

## Business Problem

Netflix wants to understand:

1. What type of shows or movies to produce based on the current content trends and audience preferences.
  2. How to grow the business in different countries by identifying potential markets and the type of content those regions might prefer.
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## Data Overview

The provided dataset was analyzed and there were a fair bit of cleaning to be done of the dataset, namely

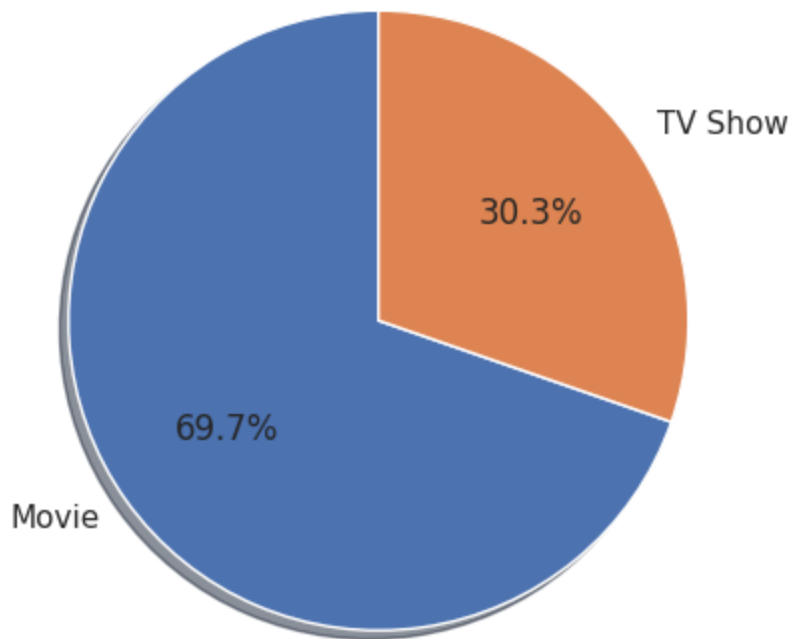
1. The director column had the maximum number of missing values, around 2.5k which constitutes about 30% of the original data, which was replaced 'No Data'.
  2. The cast and country had around 800 missing values constituting about 10% of the dataset each.
  3. The data was cleaned appropriately and the remaining missing values which constituted to about 0.0011% of the dataset was dropped
  4. There were no duplicate entries.
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## Exploratory Data Analysis and Key insights

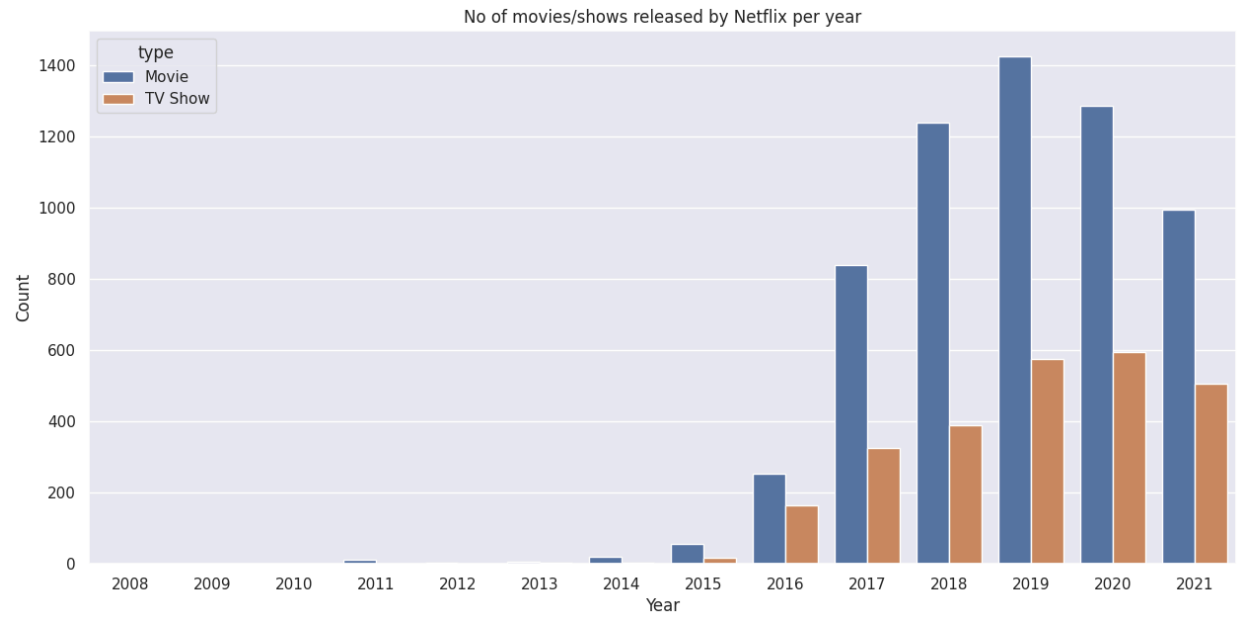
### Content Type Distribution (Movies vs. TV Shows)

- The pie chart below shows that around 70% of the data on Netflix are Movies and the rest are TV Shows

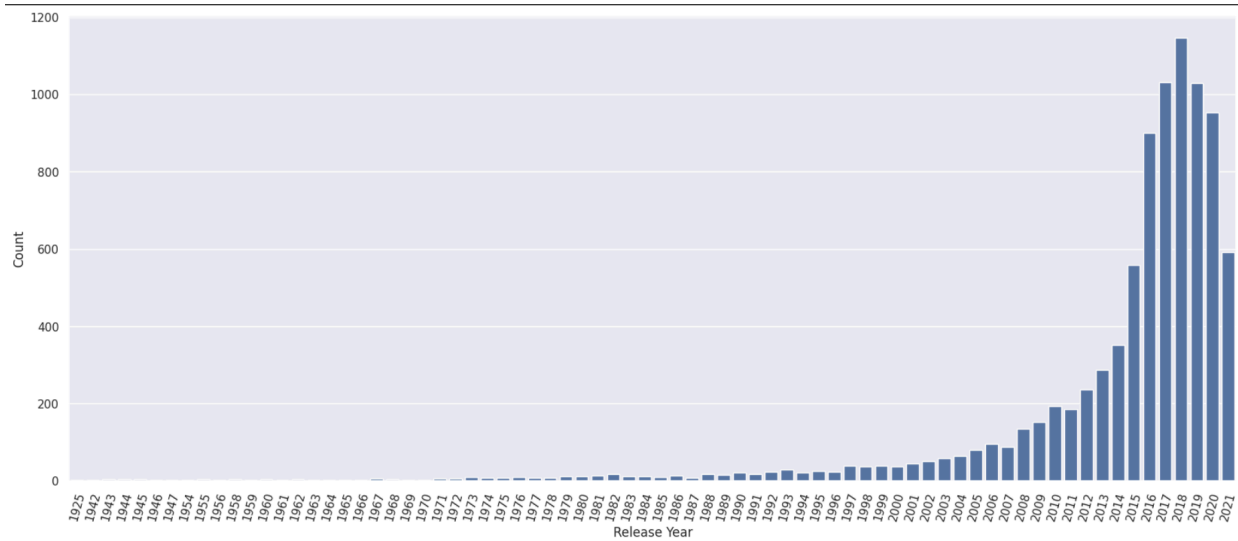
## Distribution of TV Shows v/s Movies on Netflix



- Throughout the years, the data suggests that Netflix has started giving more priority to Movies starting 2017
- The number of TV Shows released shows a gradual increase in trend.
- The amount of Movies released in a year peaked in 2019 at 1400+ movies and has been gradually decreasing.
- Netflix saw its real growth starting from the year 2016.
- The decrease in the TV Shows and Movies in 2020 could be because of the pandemic.

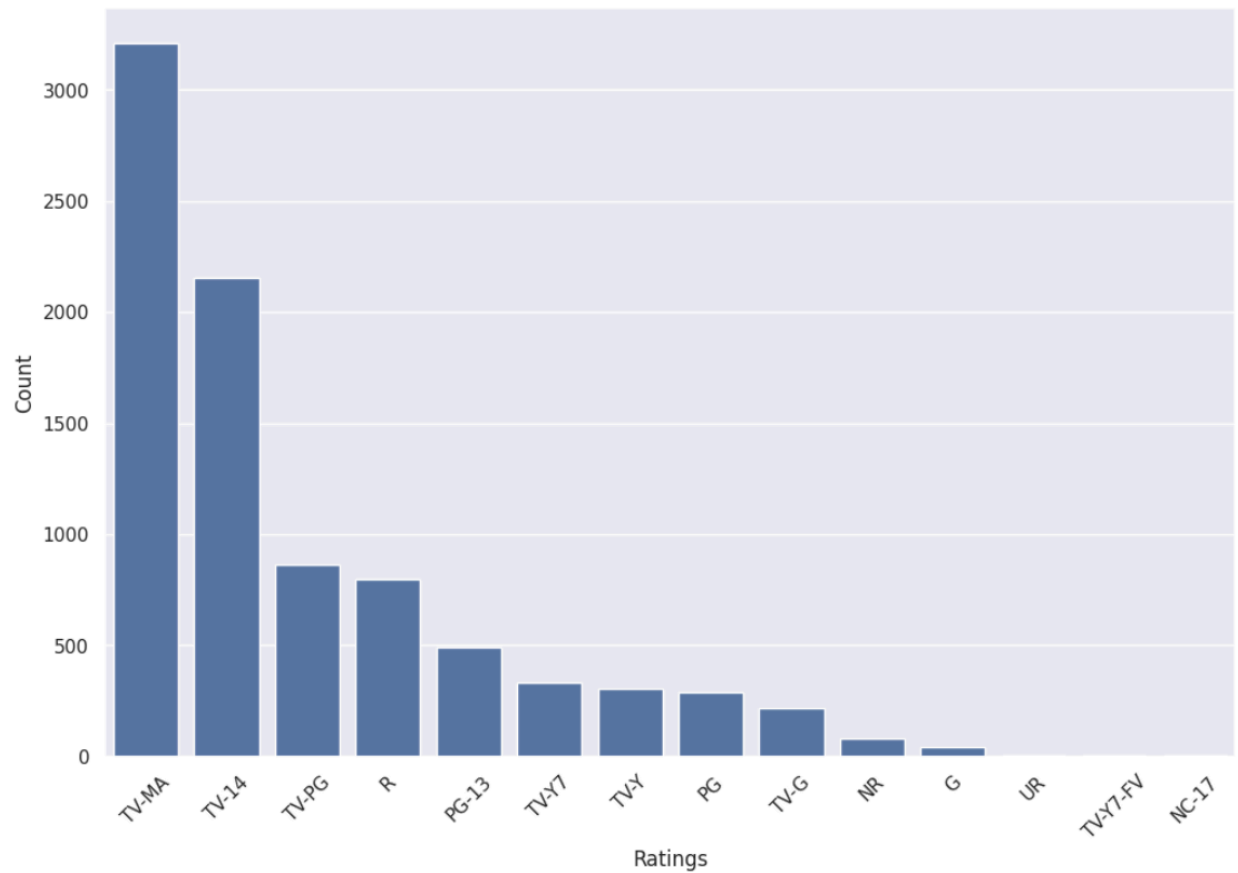


## Amount of content released



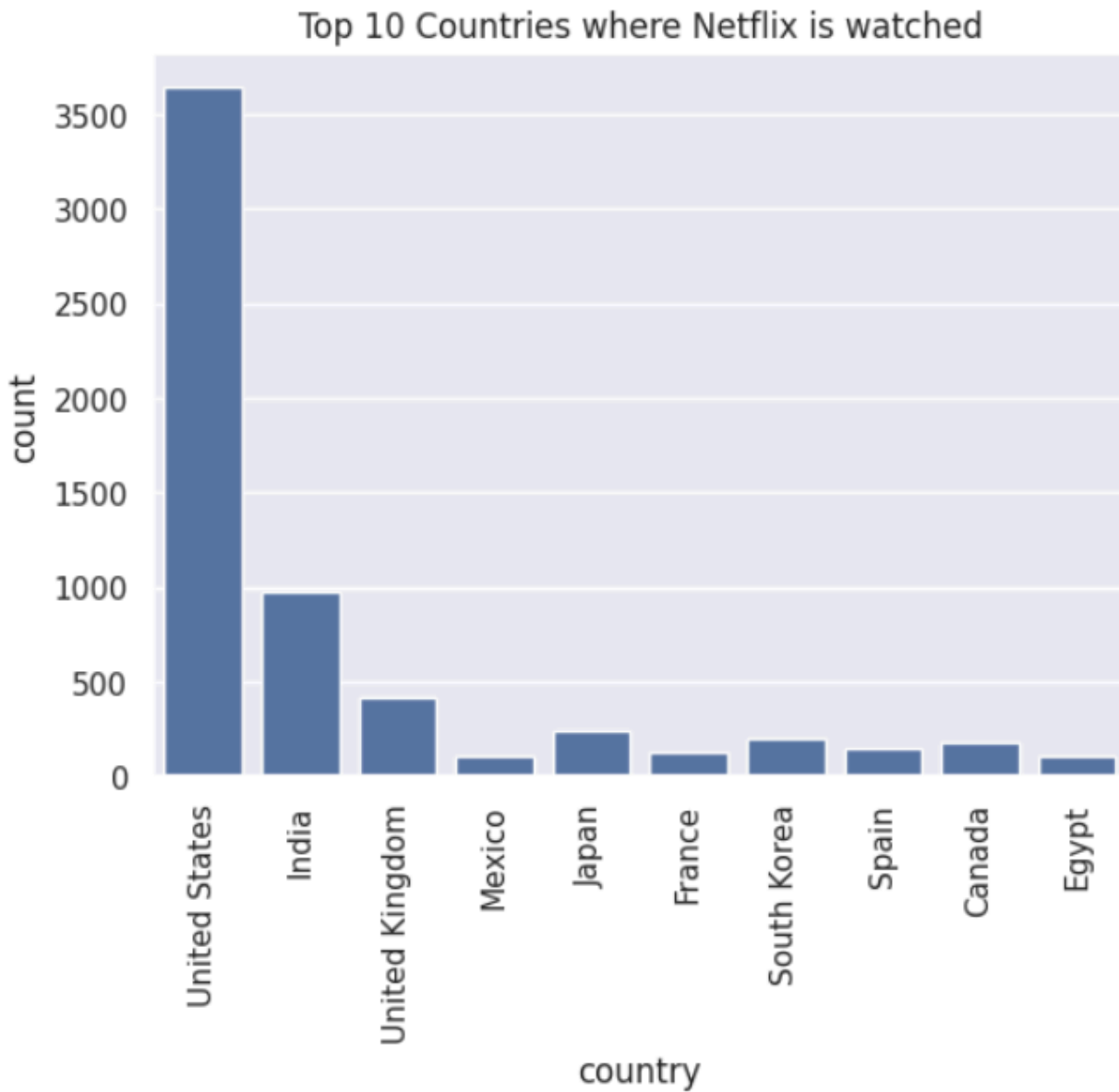
- Netflix has seen steady growth over the years and practically skyrocketing between the years 2012-2015

## Top 10 Ratings by Movie/TV Show Count



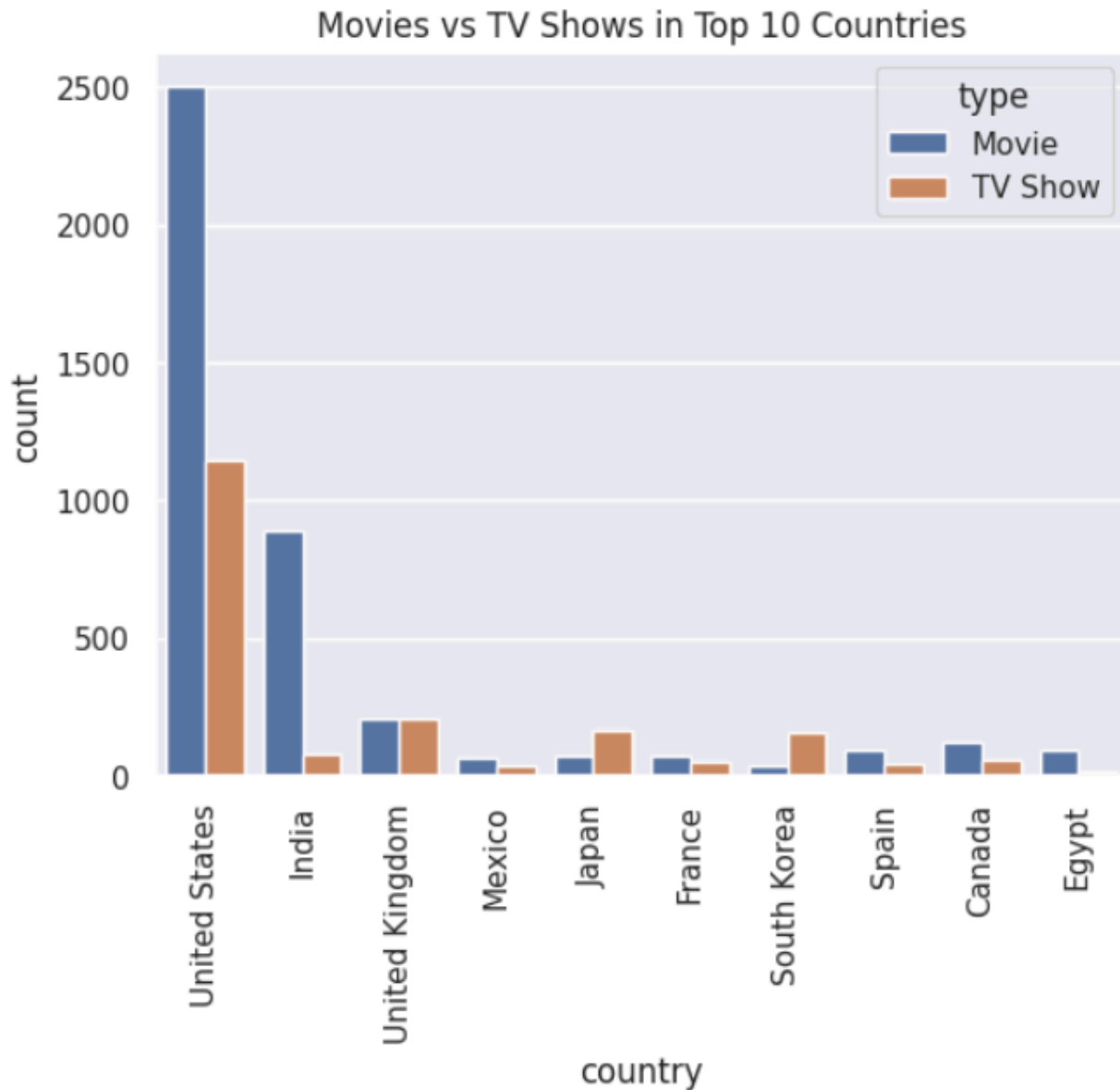
- The rating distribution shows the top 2 rating being TV-MA which is Mature Audience Only and TV-14 which means content that is unsuitable for children below the age 14.
- This shows that Netflix is currently serving mostly Mature audiences or Children with parental guidance.

Top 10 Countries Where Netflix is Popular



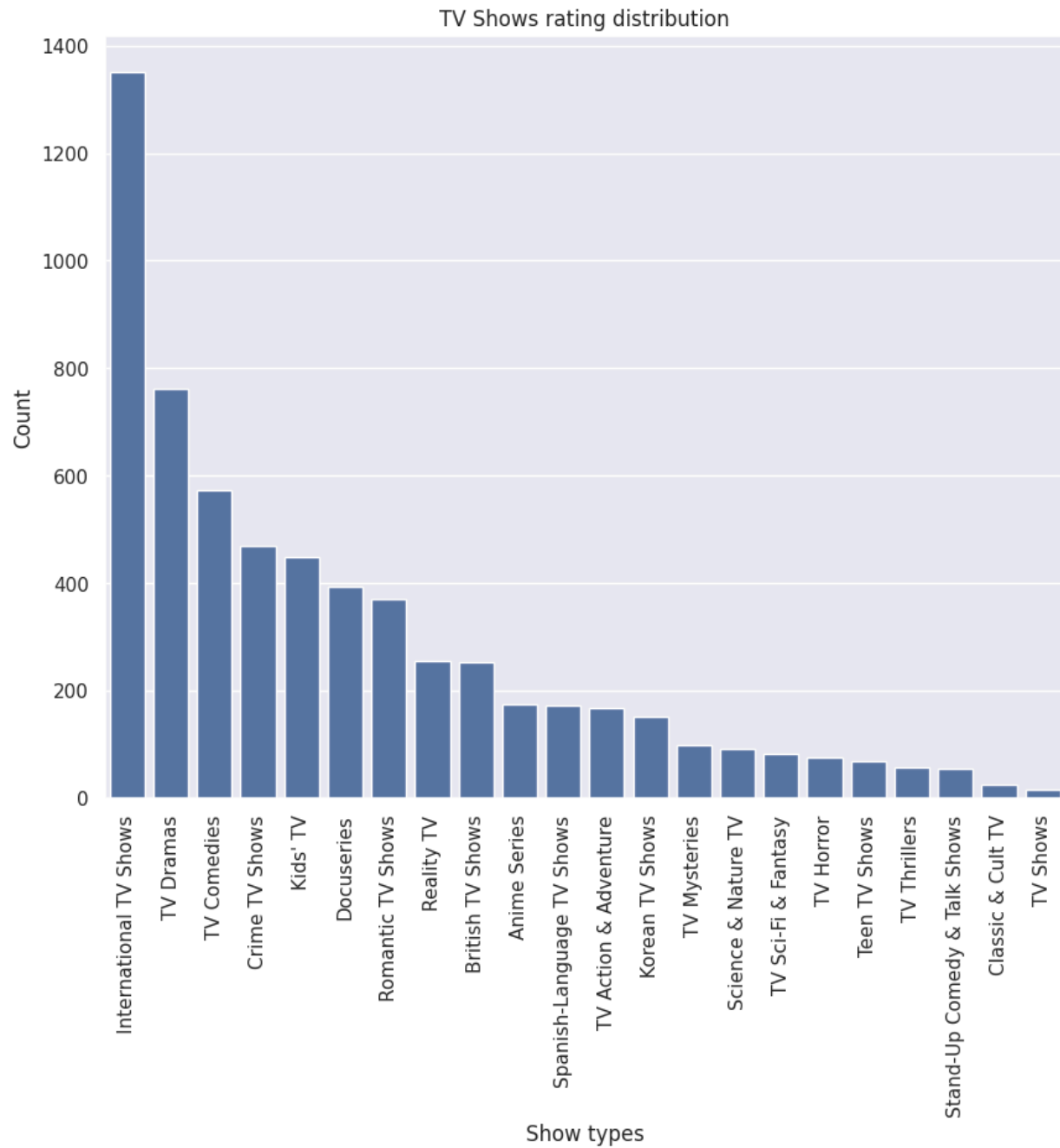
- The visualization shows that Netflix is overwhelmingly popular in the United States, followed by India and then United Kingdom

Content watched in the top 10 countries



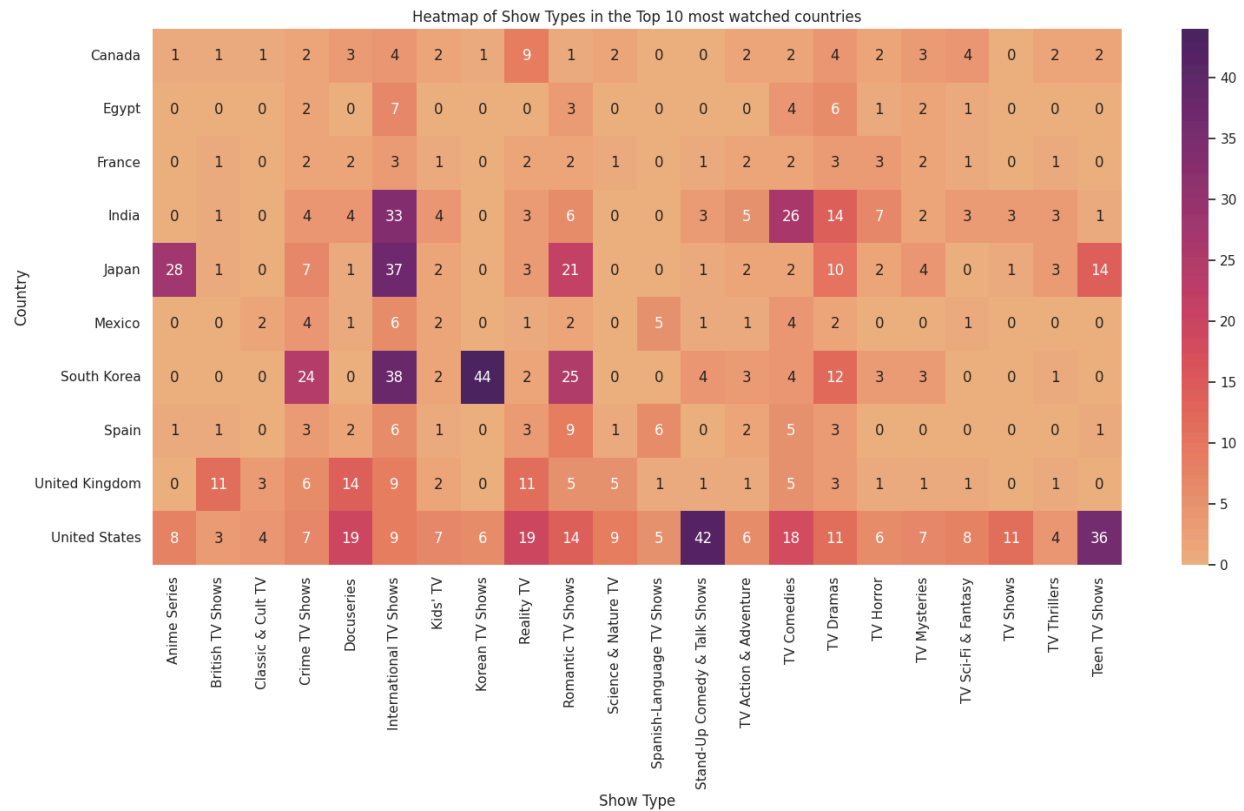
- This shows that in countries like US and India, Movies remain to be more popular as compared to TV Shows, whereas in countries like Japan and South Korea it is the opposite.
- One reason could be the popularity of Anime and K-Dramas which primarily come in TV Show formats.
- The UK remains fairly balanced between Movies and TV Shows

Top 10 Categories by Movie/TV Show Count



- The bar chart shows the top 10 categories of movies and TV shows based on their count. “International TV Shows” is the most dominant category, followed by “TV Dramas”

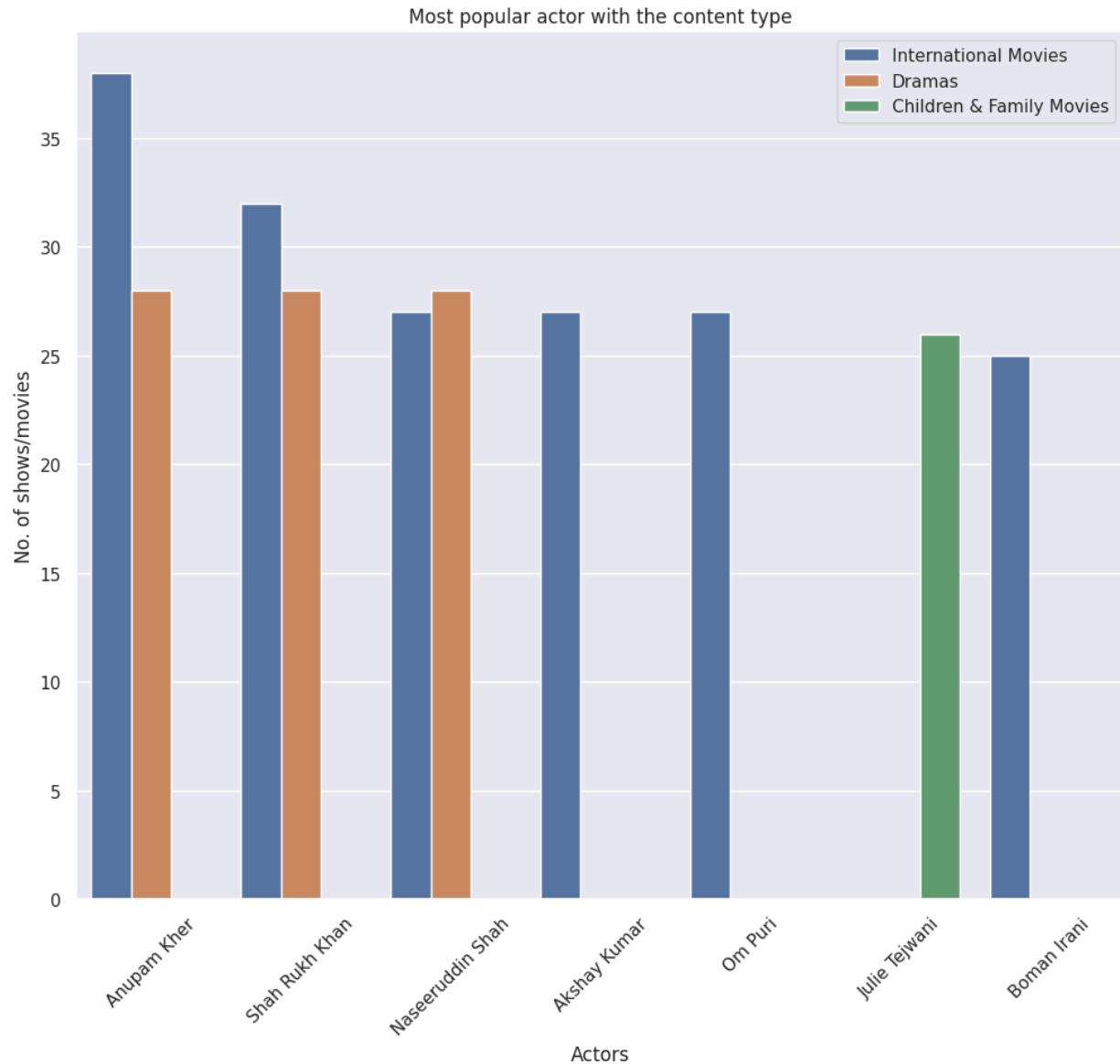
Show types in the top 10 countries



- The above heatmap shows the types of content consumed by several countries
- While most countries remain fairly evenly distributed some countries show some interesting results.
- As mentioned earlier, South Korea has produced almost all of the K-Dramas with US and UK contributing fairly little
- Japan has produced most of the Anime Series with some contributing a little.
- International TV Shows seem to be popular among Asian countries like Japan, South Korea and India.
- Romantic TV Shows and dramas remain popular for many countries.
- While Docuseries, Reality TV, Romantic TV Shows, Standup Comedies, Talk shows and Teen shows remain popular in the US.

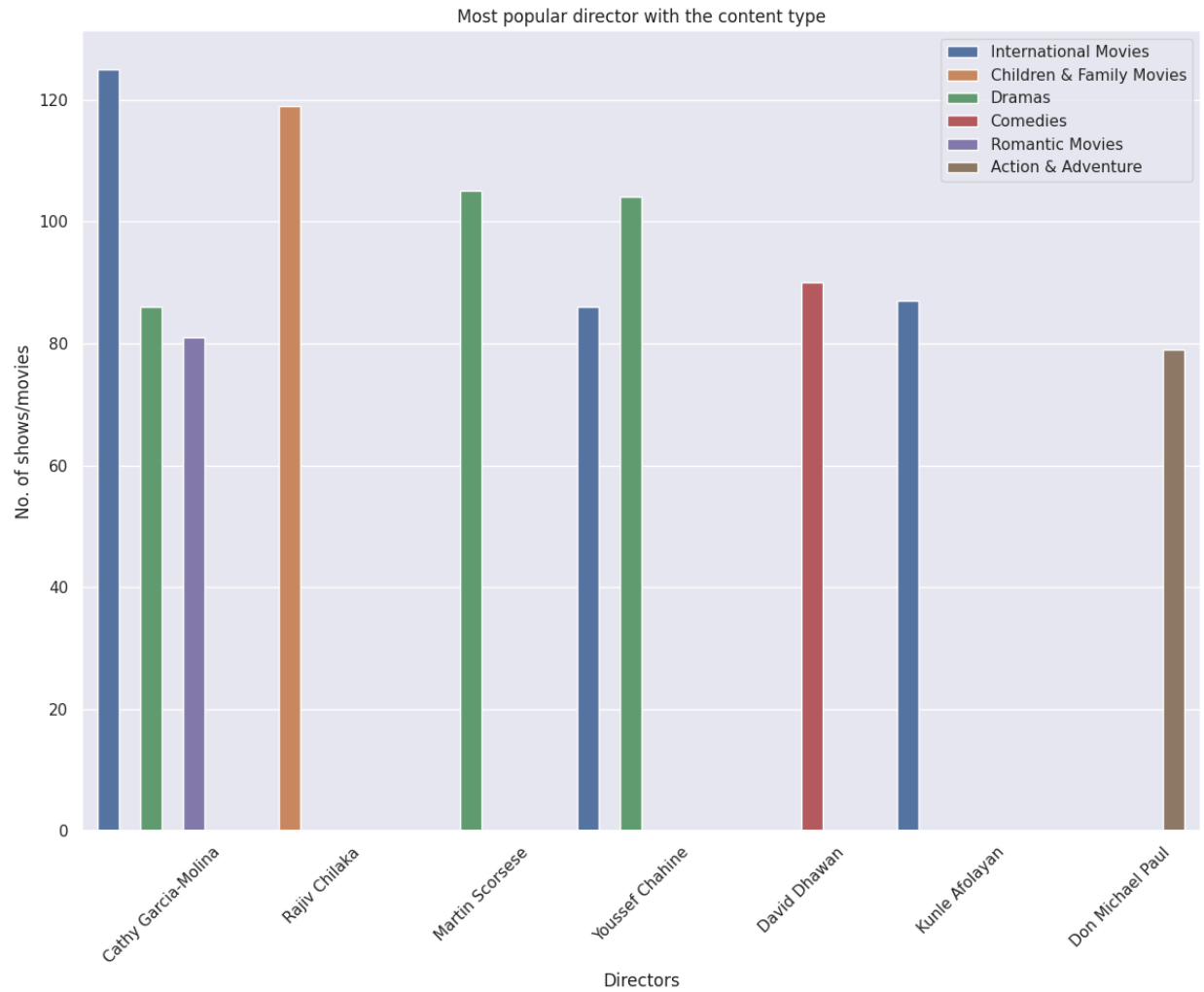
## Top 10 Actors by Movie/TV Show Count





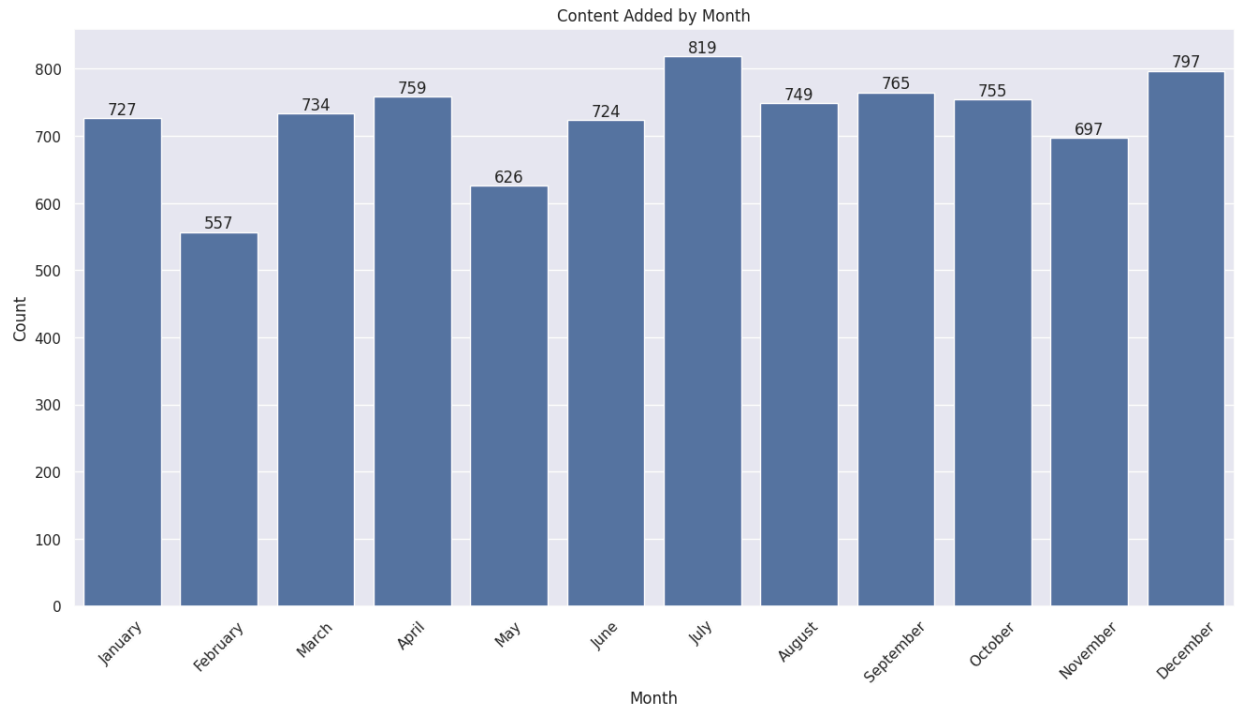
- The bar chart shows the top 10 most popular actors and what kind of content they have worked in.
- The bar chart shows that Anupam Kher has the highest appearances in movies and TV shows, closely followed by Shah Rukh Khan.

Top 10 Directors by Movie/TV Show Count

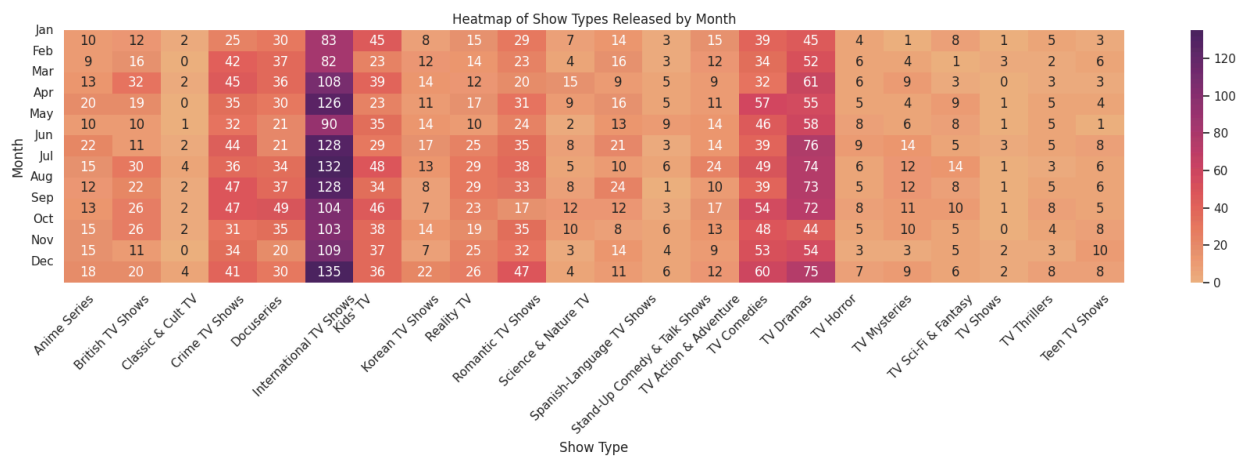


- The bar chart displays the top 10 directors with the most movies or TV shows.
- Cathy Garcia-Molina seems to have directed the most content and most diverse content, followed by Rajiv Chilaka.

Amount and type of content added per month



- July and December seem to be the month where Netflix adds it content the most
- One reason for this can be since it is Summer in July, people are off from school, college and sometimes even work, so Netflix loads up its content so keep its viewers entertained.
- As for December, it is holiday season, that means more people staying home, families gathering, and long winter breaks.

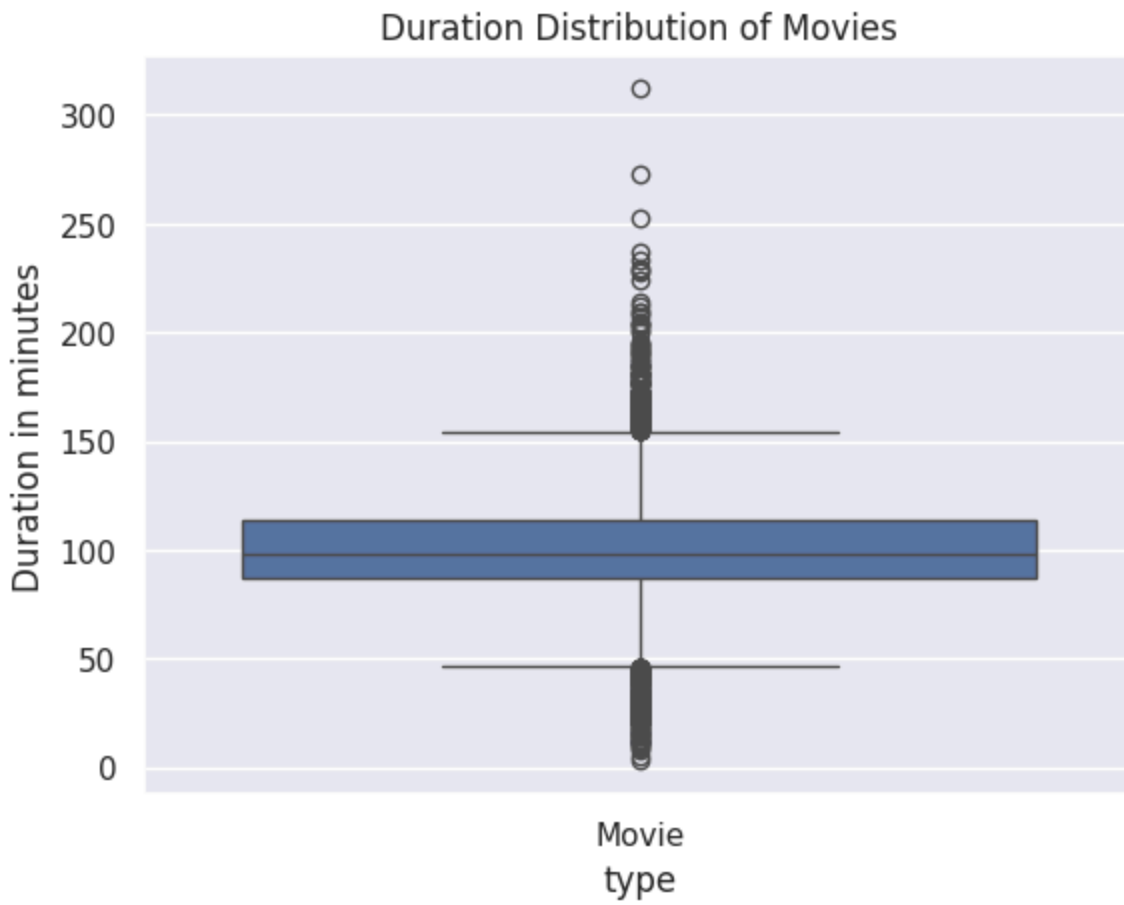


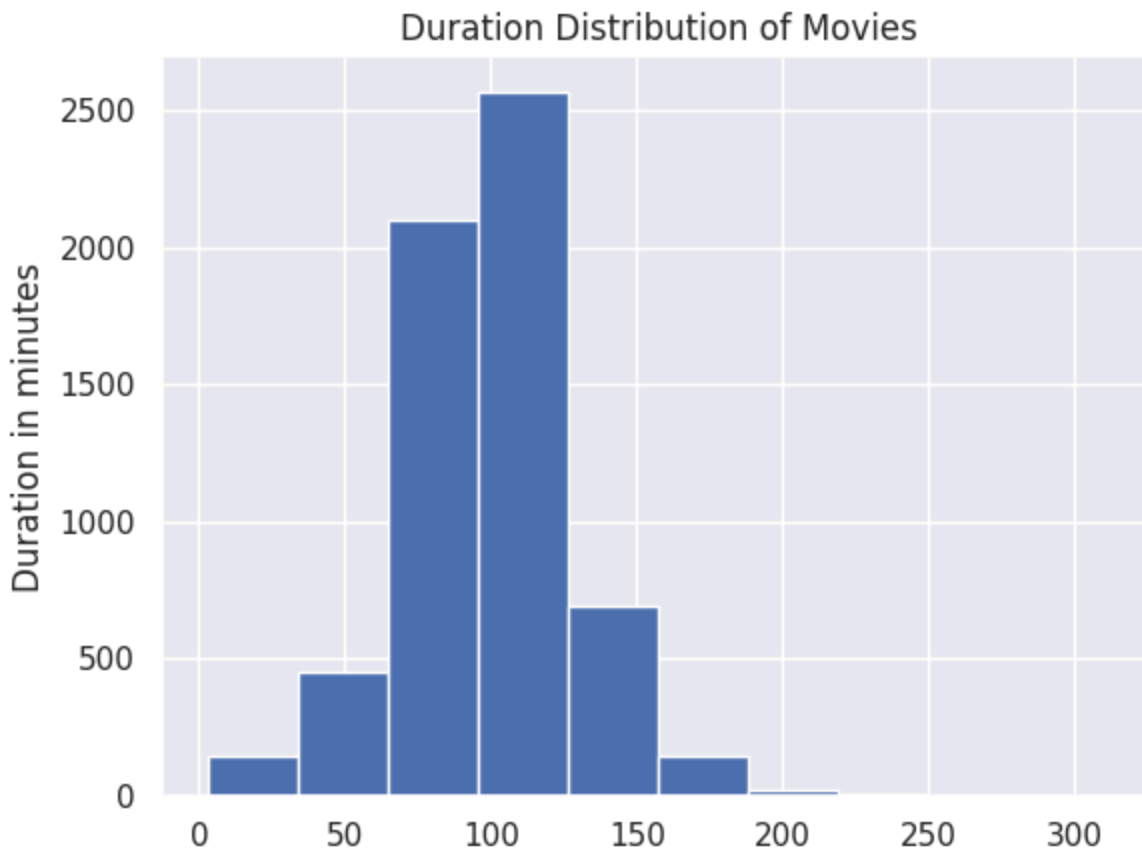
- This heatmap shows the distribution of various types of shows released at different months
- International TV Shows remain popular throughout the year, and a similar pattern is seen for TV Comedies and TV Dramas.

- Crime Series, Docuseries, kids and romantic shows also seem to be fairly popular throughout the year.
- Many types of shows, show high release amount in mid-year ( June - August ) and December, which aligns perfectly with points made above.

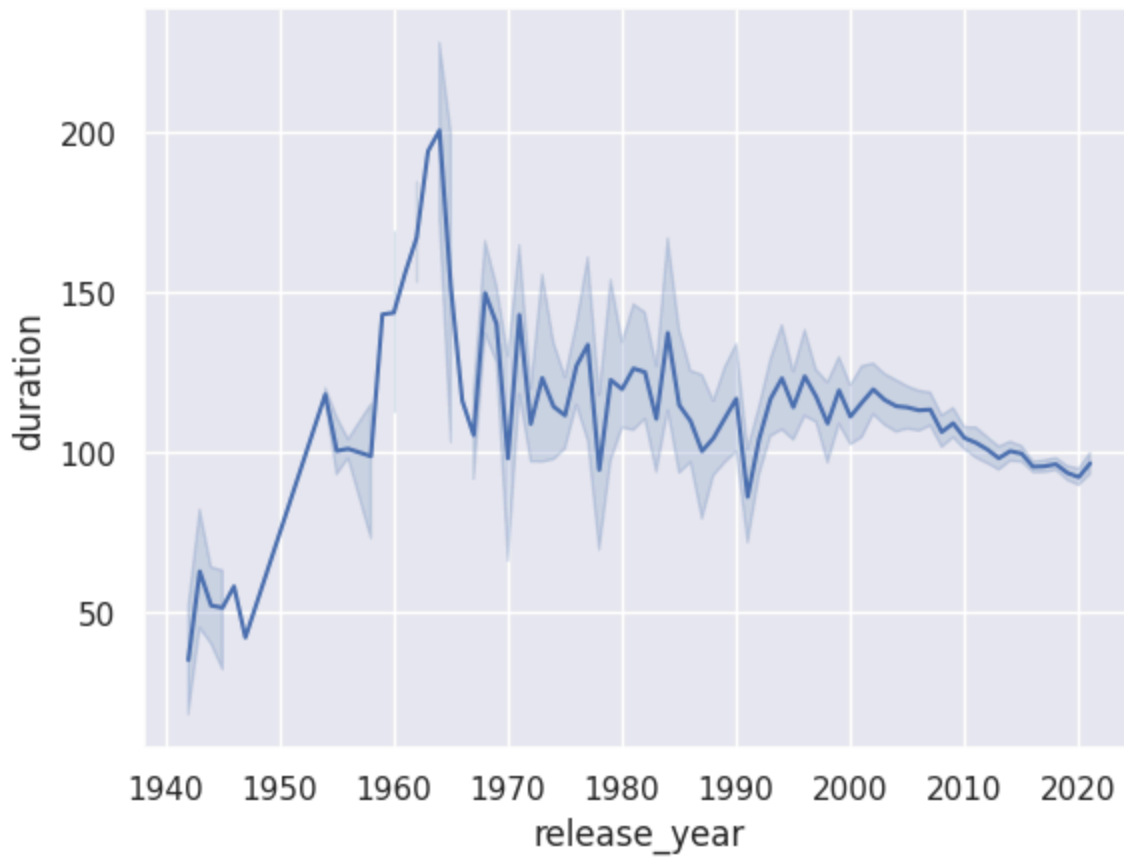
## Distribution of Movie durations and TV Show Seasons

### Movies



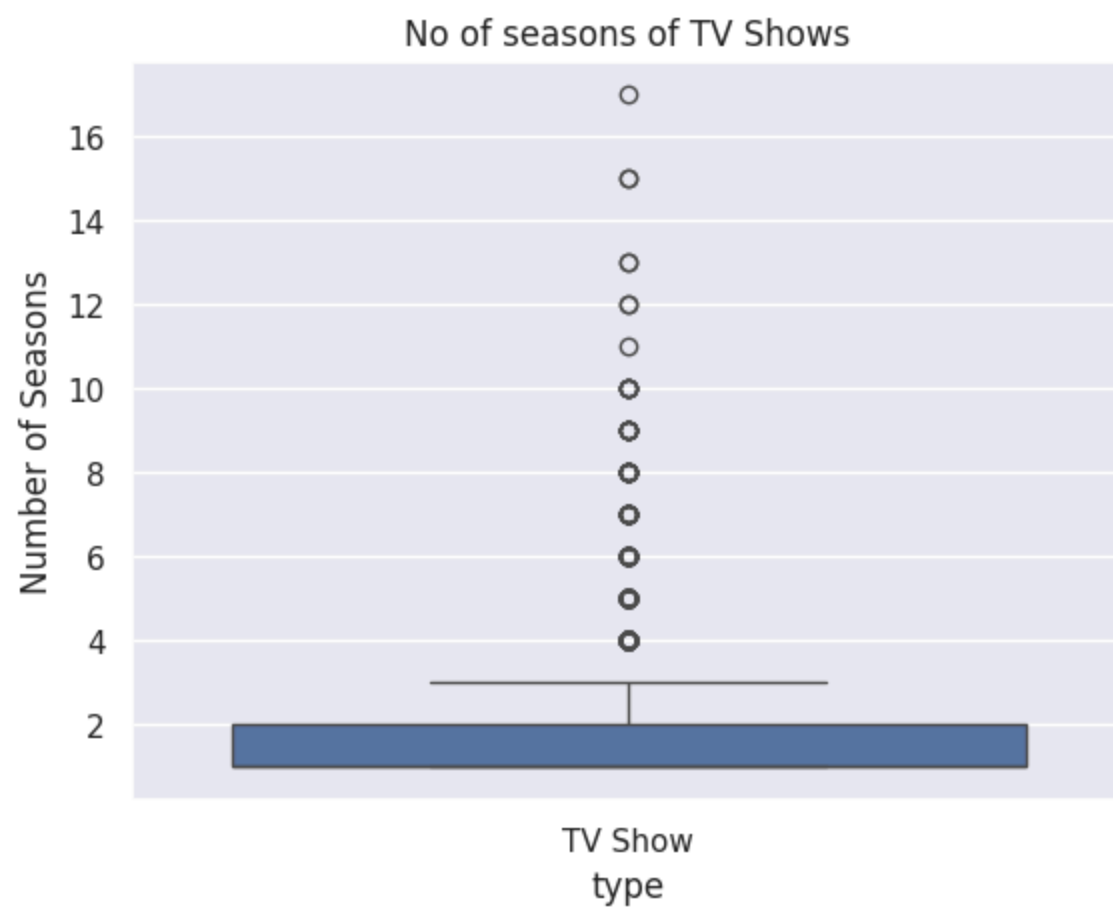


- The average duration of a movie seems to be around 100 mins that is around 1.5 - 2 hour mark.
- There seem to be many outliers spanning over 300 minutes to a couple few minutes.

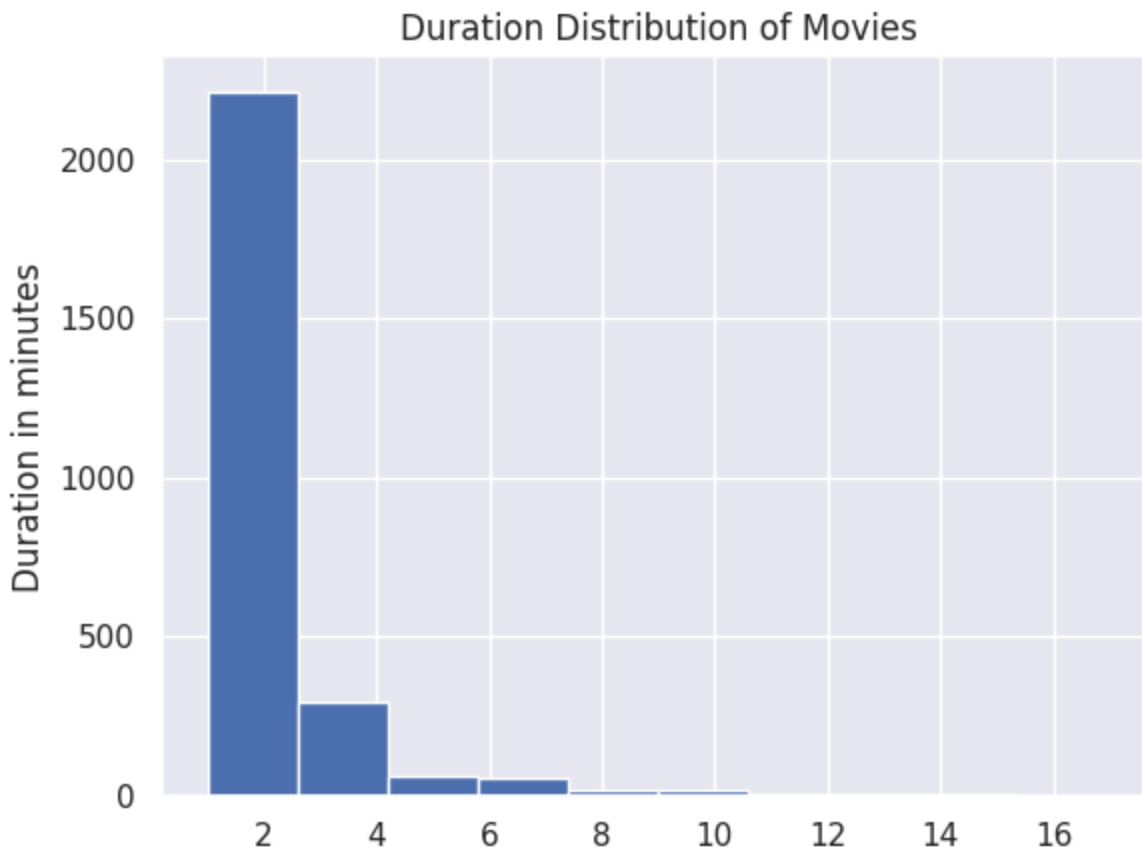


- Analyzing the line chart, we can observe that movie length initially increased until around 1964, and then stabilized at around an average of 100 minutes

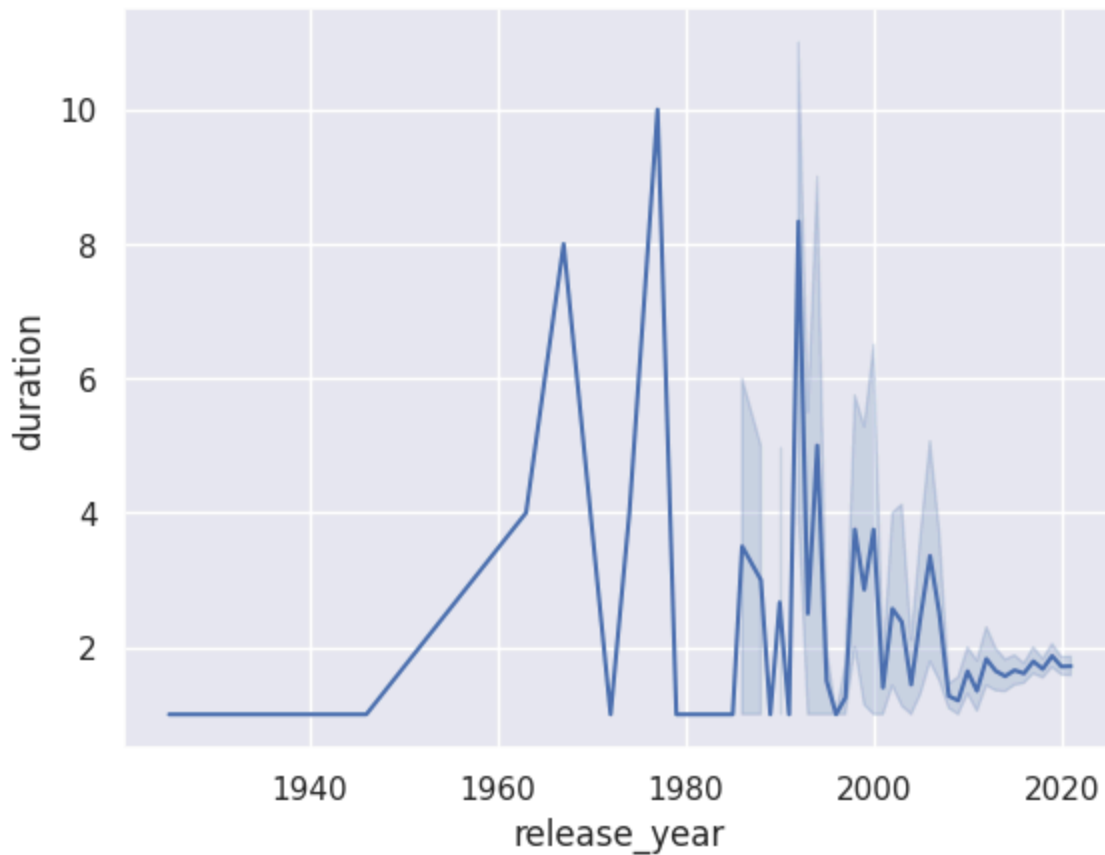
TV Shows







- The above charts an average of 2 seasons per TV Show, while some having as many as more than 16 seasons



- This data aligns nicely with points made above, earlier trend shows many seasons but as time went by it stabilized to 2 seasons

### Recommendations

1. Focus on movie production: The data shows that about 70% of Netflix content consists of movies. Since 2017, Netflix has been prioritizing movies over TV shows. To align with this trend, Netflix should continue to invest heavily in movie production, especially in the 90-120 minute range, which appears to be the sweet spot for movie duration.
2. Target mature audiences: The top two content ratings are TV-MA (Mature Audience Only) and TV-14 (unsuitable for children below 14). Netflix should continue to produce content that caters to mature audiences while also considering parental controls for family-friendly viewing options.
3. Expand in high-potential markets: While the United States remains the primary market, there's significant potential in countries like India and the United Kingdom. Netflix should focus on creating localized content for these markets to increase subscriber growth.
4. Invest in popular genres: "International TV Shows" and "TV Dramas" are the most dominant categories. Netflix should continue to invest in these genres while also exploring other popular categories like TV Comedies, Crime TV Shows, and Romantic TV Shows.

5. Leverage regional preferences: Different regions show preferences for specific content types. For example:
  - Produce more K-dramas for the South Korean market
  - Invest in anime series for the Japanese market
  - Create more International TV Shows for Asian countries like Japan, South Korea, and India
  - Develop a mix of Docuseries, Reality TV, Romantic TV Shows, Stand-up Comedies, Talk Shows, and Teen Shows for the US market
6. Collaborate with popular actors and directors: Partner with top actors like Anupam Kher and Shah Rukh Khan, and directors like Cathy Garcia-Molina and Rajiv Chilaka to create content that appeals to a wide audience.
7. Optimize content release schedule: July and December appear to be peak months for content additions. Netflix should plan major releases during these months to capitalize on increased viewer engagement during summer breaks and holiday seasons.
8. Balance TV show seasons: While the average number of seasons per TV show is around 2, Netflix should consider producing a mix of shorter series and a few longer-running shows (3-4 seasons) to maintain viewer interest and provide binge-watching options.
9. Invest in quality over quantity: The data shows a slight decrease in the number of movies released since 2019. Netflix should focus on producing high-quality content rather than just increasing the volume of releases.
10. Explore niche markets: While catering to popular genres, Netflix should also invest in niche categories to differentiate itself from competitors and attract diverse audience segments.