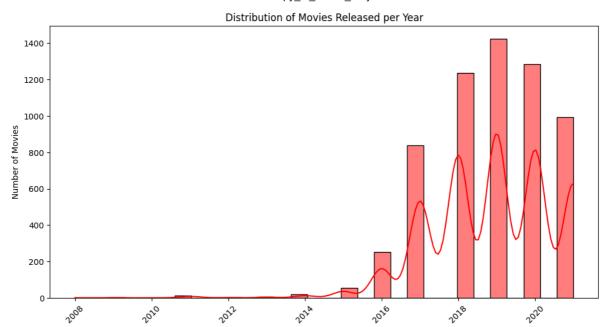




These visualizations help in identifying patterns, trends, and relationships within the dataset. They assist in understanding how variables are related to each other and can guide further analysis and modeling decisions. Additionally, they provide insights into potential multicollinearity issues and variables that may be important predictors for modeling tasks.

***NUMBER OF MOVIES RELEASED PER YEAR CHANGED OVER THE LAST 20-30 YEARS

```
In []: df['date_added'] = pd.to_datetime(df['date_added'])
    df['year_added'] = df['date_added'].dt.year
    movies_df = df[df['type'] == 'Movie']
    plt.figure(figsize=(12, 6))
    sns.histplot(data=movies_df, x='year_added', bins=30, kde=True, color='r')
    plt.title('Distribution of Movies Released per Year')
    plt.xlabel('Year')
    plt.ylabel('Number of Movies')
    plt.xticks(rotation=45)
    plt.show()
```



The histogram shows the trend in the number of movies released per year over the available years in the dataset. The overall trend may show an increasing or decreasing pattern in movie releases over the years, indicating changes in the film industry's dynamics.

Recoomendations:

Continuously monitor trends in movie releases to stay informed about changes in viewer preferences, industry dynamics, and competitive landscape. Use insights from the distribution of movies released per year to inform content planning and scheduling decisions, ensuring a balanced and strategic approach to movie acquisitions and releases.

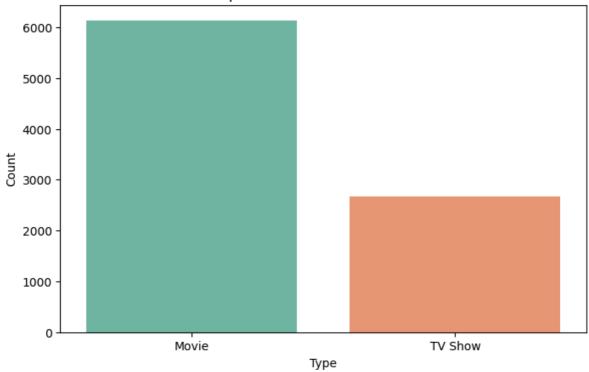
***COMPARISON OF TV SHOWS AND MOVIES

```
In []: plt.figure(figsize=(8, 5))
    sns.countplot(data=df, x='type', palette='Set2')
    plt.title('Comparison of TV Shows vs. Movies')
    plt.xlabel('Type')
    plt.ylabel('Count')
    plt.show()

    <ipython-input-171-9c5a3cbb1f29>:3: FutureWarning:

    Passing `palette` without assigning `hue` is deprecated and will be removed in v0.
14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.
    sns.countplot(data=df, x='type', palette='Set2')
```

Comparison of TV Shows vs. Movies



Insights:

By understanding the distribution of TV shows versus movies, businesses can make informed decisions regarding content acquisition, promotion, and curation strategies to enhance viewer engagement and satisfaction on the platform.

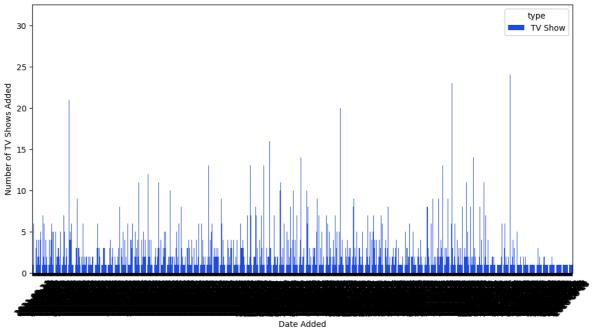
Recoomendations:

Given the higher prevalence of movies, consider diversifying the content library by acquiring more TV shows to cater to a wider range of viewer preferences. Develop targeted promotional strategies to highlight the diversity of content offerings, emphasizing the availability of both movies and TV shows to attract and retain viewers.

***BEST TIME TO LAUNCH A TV SHOW

```
In []: tv_shows_df = df[df['type'] == 'TV Show']
    plt.figure(figsize=(12, 6))
    sns.countplot(data=tv_shows_df, x='date_added', hue = "type", palette='bright')
    plt.title('Best Time to Launch a TV Show')
    plt.xlabel('Date Added')
    plt.ylabel('Number of TV Shows Added')
    plt.xticks(rotation=45)
    plt.show()
```

Best Time to Launch a TV Show



Insights:

Analyze the fluctuations in the number of TV shows added each month. Look for any recurring patterns or seasonal trends. For example, there may be peaks in TV show additions during certain months, possibly corresponding to holiday seasons or promotional periods. Monitor the overall trend of TV show additions over time. Are there noticeable increases or decreases in the number of TV shows added each month? This could provide insights into the growth trajectory of the streaming platform.

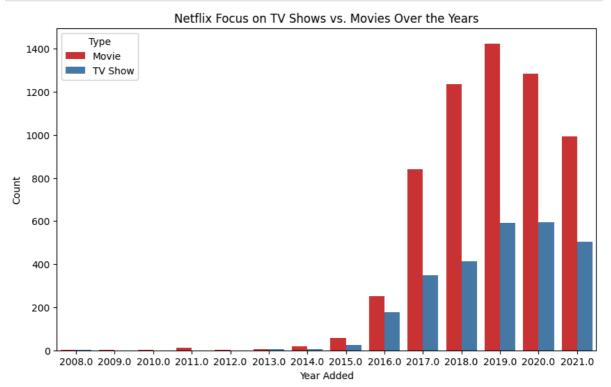
Recoomendations:

Optimal Launch Timing: Use insights from seasonal trends to identify the best time to launch a new TV show. Aim to capitalize on periods of high user engagement or demand, such as during holiday seasons or when there are fewer competing releases. Content Acquisition Strategy: Adjust the content acquisition strategy based on observed trends. For example, if certain genres consistently perform well during specific months, prioritize acquiring content in those genres during those times to attract and retain viewers. Promotional Campaigns: Plan promotional campaigns and marketing efforts around peak periods of TV show additions to maximize visibility and audience reach. This could include teaser trailers, social media campaigns, or targeted advertising to generate buzz and anticipation for new releases.

```
In []: # 4. Analysis of actors/directors of different types of shows/movies.
    actors_df = df['cast'].str.split(', ').explode().reset_index(drop=True)
    actors_df
```

```
NaN
Out[ ]:
         1
                             Ama Qamata
         2
                            Khosi Ngema
         3
                          Gail Mabalane
         4
                         Thabang Molaba
                           . . .
         64946
                       Manish Chaudhary
         64947
                           Meghna Malik
         64948
                          Malkeet Rauni
         64949
                         Anita Shabdish
         64950
                  Chittaranjan Tripathy
         Name: cast, Length: 64951, dtype: object
         directors_df = df['director'].str.split(', ').explode().reset_index(drop=True)
         directors df
                 Kirsten Johnson
Out[]:
         2
                 Julien Leclerca
         3
                             NaN
         4
                             NaN
         9607
                   David Fincher
         9608
                             NaN
         9609
                 Ruben Fleischer
         9610
                    Peter Hewitt
         9611
                     Mozez Singh
        Name: director, Length: 9612, dtype: object
         ***NETFLIX FOCUS ON TV SHOWS VS MOVIES OVER THE YEARS
```

```
In []: plt.figure(figsize=(10, 6))
    sns.countplot(data=df, x='year_added', hue='type', palette='Set1')
    plt.title('Netflix Focus on TV Shows vs. Movies Over the Years')
    plt.xlabel('Year Added')
    plt.ylabel('Count')
    plt.legend(title='Type')
    plt.show()
```



Insights: & Recoomendations:

"In the ever-expanding realm of streaming entertainment, platforms like Netflix are continuously refining their content strategies to cater to diverse audience preferences. A glance at the historical data reveals intriguing insights into Netflix's focus on TV shows versus movies over the years. Through meticulous analysis of the count of TV shows and movies added annually, patterns emerge, reflecting the platform's dynamic approach to content acquisition and audience engagement. By leveraging these insights, Netflix can craft tailored strategies to optimize its content portfolio, ensuring a compelling and immersive viewing experience for subscribers worldwide.

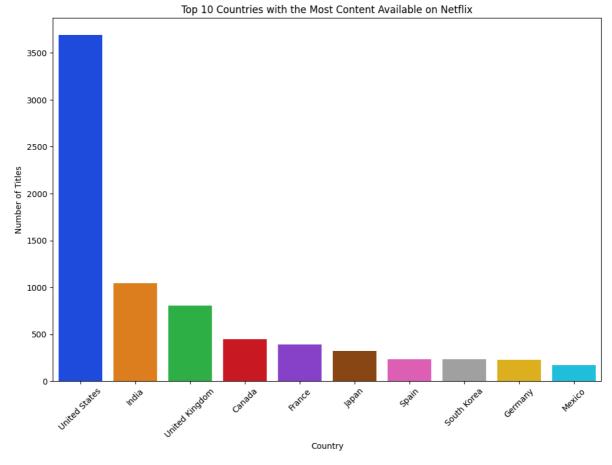
***COUNTRIES WITH MOST CONTENT AVAILABLE ON NETFLIX

```
In []: plt.figure(figsize=(12, 8))
   top_countries = df['country'].str.split(', ').explode().value_counts().head(10)
    sns.barplot(x=top_countries.index, y=top_countries.values, palette='bright')
   plt.title('Top 10 Countries with the Most Content Available on Netflix')
   plt.xlabel('Country')
   plt.ylabel('Number of Titles')
   plt.xticks(rotation=45)
   plt.show()
```

<ipython-input-192-1bdcb4130915>:4: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0. 14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

sns.barplot(x=top_countries.index, y=top_countries.values, palette='bright')



Insights: & Recoomendations:

"The battle for supremacy in the realm of streaming entertainment rages on, with Netflix emerging as a global powerhouse. A closer look at the data unveils the top 10 countries contributing to Netflix's vast content library. The United States leads the charge, boasting a rich tapestry of titles, followed closely by other entertainment hubs like the United Kingdom and India. This diverse array of content reflects Netflix's commitment to catering to a worldwide audience, transcending geographical boundaries to deliver captivating stories and compelling narratives. As Netflix continues to expand its global footprint, these insights serve as a testament to its unwavering dedication to providing unparalleled entertainment experiences to subscribers around the globe."

THE END

In []: